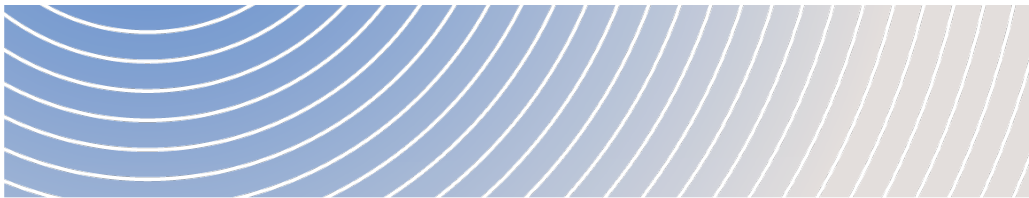




Impact Assessment
Agency of Canada

Agence d'évaluation
d'impact du Canada

Timiskaming Dam- Bridge of Quebec Replacement Project



ENVIRONMENTAL ASSESSMENT REPORT

May 2026

Canada 



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Executive Summary

Public Services and Procurement Canada (the proponent) proposes to replace the Quebec Timiskaming dam-bridge. The dam-bridge spans the Ottawa River, connecting the provinces of Ontario and Quebec in the town of Temiscaming. The new dam-bridge would be reconstructed approximately 19 metres downstream of the existing structure, which would be completely deconstructed. Construction activities would take place over a period of approximately 30 months.

The Impact Assessment Agency of Canada (IAAC) conducted an environmental assessment of the project in accordance with the *Canadian Environmental Assessment Act, 2012* (CEAA 2012), as it includes activities described in the following section of the *Regulations Designating Physical Activities*:

28(a) The construction, operation, decommissioning and abandonment of a new international or interprovincial bridge or tunnel.

IAAC initiated the environmental assessment process for the project on June 15, 2018, and issued the Environmental Impact Statement (EIS) Guidelines on August 21, 2018. The proponent's EIS and EIS Summary were accepted on April 3, 2023, which led to a technical review during which IAAC requested additional information from the proponent. In July 2022, the proponent obtained IAAC approval for a three-year extension to the original three-year timeline to submit the information and studies described in the EIS Guidelines, extending the deadline to August 28, 2025. The required information and studies were submitted by the proponent on August 8, 2025. The environmental assessment phase began on August 21, 2025.

On August 28, 2019, the *Impact Assessment Act* (IAA) came into force and CEAA 2012 was repealed. However, pursuant to the transitional provisions of the IAA, the environmental assessment of this project continued under CEAA 2012 as if that Act had not been repealed.

This environmental assessment report summarizes the assessment conducted by IAAC, including the information and analysis on the potential environmental effects of the Project considered, as well as IAAC's conclusions on whether the probability the Project is likely to cause significant adverse environmental effects, after taking into account the implementation of mitigation measures, monitoring and follow-up programs.

IAAC assessed environmental effects within areas of federal jurisdiction under section 5 of CEAA 2012, including effects on fish and fish habitat, aquatic species as defined in the *Species at Risk Act*, migratory birds, federal lands, and, with respect to Indigenous

Peoples, effects of any change to the environment on health and socio-economic conditions, physical and cultural heritage, the current use of lands and resources for traditional purposes, and any structure, site, or thing that is of historical, archaeological, paleontological, or architectural significance. IAAC also considered effects related to changes to the environment that are directly linked or necessarily incidental to federal decisions that may be required for the project, including:

- authorization under the *Fisheries Act* paragraphs 34.4(2)(b) and 35(2)(b) by Fisheries and Oceans Canada;
- permit under the *Migratory Birds Convention Act, 1994* by Environment and Climate Change Canada;
- permit under the *Species at Risk Act* for effects to species that are listed as Endangered or Threatened on Schedule 1 by Environment and Climate Change Canada;
- licence under the *Explosives Act* by Natural Resources Canada; and
- approval under the subsection 5(1) of the *Canadian Navigable Waters Act* by Transports Canada.

IAAC also considered factors such as the effects of potential accidents and malfunctions, the effects of the environment on the project (including extreme weather events), and cumulative effects in combination with other past, present, and reasonably foreseeable projects or physical activities.

Finally, this report assesses the potential impacts of the project on Aboriginal and Treaty rights, as recognized and affirmed by section 35 of the *Constitution Act, 1982*, held by Kebaowek, Wolf Lake, Timiskaming and the Algonquins of Pikwakanagan First Nations. IAAC also considered asserted rights of the Algonquins of Ontario, Antoine First Nation, and the Métis Nation of Ontario.

IAAC identified the key mitigation measures and monitoring and follow-up programs that would prevent or reduce potential adverse environmental effects within areas of federal jurisdiction, verify the accuracy of the environmental assessment predictions, and verify the effectiveness of mitigation measures. In selecting key mitigation measures and monitoring and follow-up programs, IAAC relied on the proponent's commitments, advice from federal authorities and provincial departments, as well as comments from Indigenous groups and the public.

The main residual environmental effects of the project, after considering the implementation of the key mitigation measures, are:

- effects on fish and fish habitat, including from habitat alteration and destruction, fish survival and changes in flow regime, water quality and fish passage;
- effects on migratory birds, including from nesting, displacement of individuals due to habitat loss and alteration, bird survival and sensory disturbances;



- effects on human health, including from changes in air quality, water quality and acoustic environment;
- effects on the current use of lands and resources for traditional purposes by Indigenous Peoples, including from changes in the resource availability and quality, in the access to the territory, and the quality of the experience;
- effects on the socio-economic conditions of Indigenous Peoples, including on the Algonquin Canoe Company established on Long Sault Island;
- effects to Indigenous Peoples' physical and cultural heritage, and structures, sites, or things of historical, archaeological, paleontological, or architectural significance.

The project may result in residual environmental effects to species at risk, including from nesting, displacement of individuals and habitat loss and alteration, bird survival and sensory disturbances. The project may impact Aboriginal and Treaty rights. The proponent's project incorporates measures to mitigate potential adverse environmental effects of the project. Mitigation measures include adherence to existing guidelines and regulations, implementation of standard environmental protection procedures and specifications, and project design planning to identify, control, and monitor environmental risks.

IAAC concludes that, taking into account the implementation of the key mitigation measures and the proposed monitoring and follow-up programs, the project is not likely to result in significant adverse environmental effects, including cumulative effects, on the valued components identified under section 5 of CEAA 2012.

The Minister of Environment, Climate Change and Nature will take into account the key mitigation measures proposed when establishing conditions in the context of an Environmental Assessment Decision Statement under CEAA 2012, should the project be authorized to proceed. Any conditions established by the minister would be legally binding on the proponent. In addition, it is IAAC's expectation that all of the proponent's commitments would be implemented in order for the project to be carried out in a careful and precautionary manner.



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1. Introduction

This report presents the environmental assessment of the Timiskaming Dam-Bridge of Quebec Replacement Project (the Project) proposed by Public Services and Procurement Canada (PSPC; the proponent). It summarizes the analysis conducted by the Impact Assessment Agency of Canada (IAAC), in accordance with the *Canadian Environmental Assessment Act, 2012* (CEAA 2012). On the basis of the information gathered, this analysis evaluates the project's potential adverse environmental effects and the likelihood of their significance after the proposed mitigation measures have been implemented. It aims to determine whether the project should proceed and, if so, to define the conditions for carrying out the project.

Following a public comment period on the draft environmental assessment report and the proposed draft conditions, IAAC finalized the report and provided it to the Minister of the Environment, Climate Change, and Nature (the Minister). The Minister considered this final environmental assessment report when issuing the Environmental Assessment Decision Statement to the proponent under CEAA 2012.

On August 28, 2019, the *Impact Assessment Act* (IAA) came into force and CEAA 2012 was repealed. In accordance with the transitional provisions of the IAA, the environmental assessment of this project continues under CEAA 2012, as if that act had not been repealed.

On June 21, 2021, the *United Nations Declaration on the Rights of Indigenous Peoples Act* received Royal Assent and came into effect. This assessment is guided by principles that respect the Government of Canada's relationship with Indigenous peoples and the Government of Canada's commitment to implementing the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). The objective of IAAC was to aim to secure the free, prior and informed consent of Indigenous communities.

1.1 Brief Overview of the Project

The objective of the Project is to replace the Timiskaming Dam-Bridge of Quebec. The structural evaluation report, prepared by the proponent, determined that immediate short-term repairs were required on several parts of the dam-bridge, leading to the conclusion that the structure had reached the end of its useful life.

The dam-bridge is part of the Timiskaming Dam Complex, which was commissioned in 1913 and consists of two dams, the Quebec dam-bridge and the Ontario dam-bridge, located on either side of Long Sault Island on the Ottawa River. The original Quebec



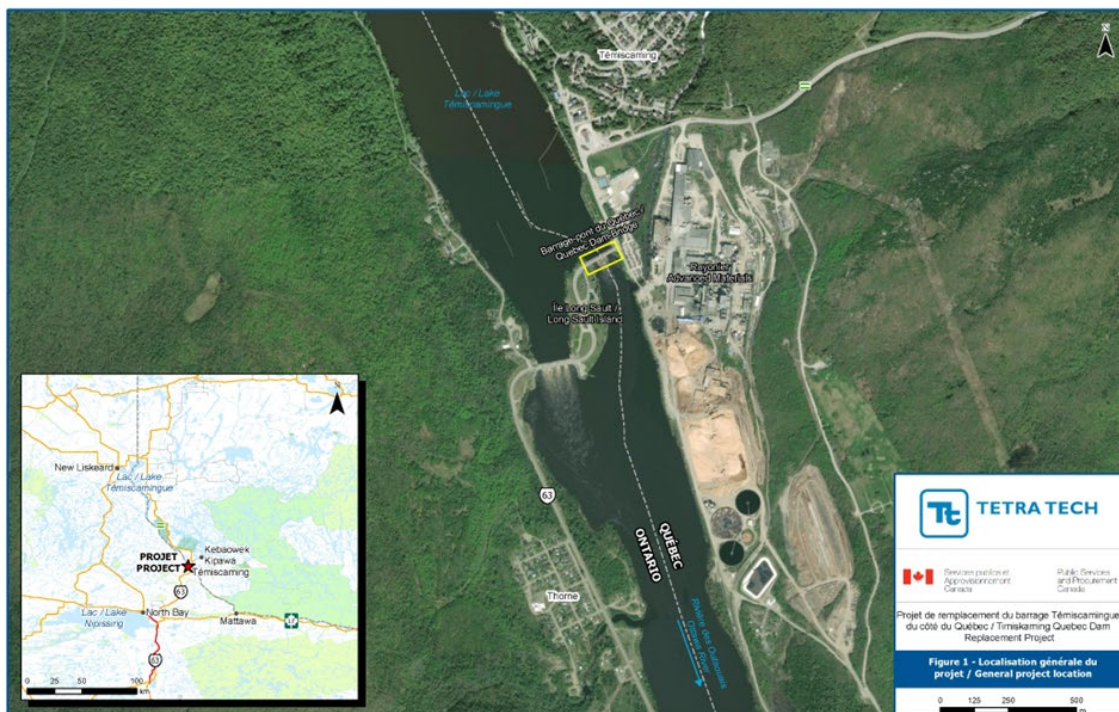
dam-bridge was replaced in 1930, while its Ontario counterpart was rebuilt between 2014 and 2017.

The complex plays a critical role in regulating water levels in Lake Timiskaming and flows in the Ottawa River, in collaboration with the Ottawa River Regulation Planning Board. These operations are essential to ensure safe navigation and provide flood protection for the banks. The complex is not intended to generate electricity, but rather to serve as a water control structure to retain the water needed by downstream hydropower facilities. It is also crucial for regional connectivity, providing a strategic road link between the provinces of Quebec and Ontario. The bridge infrastructure that makes up part of the complex connects two Ontario and Quebec provincial roads, Highway 63 and Route 101, respectively.

In this context, the purpose of the Project submitted by the proponent is to ensure water regulation in the Ottawa River and mobility between the two provinces via this highway, as well as the safety and longevity of the infrastructure.

The location of the Project is shown in Figure 1.

Figure 1: Projet Location





1.2 Scope of the Environmental Assessment

1.2.1 Environmental Assessment Requirements

In September 2017, Kebaowek First Nation has sent a request to designate the proposed Project. Under section 14 of CEEA 2012, the Minister may designate a physical activity that is not prescribed in the *Regulations Designating Physical Activities*. After analyzing the Project, IAAC determined that it was a designated project, since it represented a physical activity as described in subsection 28(a) of the Schedule to the *Regulations Designating Physical Activities* made under CEEA 2012:

The construction, operation, decommissioning, and abandonment of a new international or interprovincial bridge or tunnel.

In April 2018, the proponent submitted its project description to IAAC, which held public consultations on the description. IAAC also sought the expertise of various stakeholders, including federal and provincial experts and Indigenous groups, to determine the need for an environmental assessment of the project in accordance with CEEA 2012. Following the comments received, IAAC determined that an environmental assessment was required, and the assessment began on June 20, 2018.

IAAC finalized and issued the guidelines to the proponent for preparing an Environmental Impact Statement (EIS). The purpose of those guidelines was to provide the proponent with the minimum information requirements for the EIS.

To date, the following key stages of the environmental assessment process have been completed:

- August 2018: Final version of IAAC's EIS Guidelines published.
- October 2022: EIS submitted by the proponent.
- November 2022: IAAC determined that the information in the EIS did not meet the guideline requirements.
- March 2023: Revised EIS submitted by the proponent.
- April 2023: IAAC determined the EIS to be in compliance with the guidelines.
- May 2023 to August 2025: IAAC carried out a technical analysis of the information provided by the proponent and issued two information requests to the latter.



- August 2025: IAAC began its environmental assessment based on the information provided by the proponent.
- February 2026: IAAC conducted a 31-day public comment period on the draft environmental assessment report and draft potential conditions.

1.2.2 Factors Considered in the Environmental Assessment

IAAC issued EIS Guidelines, which specify the nature, scope, and extent of information required to support the environmental assessment, and outline environmental effects, factors that must be considered, and valued components.

The valued components assessed are environmental and socio-economic characteristics that are likely to be affected by the project and that have been identified as areas of concern by the proponent, federal authorities, Indigenous groups, or the public. IAAC’s environmental assessment focuses on components under federal jurisdiction, as defined in section 5 of CEEA 2012, as well as on species at risk pursuant to subsection 79(2) of the *Species at Risk Act* (SARA). Table 1 shows these components.

Table 1: Valued Components Selected by IAAC

Valued Component	Legislative Requirements	Rationale
Fish and fish habitat, including special-status aquatic species ¹	CEAA 2012 5(1)(a)(i) 5(1)(a)(ii) SARA 79(2) Listed fish species and their habitats	The Project is likely to affect fish, including special-status species, and their habitats. The Project could lead to the loss or alteration of fish habitat as a result of infrastructure development and project activities. It could result in the mortality and disturbance of individuals due to project activities and alterations (temporary or permanent) to the aquatic environment (noise, water quality, changes to the water regime, etc.).
Birds, including special-status species	CEAA 2012 5(1)(a)(iii) Migratory birds as defined in	The Project is likely to affect birds (migratory and non-migratory), including special-status species. The

¹ Special-status species include species listed in Schedule 1 to SARA, species on the list under the *Act Respecting Threatened or Vulnerable Species* (Quebec), species on the Species at Risk in Ontario List under the *Endangered Species Act* (Ontario) and species assessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).



Valued Component	Legislative Requirements	Rationale
	the Migratory Birds Convention Act, 1994 (MBCA) SARA 79(2) Listed birds and their habitats	Project could lead to the displacement of birds as a result of loss and alteration of habitat because of the presence of infrastructure and project activities. The Project could cause disturbance to individuals, resulting in behavioural changes.
Other special-status wildlife species	SARA 79(2) Any listed species and its habitat	The Project is likely to affect special-status species. The Project could lead to the displacement of species as a result of loss and alteration of habitat because of the presence of infrastructure and project activities. The Project could cause disturbance, resulting in behavioural changes.
Human health	CEAA 2012 5(1)(c)(i) Indigenous Peoples 5(1)(b)(i) Federal lands	The Project could result in changes to noise levels, air quality and water quality that are likely to affect human health and the quality of life of Indigenous Peoples and of the local non-Indigenous population.
Socio-economic conditions	CEAA 2012 5(1)(c)(i) Indigenous Peoples 5(1)(b)(i) Federal lands	Project-related changes to the environment may affect socio-economic conditions of the Indigenous Peoples and the local non-Indigenous population, particularly recreational and tourism activities and traditional and sport fishing activities, and on any other traditional or contemporary activity practised by Indigenous Peoples and by the local non-Indigenous population.
Physical and cultural heritage and structures, sites or things of historical, archaeological, paleontological or	CEAA 2012 5(1)(c)(ii) Indigenous Peoples 5(1)(c)(iv) Indigenous Peoples	Project-related changes to the environment may directly affect or disturb sites, structures, or things of cultural importance to Indigenous Peoples and the local non-Indigenous population.



Valued Component	Legislative Requirements	Rationale
architectural significance	5(1)(b)(i) Federal lands	
Current use of lands and resources for traditional purposes and current use of lands and resources	CEAA 2012 5(1)(c)(iii) Indigenous Peoples 5(1)(b)(i) Federal lands	The Project could result in changes to the environment that could affect the current use of lands and resources for traditional purposes by Indigenous Peoples and the current use of lands and resources by the local non-Indigenous population.

IAAC also considered effects related to changes to the environment that are directly linked or necessarily incidental to federal decisions that may be required for the project, including:

- authorization under the *Fisheries Act* paragraphs 34.4(2)(b) and 35(2)(b) by Fisheries and Oceans Canada;
- permit under the *Migratory Birds Convention Act, 1994* by Environment and Climate Change Canada;
- permit under the *Species at Risk Act* for effects to species that are listed as Endangered or Threatened on Schedule 1 by Environment and Climate Change Canada;
- licence under the *Explosives Act* by Natural Resources Canada; and
- approval under the subsection 5(1) of the *Canadian Navigable Waters Act* by Transports Canada.

Finally, as part of its environmental assessment, IAAC took into account the factors indicated in subsection 19(1) of the CEAA 2012, as follows:

- The environmental effects of the project, including the environmental effects of malfunctions or accidents that may occur in connection with the project, and any cumulative environmental effects that are likely to result from the project in combination with other physical activities that have been or will be carried out;
- The significance of the environmental effects;
- Comments from the public;
- Mitigation measures that are technically and economically feasible and that would mitigate any significant adverse environmental effects of the project;
- The requirements of the follow-up program in respect of the project;

- The purpose of the project;
- Alternative means of carrying out the project that are technically and economically feasible and the environmental effects of any such alternative means;
- Any change to the project that may be caused by the environment;
- The results of any relevant regional study conducted under CEAA 2012.

1.2.3 Environmental Assessment Methodology

IAAC's assessment was based on the following documents:

- The proponent's EIS
- The information provided by the proponent in response to IAAC's two information requests
- Notices from the relevant federal and provincial departments and agencies
- Views expressed by affected or potentially affected Indigenous groups
- Comments received from the public

IAAC assessed the potential significant adverse environmental effects on valued components in accordance with the Operational Policy Statement². The potential direct and indirect effects of the project resulting from the anticipated environmental changes were also assessed.

Lastly, IAAC determined the significance of the residual effects on each valued component by considering the mitigation measures and monitoring, follow-up and offsetting/compensation programs proposed by the proponent. To characterize the significance of residual effects, IAAC used the following criteria³:

- **Magnitude:** Indicates the degree of disruption or disturbance (change) potentially experienced by the valued component under study. The assessment of magnitude takes into account the component's ecological or social context and can include the timing of the effect, which may refer to a phase in the component's life cycle (migration, reproduction, feeding, etc.) or a period during which a cultural, spiritual or recreational practice would be practised by Indigenous groups or the local non-indigenous population (e.g., hunting season).
- **Geographical extent:** Extent of the geographic area over which an adverse effect would occur.

² To determine whether a designated project is likely to cause significant adverse environmental effects under CEAA 2012.

³ Each criterion was adapted to the valued component being assessed.

- **Duration:** Period during which the adverse effects would be experienced.
- **Frequency:** The rate at which adverse effects would occur over a given period.
- **Reversibility:** Likelihood of a valued component recovering from the adverse effects caused by the project.

To determine the significance of each residual adverse effect on each valued component, IAAC used a grid to combine the levels of significance assigned to the criteria (see Appendix A). Effects with a total high level of significance were considered significant, while those with a medium or low level were not.

1.2.4 Spatial and Temporal Boundaries

Spatial boundaries define the geographics areas where a project can interact with and affect the environment. Temporal boundaries take into account all activities and phases of the project life cycle likely to cause adverse effects on the environment.

Spatial Boundaries

This report took into account the following spatial boundaries established by the proponent (Figure 2):

- The **Aquatic Study Area (ASA)**, encompassing the portion of the Ottawa River from the banks on the Quebec side to Long Sault Island, stretching 500 metres upstream and 1.5 kilometres downstream of the Timiskaming dam.
- The **Terrestrial Study Area (TSA)**, encompassing the terrestrial sites likely to be directly affected by the work, including Long Sault Island (4.9 hectares) and the left bank of the Ottawa River. To assess the effects on wildlife components at the regional level, a study area with a radius of approximately two kilometres around the site was also considered.
- The **Local Study Area (LSA)** was used to assess the effects of the project on the socio-economic and health conditions of Indigenous and non-Indigenous populations in Quebec and Ontario within a 20-kilometre radius of the work area.

Temporal Boundaries

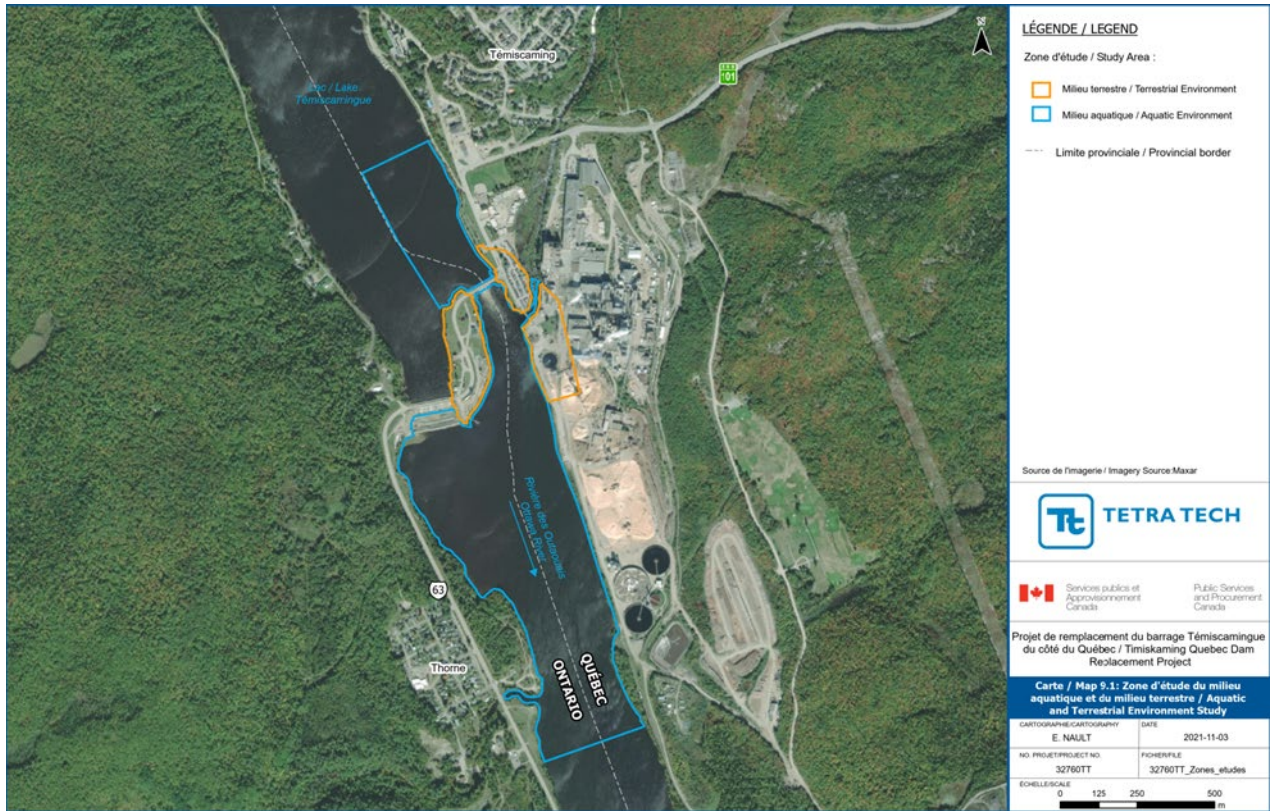
This report considered the following temporal boundaries, established by the proponent:

- The **construction phase**, to take place over three years, from 2027 to 2030.
- The **operation phase**, expected to last for 75 years and occur continuously, 24 hours a day and 365 days a year.

According to the proponent, at the end of the structure's useful life, the new dam-bridge would be replaced in accordance with the applicable laws and regulations.



Figure 2: Spatial Boundaries Established by the Proponent





2. Project Overview

The information in this chapter serves as a reference for the environmental assessment described in Chapter 5.

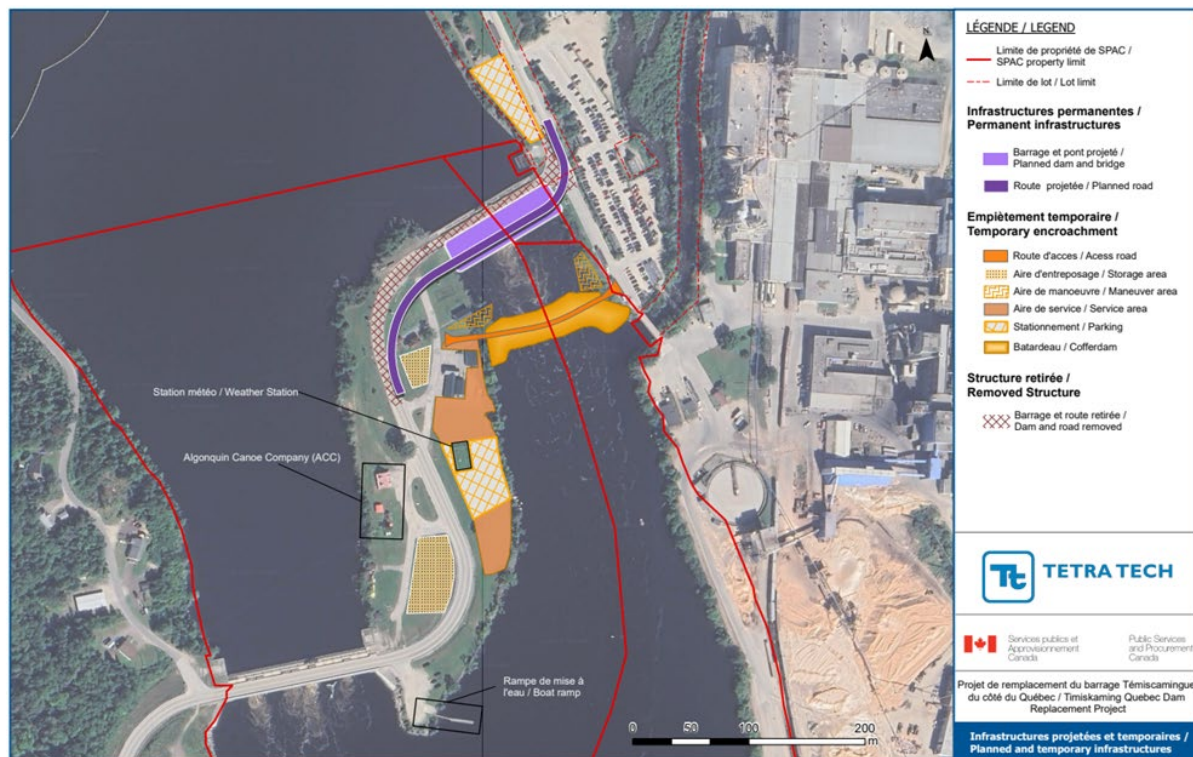
2.1 Project Components and Activities

2.1.1 Construction Phase

Site Preparation

The proponent has identified the work areas that must be made accessible on a 24/7 basis during the construction phase. Figure 3 indicates the preferred work areas. The areas delineated in the figure represent the maximum rights-of-way that the contractor can use. The contractor will confirm the precise location of the areas it intends to use within these rights-of-way.

Figure 3: Permanent Infrastructures, Temporary Structures, and Work Areas





Construction of the New Dam-Bridge

The new structure would be built roughly 19 metres downstream of the existing dam-bridge. The mechanized water management system for the new dam-bridge will include five bays with vertical gates, opening from bottom to top (with the water flowing through the base), and five bays with wooden stop logs, similar to those in the existing structure, opening from top to bottom (with the water flowing above the logs). Extension of the existing apron⁴ downstream is also anticipated.

The bridge deck⁵ will support a two-lane roadway for vehicles and a sidewalk for pedestrians and snowmobiles. The road's drainage system would be constructed using a similar approach to the existing one, with stormwater pipes equipped with outfalls discharging into the river downstream of the dam. Settling ponds are planned along the side of the road to capture the suspended solids in the stormwater before it is discharged into the river. The bridge approaches would be aligned with the new structure. Electricity, telephone and natural gas lines would be reinstalled on the new structure and connected to the lines on either side of the dam-bridge.

The Project is planned to ensure the continuity of vehicle traffic during the work.

The construction of the new dam-bridge will require the temporary dewatering of the riverbed using a cofferdam. The proponent plans to build a temporary cofferdam roughly 70 metres downstream of the existing structure (Figure 3). The water pumped from the cofferdam will be treated before release to the river to ensure fine particles release is within regulatory limits.

The main construction materials required are concrete and granular materials of various diameters. The contractor will be responsible for supplying the concrete. The proponent, as part of a commitment to sustainability, will include incentive clauses in the contract to reduce greenhouse gases (GHGs) and will also explore carbon neutrality options for the Project. The other materials will come from existing quarries and sand pits in the region with the required environmental authorizations.

Deconstruction of the Existing Dam-Bridge

The existing dam-bridge, made from reinforced concrete, is roughly 75 metres long and 15 metres wide. Jackhammers will be used for deconstruction. Blasting may be necessary on some parts of the existing structure, but will be kept to a strict minimum. Some uncertainties remain about the deconstruction methods to be implemented, which will be determined by the successful contractor and specified and analyzed during the

⁴ An apron is constructed at the base of a dam to protect the foundation soil from the erosive action of the spilling water.

⁵ The bridge deck is the part of a bridge that includes the roadway.



authorizations phase. Once the new dam-bridge has been commissioned, the existing dam-bridge will be deconstructed and the existing road approaches will be dismantled.

Construction and Demolition Waste Management

All waste construction materials and demolition debris will be managed in accordance with current regulations; they will be recovered and temporarily stored in work areas, and then transported to authorized sites. Non-hazardous waste will be hauled to an appropriate disposal site or to available recycling or composting facilities. Hazardous liquid waste will be stored in secure containers for disposal. The proponent commits to disposing of waste materials resulting from land clearing, with a priority on composting.

Water Management at the Dam

Measures will be taken to ensure the security and continuity of infrastructure operations. Moreover, depending on the construction phase, the hydrological conditions and the dams' maximum hydraulic capacity, the Quebec dam will be completely or partially closed. Therefore, the outflow from Lake Timiskaming will have to be managed in whole or in part by the Ontario dam. Hydrological monitoring of the Ottawa River watershed will be carried out while the Quebec dam is closed. This initiative will make it possible to anticipate possible flooding and to plan for the optimal management of the work.

The Project will be managed in a way to ensure that water levels in Lake Timiskaming and flows in the Ottawa River are maintained throughout the construction phase.

Installation of a Fishway

As part of the Ontario dam-bridge replacement project, Fisheries and Oceans Canada had required the proponent to restore the American eel passage in anticipation of its future return to the watershed, with the goal of preserving the viability of the fisheries and increasing its productivity. However, the American eel is not present upstream of the Carillon dam near Montreal.

Discussions with certain Indigenous groups and organizations had raised interest in ensuring the free passage of multiple species across the new dam-bridge. In August 2019, the new *Fisheries Act* also came into effect, with section 34.3 on the free passage of fish aiming to promote the restoration of fish habitat connectivity. The proponent therefore proposed three more options in its EIS, in addition to the passage for the American eel:

- Installing a multi-species fishway that would enable the free passage of fish and access to habitats upstream, including spawning grounds;
- Maintaining the status quo, i.e., no fishway, which would protect the upstream watershed from potential aquatic invasive species, but which would not restore the free passage of fish; and



- Conducting a more detailed impact assessment to better understand the benefits and drawbacks for the watershed.

The proponent notes that further discussions are necessary with Fisheries and Oceans Canada and Indigenous groups to identify the preferred option. It also wishes to more closely examine the feasibility of the multi-species fishway, while taking into account the specific needs of the target species, under the Fisheries and Oceans Canada authorization process.

2.1.2 Operation Phase

Transport Quebec and the Ontario Ministry of Transport are responsible for managing the road infrastructure. They perform maintenance of guardrails and lighting, as well as snow removal and the salting and sanding of roads.

The proponent is responsible for managing the dam portion. Water management at the dam ensures that water levels in Lake Timiskaming and flows in the Ottawa River are maintained. Fisheries and Oceans Canada may, however, require that water management be adapted or optimized to favour fish spawning.

In compliance with the proponent's procedures, the new dam-bridge structure will be inspected and maintained.

There are no plans to deconstruct the proposed dam-bridge. Should it become necessary, replacement will be carried out in compliance with the regulation in force.

2.1.3 Project Components, Activities and Schedule

The main activities required to complete the Project are summarized in Table 2 according to the construction phase. The phasing of the work is planned in accordance with the spring freshet and spawning periods. However, the contractor could revisit the phasing, depending on the timing, extent and magnitude of the spring freshet. Figure 4 shows the four proposed construction phases.



Table 2: Summary Description of Project Activities and Schedule

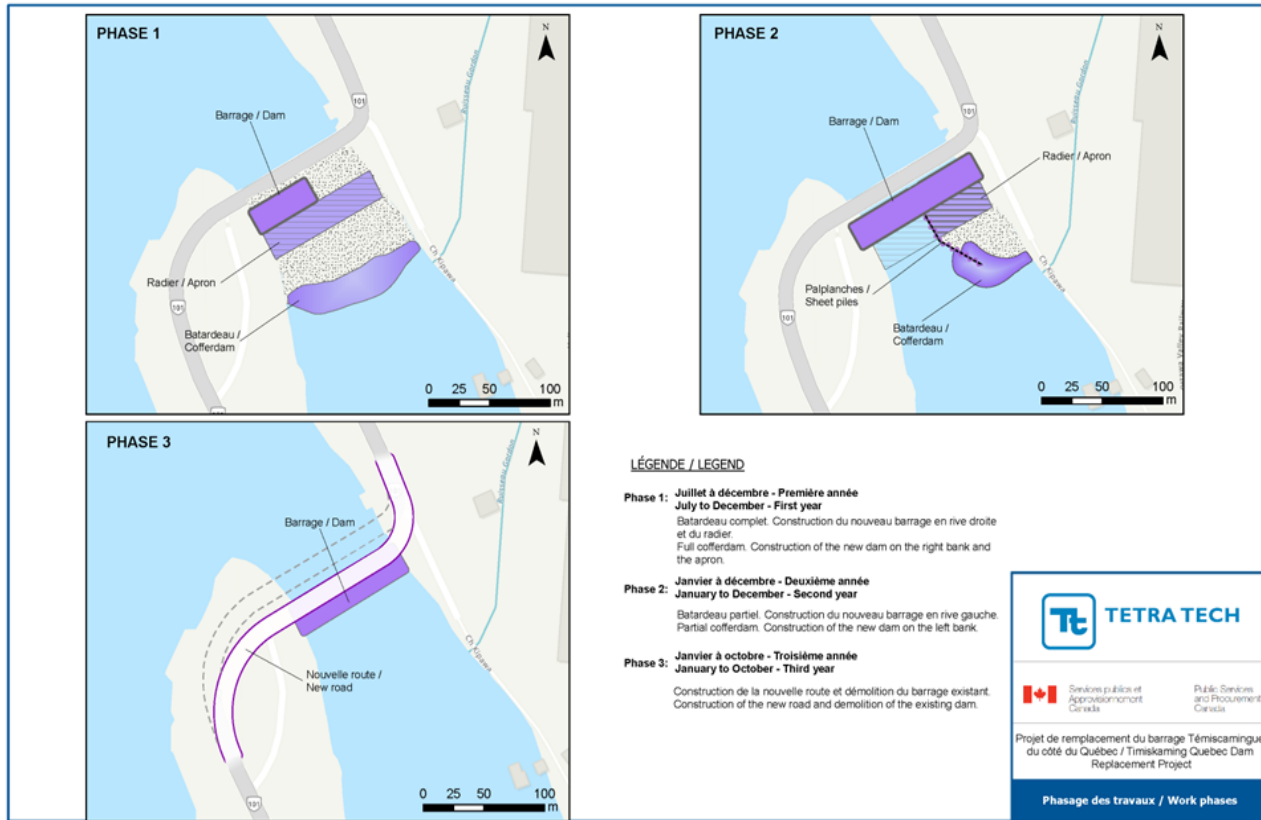
Component	Activities
Construction Phase – 30 months	
Site preparation	<p>June to mid-July – first year</p> <ul style="list-style-type: none"> • Land and tree clearing, grubbing, and levelling/grading • Installation of site trailers and sanitary facilities (water and electricity supply) • Construction of areas for material storage, parking, refuelling, and machinery and equipment washing
Construction of the new dam-bridge	<p>Phase 1 – Mid-July to December – first year</p> <ul style="list-style-type: none"> • Closure of the bays of the existing dam-bridge for six months • Installation of retaining (Berlin) walls behind the existing abutments (shoreline work, not in water) • Construction of cofferdam downstream of the work site and temporary access roads, including installation of the turbidity curtain and relocation of fish • Excavation, backfilling and stonework in the dewatered cofferdam area (scour correction) • Construction of the new abutment on the right bank and new bays 6 to 10 (shoreline work, not in water) • Installation of a sheet-pile cofferdam to isolate bays 1 to 5 (installation in the dewatered area) <p>Phase 2 – December of the first year to October of the second year</p> <ul style="list-style-type: none"> • Partial demolition of the cofferdam and complete demolition of the retaining (Berlin) wall on the right bank • Reopening of half of the bays of the existing dam-bridge and of the new dam-bridge (bays 6 to 10) • Bays 1 to 5 maintained in the dry with the sheet-pile cofferdam and the remaining portion of the cofferdam • Construction of a new abutment on the left bank and new bays 1 to 5 • Construction of the road deck and paving of the new dam-bridge • Mechanical and electrical work



	<ul style="list-style-type: none">• Removal of the retaining (Berlin) wall on the left bank (shoreline work, not in water)• Installation of the downstream stop logs in the new dam-bridge in preparation for the installation of the gates• Removal of the sheet pile cofferdam and the remainder of the cofferdam• Construction and removal of the diversion road• Relocation of utilities• Modification of road alignment and road marking <p>Phase 3 – August of the second year to July of the third year</p> <ul style="list-style-type: none">• Opening of the road• Installation of gates for bays 1 to 10 (alternating closure of bays)• Commissioning of the new dam-bridge.
Deconstruction of the existing bridge dam	<p>Mid-July to October – third year</p> <ul style="list-style-type: none">• Closing the gates of the new dam-bridge;• Installing turbidity curtains downstream and upstream;• Drilling, demolition, and dismantling of all elements of the existing dam-bridge with the exception of retaining walls (blasting may be required, at a minimum);• Final development and restoration work.
Operation Phase – 75 years	
	<ul style="list-style-type: none">• Dam operations• Maintenance of dam-bridge and road structures



Figure 4: Construction Phase for the New Dam-Bridge





3. Assessment of Alternative Means

3.1 Options for the Replacement of the Dam-Bridge

The proponent decided to replace the Quebec dam-bridge, since, in its view, the limited space available reduces the potential options. Although the new dam-bridge could be built in a different location, no other alternatives are available for the other project components. It is critical that the road is built on the new dam-bridge to avoid further encroachment on fish habitat and to meet road design criteria.

First, the proponent conducted a comparative analysis of three replacement options, and subsequently a fourth option after submitting the EIS. The design options development and analysis study (Tetra Tech, 2017), updated in 2025 (Tetra Tech, 2025), presented a comparative analysis aimed at identifying the location for the new dam-bridge. The proponent analyzed the construction challenges for each option, addressing economic, technical and environmental aspects. The following chapters present the four replacement alternatives, the one selected by the proponent, and IAAC's analysis.

3.1.1 Building a New Dam-Bridge Downstream of the Existing Dam-Bridge

This option would involve the construction of a new dam-bridge located roughly 19 metres downstream of the existing dam-bridge, which would be completely deconstructed. It would also require the installation of a temporary cofferdam downstream of the existing dam-bridge.

According to the proponent's analysis, this option would respect the project schedule, which was established to mitigate impacts on water management during the spring freshet period. This option should have no impact on traffic. Some geotechnical uncertainties are involved, but the proponent states that the technical risks are manageable, because the same option was used during the Ontario dam-bridge replacement project. This approach has the advantage of being able to use the existing dam-bridge as an upstream cofferdam for dewatering the work area. However, it could have impacts on fish habitat, due to the temporary and permanent losses of fish habitat, as well as the alteration of water flows near spawning grounds.



3.1.2 Building a New Dam-Bridge Upstream of the Existing Dam-Bridge

This option would involve building a new dam-bridge located roughly 19 metres upstream of the existing structure and the complete deconstruction of the existing dam-bridge. A temporary cofferdam would also need to be installed upstream of the existing dam-bridge.

According to the proponent's analysis, this option would respect the project schedule, which was established to mitigate the impacts on water management during the spring freshet period. This option should have no impact on traffic. However, it entails scheduling and costing risks. The proponent would have to demolish and rebuild the Rayonier Advanced Materials (RYAM) plant's pumping station before constructing the new dam-bridge. Some geotechnical uncertainties, which could pose technical and financial risks, must also be considered. In addition, it would result in temporary and permanent losses of fish habitat, thus having a significant impact on this component. Work carried out outside the cofferdam dewatering area would be required, which could have effects on water quality.

3.1.3 Partial Reconstruction of the Dam-Bridge at the Same Location as the Existing Dam-Bridge

This option would involve rebuilding the dam-bridge, while retaining some of the piers and abutments. A temporary cofferdam would need to be installed downstream of the existing dam-bridge.

According to the proponent, this option has major drawbacks. The service life of the structure would be 50 years instead of the initially planned 75 years. Construction (an estimated 50 months) will take longer than for the two previous options. This could have an impact on the management of the spring freshet. For a period of 17 months, traffic across the dam-bridge would be alternating, which could result in impacts on traffic for residents in the region. The proponent has also identified some uncertainties surrounding the integrity of the existing structure, which could entail significant technical and financial risks. However, according to the proponent's analysis, the option would only have a moderate impact on fish habitat. Work carried out outside the cofferdam dewatering area would be required, which could have effects on water quality.

3.1.4 Complete Construction of the Dam-Bridge at the Same Location as the Existing Dam-Bridge

This option would involve the complete deconstruction of the existing dam-bridge and the construction of a new dam-bridge at the same location. The construction of a temporary



bridge for traffic would also be required. Two temporary cofferdams would need to be installed downstream and upstream of the existing dam-bridge.

According to the proponent, this option presents major drawbacks. The construction work would have the longest time frame, an estimated duration of 61 months). The option is also likely to have a significant impact on fish habitat due to the installation of two cofferdams.

3.1.5 Option Selected by the Proponent

On the basis of a comparative analysis, the proponent concluded that the most beneficial option was Option 1, which involves constructing a new structure downstream of the existing dam-bridge. It would allow the proponent to respect the project schedule, established to mitigate impacts on water management during the spring freshet and spawning periods. It would have no impact on interprovincial mobility for the local and regional population. According to the proponent, this option presents lower technical and financial risk, as it was used for the Ontario dam-bridge replacement project in 2014.

3.1.6 IAAC Analysis and Conclusion

IAAC notes that the Timiskaming dam-bridge ensures water management in the Ottawa River and is an important road link for the region. The proponent demonstrated that extending the lifespan of the existing dam-bridge would require frequent and significant maintenance costs. IAAC is of the opinion that the Timiskaming dam-bridge needs to be replaced for safety reasons and to meet the stated needs.

The proponent has identified technically and socio-economically feasible alternatives and ascertained the potential environmental effects. As part of its analysis, the proponent took into consideration and provided several arguments to justify the construction of a new dam-bridge downstream of the existing one, including traffic maintenance, technical risk and schedule predictability. Constructing the new dam-bridge along a different road axis would allow traffic to continue on the existing dam-bridge throughout the construction phase. The proponent also stated that downstream reconstruction was the least technically and financially risky option and offered greater predictability in terms of the completion of the work.

In its comparative analysis (Table 7.1 in Tetra Tech, 2017), it would have been helpful if the proponent had used weighting to reflect the relative importance of the various evaluation criteria, but instead selected colour-coded ratings (green, yellow and red) to differentiate the various options. This gave all evaluation criteria and issues equal weight, but individual weighting might have been beneficial. For example, Kebaowek, Wolf Lake and Timiskaming First Nations are of the opinion that the potential effects on fish habitat would be greater for a downstream dam-bridge than for an upstream one, due to the different types of habitat found. Although the total loss of fish habitat with the



downstream option would be similar to that for the upstream option (13,161 m² for the downstream option versus 13,315 m² for the upstream one), the permanent habitat loss in the spawning grounds would be much more significant (2,347 m² versus 110 m²) with the downstream option.

Nevertheless, IAAC is of the opinion that the proponent has evaluated feasible alternative means of carrying out the Project in compliance with CEAA 2012. It should be noted that some of the options may involve significant technical risks that could compromise the integrity of the structure during construction. According to the proponent's assessment, building a new dam-bridge along a different axis is the best solution.

3.2 Cofferdam Construction Options

In July 2025, Kebaowek, Wolf Lake and Timiskaming First Nations informed IAAC and the proponent that they did not consent to the downstream replacement option involving a earthen cofferdam, since it would be built in a spawning ground used by several species including lake sturgeon, a species of great cultural value, and could impact their rights as well as their commitment to exercise their stewardship of the land and resources.

In response to this concern, the proponent has committed to identifying and developing a cofferdam that minimizes encroachment on the spawning ground used by lake sturgeon, while remaining technically and economically feasible. During the Project's design process, the proponent will assess a sheet pile cofferdam or other types of cofferdam.

In the event of a change to the option during the detailed design phase that could alter the Project as assessed, the proponent must notify IAAC in writing as soon as possible. IAAC will then determine, in accordance with section 68 of the IAA, whether an amendment to the Decision Statement is required and, if so, the steps to be taken, within the limits provided for by the act.



4. Consultation and Engagement

Activities and Advice Received

IAAC integrated Crown consultation and engagement activities with Indigenous groups as part of the environmental assessment process, and also took into account public comments and community knowledge into account.

4.1 Consultation with Indigenous Peoples

4.1.1 Indigenous Consultation Activities Led by IAAC

The Crown has a duty to consult Indigenous Peoples in Canada and to accommodate, where appropriate, when its proposed conduct might adversely impact Indigenous or Treaty rights protected under section 35 of the *Constitution Act, 1982* (section 35 rights). Consultation with Indigenous Peoples is also undertaken more broadly to aid good governance, sound policy development, and decision-making. The Minister's significance decision pursuant to subsection 52(1) of CEEA 2012 is considered Crown conduct that could give rise to the common law duty to consult and, where appropriate, accommodate with respect to potential adverse impacts on section 35 rights.

For the purposes of the federal environmental assessment, IAAC served as Crown Consultation Coordinator to facilitate a whole-of-government approach to consultation.

In addition to the federal government's broader obligations, CEEA 2012 requires, with respect to Indigenous peoples, that it considers the effects of environmental changes on health and socio-economic conditions, physical and cultural heritage, current use of lands and resources for traditional purposes, or any structure, site or thing that is of historical, archaeological, paleontological or architectural significance. The analysis of potential effects on Indigenous groups is presented in Chapters 5.5 to 5.8. The assessment of the Project's potential impacts on established or potential Indigenous and treaty rights is covered in Chapter 7.

The target Indigenous groups for consultation are those with a direct interest in the Project due to their geographical proximity, traditional land use and the potential impact on their established or potential Indigenous or treaty rights. As part of its consultation process, IAAC held discussions with the Kebaowek, Wolf Lake and Timiskaming First Nations in Quebec, and the Algonquins of Pikwakanagan First Nation (AOPFN) in Ontario. These First Nations have Indigenous and treaty rights. The Kebaowek, Wolf



Lake and Timiskaming First Nations have made the decision to collaborate within the SART⁶ group (SART First Nations).

IAAC also considered the potential effects on the Algonquins of Ontario⁷ (AOO), Antoine Nation and the Métis Nation of Ontario⁸ (MNO).

Following discussions and meetings in 2018, IAAC suggested implementing a consultation pilot project for the Indigenous groups. The objective of the pilot project was to put in place a consultation process similar to that proposed to Indigenous groups for Projects assessed under the IAA. Under the proposed approach, the following activities would be added to the standard consultations offered:

- Upstream engagement activities before the proponent submits the EIS;
- Membership on IAAC's technical committee;
- Co-drafting of certain chapters of the environmental assessment report (for example, those relating to the Project's effects on current use and impact to rights).

Throughout the process, IAAC has enabled Indigenous groups to become more familiar with the Project, to express their concerns about the Project's potential environmental effects and potential adverse impacts on section 35 rights, and to review suitable mitigation and accommodation measures, where appropriate. IAAC invited Indigenous groups to consult and comment in writing on the proponent's project description and IAAC's guidelines. Indigenous groups were also able to formulate questions to be included in IAAC's information requests following the submission of the proponent's EIS. They also had the opportunity to review and comment on the draft environmental assessment report and potential conditions.

In December 2025, IAAC concluded a consultation framework agreement with SART First Nations, including a work plan and a protocol for seeking free, prior, and informed consent. This work plan provides for the collaborative drafting of Chapter 7 (Impact to Rights). In the framework agreement, IAAC commits to seeking consensual solutions with SART First Nations, where possible. In the event of disagreement, IAAC commits to communicating the First Nations' points of disagreement in the final environmental assessment report.

IAAC has agreed to terms of reference with AOPFN. In this agreement, IAAC commits to co-drafting Chapter 7 and to presenting any disagreements in the final environmental assessment report.

⁶ *Statement of Asserted Rights and Title*

⁷ Representing Mattawa and North Bay communities.

⁸ Representing the Mattawa/Ottawa River Historic Métis community.



As part of IAAC's environmental assessment process, a total amount of \$683,608.00 was allocated to Indigenous groups.

4.1.2 Indigenous Consultation Activities Led by the Proponent

In the summer of 2016, the proponent contacted a number of Indigenous groups in the region about the Project. In 2018, a press release was issued to the groups concerned after the list of the Indigenous groups to be consulted by IAAC was verified.

SART First Nations collaborated with the proponent to develop a formal consultation agreement before beginning consultation activities. The agreement was signed by the parties in November 2021.

In the spring of 2017, the proponent canvassed Indigenous groups to evaluate their rights and activities in the Project area, as well as their traditional knowledge. It also invited them to comment on the protocols for the inventories and surveys, and to take part in these activities in the field. Financial resources were also allocated to some Indigenous groups to carry out studies on various biophysical valued components that were used to prepare some of the biophysical chapters of the EIS.

The Indigenous groups were given the opportunity to review and comment on the draft and final versions of the proponent's technical studies and EIS prior to their submission to IAAC. The proponent also provided opportunities to Indigenous groups to write their own chapters of the EIS and to work with them on assessing effects on their rights.

It should be noted that the 2019 coronavirus pandemic led to disruptions in the proponent's consultations with Indigenous groups between 2020 and 2021.

4.2 Public Participation

4.2.1 Public Participation Led by IAAC

IAAC held four series of public consultations, coinciding with the following key stages of the process:

- the proponent's submission of the summary of the Project description (May 3 to 23, 2018);
- the publication of IAAC's Draft Guidelines for the preparation of an EIS (June 20 to July 22, 2018); and,
- the submission of the proponent's summary of the EIS (April 3 to May 3, 2023), and



- the publication of the draft environmental assessment report and the potential environmental assessment conditions (February 16 to March 19, 2026).

These public consultations were announced on the Canadian Impact Assessment Registry⁹ and in the local media.

IAAC received comments from citizens and various groups. The main concerns are the following elements:

- The degradation and loss of lake sturgeon habitat due to the destruction of a spawning site;
- The need to implement environmental quality monitoring measures;
- Impacts of the fishway on the ecology of the Ottawa River (supporting the recovery of threatened species or posing a risk of spreading invasive species); and
- Cumulative effects of the Project on the ecological integrity of the Ottawa River.

Some organizations also indicated their support for the Project and underscored the socio-economic importance of the dam-bridge for the region, as well as the proponent's efforts to mitigate the Project's environmental effects.

4.2.2 Public Participation Led by the Proponent

In the summer of 2017, the proponent held a public consultation session in the town of Temiscaming. This initiative was aimed at soliciting the public's opinions and concerns about the Project. The proponent also met with representatives of the town of Temiscaming and the RYAM plant.

The proponent released a series of notices and press releases in the local media, on social media networks and on its website to present details on the Project and its progress.

4.3 Participation of Federal and Provincial Experts

Under section 20 of CEAA 2012, federal departments and agencies with expertise or knowledge required for the Project lent their support to IAAC throughout the environmental assessment process.

IAAC sought the expertise of the following government departments and agencies: Fisheries and Oceans Canada, Environment and Climate Change Canada, Transport Canada, Health Canada, Natural Resources Canada and Parks Canada. IAAC also

⁹ <https://iaac-aeic.gc.ca/050/evaluations/proj/80151>



relied on the Abitibi-Témiscamingue wildlife management division of the Quebec's Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs.

The proponent also sought comments on its EIS from provincial agencies.



5. Predicted Effects on Valued Components

IAAC assessed the potential significant adverse environmental effects on valued components. The direct and indirect effects that may result from predicted changes to the environment were also assessed.

Appendix B presents a summary of the residual adverse environmental effects for each valued component, while Appendix C covers all of the mitigation measures and requirements for the monitoring and follow-up and offsetting programs deemed necessary by IAAC to prevent the Project from causing significant adverse environmental effects.

5.1 Fish and Fish Habitat, Including Special-Status Species

The Project could cause residual effects on fish and fish habitat, as defined in the *Fisheries Act*, particularly on species of special status and species of interest to Indigenous groups owing to the degradation and destruction of habitat, fish mortality and alteration of fish habitat.

IAAC is of the view that the Project is unlikely to have significant adverse effects on fish and fish habitat, including fish species at risk and those of special status, after considering the implementation of key mitigation measures and monitoring and follow-up programs.

5.1.1 Component Description

Approximately 30 species of fish were recorded during various surveys conducted by the proponent in the study area, including lake sturgeon. Although the Great Lakes and upper St. Lawrence population of lake sturgeon is not listed in Schedule 1 of SARA, it is considered threatened by COSEWIC. Lake sturgeon is also subject to the Quebec and Ontario legislation, since the Ottawa River forms the border between the two provinces. Although lake sturgeon is a migratory species with an extensive home range, its range in the area is limited by the presence of dams.

The Project falls within the range of the hickorynut, which is listed in Schedule 1 of SARA. However, for safety reasons and because of the small amount of sandy substrate



in the ASA, the proponent did not characterize the benthic fauna, or a freshwater mussels survey. For some Indigenous groups, the hickorynut is a species of interest because of its relationship with lake sturgeon.

Lake sturgeon and walleye are species of special significance to Indigenous groups, with walleye being one of the most commonly harvested species. American eel is also a species of interest for Indigenous groups in the region; however, although it was previously present, it is currently not found in the ASA, as downstream dams prevent its migration.

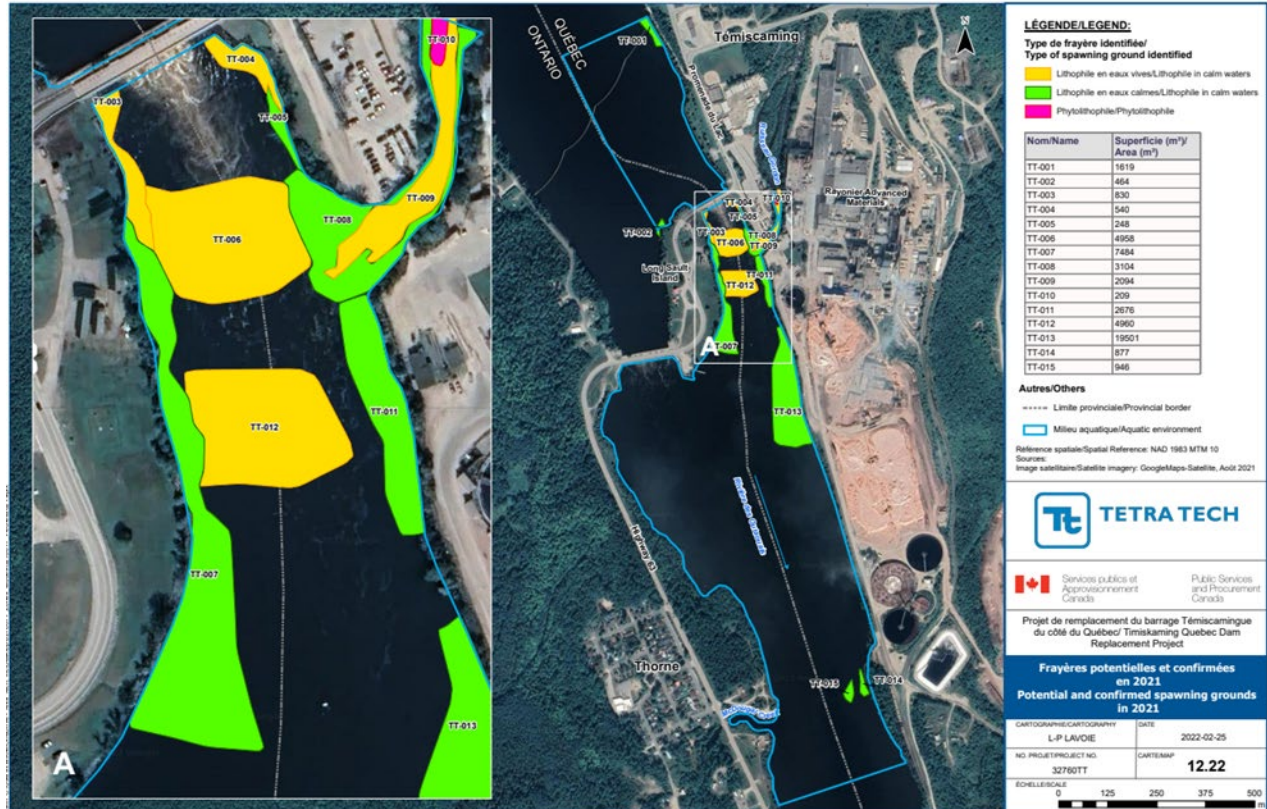
The proponent used the classification set out by Armellin *et al.* (1997) to characterize the aquatic habitats of the ASA based on four biophysical characteristics: flow velocity, mean depth, substrate particle size and the presence or absence of aquatic vegetation. This approach helped identify the main habitats present. Surveys were subsequently carried out to confirm the presence of spawning grounds and to identify potential ones. Within the ASA, the proponent identified 15 confirmed or potential multi-species spawning grounds (Figure 5).

The surveys conducted by the proponent revealed the presence of a spawning ground used primarily by lake sturgeon, located downstream of the existing dam-bridge (confirmed spawning ground TT-006; Figure 5) and characterized by a rocky substrate and swift flow conditions. Given that similar conditions are present along the banks downstream of the dam, these areas could be used by various species for spawning, including lake sturgeon (potential spawning grounds TT-003 and TT-004; Figure 5).

The ASA provides other types of habitat suitable for many species, including lake sturgeon (Figure 5).



Figure 5: Map Illustrating the Different Types of Lake Sturgeon Habitats, Including Confirmed and Potential Spawning Grounds



5.1.2 Analysis of Potential Effects and Proponent’s Proposed Mitigation Measures

According to the proponent, the main effects of the Project on fish and fish habitat are related to permanent and temporary habitat loss, fish mortality and altered flow regimes and water quality.

Special attention is given to lake sturgeon because of its conservation status and cultural significance to Indigenous groups.

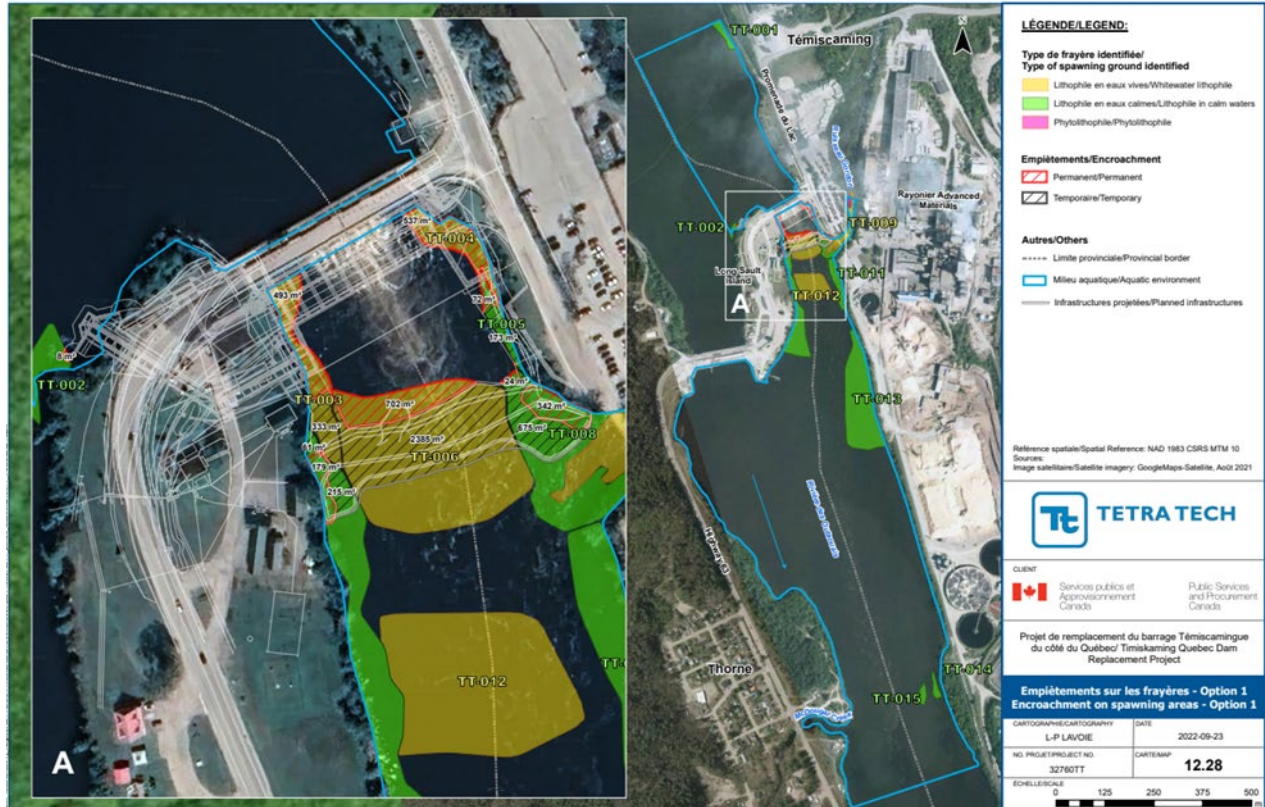
Harmful Alteration and Destruction of Fish Habitat

Based on the chosen concept of constructing a new dam-bridge downstream of the existing one, the proponent estimates that the new structure will result in 9,264 m² of permanent encroachment in the Ottawa River, while the construction of a cofferdam would result in 3,907 m² of temporary encroachment (Figure 6). Of these areas, 4,450 m² of confirmed and potential lake sturgeon spawning grounds would be affected.



Furthermore, the permanent loss of nursery, rearing and food supply areas would be 6,907 m². More specifically, the Project would require a downstream extension of the concrete apron resulting in a permanent loss of 2,357 m² of spawning grounds and a temporary loss of 3,842 m² of spawning grounds due to the downstream cofferdam. The detailed areas of encroachment are presented in Table 3.

Figure 6: Permanent and Temporary Encroachments in Fish Habitat



**Table 3: Area of Fish Habitat Loss**

	Permanent Loss (m ²)	Temporary Loss (m ²)
Confirmed and potential lake sturgeon spawning grounds (TT-003, TT-004 and TT-006)	1,732	2,718
Other spawning grounds	625	1,124
Other habitats	6,907	65
Total	9,264	3,907

Source: Adapted from Table 12.35 in answers to IR-1, PSPC, May 18, 2024, page 78.

According to Fisheries and Oceans Canada, uncertainties persist regarding the residual effects on fish and fish habitat, which are due to the inability to accurately assess the effects of dewatering the fish habitat enclosed by the cofferdam during the work period. Since some spawning grounds will no longer be available or will be altered, Fisheries and Oceans Canada is anticipating effects on the recruitment of fish species that use these habitats. Moreover, the time lag between the start of construction and the implementation of offsetting measures will also have a temporary effect on the recruitment of several species. However, according to Fisheries and Oceans Canada, the implementation of appropriate offsetting measures and monitoring, along with corrective work if necessary, will adequately offset losses while taking uncertainties into account.

Mitigation Measures

The proponent is committed to developing, in consultation with Indigenous groups, an offsetting plan for fish and fish habitat that is to the satisfaction of Fisheries and Oceans Canada.

The objective of the offsetting plan is to ensure the maintenance of habitat functions and the integrity of the affected ecosystem. For Fisheries and Oceans Canada, an important part of the offsetting plan involves enhancing multi-species spawning habitat downstream of the dam-bridge. Fisheries and Oceans Canada would be in favor of optimizing conditions in the area downstream of the dam, particularly with respect to the substrate type, in order to restore favourable habitat—or even improve it compared with initial conditions—to benefit the spawning of various species, with priority given to lake sturgeon. The enhancements would be designed to provide a range of depths and current velocities, thus meeting the requirements of different species that spawn on gravel substrates in swift waters. Flow modelling conducted by the proponent will be critical in determining the location of the spawning habitats to be enhanced during the implementation of offsetting measures. Fisheries and Oceans Canada will require



corrective actions to restore conditions if discrepancies are observed between modelled flows and observations made during post-construction monitoring.

Fish Mortality

According to the proponent, the Project could pose a risk of fish mortality due to dewatering work upstream of the cofferdam. Indigenous groups have expressed concerns about the lack of a field survey and hickorynut mortality during the dewatering of the area enclosed by the cofferdam. However, the habitat characteristics at the work site differ from those sought by the hickorynut.

If the use of explosives is required to deconstruct the existing dam-bridge, the proponent is of the opinion that this activity could also pose a risk of fish mortality.

Mitigation Measures

In its EIS, the proponent planned to begin the installation of the cofferdam 10 days after the water temperature in the work area reached 18°C. The confirmed presence of lake sturgeon in the work area means that work restrictions periods specific to this species must be applied. Some authors have reported that lake sturgeon eggs hatch between 7 and 10 days after spawning. However, Smith *et al.* (2017) and Peterson *et al.* (2007) refer to a period of 8 to 14 days before hatching, depending on the water temperature, while Smith *et al.* (2017) and LaHaye *et al.* (1992) state that larvae consume their yolk sac reserves before drifting downstream from the spawning site—this period could last from 13 to 19 days after hatching. Therefore, according to Fisheries and Oceans Canada, any activity in fish habitat that could be harmful or lethal to fish must begin 30 days after the temperature reaches 18°C. This ensures that lake sturgeon are protected during the spawning period, egg incubation period and development period of lake sturgeon larvae in the spawning ground until they migrate downstream.

The proponent plans to salvage fish within the turbidity curtain and cofferdam and subsequently relocate them.

With respect to the hickorynut, the proponent has accounted for the possibility of its presence at the work site; the proponent has committed to using divers to conduct inspections throughout the cofferdam area before dewatering the enclosure and to relocating individuals, if necessary. Fisheries and Oceans Canada is of the opinion that the probability of the species being present is low and that the mitigation measure proposed by the proponent is sufficient to reduce the effects on the hickorynut. Fisheries and Oceans Canada has also confirmed that it will issue a permit in accordance with the *Species at Risk Act* and will assist the proponent in adapting the species-specific detection and relocation protocol.

As part of the deconstruction work on the existing dam-bridge, the proponent will be required to comply with Fisheries and Oceans Canada guidelines pertaining to the use of



explosives. Explosives must be detonated outside spawning periods and within a turbidity curtain.

Altered Flow Regime

Flow management during the construction phase could cause alteration of fish habitat downstream of the dam-bridge, which would affect fish spawning and the productivity of certain species.

A complete closure of the dam in Quebec is scheduled between July and December in the first year of construction (Phase 1), which could cause a temporary disruption of general fish habitat and spawning habitat for species that spawn in the fall, such as salmonids. However, surveys did not reveal any spawning grounds for salmonids, including lake whitefish, downstream of the dam-bridge. According to the proponent, a decline in productivity over one year would not affect salmonid populations. In addition, a change in flow velocities on the Ontario side of the dam is planned during the complete closure of the Quebec dam. According to the proponent, this change in the flow regime on the Ontario side would be comparable to major flood conditions, and closing all the gates in a dam is common practice in how operations are currently managed.

Velocities will also increase on the Quebec side from December to August (during phases 2 and 3 of construction), when a half-cofferdam blocks half of the bays on the dam. Water will therefore flow only through the western part of the dam, which would affect the spring spawning period during the second year of construction. According to the proponent, the area affected by this change in flow velocity would be limited.

Although the confirmed multi-species spawning ground downstream – used among others, by lake sturgeon – will be fully or partly accessible over the three spring construction periods, Fisheries and Oceans Canada is of the opinion that uncertainties remain regarding the disturbances caused by the altered flow regime at the various spawning sites located in the area affected by the work, as the construction method to be used for the cofferdam has not yet been determined, nor has the size of the dry area. These details will be specified in the project's detailed design. As part of this environmental assessment, Fisheries and Oceans Canada is therefore adopting a precautionary approach. In order to address these uncertainties, the proponent will be required, at the request of Fisheries and Oceans Canada and in collaboration with Indigenous groups, to develop monitoring programs during and after the work. These monitoring programs will be outlined in the authorization to be issued by Fisheries and Oceans Canada.

The proposed dam-bridge would be equipped with sluice gates rather than stop logs, which are currently used to manage the existing dam. The proponent is of the opinion that changes to the flow regime could alter fish habitat downstream of the dam-bridge. Water would flow through the base (the bottom), so under the sluice, rather than by flowing above the stop logs. Flow velocities would be approximately 4 m/s downstream of



the sluice gate, compared with 2 m/s currently. According to the models presented by the proponent, this difference would affect an area about 50 metres downstream of the structure. The return to optimal spawning conditions for lake sturgeon will therefore depend on the flow conditions of the new gate system. The proponent is confident that favourable spawning conditions will be reproduced once the new structure is built.

Mitigation Measures

During the construction phase, the proponent is committed to respecting the dates and periods of dam closures in accordance with the various life cycles of fish species. Among other things, it plans to completely close the Quebec dam only after the spring spawning period.

During the operation phase, the proponent plans to comply with the dam's operational management plan and to improve it, if necessary.

Altered Water Quality

The proponent anticipates that in-water and shoreline work, as well as surface runoff, could lead to an increase in suspended solids (SS) in the water. These releases of SS could alter the lentic habitats used by fish by affecting riverbed substrate grain size, primary production and light penetration. The deposit of SS could adversely affect the development of eggs and larvae; however, fine sediments would not settle in swift water spawning grounds because the current velocity is too high. According to the proponent, these changes will be episodic and will not have significant effects on fish.

Potentially contaminated sediments and soils could be remobilized to the aquatic environment. According to the proponent, downstream of the existing dam-bridge is not conducive to the accumulation of fine sediments, which are more likely to be contaminated. The proponent therefore considers the risk of contamination to the aquatic environment to be low.

Mitigation Measures

The proponent plans to develop an environmental management plan, including an erosion and sediment control plan, and will implement sediment and erosion control measures, such as the installation of erosion barriers. It will also install a turbidity curtain prior to the construction of the cofferdam and the deconstruction of the existing dam-bridge.

The proponent is committed to characterizing the sediments – which will first be dried in a watertight basin – as well as the excavated or disturbed soils. Contaminated soils and sediments will be transported to a specialized site.

Lastly, the proponent plans to establish a baseline and monitor water quality, including via turbidity measurements, to ensure compliance with the criteria outlined in the



Recommendations for the Management of Suspended Solids (SS) during Dredging Activities (MDDELCC and ECCC, 2016)¹⁰.

Fish Passage

As part of the Project, the fish passage between the downstream and upstream areas of the dam-bridge will remain subject to restrictions. Since the construction of the existing dam-bridge, the structure has blocked migration corridors. Fisheries and Oceans Canada is of the opinion that the lake sturgeon population in the river segment located between the Timiskaming Dam Complex and the Otto Holden dam could struggle to grow due to habitat fragmentation. According to Fisheries and Oceans Canada, installing a fishway as part of the new structure would facilitate the free passage of fish, thereby mitigating the adverse effects of habitat fragmentation. As a result, and given the absence of aquatic invasive species downstream, it is recommended that connectivity be restored, particularly for lake sturgeon.

The proponent was unable to assess the impact of installing a fish passage on fish populations due to uncertainties of the type of fishway and a lack of scientific data on the effects on fish populations upstream and downstream of the structure. A fishway enables migratory fish to access other spawning grounds upstream. On the one hand, if fish are able to return to their original environment, the impact recruitment will be positive. On the other, if fish do not return to their original environment, the impact on recruitment would be negative. Moreover, the use of a fishway by alien invasive species could promote their spread upstream of the watershed, resulting in adverse consequences for native fish species.

Mitigation Measures

The proponent is committed to studying the possibility of installing a fishway in the new dam-bridge in Quebec to restore the free passage of fish.

5.1.3 Views Expressed

SART First Nations

SART First Nations asserted that since the replacement of the Ontario dam-bridge, the lake sturgeon population has declined by two thirds. The effects of the dam's apron on the spawning grounds have increased pressure on the lake sturgeon. They request the application of extinction accounting as a governance tool to combat biodiversity loss.

¹⁰ The criteria set forth in this document regarding SS are the same as those in the Canadian Environmental Quality Guidelines (CEQGs) of the Canadian Council of Ministers of the Environment (CCME).



SART First Nations asserted the need to automate and manage water-level changes more gradually in order to minimize effects on fish.

SART First Nations asserted that a fishway that is suitable to pass lake sturgeon must be constructed as part of this project and that it should also be suitable for the American eel. They expressed their support to the construction of a natural fishway.

SART First Nations expressed concern that the Ottawa River sediment contaminant can be easily disturbed by the project activities and could cause increased effects to fish species and their life cycle. SART First Nations highlight the importance of conducting a detailed survey of the substrate in potential suitable lake sturgeon spawning grounds that have not yet been studied, in order to help design offsetting habitats. The retrieval of unsuitable substrate and the size of the new substrate material must be carefully selected to ensure attractiveness, reproductive success, long-term stability, and self-cleaning capacity.

SART First Nations also emphasized the importance of lake sturgeon as a sacred species, and highlight the need for the implementation of their Neme conservation plan which includes an intensive monitoring program to determine the various habitats required for the different life stages of lake sturgeon. They emphasized that habitat and mitigation strategies can only be implemented once the association between life stage and habitat has been determined.

Algonquins of Pikwakanagan First Nation (AOPFN)

AOPFN asserted that if the proponent decides that a fishway is not feasible that it must co-develop additional measures with the First Nations for improving fish and fish habitat in the Ottawa River.

Other Indigenous groups

According to AOO, monitoring and planning will not maintain fish populations, but it is rather the actions resulting from monitoring and planning that could maintain fish populations. AOO asserted that IAAC should be taking a significantly conservative and proactive approach to the effects assessment, given the uncertainties, the lack of clear and detailed mitigation measures beyond promises of plans, and the recognized time lag between the project and any offsetting.

AOO asserted that alterations to the flow regime and increased velocity will have profound effects to species that use the areas downstream of both dams for spawning, and will almost entirely prevent lake sturgeon spawning within at least 50 metres downstream of the new structure.

AOO expressed concern that the benthic community is not well enough understood to ensure survival of any hickorynut that may require rescue and relocation during



dewatering. Identifying suitable habitat with existing hickorynut would be a key component to maximizing the potential for survival of any relocated individuals.

AOO asserted that there are insufficient mitigation and offsetting measures. They asserted that a fishway that is suitable to pass lake sturgeon, at minimum, must be constructed as part of this project. AOO also recognized concerns raised regarding fish populations downstream of the dam declining due to upstream movement and expressed their support to population enhancement programs in order to support key species such as walleye and northern pike.

Further, according to AOO, limiting the assessment within the project footprint and the LSA dismisses Algonquin Knowledge and ways of knowing that emphasize interconnectedness and holistic views of ecosystems and the Kichi Sibi River.

Antoine Nation expressed their opposition to a fishway.

MNO expressed concern regarding pH levels changes in water because of concrete that could increase toxicity in fish.

5.1.4 IAAC Analysis and Conclusions on Residual Effects

To move forward with the Project, the proponent will need to obtain approval under sections 34 and 35 of the *Fisheries Act*. Fisheries and Oceans Canada will ensure that the Project is in compliance with this regulation upon the conclusion of the environmental assessment.

Harmful Alteration and Destruction of Fish Habitat

IAAC recognizes that the alteration and destruction of fish habitats associated with the construction work represent large areas within the Project footprint, and that concerns remain regarding the loss of spawning habitat for lake sturgeon associated with the installation of a cofferdam. IAAC understands that the proponent has committed to assessing technically and economically viable options for the construction of the cofferdam, before determining which option will be selected to mitigate the Project's effects on fish and fish habitat. Before mitigation measures, habitat loss is considered irreversible and severe given the areas altered or destroyed.

IAAC also understands that the proponent has committed to developing, before the construction phase and in collaboration with Fisheries and Oceans Canada, a fish habitat offsetting plan, as well as to obtaining all necessary regulatory approvals. The offsetting project(s) must be aimed at fully offsetting the alteration and destruction of habitats caused, particularly for lake sturgeon, in order to support the conservation and protection of fish and maintain the functions of lost habitat. This plan must be developed in consultation with the relevant provincial and federal authorities, as well as Indigenous groups, and will require approval by Fisheries and Oceans Canada. IAAC is of the



opinion that the effects of habitat loss are adequately addressed by the requirements of a permit issued by Fisheries and Oceans Canada under the *Fisheries Act*, which reduces the residual effect's level of intensity to moderate. Although the Project could adversely affect one or more important stages of the fish life cycle, IAAC is of the view that the fish population would be maintained by the offsetting measures. It is unlikely that the alteration and destruction of fish habitat will lead to changes in fish abundance and distribution within the ASA and the LSA.

IAAC emphasizes the importance of engaging Indigenous groups in the development and implementation of a fish habitat offsetting plan, as well as a fish and fish habitat monitoring and follow-up program, to ensure that their perspectives and knowledge are considered. IAAC also notes the importance of developing and implementing a monitoring and follow-up program to verify the soundness of the analysis and the effectiveness of mitigation measures.

Fish Mortality

IAAC acknowledges that the Project could have adverse effects on the survival of fish, namely due to the dewatering upstream of the cofferdam and, where applicable, blasting activities.

IAAC is of the opinion that complying with the measure proposed by Fisheries and Oceans Canada, namely beginning in-water work 30 days after the temperature reaches 18°C, would protect the spawning and larval drift period of lake sturgeon during the first year. This measure should mitigate the effects of the Project on lake sturgeon spawning in the first year. However, IAAC is also of the opinion that it is important to develop and implement a monitoring and follow-up program to verify the soundness of the analysis and the effectiveness of mitigation measures.

Although no hickorynut survey has been conducted, IAAC is of the view that the proponent will apply the precautionary principle by conducting a survey prior to construction throughout the area likely to be dewatered by the cofferdam. If freshwater mussels are identified, they will be relocated.

IAAC is of the opinion that the proponent will need to develop and implement, in consultation with Indigenous groups and relevant authorities, an explosive and blasting management plan to regulate the management of explosive materials and minimize potential effects on fish and fish habitat.

Altered Flow Regime

IAAC is of the opinion that the Project will alter the flow regime downstream of the dam-bridge during the various phases of construction. IAAC acknowledges that no changes to the flow regime are anticipated during spring spawning of the first year. During the second year of construction, IAAC understands that part of the cofferdam will be



removed prior to the spring spawning period and that water management at the Quebec dam will maintain suitable conditions that will enable fish, including lake sturgeon, to use the area for spawning. IAAC also acknowledges that fish, including lake sturgeon, could use the area downstream of the Ontario dam-bridge for spawning. The presence of lake sturgeon spawners and eggs in this area has been confirmed by surveys. Furthermore, IAAC recognizes that the proponent has committed to complying with the management of the Ontario dam during the spring spawning period. IAAC also understands that the half cofferdam would be removed prior to the spawning season in the third year, which is expected to mitigate the Project's effects on lake sturgeon spawning.

To mitigate the uncertainty caused by the temporary unavailability of part of the spawning grounds located in the work area, the proponent will have to submit an offsetting plan for fish and fish habitat that is to the satisfaction of Fisheries and Oceans Canada.

During the operation phase, IAAC understands that the new sluice gates would alter the flow regime downstream of the new dam-bridge. IAAC acknowledges that the proponent will need to justify to Fisheries and Oceans Canada the location of the new spawning grounds developed to ensure that spawning conditions are favourable starting from the first year. IAAC also recommends monitoring the use of these new spawning grounds and implementing corrective actions as needed.

Altered Water Quality

IAAC is of the opinion that the Project could alter water quality during various phases of construction. The intensity of changes to water quality is considered low, since most of the work will be carried out within a cofferdam and the proponent has proposed mitigation measures. The commitment to implementing a water quality monitoring and follow-up program would also help to fill in the gaps in current knowledge and to adjust the planned mitigation and offsetting measures as needed.

Environment and Climate Change Canada and IAAC recommend that dredged sediments be dewatered in a watertight basin prior to disposal. The water from this basin must also be treated to prevent the release of contaminants into the surrounding environment.

Fish Passage

Habitat fragmentation exerts pressure on multiple fish populations and has been identified as an important issue in the recovery of the lake sturgeon, Ottawa River population (COSEWIC, 2017). IAAC is of the opinion that the installation of a fishway would provide fish species, including lake sturgeon, access to new habitats and strengthen genetic dynamics within populations. However, IAAC acknowledges that there are still concerns surrounding the installation of such a structure in the river's watershed. IAAC recommends that the decision-making process for the type of fishway to be installed should be conducted in close collaboration with several key stakeholders,

including the Quebec and Ontario governments, as well as Indigenous groups. In this context, IAAC is relying on Fisheries and Oceans Canada to continue the evaluation of the fishway in collaboration with the proponent, while ensuring that consultations are conducted properly as part of its authorization process. The objective of this process is to determine the best option for the construction of a fishway.

IAAC reiterates that, as part of the Ontario dam-bridge replacement project, the proponent is required to develop plans to enable the passage of the American eel through the Timiskaming Dam Complex as soon as the imminent return of this species upstream of the Otto Holden dam is anticipated, or in accordance with Fisheries and Oceans Canada guidelines. The American eel in the Ottawa River is important, and considered sacred by Indigenous groups. They are concerned for the future ability of the American eel to be able to move past the dam-bridge should populations be restored downstream in the Ottawa River. They also expressed concern that measures aimed at restoring river continuity in the Ottawa River for American eel populations are taking too long to be implemented by the relevant authorities. Indigenous groups have requested that a fish passage design ensures American eels are able to safely bypass the dam-bridge structure. For now, Fisheries and Oceans Canada has confirmed that the return of the American eel is not imminent. The hydroelectric turbines at dams on the Ottawa River downstream of the bridge-dam replacement project pose a threat to the downstream migration of American eels. Fisheries and Oceans Canada therefore wants to ensure a safe downstream migration for American eels before allowing them to migrate upstream.

Conclusion

Taking into account the implementation of the key mitigation measures, the proponent's commitments and the offsetting activities still to be determined, IAAC assesses that effects on fish and fish habitat, including special-status species would be moderate. The assessment is based on the environmental effects assessment criteria in Appendix A and the following findings:

- The intensity of the Project's residual effects would be **medium**;
- The residual effects of the Project would extend to the **local** area and would be felt more than five years (**long-term duration**);
- The residual effects of the Project would occur **continuously** during the construction phase but would be **partially reversible** over time.

Therefore, IAAC concludes that the Project is not likely to have significant adverse effects, within federal jurisdiction, on fish and fish habitat, including fish species at risk or with special status. IAAC also considers that proposed mitigation measures are consistent with the goals, objectives and activities of recovery strategies, action plans and management plans for these species at risk, and that they meet IAAC's obligations under section 79 of SARA.



Determining Key Mitigation Measures

IAAC considers that mitigation measures and monitoring and follow-up programs are necessary to ensure that there will not be significant adverse environmental effects on fish, including fish species at risk and with special status, and their habitat.

Project Timeline

- Begin any activity in fish habitat that could be harmful to fish or result in fish mortality 30 days after the water temperature reaches 18°C in order to allow spawning and egg incubation and to support the development of lake sturgeon larvae until their downstream migration, unless otherwise authorized by Fisheries and Oceans Canada. The proponent must develop and implement a protocol to monitor water temperature, in consultation with SART First Nations and AOPFN and Fisheries and Oceans Canada. A description of the protocol should be provided to IAAC prior to its implementation. As part of the protocol, the proponent shall include:
 - The methods for measuring the water temperature, including the location, frequency, and duration of measurements;
 - The procedures use to confirm the date on which the water temperature first reached 18°C, and to verify that 30 consecutive days have passed since that date; and
 - The procedures to provide opportunities for the First Nations to participate in observing, recording and reporting on the implementation of the protocol.

Offsetting Measures

- Develop and implement an offsetting plan, in consultation with Indigenous groups and to the satisfaction of Fisheries and Oceans Canada, that is adequate to mitigate all residual effects on fish and fish habitat. Submit the plan to IAAC prior to its implementation.

Fish Passage

- Assess fishway options in consultation with Indigenous groups and Fisheries and Oceans Canada prior to construction. If the assessment concludes that a fishway option is effective, design and plan the installation of a fishway in accordance with Fisheries and Oceans Canada guidelines. The proponent shall consider and incorporate options to reduce effects on the well-being of the Indigenous groups arising from the fishway and incorporate measures to reduce interference with the access to the area by Indigenous groups. A description of the measures should be provided to IAAC prior to their implementation.



Erosion Control and Transport of SS

- Limit any inputs of SS, sediment and debris into the aquatic environment;
- Implement effective measures (e.g., sediment barriers, berms, sediment traps, sedimentation ponds, temporary slope stabilization and diversion of water to vegetated areas) to minimize inputs of SS from the construction site into the receiving aquatic environment, and maintain such measures. Ensure that the measures remain effective during periods of flooding, heavy rain and frost, including limiting the input of fine particles into spawning grounds;
- Use turbidity curtains to enclose the work area and contain SS;
- Retain a buffer of undisturbed vegetation of at least 10 metres along the Ottawa River. If activities related to the Project are necessary within 10 metres, the proponent must implement measures to limit runoff and erosion during those activities.
- Install temporary runoff management systems, including ditches and retention basins, to capture and treat water from service and parking areas before it is discharged into the receiving environment.

Cofferdam and Turbidity Curtains

- In consultation with Fisheries and Oceans Canada and SART First Nations, assess the technically and economically viable cofferdam construction options and identify which option will be selected to reduce the effects of the Project on fish and fish habitat. The proponent shall include in the evaluation, at a minimum, one or more options involving the use of piles and/or sheet piles and implement a pile or sheet pile option for the cofferdam if determined, to be technically feasible.
- Deploy turbidity curtains in a manner that will limit fish entrapment within the enclosed area.
- Salvage and relocate, to the satisfaction of Fisheries and Oceans Canada, any fish trapped within the cofferdam and turbidity curtains enclosed areas.
- Develop and implement, prior to start of construction, a plan to capture and relocate hickorynut and other freshwater mussels to the satisfaction of Fisheries and Oceans Canada and in consultation with provincial authorities and SART First Nations and AOPFN.
- Treat the water from the cofferdam enclosure before returning it to the aquatic environment to minimize sediment inputs (e.g., vegetation buffer area, settling pond, drainage ditch, Envirobags, spillway bowl, combination of several methods) and petroleum hydrocarbons.
- Treat water from excavated sediment to prevent the release of contaminants into the surrounding environment.



Concrete Plan

- Locate all mobile concrete plants and concrete mixer washing stations at least 60 metres from the shoreline.
- Manage any water that comes into contact with concrete in such a way that its discharge does not adversely affect aquatic life (pH and suspended solids) or fish habitat.

Follow-Up and monitoring

IAAC recommends implementing a monitoring program to verify the accuracy of the anticipated effects on fish and fish habitat, as well as the effectiveness of the proposed mitigation measures. The mitigation measures could be adjusted if necessary, thus minimizing adverse environmental effects.

The proponent will have to:

- During the construction phase and during the first five years of the operation phase, develop, in consultation with SART First Nations and AOPFN, and implement a monitoring and follow-up program to monitor utilization of existing spawning grounds near the work.
- Monitor the offsetting plan to determine its effectiveness and develop modified or additional measures should the plan prove ineffective.
- Develop, in consultation with SART First Nations, AOPFN, Environment and Climate Change Canada and Health Canada, and implement a program to monitor water quality downstream of the Project and upstream during the deconstruction of the existing dam-bridge to ensure that:
 - the Project's activities do not exceed the Canadian Council of Ministers of the Environment's (CCME) Canadian Water Quality Guidelines for the Protection of Aquatic Life, as well as surface water quality criteria for the protection of aquatic life, such as those established by the Ministère de l'Environnement et de la Lutte contre les changements climatiques, de la Faune et des Parcs of Québec for contaminants not covered by CCME recommendations.
 - Concentrations of SS in the water column at 100 and 300 metres from the work area do not exceed background concentrations by more than 25 mg/L and 5 mg/L, respectively, for more than six consecutive hours.
 - Identify potential contaminants to monitor, including total mercury, inorganic mercury, methylmercury and petroleum hydrocarbons, as well as the locations where these contaminants must be monitored.

- Monitor, beginning four to six months prior to the start of construction during the construction phase and until identified conditions are met during operation phase, the water quality.
- Implement modified or additional mitigation measures if surface water quality monitoring results show adverse effects on fish and fish habitat resulting from changes in water quality.
- Review and improve, as needed, the dam management plan, in consultation with SART First Nations and AOPFN and to the satisfaction of Fisheries and Oceans Canada. Notify IAAC of the dam water management plan.
- Optimize, as needed, the flow regime downstream of the new dam-bridge to create suitable conditions for lake sturgeon spawning, in consultation with SART First Nations and AOPFN and to the satisfaction of Fisheries and Oceans Canada.

SART First Nations' View on IAAC's Analysis and Conclusion

Under section 19(3) of CEEA 2012, as reinforced by the United Nations Declaration on the Rights of Indigenous Peoples Act 2021, SART First Nations used Algonquin traditional knowledge and Neme studies to demonstrate to IAAC that the project's effects, along with the cumulative impacts of the Timiskaming Dam Complex on Neme, are significant. As the Kichi Sibi flows through the unceded territory of the Algonquin Anishinaabeg, management involves the exercise of Algonquin jurisdiction over fisheries governance and stewardship, alongside federal and provincial laws.

A central part of this approach is the requirement for federal and provincial governments to respect SART First Nations' Neme population assessments and implement the SART First Nations' Neme Conservation Plan. This plan actively restores ecosystem connectivity, mitigates threats from dam operations, and utilizes Algonquin Anishinaabeg-led monitoring to ensure the long-term stability and cultural persistence of Neme throughout its ancestral range.

Co-Management of the Fishway: Rather than the federal government or the proponent alone deciding on the fishway design, the decision will require free, prior and informed consent in the design phase and a collaborative management committee that includes Algonquin Anishinaabeg representatives to oversee the fishway's operation and effectiveness.

In addition to the fishway, the proponent should consider and incorporate options to reduce effects on the well-being of the Indigenous groups arising from hydraulic gates and incorporate measures to reduce interference with the access to the area by Indigenous groups.



5.2 Birds, Including Special-Status Species

The Project could cause residual effects on birds, particularly on migratory bird species, special-status bird species and bird species of interest to Indigenous groups owing to the displacement of individuals and habitat loss and modification, mortality and sensory disturbances. Since the Project is located on federal lands, the environmental assessment applies to all birds present within the study areas.

IAAC is of the opinion that the Project is not likely to cause significant adverse effects on birds, taking into account the implementation of the main mitigation measures recommended.

5.2.1 Component Description

The proponent analyzed data from the available databases and field surveys. The TSA and ASA provide breeding, brood-rearing and foraging habitats for many bird species in summer. Birds also frequent the TSA and ASA during the spring and autumn migration periods to feed and rest.

A total of 73 avian species, both migratory and non-migratory, were observed in the TSA and ASA in the proponent's surveys and incidental observations. During the fall and winter periods, the proponent did not conduct surveys, but consulted the records in the eBird database. Most species were recorded during autumn migration. Some bird species, including ducks and geese, common loon, bald eagle and eastern phoebe, are valued by Indigenous communities.

Thirteen bird species with special status, either under SARA or the provincial laws of Ontario and Quebec, are likely to occur in the TSA and the ASA. Among the species, four species at risk protected under SARA have been observed in the study areas: Barn swallow, chimney swift, eastern wood-pewee and common nighthawk. Individuals of peregrine falcon and bald eagle, species with special status in Quebec and Ontario, have also been observed in the TSA and ASA.

The existing dam-bridge provides a suitable structure for nesting for some bird species, such as the barn swallow. Although the species is present in the TSA, nesting on the structure has not been observed by the proponent. Environment and Climate Change Canada is of the opinion that the fact that birds were not detected during the proponent's two surveys does not mean that some species cannot use the existing dam-bridge structure for nesting.

Two critical habitat units for the chimney swift are located 1.1 kilometres and 15 kilometres from the work area. However, the TSA and ASA do not contain any structures suitable for the nesting of the species, such as chimneys, tall buildings and mature trees.



5.2.2 Analysis of Potential Effects and Proponent's Proposed Mitigation Measures

The proponent is of the view that the main effects of the Project on birds involve the permanent and temporary loss of habitat, bird mortality, sensory disturbances caused by noise and dust, and the risk of spills of hazardous materials such as hydraulic oil and other hydrocarbons.

Nesting, Displacement of Individuals and Habitat Loss and Alteration

According to the proponent, the clearing and grading of the construction site would result in the temporary loss of 5,530 m² of herbaceous habitats and shrubby and wooded shoreline habitats, which includes potential nesting sites for certain bird species, but this loss would be limited to the construction phase. However, the proponent is of the opinion that the suitable habitats in the TSA are small and are already disturbed due to the poor-quality environment. In addition, alternative habitats are available near the ASA and TSA.

The deconstruction of the existing dam-bridge, scheduled to take place between July and October, could have a temporary effect on fall migration. However, the proponent points out that the deconstruction site will be small and does not contain any habitats of interest.

According to the proponent, no adverse effects on birds are expected during the operation phase of the new dam-bridge, but the footprint of the new dam-bridge and road approaches would result in a permanent encroachment of 1,025 m² on bird habitat. However, the existing road approaches will be deconstructed and rehabilitated, which will reduce the area of encroachment.

Mitigation Measures

The proponent has undertaken to carry out the clearing and grading work outside the nesting period, to protect the existing vegetation around the TSA and to revegetate the shorelines disturbed by the Project.

Environment and Climate Change Canada has expressed reservations regarding the bird surveys conducted by the proponent. Therefore, the absence of birds during the survey period does not rule out the possibility of certain species using the dam-bridge for nesting. The proponent has also committed to carrying out a bird nesting study each spring before the start of work to avoid damaging or disturbing nesting species, including a study one year before the deconstruction of the existing dam-bridge to verify birds' use of the structure for nesting. If nesting is confirmed, the proponent has undertaken to install exclusion nets to prevent birds from nesting on the existing dam-bridge, at least one year before construction begins and before the arrival of Barn Swallows (or any other bird species likely to nest there). These nets would be kept in place throughout the construction phase. Environment and Climate Change Canada recommends that the proponent consult the guide "Best Management Practices for Excluding Barn Swallows



and Chimney Swifts from Buildings and Structures” to determine the best type of exclusion net to be used. If any bird species are found to be nesting on the existing dam-bridge, the proponent has also committed to include suitable nesting structures for these species on the new dam-bridge, enabling the bird population nesting on the existing bridge to move to the new structure.

Mortality

According to the proponent, the Project could result in potential bird mortality due to the increased activity and vehicle traffic in the TSA during the pre-construction and construction phases. However, the proponent is of the view that such effects will be limited and temporary, given the small area involved and the location of the work site, which has limited potential for use by birds.

If blasting is required during the deconstruction of the existing dam-bridge, the proponent is of the opinion that this activity could also pose a risk of bird mortality.

Furthermore, according to the proponent, the operation of the new dam-bridge would have no additional adverse effects on birds compared to the current situation.

Mitigation Measures

If blasting is required, the proponent has committed to carrying it out in winter and to using blasting mats and a suspended geotextile apron to provide protection from flying debris, in order to reduce the potential effects of blasting.

In the event that bank swallows are present, the proponent will cover equipment and materials to prevent the species from nesting in hazardous areas.

If accidental bird mortality due to the Project is detected, the proponent undertakes to implement additional measures to reduce the risk of mortality.

Sensory Disturbances

The proponent is of the opinion that the activities during the construction of the new dam-bridge and the deconstruction of the existing dam-bridge could cause sensory disturbances due to the noise, dust and lights, and could deter birds from using the TSA and ASA or modifying their behaviour. However, IAAC notes that some areas of the TSA and ASA, notably Long Sault Island, are already very noisy due to the road traffic and sound of the water passing through the dam-bridge¹¹. If no mitigation measures are implemented, noise levels are likely to be higher during the construction phase¹².

¹¹ Noise surveys found levels of 62.9 decibels A on Long Sault Island. Noise level is measured in decibels (dB). Decibels can be adjusted to human hearing. Noise level is thus described in decibels A (dBA).

¹² Noise levels could rise from 62.9 to 70.6 dBA during certain periods.



Environment and Climate Change Canada has noted that the project could disturb bird species or their nests during construction, especially during the nesting season.

According to the proponent, the work is unlikely to affect birds in the wetlands bordering Gordon Creek.

According to the proponent, the noise levels resulting from the operation of the new dam-bridge will be lower than those from the operation of the existing dam-bridge, as the water will flow through the gates at the bottom of the dam-bridge, this will avoid the noise associated with water falling over the wooden beams.

Mitigation Measures

The proponent has undertaken to carry out noise monitoring in sensitive areas for nesting birds, using a 10-decibel threshold above the reference level. If this threshold is exceeded, work will be halted until additional mitigation measures are implemented.

During the construction and deconstruction phases, the proponent has also committed to monitoring birds in the wetlands along Gordon Creek between the spring migration and fall migration periods.

Environment and Climate Change Canada recommends avoiding activities that could disturb nesting pairs or destroy eggs or nests, and adjusting, delaying, or relocating work accordingly. This measure should apply to both at-risk and non-at-risk bird species.

5.2.3 IAAC Analysis and Conclusions on Residual Effects

IAAC is of the opinion that the proponent has adequately characterized the potential effects of the Project on birds, particularly on migratory bird species, special-status species and species of interest to Indigenous groups. IAAC acknowledges that the Project will have limited temporary effects on Long Sault Island, which will be revegetated at the end of construction. IAAC points out that, to comply with the prohibitions set out in the *Migratory Birds Regulations (2022)*, the proponent will have to carry out clearing operations outside the nesting period. However, if nests are found in the work area, a protection zone will be established around each nest until nesting has been completed.

IAAC recognizes that the existing dam-bridge structure is suitable for nesting by barn swallows and that it is important to ensure that no birds are nesting in the structure before disturbing any birds or nests, particularly prior to the deconstruction of the existing structure.

Conclusion

Taking into account the implementation of key mitigation measures and the proponent's commitments, IAAC assesses that the residual effects on birds, including special-status



species would be low. Its assessment is based on the environmental effects criteria in Appendix A and the following findings:

- The intensity of the Project's residual effects would be **low**;
- The residual effects of the Project would be limited to the ASA and TSA (**site specific**) and would be experienced in the **medium-term**;
- The residual effects of the Project would occur **intermittently** during the work period and would be **reversible** over time.

Therefore, IAAC concludes that the Project is not likely to have significant adverse effects, within federal jurisdiction, on birds, including migratory bird species, species with special-status species and species at risk. IAAC also considers that proposed mitigation measures are consistent with the goals, objectives and activities of recovery strategies, action plans and management plans for these species at risk, and that they meet IAAC's obligations under section 79 of SARA.

Determining Key Mitigation Measures

IAAC considers the following mitigation measures, as well as the noise mitigation measures presented in Chapter 5.5, to be necessary to ensure that there are no significant adverse environmental effects on birds, including at-risk and special-status bird species.

- Implement measures to protect migratory birds throughout the implementation of the Project. These measures are intended to prevent injury, death, or harassment of migratory birds; to take, damage, remove, or disturb their eggs; and to destroy, take, or disturb nests protected under MBCA and its regulations, as well as under SARA. In the design and implementation of these measures, the proponent takes into account Environment and Climate Change Canada's *Guidelines to Avoid Harm to Migratory Birds*.
- Prior to initiating an activity, determine, under the direction of a qualified person, the presence or probable presence of the nests of migratory birds protected under MBCA and its regulations and of residences protected under SARA likely to experience adverse effects due to project-specific activities.
- Establish and delineate, under the direction of a qualified person, the setback distances around nests and residences whose presence is probable or confirmed as identified above, within which the activity will not take place when these nests are protected under MBCA and its regulations or SARA. When establishing setback distances, the Guidelines to avoid harm to migratory birds - Establishing buffer zones and setback distances from Environment and Climate Change Canada should be taken into account.

- Implement measures to avoid adverse effects on birds other than migratory birds, their nests, eggs or nestlings. The proponent will have to determine, under the direction of a qualified individual, the dates of the relevant nesting periods for birds for any year during which these activities are carried out. If it is not technically feasible to carry out any activity that is potentially harmful to nesting outside the nesting periods determined during a given year, submit a justification to IAAC and develop and implement additional mitigation measures to avoid the adverse effects on birds during nesting.
- Carry out a complementary survey before the deconstruction of the existing dam-bridge; and develop, in consultation with SART First Nations, AOPFN and Environment and Climate Change Canada, and implement measures (e.g., exclusion nets on the structure) to prevent birds from accessing the existing dam-bridge before the start of the nesting period and no later than before the work begins on the existing dam-bridge and until the end of the deconstruction works. The proponent will have to ensure that the measures are functioning properly through regular monitoring and, in the event of a failure, implement corrective actions.
- If blasting activities are carried out during the deconstruction of the existing dam-bridge, carry out the Project in a manner that protects birds, including migratory birds and birds at risk.

Follow-Up and monitoring

IAAC does not recommend any additional follow-up or monitoring programs.

5.3 Other Special-Status Wildlife Species

The Project could cause residual effects on certain special-status species other than those described in Chapters 5.1 and 5.2, due to the destruction or alteration of their habitats. As the Project is located on federal lands, the environmental assessment applies to all species with special status present within the study areas.

After taking into account the implementation of the key mitigation measures, IAAC is of the view that the Project is not likely to result in significant adverse effects on other species with special status.

5.3.1 Component Description

Based on information provided by the proponent, 11 special-status species are likely to occur within the ASA and the TSA. The little brown myotis, northern myotis, tri-colored bat, blanding's turtle and monarch butterfly are endangered species. Species of special concern under the SARA include the snapping turtle, eastern painted turtle and yellow-



banded bumble bee. The eastern red bat, hoary bat and silver-haired bat have been designated as endangered by COSEWIC since May 2023 and are under review for addition to SARA. However, only the snapping turtle has been observed in the ASA and TSA. The Ottawa River and Long Sault Island serve as transit and feeding habitats for the Snapping Turtle.

The Project is not expected to result in notable adverse effects on the monarch butterfly or the yellow-banded bumble bee due to the limited area of vegetation affected and milkweed is absent from this area.

Bats

In 2021, SART First Nations conducted an inventory of bats in an abandoned building located 800 metres north of the Project site, used as a maternity roost or hibernaculum. Eight bat species were identified, including three with protected status: the little brown myotis, northern myotis and tri-colored bat. SART First Nations also reported hearing bats, including juveniles, within cracks in the structure of the existing dam-bridge. Environment and Climate Change Canada considers this inventory to contain technical and interpretive errors, rendering it insufficient to accurately reflect baseline conditions. The proponent has therefore committed to completing an additional inventory prior to deconstruction of the existing dam-bridge to clarify its use as a bat hibernation, resting or maternity site.

Snapping Turtle

Snapping turtles use the downstream portion of the Ontario dam-bridge as a feeding area and occasionally visit Long Sault Island. However, the habitat characteristics on the Quebec side of the island are not conducive to this species. Environments suitable for snapping turtles, which favour weak currents, muddy bottoms and dense aquatic vegetation, are absent from the Project site and the ASA. In addition, the work area and the area immediately downstream of the existing dam-bridge do not have the necessary conditions to provide suitable habitat for this species.

5.3.2 Analysis of Potential Effects and Proponent's Proposed Mitigation Measures

Bats

If bats use the structure of the existing dam-bridge, they could be affected during deconstruction activities. Throughout the site preparation and construction phases, the proponent identified activities that could affect bats, including habitat loss and disturbance (noise, light, dust, and vibration). However, the distance of 800 metres between the maternity site and the work site limits the expected disturbances. With the



exception of the potential loss of resting habitat on the existing dam-bridge, the proponent considers the potential effects to be negligible.

A permit under SARA may be required if deconstruction of the existing dam-bridge results in the destruction of a residence, as defined under SARA (maternity colony or hibernaculum), used by a bat species at risk. If evidence of such a residence is detected, a SARA permit application would be required before the deconstruction of the existing dam-bridge, even if safety nets are installed to prevent bats from entering the structure.

Snapping Turtle

During the site preparation and construction phases, the proponent identified activities that could impact snapping turtle, including habitat alteration or loss, risk of mortality from turtle-vehicle collisions, and noise and light from the construction work. Clearing and grading will result in a loss of terrestrial wildlife habitat¹³; however, the proponent considers this loss is non-significant, as the work will occur primarily in grassy areas. Increased on-site traffic during construction could result in snapping turtle mortality, but the proponent assesses this risk as low owing to the absence of high-quality habitat in the immediate vicinity of the dam-bridge. Noise and light from the construction site, as well as disturbance caused by blasting during the deconstruction phase, could also disrupt turtles that may be present near the work area.

During the operation phase, the proponent does not expect any additional adverse effects on turtles at risk or their habitats compared with current conditions, although turtles in the vicinity could still be disturbed during maintenance and repair activities. Accidental spills of petroleum products or other hazardous materials, as well as equipment malfunctions, could also lead to habitat alteration and pose a mortality risk.

Mitigation Measures

To mitigate the Project's effects on special-status turtles and bats, the proponent committed, among other measures, implementing a standardized wildlife management protocol to relocate animals that enter the work area. The proponent will also notify Indigenous groups in the event of the mortality of an individual belonging to a special-status species.

The proponent also plans to remove vegetation and grade the site between early September and early March, outside the general breeding season for bats and turtles.

¹³ A temporary loss of 5,530 m² of habitat and a permanent loss of 1,025 m² of habitat.



5.3.3 IAAC Analysis and Conclusions on Residual Effects

To proceed with the Project, the proponent will be required to obtain an authorization under SARA if deconstruction of the existing dam-bridge results in the destruction of a residence, as defined under SARA, used by the little brown myotis, northern myotis and tri-colored bat.

Conclusion

Taking into account the implementation of key mitigation measures and the proponent's commitments, IAAC assesses that the residual effects on other special-status wildlife species would be low. Its assessment is based on the environmental effects assessment criteria in Appendix A and the following findings:

- the intensity of the Project's residual effects would be **low**;
- the residual effects of the Project would be limited to the ASA and TSA (**site specific**) and would be of **medium-term**;
- the residual effects of the Project would occur **intermittently** and would be **reversible** over time.

Therefore, IAAC concludes that the Project is not likely to result in significant adverse effects, within federal jurisdiction, on other special-status wildlife species. IAAC also considers that proposed mitigation measures are consistent with the goals, objectives and activities of recovery strategies, action plans and management plans for these species at risk, and that they meet IAAC's obligations under section 79 of SARA.

Determining Key Mitigation Measures

IAAC considers the following mitigation measures to be essential to ensure that the Project does not cause significant adverse environmental effects on turtles and bats, including special-status species.

Bats

If bats use the existing dam-bridge, the proponent will have to:

- Conduct monitoring of bat maternity, hibernation and resting areas on the existing dam-bridge through a qualified person;
- Develop, in consultation with SART First Nations, AOPFN, Environment and Climate Change Canada and any other relevant authorities, and implement measures (e.g., exclusion nets on the structure) to prevent bats from accessing the existing dam-bridge. The proponent will have to ensure that the measures are functioning properly through regular monitoring and, in the event of a failure, implement corrective actions.

- Determine, prior to the start of deconstruction of the existing dam-bridge and in consultation with SART First Nations, AOPFN, Environment and Climate Change Canada and other relevant authorities, and install a compensation structure to provide bats with opportunities for resting, maternity or hibernation.

Turtles

The proponent will have to:

- Develop, in consultation with SART First Nations, AOPFN and Environment and Climate Change Canada, and implement measures (e.g., exclusion barriers) to prevent turtles from accessing the construction site and reduce mortality risks associated with the designated project, including measures to deter turtles from laying eggs in at-risk areas. The proponent will have to ensure that the measures are functioning properly through regular monitoring and, in the event of a failure, implement corrective actions.
- If a turtle is observed in an exclusion area during construction, stop work in the immediate vicinity, capture the turtle, under the direction of a qualified person, as soon as technically feasible and relocate it to a safe area outside the work site.

Follow-Up and monitoring

IAAC does not recommend any additional monitoring or follow-up programs.

5.4 Land and Resource Use, Physical and Cultural Heritage and Socio-Economic Conditions of Local Communities

As the Project is located on federal lands, IAAC assessed the environmental effects on the physical and cultural heritage and on structures, sites or things of significance of local communities. To determine the significance of the socio-economic conditions, IAAC assessed whether the residual effects would lead to changes in the behaviours necessary for the local population to carry out activities, specifically recreation, tourism, sport fishing or other activities (hunting, farming, etc.).

The Project would have no effect on physical and cultural heritage, or on structures, sites or things of significance to local communities. The Project could have residual effects on the socio-economic conditions due to the temporary influx of workers to the region, and on land and resource use by the local population.

IAAC is of the opinion that these effects should not be significant because of the proponent's commitment and the mitigation measures recommended in Chapters 5.6 to 5.8.



5.4.1 Component Description

According to the proponent, the communities of Temiskaming and Kipawa in Quebec; and the communities of Thorne and Wyse, Unorganized North Nipissing, Mattawa and North Bay, Ontario, could be affected by the Project.

Since the construction of the Timiskaming Dam Complex, road travel between Ontario and Quebec has become possible in the region. Today, road access over the dam-bridge provides access to essential services, such as schools, health care and various job opportunities.

The main land use in the LSA is forestry. The RYAM plant employs 700 local workers and relies heavily on the dam-bridge to access forest resources and labour.

Many tourists visit the area for kayaking, canoeing, rafting, camping, hiking, swimming, fishing, hunting and snowmobiling.

Anglers can access the Ottawa River below the dam-bridge for boating and fishing from the boat launch located at the south end of Long Sault Island. Upstream of the dam-bridge, a marine and boat launch provide access to Lake Timiskaming. Fishing is prohibited from Long Sault Island. Anglers fish from the Ontario shore, downstream of the dam-bridge. Access from Quebec shores is limited by the presence of the RYAM plant.

Due to over a century of urban and industrial development, there could be archaeological potential in the sector. Surveys carried out on Long Sault Island did not uncover any archaeological resources. The riverbed, where the cofferdam will be installed, contains the remains of the old dam (concrete blocks, metal debris), as well as other coarse materials.

5.4.2 Analysis of Potential Effects and Proponent's Proposed Mitigation Measures

Physical and Cultural Heritage and Structures, Sites or Things of Significance

Since no archaeological resources were detected in the work area during the potential studies and surveys carried out, the proponent considers that there would be no residual effects on the physical and cultural heritage or on structures, sites or things of significance for the local population during the construction phase. Effects on the physical and cultural heritage of Indigenous People are assessed in Chapter 5.7.

During the operation phase, the proponent considers that the effects on physical and cultural heritage and the structures, sites or things of significance for the local population would be neutral or insignificant.



Mitigation Measures

The proponent plans to prepare a land and subaquatic chance find protocol before work begins. Parks Canada is of the opinion that the protocol should indicate the jurisdiction involved, the contacts to be reached and the steps to follow in the event of a find.

Land and Resource Use

During the construction phase, the influx of non-local workers could lead to an increase in land and resource use, particularly for fishing and boating. This increase in land use could reduce the availability of fish for local and Indigenous anglers (see Chapter 5.6). These effects could be compounded by residual effects on fish and fish habitat (see Chapter 5.1).

The Project could generate noise and other nuisances likely to affect the fishing experience in the vicinity of the work site. The boat launch at the southern end of the island would remain accessible throughout the construction phase.

The proponent has not reported any effects on land and resource use during the Ontario dam-bridge replacement project. The effects should be the same for this project.

According to the proponent, during the operational phase, the Project would maintain the interprovincial road link and make it safer, for the long-term benefit of residents and businesses. It would also ensure that the existing dam-bridge remains open for the duration of the Project, allowing normal, unimpeded passage of motorized and pedestrian traffic.

Mitigation Measures

According to the proponent, the mitigation measures would reduce any potential negative effects. One measure is the preferential award of contracts to local companies in order to reduce the number of non-local workers, thus minimizing changes to current land use activities. Another measure is to make workers aware of provincial regulations concerning fishing, hunting and other recreational activities.

Socio-Economic Conditions

The Project would generate demand for goods, services and labour, some of which are expected to come from the local region. The proponent anticipates that a maximum of 50 workers will be needed for the Project, which would be spread over three years.

According to the proponent, the arrival of some non-local workers during the Project's construction should have positive effects on local socio-economic conditions, notably by creating employment and business opportunities. However, the presence of temporary workers and their need for accommodation could reduce the capacity of local hotels and motels to accommodate tourists during peak periods. The proponent has not reported



any socio-economic effects during the Ontario dam-bridge replacement project. The effects should be the same for this project.

As there are few job opportunities during the operation phase, and they are expected to be filled by resident workers, the proponent does not anticipate any adverse effects on socio-economic conditions during this phase.

Mitigation Measures

The proponent is committed to maximizing local job opportunities, particularly during the construction phase.

5.4.3 IAAC Analysis and Conclusions on Residual Effects

No archaeological resources were detected in the work area during the potential studies and surveys carried out. Since no such resources were detected and the proponent is implementing a chance find protocol, IAAC is of the opinion that there will be no residual effects on physical and cultural heritage or on the structures, sites or things of significance for the local population.

IAAC is of the opinion that adverse effects on socio-economic conditions and local land and resource use would be minimized by the proponent's commitment to maximize opportunities for local participation in project-related employment, primarily during the construction phase.

Conclusion

Taking into account the implementation of key mitigation measures presented in chapters 5.6 and 5.8 and the proponent's commitments, IAAC assesses that the residual effects on land and resource use, physical and cultural heritage and for socio-economic conditions by the local population would be low. Its assessment is based on the environmental effects assessment criteria in Appendix A and the following findings:

- The intensity of the Project's residual effects would be **low**;
- The residual effects of the Project would be limited to the **LSA (local)** and would be experienced during the construction phase (**medium-term**);
- The residual effects of the Project would occur **intermittently** during the work period and would be **reversible** over time.

Therefore, IAAC concludes that the Project is not likely to have significant adverse effects, within federal jurisdiction, on the land and resource use, physical and cultural heritage or on the socio-economic conditions of local communities on federal lands.



Determining Key Mitigation Measures

IAAC does not recommend any additional mitigation measures to those already mentioned in Chapters 5.6 to 5.8.

Follow-Up and monitoring

IAAC does not recommend a follow-up program.

5.5 Human Health

The Project could have residual effects on human health, due to its effects on air quality and surface water quality, as well as on the acoustic. The Project could also lead to changes in the availability, accessibility, and quality of food harvested.

After taking into account the implementation of the key mitigation measures and the monitoring and follow-up programs, IAAC is of the opinion that the Project is not likely to have significant adverse effects on human health.

5.5.1 Component Description

Air Quality

The Project is located in a sparsely populated and not highly industrialized region. Air quality in the region is mainly influenced by emissions from the RYAM plant, which include various airborne contaminants, such as nitrogen oxide (NO_x), volatile organic compounds (VOCs), sulphur dioxide (SO₂)¹⁴ and fine particulate matter (PM_{2.5})¹⁵.

The proponent used data from the station in Quebec's air quality monitoring network located in the town of Temiscaming. This station continuously measures concentrations of ozone (O₃), PM_{2.5} and SO₂. The annual concentrations were compared to Canadian Ambient Air Quality Standards (CAAQS) values, as well as to Quebec air quality criteria. According to available data for the period 2008-2019, the local air quality is considered poor between 17% and 41% of the time. CAAQS values were only exceeded for annual PM_{2.5} concentrations¹⁶.

¹⁴ SO₂ can cause irritation of the eyes, nose, throat and lungs, and aggravate pre-existing respiratory disease.

¹⁵ PM_{2.5} can enter the lungs and bloodstream, causing serious health problems such as chronic respiratory disease and the worsening of asthma.

¹⁶ The current annual and 24-hour CAAQS values for PM_{2.5} are 8.8 ug/m³ and 27 ug/m³, respectively. Between 2020 and 2024, annual averages at the station were 9.7, 9.4, 9.1, 13.4 and 5.8 ug/m³, respectively. In Quebec, the 24-hour standard for PM_{2.5} is 30 ug/m³.



Surface Water Quality

According to the data submitted by the proponent, surface water quality in the ASA meets the criteria for the protection of aquatic life and allows all uses, including swimming.

However, Indigenous groups have raised concerns about the presence of mercury in the water. The accumulation of mercury in aquatic ecosystems, particularly its bioaccumulation in fish, can represent a risk to the environment and to human populations whose diet depends on fish. Remobilization of the mercury stored in sediments could be a potential source of mercury in surface water.

Acoustic Environment

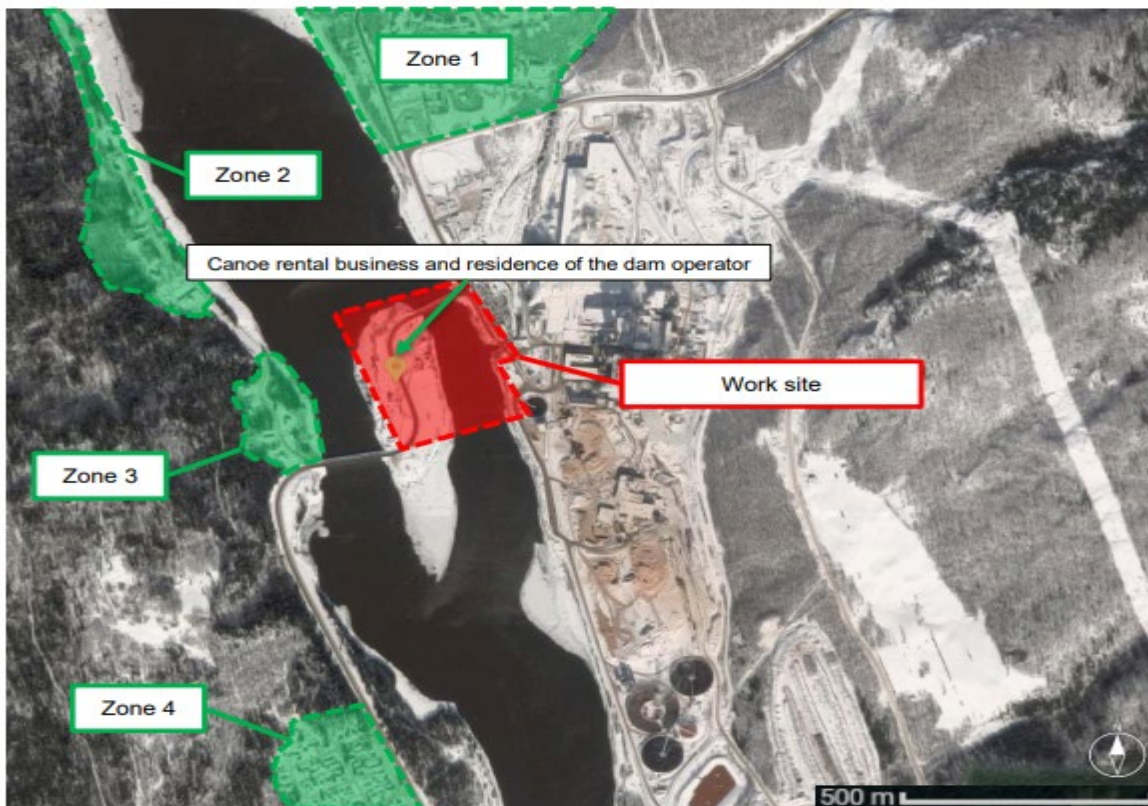
The Project is located in an area that is already noisy due to road traffic, operations at the RYAM plant, and the sound of the water flowing through the Timiskaming Dam Complex.

The proponent measured sound levels at five stations in sensitive locations around the Project area (see Figure 7) to assess ambient noise levels and compare them to Health Canada recommendations. Noise levels exceeded Health Canada's recommended threshold for speech intelligibility¹⁷ on Long Sault Island and almost reached this threshold near homes on the Ontario shore¹⁸.

¹⁷ Speech intelligibility is the degree to which human speech sounds can be understood.

¹⁸ According to Health Canada recommendations for speech intelligibility, outdoor noise levels should not exceed 60 dBA. On Long Sault Island, ambient noise levels ranged between 62.9 and 63.3 dBA. Close to homes at the outlet of the Ontario dam-bridge, they ranged from 52.2 to 59.7 dBA.

Figure 7: Location of the Sensitive Areas and Sound Monitoring Stations



5.5.2 Analysis of Potential Effects and Proponent's Proposed Mitigation Measures

The proponent is of the view that the risks to human health are primarily associated with construction, when the use of equipment and machinery at the work site may result in noise, emissions of airborne contaminants and dust, or accidental releases of fuels or other liquid contaminants into the environment, which can affect air quality, surface water quality, noise levels, soils and sediments.

Effects on these environmental components could, in turn, lead to effects on human health through exposure by inhalation or by the consumption of fish, plants or wildlife in which bioaccumulation has occurred.

However, given the mitigation measures, monitoring and follow-up plans, and environmental management plans that will be put in place to control these effects, the proponent is of the opinion that the risks to human health are low.



Changes to Air Quality

During the construction phase, the activities associated with the installation and removal of the cofferdam and the deconstruction of the existing dam-bridge are the most likely to result in the emission and dispersion of dust. The proponent is of the opinion that vehicle traffic and the use of construction equipment are likely to emit contaminants¹⁹ into the air. The proponent is not planning any blasting activities during this stage of the Project.

Although the proponent has not directly modelled the air emissions associated with the Project, the proponent is of the view that the potential for dust and contaminant emissions in the air is low and that any emissions would be limited to the Project area. The Project will therefore have a negligible effect on ambient air quality. According to Health Canada, the Project should have a negligible effect on health in terms of threshold substances (i.e., those with an effect level²⁰). However, since the annual baseline values exceed the CAAQS values, Health Canada has recommended that PM_{2.5} levels be monitored at the nearest human receptors to keep levels as low as possible and ensure that the Project does not further reduce local air quality.

During the operation phase, the proponent anticipates effects similar to those observed before the Project.

Mitigation Measures

During the construction phase, the proponent has committed to monitoring dust levels at the construction site on a daily basis and implementing appropriate measures to limit their spread into the air. These measures include, but are not limited to, watering surfaces, covering piles of debris, reducing vehicle speeds, and limiting or stopping operations in the event of high winds.

Although the proponent does not currently plan to use blasting for this project, it has also committed to developing an explosive and blasting management plan if this activity is required. Blasting, if necessary, will be carried out during a period when weather conditions are most optimal for limiting dust dispersion.

Changes to Surface Water Quality

The Project is likely to lead to a deterioration in surface water quality. However, the most probable contaminants that may be released are suspended solids that do not bioaccumulate in aquatic organisms.

According to the proponent, project-related activities would not result in the direct contamination of the environment by mercury. Nevertheless, the Project could cause the

¹⁹ Carbon monoxide (CO), nitrogen oxides (NO_x), volatile organic compounds (VOCs)

²⁰ Effect triggered when a given level is reached during exposure to a toxic substance.



resuspension of sediments potentially contaminated with mercury, even though the work area contains very little of the fine sediments that are likely to be contaminated with mercury, due to the fast currents, which are not conducive to sediment deposition. The project is susceptible to release suspended solids mainly during two periods: the installation and the removal of the cofferdam.

During the operation phase, the proponent anticipates effects similar to those observed before the Project.

Mitigation Measures

Once the existing dam-bridge would be closed and the turbidity curtain would be installed, the sediments in the area between the cofferdam and the existing dam-bridge would be characterized so that their quality can be determined and can be managed according to their level of contamination, before removal of the cofferdam. The proponent has also committed to characterizing the sediments excavated on both sides of the cofferdam for the anchoring of the structure. Contaminated and non-contaminated sediments would be transported to an appropriate disposal site after being dried in a sealed basin, where they will be deposited according to their level of contamination, if applicable.

The proponent has committed to begin the follow-up of surface water quality (including the three forms of mercury) four to six months before construction begins and until initial conditions are restored.

Changes to the Acoustic Environment

Noise levels during each construction activities were estimated and compared with Health Canada recommendations. Since noise levels already exceed the recommended threshold for speech intelligibility, the proponent is of the view that construction work will further affect staff and customers of the Algonquin Canoe Company and residents on the Ontario shore near the complex.

Blasting activities would also contribute to the degradation of the sound environment near the construction works.

During the operation phase, the proponent anticipates effects similar to those observed before the Project.

Mitigation Measures

The proponent has undertaken to comply with the regulations in force, in particular the bylaws of the Témiscamingue Regional County Municipality, which prohibit making noise



on construction sites at night²¹, as well as Quebec’s guidelines on noise levels at industrial construction sites (“Lignes directrices relativement aux niveaux sonores provenant d’un chantier de construction industriel”). Health Canada has recommended that the proponent take into account the commonly applied mitigation measures outlined in the document “Guidance for Evaluating Human Health Effects in Environmental Assessment: Noise” in the final project design and in the development of mitigation measures to address the increase in noise linked to the project and the associated health effects—notably, through compliance with the established noise and overpressure thresholds.

The proponent has committed to develop a noise and complaint management plan. This plan would include the modelling of anticipated noise levels based on the construction methods and equipment used, which would make it possible to update the assessment of noise effects in the EIS. If the modelling reveals that Health Canada recommendations are exceeded at other stations, additional mitigation measures will be identified and implemented. Noise mitigation measures for Long Sault Island will be developed in consultation with the Algonquin Canoe Company and the Wolf Lake First Nation. The proponent has also agreed to obtain sound measurements at the same five stations used for the baseline measurements.

The proponent will keep waterfront residents and Indigenous communities informed of the schedule of project phases and the planned activities. If blasting activities are required during the deconstruction of the existing dam-bridge, the proponent will inform the Indigenous communities and waterfront residents. A 150-metre safety perimeter will be established around the blasting point.

Changes to Country Foods

The proponent has noted that the Project poses a very low contamination risk for country foods and, in its view, no contamination pathways exist for these foods. The resuspension of sediments likely to contaminate water is unlikely.

The Indigenous groups consulted by IAAC are of the view that the Project poses a high contamination risk for country foods.

Mitigation Measures

To address the concerns of Indigenous groups, the proponent has committed to include a follow-up of country foods in the monitoring program, as well as to communicate the

²¹ Témiscamingue Regional County Municipality, bylaw no. 168 06 2014. Règlement concernant les nuisances en territoire non organisé [Bylaw concerning nuisance in unorganized territory]. Available in French only at: https://www.mrcstemiscamingue.org/app/uploads/2023/05/reglement_168-06-2014_tno_nuisances.pdf



results of the latter program on a regular basis, including the results for the four forms of mercury.

5.5.3 IAAC Analysis and Conclusions on Residual Effects

IAAC recognizes that the Project activities during the construction and operation phases could have adverse health effects, due to changes in air quality, surface water quality, the acoustic environment and country foods. IAAC also recognizes the potential for the population to perceive a risk to its health associated with project-induced environmental changes, which could alter behaviours or practices and have adverse health effects.

The proponent does not anticipate any blasting activities at this stage of the project. However, if blasting is required to demolish the existing dam-bridge, it will be overseen by an expert, in consultation with Natural Resources Canada and Fisheries and Oceans Canada.

Changes to Air Quality

IAAC recognizes that the Project could cause dust and contaminant emissions during the construction phase. During the proponent's effect assessment, air quality was found to be affected by emissions from the RYAM plant. IAAC understands that the proponent has committed to implement the Project in such a way that air quality will not be further reduced, by putting measures in place to limit the spread of contaminants and dust in the air. IAAC also notes that the proponent has committed to implementing an air quality monitoring and follow-up program that will focus on dust emissions, in accordance with the Quebec *Règlement sur la qualité de l'atmosphère (Regulation Respecting the Quality of the Atmosphere)*. This regulation stipulates that any materials handling or transfer activities must not result in visible emissions of dust into the atmosphere more than two metres from the emission source. IAAC agrees with Health Canada's recommendation that the proponent must monitor PM_{2.5} levels at the nearest human receptors to keep levels as low as possible during the construction phase.

Changes to Surface Water Quality

IAAC is of the opinion that the Project could have effects on surface water quality during the construction phase. IAAC notes that concerns remain about the risk of increased concentrations of mercury and other contaminants present in soil and sediments. IAAC recognizes that the proponent has committed to sampling sediments and soils likely to be excavated or resuspended and to managing them according to the level of contamination. The proponent has also undertaken to implement a monitoring and follow-up program for water quality downstream of the work area throughout the construction phase and until initial conditions are restored. IAAC is of the opinion that these mitigation measures would adequately address the effects on surface water quality.



IAAC stresses the importance of continuing to collaborate with Indigenous groups on the development and implementation of mitigation measures and monitoring and follow-up programs for surface water quality, including the establishment of water quality criteria.

Changes to Acoustic Environment

IAAC notes that uncertainties remain over the extent and magnitude of the Project's effects at the main receptor sites. IAAC recognizes that the proponent has committed to complying with municipal and provincial bylaws and regulations and to following noise recommendations. IAAC also understands that the proponent has committed to carry out modelling prior to the construction work. IAAC recommends that the proponent develop a monitoring and follow-up program for the acoustic environment, in order to verify the results of the environmental assessment and the effectiveness of the mitigation measures and to determine whether any additional measures are required. IAAC deems the proponent's proposed program to develop and implement a noise complaint management procedure for the Project to be adequate.

Given the potential effects at the Algonquin Canoe Company site, IAAC stresses the importance of the participation of Wolf Lake First Nation in the development and implementation of a follow-up and monitoring program for the acoustic environment.

Changes to Country Foods

IAAC recognizes that Indigenous groups still have health concerns, due to emissions of airborne contaminants that can settle to the ground and be absorbed by plants consumed as food, as well as concentrations of contaminants in water, including mercury, that can bio-accumulate in fish. However, IAAC is of the view that the risks of contamination of country foods are low, given the nature of the work and the mitigation measures proposed by the proponent for air and water quality. IAAC also is of the opinion that the participation of Indigenous groups in various air and water quality monitoring programs should strengthen their confidence in the quality of the environment and in the possibility of harvesting traditional resources. IAAC recommends that the proponent consider the relevant mitigation measures outlined in Health Canada's document "Guidance for Evaluating Human Health Effects in Impact Assessment: Country Foods" when developing mitigation measures for potential effects on air quality, water quality, country foods and the health of Indigenous peoples. IAAC encourages the proponent to consider the relevant mitigation measures proposed by First Nations, taking into account the perceived contamination.

Conclusion

IAAC is of the opinion that the proponent's proposed mitigation measures and monitoring and follow-up programs (including the implementation of environmental protection and management programs) will address the potential adverse environmental effects of the Project that could lead to health impacts.



Taking into account the implementation of key mitigation measures, as well as the monitoring and follow-up programs proposed by the proponent for air quality and water quality, IAAC assesses that the residual effects on human health would be moderate. Its assessment is based on the environmental assessment criteria in Appendix A and the following findings:

- The intensity of the Project's residual effects would be **medium**;
- The residual effects of the Project would be limited to the Project area (**site specific**) and would be **short- to medium-term**;
- The residual effects of the Project would occur **intermittently** and would be **reversible** over time.

Thus, IAAC concludes that the Project is not likely to have significant adverse effects, within federal jurisdiction, on human health.

Determining Key Mitigation Measures

IAAC deems that, in addition to the mitigation measures and monitoring and follow-up programs presented in Chapter 5.1, the following measures are necessary to ensure that there will be no significant adverse environmental effects on human health:

Atmospheric Environment

- Prior to construction, develop a dust management plan and, during construction, implement appropriate and feasible mitigation measures.

Acoustic Environment

- Prior to construction, develop measures in consultation with Wolf Lake First Nation to mitigate the effects of the Project on the acoustic environment of the First Nation's business, the Algonquin Canoe Company, and implement these measures during construction.

Complaint Management

- Develop and implement, in consultation with Indigenous groups, a management plan to respond within 24 hours to complaints about the Project's effects on air quality, water quality and noise during the construction phase. Information on this plan and on how to file a complaint will be made available to the public online.

Blasting Activities

If blasting activities are carried out during the deconstruction of the existing dam-bridge, the proponent will have to:

- Plan and implement mitigation measures in the event that conditions are not optimal during blasting activities. The measures should minimize nitrogen dioxide emissions



that can be directed to receptors near the site. The proponent should establish specific criteria that would drive the implementation of these measures;

- Avoid blasting during periods of high winds or when prevailing winds can transport blasting gases;
- Use splash mats when blasting;
- Include blasting schedule and timetable in the communication plan.

Follow-Up and monitoring

IAAC recommends implementing a monitoring program to verify the accuracy of the anticipated effects on human health, as well as the effectiveness of the proposed mitigation measures. The mitigation measures could be adjusted if necessary, thus minimizing adverse environmental effects.

The proponent will have to:

Atmospheric Environment

- Prior to construction, develop and implement a follow-up program, in consultation with Environment and Climate Change Canada and Health Canada, which makes it possible to verify the effectiveness of the mitigation measures in addressing the environmental effects of emissions of fine particulate matter (PM_{2.5}) in the air on human health, at the nearest human receptors and traditional harvesting locations. The proponent will have to develop additional mitigation measures to reduce PM_{2.5} emissions if they exceed the established thresholds.

Acoustic Environment

- Prior to construction, develop and implement a follow-up program, in consultation with Health Canada, regarding project-related increases in noise levels, to include the following components:
 - Continuous monitoring, during the construction phase, of sound levels at human receptors, taking into account Health Canada's document "Guidance for Evaluating Human Health Effects in Environmental Assessment: Noise";
 - Development of additional mitigation measures, in consultation with Health Canada and Wolf Lake First Nation, to reduce noise levels if they exceed established triggers.

5.6 Current Use of Lands and Resources for Traditional Purposes by Indigenous Peoples

The Project could cause changes to the environment that would have effects on the current use of lands and resources for traditional purposes, protected under section 35 of the *Constitution Act, 1982*, by Indigenous peoples. This would mainly affect the availability of fish for subsistence fishing²² and access to Long Sault Island, a valued fishing site.

After considering the key mitigation measures and recommended monitoring programs, IAAC is of the opinion that the Project is not likely to cause significant adverse environmental effects on the current use of lands and resources for traditional purposes.

5.6.1 Component Description

A number of Anishinaabeg²³ peoples have lived on their traditional territory—which is their homeland—since time immemorial. Their use of the territory is centred around the Ottawa River²⁴ watershed. They hold inherent rights, enabling them to practise contemporary and traditional activities, including camping, fishing, hunting, trapping, gathering, harvesting traditional medicinal plants, visiting sacred sites and participating in ceremonies recognized in this watershed (Supreme Court Judgment in *R. v. Côté*, 1996) for future generations, in accordance with their own laws, traditional ecological values and practices. The Anishinaabeg peoples located near the Project site are:

- The Anishinaabeg First Nations of the Upper Ottawa, on whose territory the Project is located, directly within the traditional territories under the rights and title of SART First Nations:
 - Kebaowek First Nation is located 12 kilometres from the Project in Quebec. Its reserve lands are 10 kilometres east of the town of Temiscaming, on the shores of Lake Kipawa.
 - Wolf Lake First Nation is located 37 kilometres northeast of the town of Temiscaming, Quebec, at Lac Hunter's Point. As the community has no reserve land, its members live mainly in the municipality of Temiscaming.

²² Term taken from the decision of the Supreme Court of Canada in *R. v. Côté* (1996) and which, in the context of this environmental assessment report, refers to fishing for individual and community subsistence, continuity and ceremonial purposes, and not for commercial purposes or profit.

²³ The Anishinaabeg peoples are Indigenous peoples, including the Algonquins.

²⁴ The Ottawa River is called Kichi Sibi in Algonquin.



- Timiskaming First Nation is located 125 kilometres from the Project in Quebec. Its reserve lands are adjacent to the municipality of Notre-Dame-du-Nord, on the Ottawa River north of Lake Temiscamingue.
- The Algonquins of Pikwakanagan First Nation (AOPFN), whose unceded traditional territory is located 250 kilometres southeast of the Project, overlapping the Project, on the shores of Golden Lake and the Bonnechere River in Ontario.

Members of these First Nations indicated that the existing dam-bridge is part of their regular travel routes within their ancestral territory. Although it is used primarily today to access community services and local businesses, such as the Algonquin Canoe Company, members stressed that this connection supports their ability to move across the lands historically used by their people. They also recognized the importance of maintaining safe access, and expressed that they understood the need to replace the dam-bridge.

SART First Nations members who conducted assessment surveys and formed a fisheries working group report that although members still fish at the Project site, a number of them avoid it out of fear of contamination. Among valued fish species, lake sturgeon²⁵ holds a special place for the Anishinaabeg people. It remains a species of great cultural significance, as it is considered their closest non-human relative and essential to the cultural and ecological integrity of the landscape. The First Nations still use all parts of the lake sturgeon for food, medicine and handicrafts. The quantity and quality of Indigenous fisheries related to current use are important, as this also makes it possible to continue the practice of sharing their harvest with other members of their community, owing to the concern about food security.

The First Nations still travel the river in various types of vessels for subsistence and recreational fishing. Long Sault Island is of historical significance, as it is located near Gordon Creek, a traditional harvesting and ceremonial gathering place, particularly for the Anishinaabeg First Nations of the Upper Ottawa. The island also provides boat access to traditional land-use areas and portage trails on the river. The Algonquin Canoe Company is also located on the island. It is owned by the Wolf Lake First Nation, which operates a local equipment rental service and an Algonquin artisan crafts store there.

In and around the Project location, the First Nations consider the sediments, water and shoreline of the Ottawa River to be polluted due to the cumulative effects of numerous nearby development Projects and the existing dam-bridge, and they are concerned about the presence of pollutants in the food chain. This already discourages certain cultural, spiritual and recreational activities.

²⁵ Neme in Algonquin



Various plants²⁶ of cultural significance are also present, some of which are harvested in the vicinity of the Project. Owing to the cumulative effects of the industries present, the area is disturbed and, as a result, hunting and trapping activities on the Project site itself are limited, mainly because of the heavy road traffic on this major interprovincial link, which likely results in wildlife avoidance.

5.6.2 Analysis of Potential Effects and Proponent's Proposed Mitigation Measures

Decline in resource Availability – Subsistence Fishing and Gathering

The proponent considers that the Project would result in the destruction of spawning grounds used by various fish species, including lake sturgeon. The proponent also recognizes that the construction phase would pose a risk of introducing contaminants into the water, which could affect water quality, fish and the sustainability of Indigenous fisheries in the ASA.

The proponent also anticipates a decline in plants that can be harvested due to the permanent loss of 1,025 m² caused by the road modifications and the required infrastructure. However, the proponent plans to implement a revegetation plan after the work, which it intends to develop in consultation with the First Nations.

Mitigation Measures

The proponent estimates that the loss of fish habitat and the destruction of spawning grounds can be fully offset by the offsetting plan required under the *Fisheries Act* of Fisheries and Oceans Canada. It also plans to involve the First Nations in the development of the plan, as well as in all associated follow-ups. In addition, the proponent proposes to evaluate the possibility of including a fishway, in collaboration with the affected stakeholders, including Fisheries and Oceans Canada and the First Nations. The proponent also plans to relocate fish during the dewatering of the area upstream of the cofferdam, under the supervision of a competent person (e.g., a biologist).

The proponent plans to organize a plant and tree harvesting activity before construction begins, and to offer First Nations wishing to do so the opportunity to organize ceremonies. The proponent also proposes to revegetate, and to involve the First Nations in the choice of plant species to be used, in order to highlight their role as land stewards.

²⁶ Such as raspberries, blackberries, strawberries, wildflowers, American elm, white pine, balsam poplar, dogwood, yarrow, white birch, cedar and unknown cherry species.



Changes to Access to the Territory – Changes to Long Sault Island, Loss of Practice Locations, Ability to Move Around the Territory and Navigation on the Ottawa River

The proponent does not anticipate any changes in access to the territory and the ability to travel between the two provinces, as the bridge would remain open to traffic during the construction phase. The proponent does not foresee any increase in traffic on the new dam-bridge. In the proponent's view, the navigability of this section of the Ottawa River would not be affected by the Project. Boat ramps and portage trails would remain open and unaffected. The proponent notes, however, that access to fishing could be affected by the presence of security fencing around the work area during the construction phase and then during the operation phase, to reduce risks to human safety.

Mitigation Measures

The proponent is committed to educating workers about cross-cultural realities in order to limit the risk of conflict, which should enable the First Nations to continue operating the Algonquin Canoe Company and enjoy the site, which is culturally important. The proponent would inform the First Nations of the work schedule and areas that will be inaccessible during the work to the Algonquin Canoe Company's commercial activities, as well as fishing, gathering, cultural gatherings and navigation.

Decreased Quality of Experience on the Land – Decreased Tranquility on Long Sault Island and Perceived Contamination of Resources

The proponent recognizes that the construction phase could help to increase the perception that resources, such as water and plants, are unfit for consumption and use, particularly due to dust deposition in the air and the dispersion of resuspended sediments in the water as a result of the work. However, the proponent is of the view that the Project poses very little risk to human health. The proponent acknowledges that construction would temporarily cause sensory disturbances.

Mitigation Measures

The proponent plans to implement a noise management plan developed in conjunction with the First Nations, with a mechanism for handling any complaints about the acoustic environment in the vicinity of the Project site. It also intends to involve the First Nations in follow-ups on sediments, water quality and the installation of the turbidity curtain. There are also provisions for communication plans tailored to each First Nation to inform them about the environmental follow-ups.



5.6.3 Views Expressed

SART First Nations

SART First Nations are observing a decline in lake sturgeon populations, noting that individuals are becoming smaller and smaller. The lake sturgeon spawning grounds near the existing dam-bridge are of sacred importance to the three First Nations. In their view, the conservation of these spawning grounds is essential to the survival of the species in this location. The First Nations consider the effects of the destruction of fish habitat by the Project to be significant and irreversible, and that it would contribute to their members already high food insecurity. They are also concerned about the Project's effects on the hickorynut, a freshwater mussel deemed important for water quality, the river ecosystem and lake sturgeon. In their view, the Project would harm the river's biodiversity.

SART First Nations are of the view that the construction work would hinder their ability to move freely around the territory to harvest resources. More broadly, they are of the opinion that the Project would contribute to the cumulative effects already experienced by their members on the Ottawa River and on Long Sault Island (see Chapter 6.5.2).

According to SART First Nations, the river's water quality is already poor due to the various cumulative effects of industrial development at this location and further upstream on the Ottawa River. They are concerned that the resuspension of sediment caused by the construction work will exacerbate the contamination of resources, which the First Nations already perceive as being contaminated. Many of their members consider that the Project would make their fishing, hunting and medicinal plant gathering activities unsafe due to their perception of contamination.

SART First Nations rate the effect of the Project on fish and fish habitat, including benthic fauna and special-status species, as severe.

SART First Nations note that the Project will amplify and further worsen the residual effects on traditional land and resource use.

Algonquins of Pikwakanagan First Nation (AOPFN)

AOPFN has observed the disappearance of the American eel and a decline in lake sturgeon and yellow perch populations in the Ottawa River over the past few decades, and is concerned that the Project will further affect certain valued species. One of AOPFN's main concerns is the reduction in fish abundance and diversity, which would affect fish populations and the fisheries. AOPFN is also concerned about the potential effects of the Project on water quality, members' access to and navigation on the river, and culturally important plants, as well as the Project's effects on cultural and spiritual continuity and the transmission of Algonquin Knowledge.



AOPFN notes that each dam built on the river has reduced the presence of culturally important fish species in the territory, and has hindered the ability of AOPFN members to navigate on the river and travel to important cultural and spiritual sites in the unceded traditional territory. According to AOPFN, the current state of Long Sault Island has been considerably altered, but it remains an important place for teaching youth, portaging and fishing and for gatherings. Rebuilding the dam-bridge in its new location further downstream would exacerbate these alterations.

AOPFN disagrees that offsetting is an appropriate mitigation measure for fish and fish habitat, as it deals with effect after they have occurred. AOPFN is of the view that impacts on fish and fish habitat should be avoided, and that any offsetting measures should start prior to construction to ensure that there is no lapse in habitat or species available. AOPFN is also concerned that the minimum regulatory requirements will not be supportive of AOPFN fishing. AOPFN Algonquin Knowledge Holders have determined that a minimum ratio of 3 to 1 is required to promote the success of the offsetting measures and support AOPFN fishing.

AOPFN is concerned about the changes in water flow that will result from the Project. As stewards of AOPFN Algonquin unceded and unsurrendered traditional territory, AOPFN is of the opinion that it must be involved in all decisions relating to water flow management.

AOPFN is of the view that a revegetation plan must be developed and finalized with the First Nations prior to the start of construction, as it must be informed by site assessments to identify culturally and spiritually important plants.

AOPFN is of the view that the fishway should be assessed as part of the environmental assessment, as it was a requirement during permitting for the Ontario dam-bridge replacement project that was not fulfilled. It was AOPFN's expectation that the fishway requirement be implemented as part of this Project.

AOPFN members are concerned that there will be contamination from the Project. Any change in consumption has an effect on human health, whether it is from real or perceived contamination.

AOPFN opposes a "go elsewhere" mentality and is also concerned about impacts to navigation for AOPFN members. There are fewer places to go in the territory.

AOPFN stewardship protocols require that AOPFN be provided the opportunity to be present, monitor and be involved, according to AOPFN's needs and capacities, in the relocation of fish during the process of dewatering and drying the area upstream of the cofferdam. AOPFN expects that the environmental management plan will be co-developed to respond to the specific needs and concerns of each affected First Nation, and therefore substantial engagement is required. AOPFN expects the proponent to



involve AOPFN not only in monitoring, but also in any adaptive management that is required.

5.6.4 IAAC Analysis and Conclusions on Residual Effects

Decrease Availability of Resources

Subsistence Fishing

In chapter 5.1, IAAC assesses that the residual effects of the Project on fish and fish habitat, including benthic fauna and special-status species, would be moderate.

Fisheries and Oceans Canada is of the opinion that the current substrate in the spawning ground is not optimal and that offsetting measures could be undertaken to improve the quality of the substrate in the spawning ground for lake sturgeon in the area. Fisheries and Oceans Canada and IAAC recognize, however, that uncertainties remain as to how long it will take for the new spawning grounds resulting from the offsetting measures to reach their initial recruitment levels. IAAC is of the opinion that the construction work could affect fish recruitment downstream of the Project. This could lead to a decline in the number of fish available to the subsistence fisheries. IAAC estimates that First Nations members fishing directly downstream of the existing dam-bridge could see their fishing success vary or decrease slightly during the construction phase. IAAC assesses, however, that the Project would not affect the spawning grounds located in the remainder of the 50 kilometres stretch downstream of the Project or the spawning of fish downstream of the Ontario dam-bridge.

IAAC recommends that qualified First Nations members be present during the installation of the cofferdam so that they can participate in the relocation of fish. Fisheries and Oceans Canada will also consult the First Nations on the habitat offsetting plan, and they will be able to share their preferences, Algonquin knowledge and recommendations.

IAAC recognizes that many First Nations members refrain from fishing in the Project area out of concern for contamination. However, IAAC understands that the First Nations want to see this area recover so that they can fish again. IAAC recommends that the First Nations be involved in monitoring fish habitat offsetting measures and in any corrective work where required. This would allow them to be informed of the results of the offsetting measures, enabling them to take this information into account in land-use planning.

The Project could include the construction of a fishway. This would allow free passage of fish in two sections of the river. Fisheries and Oceans Canada and IAAC are of the view that installing a fishway could help maintain fish populations in the area by reducing habitat fragmentation, which would have a positive effect on subsistence fishing.

IAAC is of the view that the Project could reduce the success of subsistence fishing in the Long Sault Island area. As SART First Nations and AOPFN still fish on the Ottawa



River, the Project could reduce their food security. However, these effects would be partially reversible owing to the key mitigation measures identified by IAAC.

Gathering

IAAC is of the view that the loss of areas of vegetation could reduce harvesting temporarily and locally. However, IAAC considers that this loss will be negligible, due to the rehabilitation plan for Long Sault Island that it has recommended. IAAC recognizes, however, that this disturbance would add to the cumulative effects currently experienced on the use of Long Sault Island, which is highly valued (see Chapter 6.5.3). IAAC is confident that a plan, developed in consultation with the First Nations, will be put in place and would maintain, and even improve, harvesting for future generations at this location.

Changes to Access to the Territory

Changes to Long Sault Island

Throughout the construction phase, the existing dam-bridge would remain open to traffic. However, the Project would entail relocating part of the road's right-of-way, thus modifying its footprint on the island. Several temporary work areas would also be set up during the construction phase, for a total surface area of around 9,400 m². Thus, IAAC is of the view that there would be little or no access to Long Sault Island during the construction phase and the island could temporarily be less suitable for traditional activities.

Part of the existing road would be dismantled and then revegetated. The work areas that would be created on the island would also be restored. IAAC considers that general access to the island would be similar to the baseline once the surfaces have been revegetated and restored.

IAAC considers that the proponent should allow the First Nations to act as observers during the construction phase, given the cultural importance of the island. IAAC considers it essential that the proponent inform with the First Nations before and during the creation of any exclusion zone for safety purposes, whether on the island or in the water.

Loss of Practice Locations

IAAC understands that there are fishing sites valued by the First Nations at the Project location. IAAC assesses that any members of the First Nations fishing from the shore or on the water directly around or above the spawning grounds would temporarily lose this practice location. The members most affected by the Project would be those who fish and navigate on the eastern side of Long Sault Island.

IAAC is of the opinion that this loss would be temporary and partially reversible, since another spawning ground would be recreated downstream of the Project. However, it



would be different from the existing spawning ground. User habits would have to be altered slightly in the downstream location.

Ability to Move Around the Territory by Car

IAAC estimates that construction would temporarily reduce the flow of vehicle traffic and ease of travel over the dam-bridge, whether for daily activities in or cultural visits on the territory. IAAC notes, however, that the existing dam-bridge will remain open during the work, which would mitigate this effect. SART First Nations are concerned that families who frequently travel the territory by car would have to adapt, which could generate stress and frustration. They also perceive that the Project will create more road traffic once the new dam-bridge is in operation. IAAC estimates, however, that the First Nations' capacity for mobility would return to a level similar to the baseline once construction has been completed.

Ability to Navigate on the Ottawa River

IAAC assesses that navigation around Long Sault Island could be temporarily modified. The sensory disturbance caused by the work could make navigation unattractive in this location. The cofferdam and turbidity curtain could act as temporary physical barriers reducing the navigable area.

Regular users of Long Sault Island are likely to choose other portage routes or boat launch during the construction phase. Once the construction phase is complete, the flow modifications associated with the new dam-bridge will alter the First Nations' navigation habits. First Nations members will probably have to adapt and change their habits.

IAAC points out that no navigation exclusion zones are planned during the Project. An existing navigation "warning zone" established for safety purposes, indicated visually by buoys and signs, would be renewed once the construction phase is complete. IAAC is of the view that the navigable area would therefore be similar to the baseline. IAAC has taken into account the concerns raised by Transport Canada and First Nations members regarding navigation safety in the Long Sault Island area in light of the new flow rates. Changes have been made to navigation safety standards near dams, following accidents that occurred elsewhere in Quebec. IAAC understands that several individuals are currently navigating at their own risk within the warning zone of the existing dam-bridge, despite the presence of buoys. IAAC believes that the upcoming consultation with Transport Canada regarding their permits will allow First Nations representatives to be informed of the safety standards that will apply based on the project's detailed design. IAAC is confident that this process will promote safe navigation for all users of the Kichi Sibi once the Project enters the operational phase.

IAAC acknowledges that First Nations are concerned about maintaining access to the boat ramp located on Long Sault Island during the construction phase. The boat ramp is owned by the proponent but managed by the town of Temiscaming. IAAC understands



that this boat ramp is essential for the boat rental operations of the Algonquin Canoe Company, as well as for navigation for many First Nations members on the Kichi Sibi. Although the proponent may use it sporadically during the construction phase, access to the boat ramp should be maintained at all times. IAAC recommends that access to the existing boat ramp be maintained at all times or, if necessary, temporarily relocated to an equivalent location during the construction phase to maintain access to navigation in the area.

IAAC is of the opinion that the First Nations' loss of access to the territory would be local, temporary and reversible.

Decreased Quality of Experience on the Territory – Decreased Tranquility and Perception of Resource Contamination During the Construction Phase

IAAC is of the opinion that the noise and disturbance during the construction phase would result in a decline in tranquility, thereby reducing the quality of the experience in the territory. IAAC assesses that a temporary feeling of loss of the territory could be experienced until the site is restored. The feeling of safety when walking on Long Sault Island or navigating downstream of the work site could be temporarily reduced. A reduction in the ease of car travel could make it less enjoyable and discourage some people from taking part in cultural activities. The presence of a construction site would therefore make Long Sault Island less suitable for the First Nations' activities. IAAC acknowledges that these issues concerning the quality of the experience on the territory affect actual access to it.

During the engagement sessions on the draft environmental assessment report, IAAC considered several issues raised by the SART First Nations and AOPFN regarding the need for a monitoring program to assess the well-being of their members who use the Long Sault Island and the surrounding area on the Kichi Sibi for navigation. IAAC understands that, from a holistic perspective, well-being is inherently linked to land use and can be assessed through factors such as access to areas and the quality of the experience they offer. IAAC therefore recommends the implementation of a land use monitoring program, in consultation with SART First Nations and AOPFN, to validate the accuracy of the predictions in this environmental assessment.

IAAC also notes that, although fish from this area can be consumed, many members of First Nations avoid fishing for concerns about contamination. IAAC recommended that First Nations participate in water quality monitoring, which should ease their concerns about fish quality during and after the construction phase. Nevertheless, IAAC considers it likely that members of First Nations will continue to refrain from consuming fish from this location, even though fish quality is expected to remain the same.

AOPFN is concerned that water quality at its practice locations will be temporarily altered. If doubts persist about the effects of the Project on the entire Ottawa River



ecosystem, this could reduce the level of satisfaction of Algonquin users of the territory. In order to build confidence in the quality of project-related resources, IAAC recommends hiring an independent environmental monitor, who will be selected in consultation with the SART First Nations and AOPFN. The independent environmental monitor would be mandated to oversee the implementation of key mitigation measures and share the results directly with the First Nations. IAAC believes that hiring an independent environmental monitor and sharing the results and compliance levels of various environmental monitoring activities directly with the First Nations could help maintain, or even improve, the frequency of fishing in the project area.

IAAC recognizes that errors in readings of mercury concentrations units in sediments presented in the proponent's EIS may have caused concern and led to the perception that the Project area is contaminated. IAAC ensured that the proponent corrected its analysis and informed the Indigenous groups. IAAC recognizes, however, that the First Nations may still be concerned owing to the effects of past industrial and forestry development in the area. IAAC points out that the data presented in the EIS show that sediments in the area are not contaminated with mercury and comply with Quebec and Canadian standards.

IAAC notes that the proponent is proposing several appropriate measures to limit the disturbance associated with construction. IAAC notes, however, that the Project takes place in a regional context marked by the historical pollution of the Ottawa River by a number of actors, such as the mining and forestry industries. However, IAAC is of the view that the perceived intensity and frequency of contamination will likely be lower once Long Sault Island and the river are rehabilitated and restored.

Conclusion

Taking into account the implementation of the key mitigation measures, the proponent's commitments and the offsetting measures to be defined, IAAC assesses that the residual effects on the current use of land and resources for traditional purposes by Indigenous Peoples would be moderate. Its assessment is based on the environmental effects assessment criteria in Appendix A and the following findings:

- The intensity of the Project's residual adverse effects would be **medium**;
- The residual effects on Algonquin fishing would be **local**, since they would extend beyond Long Sault Island, but would be limited to the dam's direct area of influence;
- The duration of the effects on access to the territory and the quality of the experience on Long Sault Island would be concentrated during the construction phase (**medium-term**). The effects on the availability of fish of all species, other than lake sturgeon, for subsistence fishing, would be **short-term**. The effects on the availability of lake sturgeon for fishing could be felt over a period of more than five years (i.e., over the **long-term**);

- The frequency of effects would be **intermittent** because they could be felt during several phases of the Project (construction and early operation phases, mainly for fishing);
- The residual effects on fishing would be **partially reversible**, as it will not be possible to recreate the existing spawning ground exactly in the same location due to the hydraulic conditions of the new dam-bridge, which would alter fishing conditions. The availability of fish, access to Long Sault Island and the ability to travel and navigate safely in the territory are considered **reversible**. The perception of contamination is considered **partially reversible**.

Therefore, IAAC concludes that the Project is not likely to have significant adverse effects, within federal jurisdiction, on the current use of land and resources for traditional purposes by Indigenous Peoples.

Determining Key Mitigation Measures

Navigation Access

- Maintain access to the Long Sault Island boat ramp throughout the entire construction phase. If access to the boat ramp is unavailable for more than one week, the proponent will be required to provide an equivalent alternative .

Work in Fish Habitat and Fish Habitat Offsetting Plan

- Designate, before construction with SART First Nations, observers during the construction phase and allow them access to the site in the presence of qualified people to ensure their safety. Allow these observers to be present notably to observe the work to install the turbidity curtain;
- Offer SART First Nations and AOPFN the opportunity to be present during the hickorynut searches and the relocation of fish during the in-water work.

Gathering, and Access and Experience of the Territory

- Develop and implement a rehabilitation program for Long Sault Island, in collaboration with SART First Nations and AOPFN, within the limits of the lands managed by the proponent. The program should include:
 - the identification of plant species of interest that will be used to restore self-sustaining plant communities on Long Sault Island;
 - the designation of a protected, development-free vegetation zone, located on the lands managed by the proponent;
 - the identification of success indicators for revegetation;
 - the monitoring of restored areas for at least the first five years of the operational phase or until the success indicators are met.

- Implement a communication plan, in consultation with the SART First Nations and AOPFN, to inform the members of these First Nations of the schedule of construction, operation and maintenance activities for the dam-bridge. This plan should include:
 - any restrictions on access on Long Sault Island and the Ottawa River for safety reasons, within 24 hours, during each phase of the Project, if applicable;
 - blasting schedule and timetable and their duration.

Perception of Resource Contamination

- Involve the SART First Nations in the installation of the turbidity curtain;
- Hire an independent environmental monitor prior to construction, in consultation with the SART First Nations and AOPFN, while taking into account federal procurement policies. This independent monitor would be mandated to oversee the implementation of mitigation measures and follow-up programs, as well as to effectively disseminate, as soon as possible, the results of the environmental follow-ups directly to SART First Nations and AOPFN.

Follow-Up and monitoring

IAAC recommends implementing a monitoring program to verify the accuracy of the anticipated effects on current use of land and resources for traditional purposes by Indigenous Peoples, as well as the effectiveness of the proposed mitigation measures. The mitigation measures could be adjusted if necessary, thus minimizing adverse environmental effects. The proponent will have to:

- Develop, in consultation with SART First Nations and AOPFN, and implement a program to monitor the effectiveness of the restored spawning grounds in order to verify the predictions regarding the availability of fish in the Long Sault Island area. This program should include:
 - a comparison of the results obtained with the information contained in the EIS regarding the initial conditions of the spawning grounds located downstream of the existing dam-bridge.
 - meetings with First Nations representatives to assess progress and share results. The proponent must agree with the First Nations on the preferred method of presenting results to their members, if necessary.
- Monitor land use, in consultation with the SART First Nations and AOPFN, to validate the accuracy of the predictions in this environmental assessment regarding access to and the quality of the experience on Long Sault Island and in the immediate navigable vicinity of the Kichi Sibi.

SART First Nations' View on IAAC's Analysis and Conclusion

SART First Nations do not agree with the proposed proponent-led hiring of an independent monitor. Exercising their inherent jurisdiction and stewardship over the Kichi Sibi watershed, SART First Nations will independently manage and execute all environmental monitoring work related to the project. This includes the direct engagement of third-party engineers and technical experts to oversee the implementation of mitigation measures inclusive of all project activities causing residual effects. SART First Nations will provide the results of this independent oversight to IAAC and the proponent to ensure project compliance with both Algonquin and federal environmental standards.

5.7 Physical and Cultural Heritage by Indigenous Peoples

The Project could have residual environmental effects on the physical and cultural heritage of Indigenous Peoples, as well as on structures, sites, or objects of historical, archaeological, paleontological, or architectural significance.

After considering the key mitigation measures and recommended monitoring programs, IAAC is of the opinion that the Project is not likely to cause significant adverse environmental effects on the physical and cultural heritage of Indigenous Peoples, as well as structures, sites, or things of historical, archaeological, paleontological, or architectural significance.

5.7.1 Component Description

Long Sault Island is an important heritage site that is of considerable spiritual significance for Indigenous groups. It has been and continues to be used for community celebrations (ceremonies, seasonal feasts), family and youth activities, the annual meeting of the tribal council, National Indigenous Peoples Day and the National Day for Truth and Reconciliation. These gatherings are held near the premises of the Algonquin Canoe Company and help contribute to a sense of belonging.

As a whole, the Ottawa River is a key cultural landscape for Algonquin culture and identity and serves as a prime site for spiritual and cultural activities. First Nations are concerned that the integrity of the river has been impacted by changes to its flows, which are expected to persist under the Project. First Nations are of the view that Algonquin women have a cultural responsibility as guardians of the water and waterways.

The island has been used to facilitate navigation, as well as for portaging and fishing, on the Ottawa River and Lake Timiskaming. Fishing is a cultural practice of heritage



significance that extends beyond providing food and supports a way of life through opportunities for cultural transmission via oral histories, teachings and community sharing. Lake sturgeon and its existing spawning site located downstream of the Project are sacred to SART First Nations. They view this species as their closest non-human kin.

SART First Nations consider the Algonquin Canoe Company store, boat rack, picnic area and shed to be heritage buildings. The Algonquin Canoe Company helps to promote Algonquin culture through ecotourism activities, outfitting operations and the sale of Algonquin arts and crafts.

Potential areas of terrestrial archaeological heritage have been identified in the study area. These areas were surveyed, but no artifacts were found. An underwater survey was also carried out, revealing a wooden cage that would not be impacted by in-water work. The rest of the findings consisted of debris from the construction of the existing dam-bridge.

5.7.2 Analysis of Potential Effects and Proponent's Proposed Mitigation Measures

The proponent is of the view that the Project would perpetuate the alteration of the visual and physical characteristics of Long Sault Island, which would have an impact on the integrity of its physical and cultural heritage. The proponent recognizes that a decline in the aesthetic qualities of the island could adversely impact gathering events and, consequently, the cultural well-being of Indigenous groups.

The proponent considers that the Project would not significantly impact lake sturgeon, given the planned offsetting measures for fish habitat. However, it acknowledges that the existing dam-bridge has altered the flow of the Ottawa River and its natural ecosystem.

Finally, the proponent considers that excavation and soil disturbance could destroy terrestrial and underwater artifacts. However, the proponent is of the opinion that it is unlikely, given the absence of artifacts documented in its land surveys.

Mitigation Measures

The proponent proposes to support First Nations in holding their own cultural activities, at times deemed appropriate by them, prior to construction. It plans to involve Indigenous groups in the planning, design, location, installation and maintenance of a plaque or other permanent structure that would present the history of the Ottawa River and Long Sault Island. The proponent has also committed to the revegetation of Long Sault Island.

The proponent has developed protocols in the event that artifacts are discovered in terrestrial or aquatic environments. If artifacts are found, the proponent would notify First Nations. It undertakes to hold the artifacts in trust until the appropriate protocol is implemented, as applicable.



The proponent has committed to discussing with SART First Nations opportunities for women to be involved in the overall management of the Project.

5.7.3 Views Expressed

SART First Nations

SART First Nations assess that the Project's effects on the integrity of the Ottawa River and its natural flows have been significant, permanent and irreversible since 1909, and that this situation would continue during the construction and operation phases of the Project. They reiterate the importance of the role played by Algonquin women in water stewardship.

SART First Nations are of the view that the Project's effect on lake sturgeon would result in an "enormous, cumulative and irreversible" loss to their physical and cultural heritage. This loss of fish habitat is considered a loss of sacred sites, culture and identity.

[...] Lake Sturgeon is not just a food source for the Algonquins. To catch the sturgeon, tools had to be created, teachings passed on, and preservation techniques were taught to younger generations. With all these practices happening, stories and legends were passed on to remember to protect and respect these sacred species. – Neme Bio-Cultural Study (SART, 2022)

They are of the view that the Project's effect on the sale of Algonquin art by the Algonquin Canoe Company could be severe and permanent, which could harm the cultural identity of Wolf Lake First Nation.

SART First Nations point out that they have had to deal with significant restrictions on organizing their cultural events during the Ontario dam-bridge replacement project. They are of the view that the disruptions associated with the construction and the presence of machinery will disturb the area around the business and prevent normal cultural gatherings from taking place, which could be detrimental to their sense of belonging.

SART First Nations are of the opinion that the archaeological surveys conducted by the proponent were insufficient and assesses that certain areas of terrestrial archaeological



potential on Long Sault Island and along the Quebec shoreline should have been surveyed.

SART First Nations stated that Indigenous law of the Anishinaabeg people, as set out in the *Kichi Aki Onakinekewiin* (Great Earth Law), is based on spiritual teachings, ceremonies, and the land. This law highlights the interconnectedness of all beings, the importance of respecting the cycles of nature, and the spiritual forces that shape life.

They emphasized that the UNDRIP and the *United Nations Declaration on the Rights of Indigenous Peoples Act* fundamentally value natural and cultural heritage as being inextricably linked to Indigenous identity, well-being, and the inherent right to self-determination, lands, and resources. The Anishinaabeg people view these elements as holistic and integral to the EA's natural and cultural heritage assessment, considering them vital for the survival, dignity, and continued stewardship of their territory.

Algonquins of Pikwakanagan First Nation (AOPFN)

AOPFN considers the Ottawa River to be a culturally and spiritually important historical place. AOPFN has deep-rooted connections to the Project area going back through generations of AOPFN members. It notes that the existing dam-bridge has already affected cultural transmission across different generations of the First Nation.

While harvesting activities are extremely important for sustenance, they are equally significant as cultural practices that reinforce social ties and AOPFN's connection to the environment. – Knowledge and Land Use Study (AOPFN, 2021)

Any further disruption and/or loss of critical teaching areas due to the Project would impact the cultural heritage of present and future generations of AOPFN members.

AOPFN is concerned that the Project will cause erosion, potentially resulting in the degradation of unknown burial, cultural and spiritual sites. It is of the opinion that an additional archaeological inventory should be conducted once the cofferdam is installed.

AOPFN recommends the inclusion of cultural signage on Long Sault Island that would acknowledge the history and cultural significance of the island to the First Nations.



5.7.4 IAAC Analysis and Conclusions on Residual Effects

Long Sault Island and the Ottawa River as Cultural Landscapes and Opportunities to Practice and Transmit Culture

IAAC recognizes that Long Sault Island and the Ottawa River are integral to the physical and cultural heritage of SART First Nations and AOPFN.

Long Sault Island

IAAC acknowledges that Long Sault Island has been altered by the construction of the Timiskaming Dam Complex, which has altered the island's visual appearance and purpose since the early 20th century. Long Sault Island has become increasingly less accessible and suitable for cultural activities owing to the industrialization of the area. IAAC is of the opinion that the Project could reduce opportunities to practise culture on this heritage island and make it less conducive to cultural activities resulting in fewer opportunities to pass on culture to younger generations. These effects would be short-term. The geographic extent of this loss of sites for the practice and transmission of culture includes all of Long Sault Island and the navigation areas temporarily affected because of the cofferdam and turbidity curtain.

IAAC is of the opinion that the construction phase would make the island less suitable for Algonquin cultural activities, which would result in fewer opportunities to practise and transmit the culture to younger generations.

IAAC notes that the cultural landscape of Long Sault Island has been altered by the construction of the Timiskaming Dam Complex. The Project would extend the existing alteration of this cultural landscape and would have an effect on the physical and cultural heritage of First Nations. IAAC is of the opinion that the visual appearance of the island is characterized with a road that it intersects, sparse natural vegetation and several buildings. IAAC notes that the Algonquin Canoe Company buildings are the only potential visual landmarks of Algonquin heritage on Long Sault Island visible to the general public.

IAAC recommends that a series of measures be included in a plan to restore and recognize the Algonquin heritage of Long Sault Island. These measures will be aimed at restoring the island (once construction is complete) to a more natural visual appearance that is consistent with its heritage significance for First Nations. IAAC also recommends the implementation, in consultation with First Nations, of public visual elements that recognize the importance of the island in Algonquin culture—for example, by making Algonquin place names and language visible, as well as highlighting historically important Algonquin cultural sites. IAAC is of the view that by implementing these measures—carried out in consultation with First Nations—Long Sault Island could be restored to a more natural visual appearance and could be more widely recognized as an important heritage site for the First Nations.



Recognizing the significance of the island for the First Nations, IAAC recommends installing a commemorative feature to acknowledge the cultural and historical importance of Long Sault Island to the First Nations. Similarly, IAAC recommends incorporating Algonquin art into the design of the new dam-bridge or on Long Sault Island. IAAC is of the view that implementing these measures would mitigate the effects of the Project on the cultural landscape of Long Sault Island.

Ottawa River

IAAC is of the view that the section of the Ottawa River at the work site is an Algonquin cultural landscape that has been modified by anthropogenic activity over the last century. It assesses that the Project would continue to alter the natural flows of the river, thus perpetuating the loss of its natural ecological integrity. IAAC considers that these effects would be continuous, long-term and irreversible, given that the dam-bridge is a major interprovincial highway link and a structure that is used to manage water levels in the area.

Once mitigation measures are put in place, IAAC is of the view that the Project's effect on the cultural landscapes of Long Sault Island and the Ottawa River would be of low intensity, local geographic extent, continuous and irreversible.

Ability to Hold Cultural and Spiritual Gatherings on Long Sault Island

IAAC notes that Long Sault Island is a valued site for Algonquin cultural and spiritual gatherings. Although the entire island could be used for gatherings and the practice and transmission of culture, IAAC notes that these gatherings would likely be concentrated in the area surrounding the Algonquin Canoe Company. IAAC understands that the Project could perpetuate the altered conditions conducive to Algonquin gatherings on the island, owing to the dam-bridge's industrial appearance and road traffic.

During the engagement sessions on the draft environmental assessment report, IAAC heard concerns about the need for the First Nations to hold cultural ceremonies before construction work begins. IAAC recommends that the proponent be required to offer this possibility to SART First Nations and AOPFN.

IAAC is of the view that during the Project's construction phase, the island would be less suitable for Algonquin cultural gatherings. It assesses that the presence of machinery and increased noise and dust could reduce the appeal of Long Sault Island as a venue for cultural gatherings. IAAC therefore recommends that an Algonquin cultural space with basic outdoor facilities be created to facilitate Algonquin cultural gatherings or that an existing space be enhanced for this purpose. IAAC also recommends planning a construction stoppage and clearing the areas surrounding the company to provide conditions conducive to potential cultural gatherings for National Indigenous Peoples Day and the National Day for Truth and Reconciliation.



Once mitigation measures are put in place, IAAC is of the view that the Project's effect on the ability to hold cultural gatherings on Long Sault Island would be of low intensity, short-term, local and reversible. However, during the engagement sessions on the draft environmental assessment report, IAAC noted several concerns regarding cultural well-being on Long Sault Island, particularly the need for monitoring to ensure that Algonquin cultural practices are maintained during the operational phase. IAAC therefore recommends implementing a monitoring program to assess the quality of the experience of cultural gathering activities on Long Sault Island, including those planned during construction work suspensions. This program should also evaluate the effectiveness of any new or improved cultural gathering spaces to address concerns about cultural well-being.

Terrestrial and Underwater Archaeological Heritage

IAAC recognizes First Nations' interest in the potential terrestrial and underwater archaeological heritage of Long Sault Island and the riverbed of the Ottawa River. IAAC is satisfied with the protocols for chance finds in terrestrial and underwater environments, which were developed in consultation with First Nations and presented by the proponent. During the engagement sessions on the draft environmental assessment report, SART First Nations expressed a preference for archaeological surveys to be conducted on the land portion in Quebec prior to construction, rather than relying on protocols for chance find. According to the potential study, the area has low archaeological potential. IAAC and Parks Canada are of the opinion that the measures identified by the proponent are adequate to protect the potential archaeological resources. Nevertheless, in order to build trust and alleviate concerns, IAAC recommends a measure to ensure that the proponent be required to comply with the chance find protocols agreed with the SART First Nations and AOPFN. This would guarantee the implementation of the information-sharing and conservation mechanisms recommended by the First Nations are implemented in the event of a chance find. IAAC also recommends that employees be informed of these protocols and of the importance of Long Sault Island in the Algonquin culture.

IAAC takes into account that Algonquin people were settled along the river at the RYAM plant's site in the early 20th century and were relocated against their will for industrial development. This Indigenous presence may heighten the perception that artifacts are highly likely to be found during the construction phase. IAAC understands that this recent historical context may make the riverbed and its banks at this particular location a culturally significant site for First Nations.

IAAC takes into account that First Nations have raised concerns about the surveys and the artifacts that could be found in the riverbed during the construction phase. The riverbed is an area with archaeological potential. IAAC recommends that a survey be conducted in the riverbed, once the cofferdam is installed and if safety permits, in the presence of representatives of First Nations. IAAC is of the view that the Project's effects



on archaeological heritage would be of low intensity, of local geographic extent, occasional in frequency and irreversible if artifacts were damaged or discovered.

Heritage Buildings of the Algonquin Canoe Company and Sustainability of the Sale of Algonquin Crafts, Which Promote the Algonquin Culture of Wolf Lake First Nation

IAAC takes into account the heritage value to the Algonquin Canoe Company store, boat rack, the picnic area and shed accorded by SART First Nations. IAAC is of the opinion that the construction work is not expected to alter the integrity of these heritage buildings, apart from the accumulation of dust, which could temporarily reduce their visual cleanliness. IAAC recommends developing a protocol for dust cleaning and establishing a protective perimeter around the company's buildings throughout the construction phase. IAAC also recommends that all employees working on the Project should receive information about the heritage value of these buildings for the First Nations, as a measure to limit the likelihood of damage or alteration.

IAAC recognizes that the Algonquin Canoe Company plays a role in promoting and showcasing Algonquin crafts and allows artists to earn an income by practising their culture. IAAC understands that the company's business model relies on spontaneous tourist stops. According to data, these stops have reduced during the Ontario dam-bridge replacement project, resulting in decreased sales, including the sale of Algonquin crafts. IAAC recommends that landscaped areas with basic outdoor facilities be developed to make spontaneous tourist stops near the Algonquin Canoe Company more appealing and to foster a rapid recovery in the sales of Algonquin crafts once the construction is completed.

IAAC recommends that the proponent install signage at relevant locations to inform road users that the Algonquin Canoe Company is open during the construction phase.

IAAC is of the view that implementing these measures could mitigate the effects on craft sales and ensure the short-term sustainability of Algonquin art objects. These effects would therefore be of moderate intensity, occur on an ad hoc basis and considered partially reversible.

Effects on Lake Sturgeon, a Sacred Species

In Chapter 6.5.2, IAAC determined that the cumulative effects of the Project on the availability of lake sturgeon for the fisheries would be insignificant due to the offsetting plan that would be required by Fisheries and Oceans Canada. IAAC recommends that the proponent explore the feasibility of a lake sturgeon stocking program. IAAC concludes that the Project's effects on lake sturgeon and its reproduction would be adequately mitigated by the offsetting plan, which would support the stability of the lake sturgeon population in this section of the Ottawa River.



However, IAAC acknowledges that the Project would have an adverse effect on the physical and cultural heritage represented by lake sturgeon, its presence in the cultural landscape of the Ottawa River and its spawning ground located downstream of the Project. IAAC takes into account the sacred value placed on the species and its spawning ground by the SART First Nations. IAAC also recognized that all types of fish are important for the cultural continuity of AOPFN, including the walleye and the American eel. IAAC understands that replacing the existing dam-bridge could symbolically revive memories of the loss of eels in this significant river.

IAAC notes that the Project is being carried out in a context where lake sturgeon is vulnerable to habitat fragmentation caused by dams on the Ottawa River. IAAC also notes that the in-water construction work and the encroachment of the Project on this sacred spawning site could represent a cultural loss for the First Nations. Furthermore, IAAC acknowledges that the decline in lake sturgeon populations in the Ottawa River over the last century has reduced opportunities to fish for lake sturgeon and to transmit Algonquin cultural practices associated with this species to younger generations.

IAAC is of the view that the Project would perpetuate this effect but to a moderate extent, given the required offsetting plan. IAAC recommends that the proponent be required to participate, in consultation with the SART First Nations and AOPFN, to the development of a project for the intergenerational transmission of Algonquin knowledge on Long Sault Island led by the Nations and culturally relevant for them (see Chapter 6.5.3). IAAC is confident that this measure could help mitigate the Project's effect on intergenerational cultural transmission.

Role of Algonquin Women in Water Stewardship

IAAC recognizes the cultural significance of Algonquin women as guardians of the SART First Nations' waterways. This implies the responsibility of looking after the lake sturgeon, a species considered sacred as the leader of the Fish Nation. The role of water guardians also includes harvesting and other sustainability practices on the land that inform culture and heritage self-determination, as well as leadership and diplomacy. IAAC considers that their culturally valued stewardship role may have been altered by changes to the cultural landscape of the Ottawa River resulting from dam construction over the last century.

IAAC also acknowledges that the stewardship role of Indigenous women in the Project has not been showcased due to the operational and technical nature of dam-bridge management. IAAC notes, however, that water management on the Ottawa River extends beyond the influence of the Project proponent and involves multiple stakeholders.

Nevertheless, IAAC acknowledges that the Project could perpetuate the context that led to changes in how Algonquin women practise water stewardship and management. IAAC considers that SART First Nations could choose to involve Algonquin women in water-



related mitigation measures and in monitoring and follow-up programs. Algonquin women could thus share their knowledge and influence the governance of the Project.

Conclusion

Taking into account the implementation of the key mitigation measures and the proponent's commitments, IAAC assesses that the residual effects on the physical and cultural heritage by Indigenous Peoples would be low to moderate. Its assessment is based on the environmental effects assessment criteria in Appendix A and the following findings:

- The intensity of the Project's residual adverse effects would be **medium** for lake sturgeon and its spawning grounds, which are considered sacred by the First Nations. The intensity of the Project's residual adverse effects on other elements of the First Nations' physical and cultural heritage, including Long Sault Island and Kichi Sibi cultural landscapes, would be considered **low**, mainly in the context of the Project.
- The geographic extent of the residual effects on Algonquin physical and cultural heritage would be **local**, since they would be limited to the Project's direct zone of influence.
- The effects on the ability to hold gatherings, the accumulation of dust on the heritage buildings of the Algonquin Canoe Company, the sale of Algonquin crafts would be felt primarily during the construction phase and would therefore be **short-term**. The effects on lake sturgeon (considered a sacred species), Long Sault Island as a cultural landscape, and the integrity of the Ottawa River's original flows would last for more than five years and would be considered **long-term**. Any alteration of artifacts during the construction phase would have a **long-term** effect.
- Most effects during the construction phase would occur **once** and with an intermittent frequency. The effects on lake sturgeon and Long Sault Island may be felt during more than one phase of the Project and **continuously** with respect to the integrity of the Ottawa River, whose natural flows will continue to be altered.
- With respect to the sale of crafts by the Algonquin Canoe Company, the ability to hold cultural gatherings, and effects on heritage buildings, the residual effects on Algonquin physical and cultural heritage would be **reversible**. With respect to the effects on lake sturgeon, which is considered a sacred species, and on Long Sault Island as an Algonquin cultural landscape, the residual effects would be considered **partially reversible**. The residual effects would be **irreversible** for artifacts that are damaged, undiscovered or found during construction, as well as for the continued alteration of the Long Sault Island and the Ottawa River's as cultural landscapes and natural flows of the river.



Therefore, IAAC concludes that the Project is not likely to have significant adverse effects, within federal jurisdiction, on physical and cultural heritage by Indigenous Peoples.

Determining Key Mitigation Measures

The proponent will have to:

Cultural Gatherings on Long Sault Island

- Offer opportunities for SART First Nations and AOPFN to conduct ceremonies prior to construction and consider participating in ceremonies, if requested by First Nations.
- Plan a construction stoppage and the clearing of the areas surrounding the Algonquin Canoe Company, in consultation with SART First Nations and AOPFN, to provide conditions conducive to holding cultural gatherings for the following annual events:
 - National Indigenous Peoples Day (June 21);
 - National Day for Truth and Reconciliation (September 30).
- Plan the creation, in consultation with SART First Nations and AOPFN, of an Algonquin cultural space with basic outdoor facilities to facilitate Algonquin cultural gatherings, or the enhancement of an existing space for this purpose.

Archaeological Potential

- Develop and conduct, in consultation with the SART First Nations and AOPFN, an archaeological survey by certified archaeologists in the riverbed once the cofferdam is installed and, if safety permits, in the presence of representatives of First Nations.
- Comply with the terms set forth in the chance find protocols agreed upon with SART First Nations and AOPFN.
- Inform the employees employed on the Project site about the chance find protocols.

Heritage on Long Sault Island

- Inform the employees about the cultural significance of Long Sault Island in the Algonquin culture.
- Develop, prior to construction, and implement a plan for the restoration and recognition of the Algonquin heritage on Long Sault Island, in consultation with SART First Nations and AOPFN, within the boundaries of proponent-managed lands and consistent with the proponent's financial and technical capacities. The plan would include:



- measures aimed at restoring the island, once construction is complete, to a more natural visual appearance consistent with its heritage significance for the First Nations;
- the inclusion of Algonquin place names at locations deemed relevant by them on signage identifying historical and contemporary Algonquin cultural sites on Long Sault Island; and
- developing and installing a commemorative feature that acknowledges the heritage value of the island in Algonquin culture, in both of Canada's official languages and the Algonquin language;
- the inclusion of Algonquin art in the architecture of the dam-bridge or on Long Sault Island.

Sustainability of the Sale of Crafts by the Algonquin Canoe Company and Protection of its Buildings with Heritage Value

- Develop and implement, in consultation with Wolf Lake First Nation, a landscaping plan to restore the appeal of spontaneous tourist stops near the Algonquin Canoe Company in order to promote the sale of Algonquin crafts, following completion of construction.
- Develop, together with Wolf Lake First Nation, a dust-cleaning protocol and establish a protective perimeter around the Algonquin Canoe Company's buildings throughout the construction phase.
- Inform the proponent's employees or any subcontractors of the heritage value of these buildings prior to the work.

Follow-Up and monitoring

IAAC recommends implementing a monitoring program to verify the accuracy of the anticipated effects on natural and cultural heritage by Indigenous Peoples, as well as the effectiveness of the proposed mitigation measures. The mitigation measures could be adjusted if necessary, thus minimizing adverse environmental effects.

The proponent will have to:

- Develop, in consultation with the SART First Nations and AOPFN, and implement a program for the Algonquin natural and cultural heritage of Long Sault Island, which would monitor:
 - the quality of the cultural gathering experience on Long Sault Island, including those planned during work suspensions throughout the construction phase;
 - the effectiveness of the new cultural gathering space created or improved;



- the effectiveness of the progressive reclamation and recognition measures in the plan for the restoration and recognition of the Algonquin heritage of Long Sault Island.

5.8 Socio-Economic Conditions of Indigenous Peoples

The Project could result in environmental changes that would affect the socio-economic conditions of Indigenous peoples. The Project would primarily affect the activities of the Algonquin Canoe Company, operated by Wolf Lake First Nation.

IAAC is of the opinion that the Project is not likely to cause significant adverse effects on socio-economic conditions of Indigenous peoples, taking into account the implementation of the main mitigation measures and follow-up program.

5.8.1 Component Description

Indigenous groups often use the dam-bridge to access services, businesses and land on both sides of the Quebec–Ontario boundary.

Wolf Lake First Nation owns the Algonquin Canoe Company through the Mahingan Development Corporation that has been located on Long Sault Island since 2004. The company sells Algonquin crafts and Anishinabek Outfitting Inc. provides ecotourism services in the region, including boat and tourist accommodation rentals, as well as outfitting packages. Through the Algonquin Canoe Company, Wolf Lake First Nation seeks to develop its economy sustainably. Ecotourism allows the Nation to introduce non-Indigenous people to Algonquin culture by raising awareness of the environment, modern Algonquin history and activities still practised on the land. The Algonquin Canoe Company thus contributes to the cultural identity of Wolf Lake First Nation. It provides approximately five direct jobs and is open daily.

The company's business model relies primarily on spontaneous and unplanned stops by tourists passing through the region. The busiest periods are the summer and the Christmas holidays.

During the Ontario dam-bridge replacement project, the company reported a loss of sales in crafts and boat rentals, largely due to the noise generated by construction work and the difficulty in accessing the business caused by slower traffic.



5.8.2 Analysis of Potential Effects and Proponent's Proposed Mitigation Measures

The proponent informed IAAC that it had offered financial compensation to the Algonquin Canoe Company during the Ontario dam-bridge replacement project but that circumstances had prevented it from reaching a compensation agreement with the business.

The proponent acknowledges that the Project could affect the company's revenues. The proponent has committed to implementing the measures recommended by the Algonquin Canoe Company to facilitate access to the business during the construction phase and to mitigate effects on the company's sustainability. These measures include:

- Keeping equipment, machinery and construction materials at a distance of at least five metres from the business and its parking lot;
- Placing equipment, machinery and construction materials on the other side of the highway;
- Maintaining a distance between machinery and the company that allows visitors to park safely; and
- Monitoring economic impacts and providing compensation for revenue lost during the construction phase.

The proponent considers that the First Nations could benefit from the Project through potential jobs and contracts, although it acknowledges that barriers to employment may remain. It estimates that the Project could result in a temporary loss of skilled Algonquin labour employed in services located outside the First Nations. Specifically, the Project would create a maximum of 50 jobs, mainly during the construction phase, which will last approximately three years.

5.8.3 Views Expressed

SART First Nations

SART First Nations reiterate that the relationship between Algonquin culture and Long Sault Island is essential and that the presence of the Algonquin Canoe Company at this location reflects this significance. They are of the view that the adverse socio-economic effects, including destruction of wild rice beds, pollution and the decline in the commercial fisheries associated with the dam-bridge would be exacerbated by the Project.

Wolf Lake First Nation considers that the Project would have a significant impact on the company's revenues during the construction phase. It anticipates that visitor volume will decrease during construction due to traffic delays and the reduced number of highway



lanes. The integrity of the business and access to it are of major concern to Wolf Lake First Nation, which reiterates that its company is in a fragile state. The First Nation is of the view that the construction phase could result in “severe and permanent” effects, while acknowledging that certain mitigation measures could potentially reduce those effects. It considers that the loss of a year’s income could potentially be “catastrophic” and “likely irreversible”.

SART First Nations are of the opinion that the Project could enable them to benefit from contracts and economic returns. However, they are also concerned about the potential adverse effects of the Project on their well-being and rights. They have indicated that they are facing a significant shortage of skilled labour and that the Project could result in the loss of skilled Algonquin workers for the benefit of the proponent.

Algonquins of Pikwakanagan First Nation (AOPFN)

AOPFN is of the opinion that the Project could benefit its members in terms of employment, training and contract opportunities; however, they stress that these benefits should be sustainable and planned for the long term. Furthermore, it notes the many obstacles that must be overcome, such as transportation to the Project site, childcare, discrimination and the lack of organizational capacity to benefit from potential jobs.

With respect to housing-related impacts, AOPFN has identified potential indirect benefits related to the development of construction skills, while also expressing concerns about the loss of talent within the community for the benefit of the proponent.

From a cultural standpoint, AOPFN has expressed major concerns about the adverse effects of the Project on its territory, particularly concerning culturally significant species—effects that continue to impact the socio-economic situation of its members.

5.8.4 IAAC Analysis and Conclusions on Residual Effects

Access to Services and Businesses on Both Sides of the Dam-Bridge

IAAC considers that the Project could slow down road traffic intermittently, but without compromising it, as the existing dam-bridge would remain open to traffic during construction. IAAC notes that the construction of the new dam-bridge downstream would mitigate the potential effects on traffic flow. IAAC considers that this would maintain access to services and businesses on both sides of the Quebec-Ontario boundary. IAAC also considers that this effect would be local, short-term and reversible, occurring only once during the construction phase.

Ability to Access the Algonquin Canoe Company’s Store, Boat Rack and Shed

IAAC takes into account the concerns of Wolf Lake First Nations and notes that they stem from the recent experience of the Ontario dam-bridge replacement project. IAAC



understands that traffic management and the location of construction areas, which are managed by the same proponent, have made access to the business more difficult for road users, which may have adversely affected both access to and the revenues of the business.

IAAC is reassured by the proponent's commitment to keeping the business's parking lot accessible at all times, in particular by implementing the measures identified by the company. IAAC is of the view that road access to the company during construction would be similar to the current conditions. IAAC therefore considers that the business would remain accessible at all times. IAAC is of the view that this effect would be local, short-term and reversible, occurring only once during the construction phase.

Sales of Crafts, Outfitting Services, Cabin Rentals and Boat Rentals by the Algonquin Canoe Company

IAAC takes into account that the company experienced a decrease in revenue during the Ontario dam-bridge replacement project, with no financial compensation. IAAC recognizes the position of Wolf Lake First Nation regarding its assessment that the company is in a fragile state.

IAAC assesses that the sensory disturbances associated with the construction could alter customer behaviour, despite the fact that access to the business will be maintained. This avoidance effect may be more pronounced among potential new customers than among those who have already used their services. IAAC recommends installing signs indicating that the business is open during construction work. IAAC is of the view that this measure would help maintain spontaneous stops, which are the foundation of the company's business model. IAAC considers that these signs could even attract new customers. IAAC is of the view that it is still likely that construction phase will temporarily disrupt the customer experience, which could discourage customers from stopping.

The Project would require the installation of a cofferdam and a turbidity curtain downstream of the existing dam-bridge. IAAC considers that these two structures would be physical obstacles to navigation that could temporarily affect visitors' choice to use Long Sault Island and this section of the Ottawa River for recreational and tourism activities. Regular users of the Ottawa River for recreational and tourism purposes may temporarily relocate their activities. IAAC notes that the region has several alternative locations for these types of activities.

IAAC is of the view that the in-water work and the sensory disturbances associated with the construction site could temporarily affect the Algonquin Canoe Company's boat rentals from Long Sault Island. IAAC is of the opinion that boat rentals for use outside the study area, as well as the cabin rentals and the provision of outfitting services would continue.



IAAC acknowledges that uncertainty remains regarding the effects of the construction phase on customer behaviour and, therefore, on the company's revenues. Consequently, IAAC recommends the development and implementation of a program to monitor the financial losses incurred by the company during the construction phase of the Project. IAAC recommends that the proponent identify, on the basis of the monitoring results and in consultation with Wolf Lake First Nation, appropriate compensatory measures to mitigate the identified effects. IAAC is of the view that by implementing this measure, the residual effect on the company's sales would be of moderate intensity given the recent history, and that this effect would be local and short-term, occurring once during the construction phase of the Project. Once the mitigation measure has been implemented, the effects on the company's revenues are considered partially reversible.

First Nations' Economy

IAAC takes into account the concerns of SART First Nations and AOPFN regarding the potential loss of skilled labour to the proponent's project. IAAC understands the link that the First Nations draw between the potential benefits for certain families and the possible adverse effects of the Project on skilled labour, which are essential for the delivery of their services.

IAAC is of the view that many members of the First Nations could benefit from jobs, income, training or contract opportunities, which could improve families' quality of life and workers' transferable skills. However, this effect would be temporary, since the construction phase would last approximately three years. It would also be limited, as only some 50 jobs would need to be filled.

Although it is possible that some workers in key positions within the First Nations' internal services may be recruited for the Project, IAAC considers that this adverse effect on the socio-economic conditions of the First Nations would be negligible, as it would only occur during the construction phase—that is, in the short term and locally. This effect is considered reversible.

IAAC considers that the Project's impact on the First Nations' economy would be minor, local, short-term, felt only during the construction phase, and reversible.

Issues beyond federal jurisdiction

The definition of environmental effects under the CEAA 2012 for the valued component of socio-economic conditions (5(1)(c)(i)), as noted in Table 1 (Chapter 1.2.2), indicates that IAAC may only assess and recommend conditions for socio-economic changes caused by a change in the environment.

AOPFN has conducted a comprehensive analysis of the Project's socio-economic effects on its community, particularly regarding barriers to employment and training, as well as access to housing and child care services. Although IAAC acknowledges that these



concerns are relevant and significant, it lacks the authority to assess them, and it is not possible to draw definitive conclusions.

IAAC nevertheless emphasizes the importance of the proponent continuing to collaborate with Indigenous groups to develop and implement mitigation measures and monitoring programs related to Indigenous socio-economic conditions.

Conclusion

Taking into account the implementation of the recommended key mitigation measures and the proponent's commitments, IAAC assesses that the residual effects on the socio-economic conditions of Indigenous Peoples would be low to moderate. Its assessment is based on the environmental effects assessment criteria in Appendix A and the following findings:

- The intensity of the Project's residual adverse effects on the Algonquin Canoe Company would be **medium**, given the financial losses incurred during the Ontario dam-bridge replacement project. The construction phase could lead to changes in customer behaviour, a critical factor in the company's commercial activities, without compromising access to the business or its existence. The intensity of the residual effects on access to services in both provinces, on recreational and tourism activities, and on the First Nations' economy would be **low**;
- The geographic extent of the residual effects on access to the Algonquin Canoe Company and its sales would be **site specific**, since the effects are limited to Long Sault Island. The geographic extent of the effects on access to services and businesses on both provinces, on recreational and tourism activities, and on the First Nations' economy would be **local**, since the effects would be limited to the Project's direct area of influence and exclusively on federal lands;
- The duration of effects on the Algonquin Canoe Company would be considered **medium-term**. The effects on access to services in both provinces and on the First Nations' economy would be considered **short-term**;
- The frequency of most effects would be **one-time**, as they would be concentrated during the construction phase; and that
- The residual effects on socio-economic conditions would be **partially reversible** for sales by the Algonquin Canoe Company, given the fragile state of the business as well as the uncertainties that remain regarding financial losses and the compensatory measures to be implemented. With respect to access to services in both provinces, recreational and tourism activities, and the First Nations' economy, the residual effects would be considered **reversible**.

Therefore, IAAC concludes that the Project is not likely to have significant effects, within federal jurisdiction, on socio-economic conditions of Indigenous Peoples.



Determination of Key Mitigation Measures

Signage

- In consultation with Wolf Lake First Nation, develop signs informing the public that the business is open during construction and identify locations for installation on lands owned by the proponent.

Communications

- In consultation with Wolf Lake First Nation, agree on a construction communications plan for the entire duration of the construction phase.

Follow-Up and monitoring

IAAC recommends implementing a monitoring program to verify the accuracy of the anticipated effects on socio-economic conditions of Indigenous Peoples, as well as the effectiveness of the proposed mitigation measures. The mitigation measures could be adjusted if necessary, thus minimizing adverse environmental effects.

The proponent will have to:

- Monitor, in consultation with Wolf Lake First Nation, the financial losses incurred by the Algonquin Canoe Company during the construction phase of the Project;
- Once the monitoring results are available, identify, in consultation with Wolf Lake First Nation, compensatory measures to mitigate the socio-economic effects of the Project on the Algonquin Canoe Company.



6. Other Effects Considered

6.1 Indigenous Groups in the Process of Rights Recognition

The Project could result in environmental changes that would affect land use, physical and cultural heritage, and the socio-economic conditions of Indigenous groups in the process of having their rights recognized.

After taking into account the implementation of key mitigation measures and monitoring and follow-up programs in Chapter 5, IAAC is of the view that the Project is not likely to have significant adverse effects on land use, physical and cultural heritage, socio-economic conditions, or the asserted rights of the Algonquins of Ontario, the Antoine Nation, and the historic Métis community of Mattawa/Ottawa River represented by the Métis Nation of Ontario.

6.1.1 Algonquins of Ontario

Since 2004, the Algonquins of Ontario (AOO) have served as an organization representing ten Algonquin communities^{27,28}. The organization was established to coordinate negotiations with the Crown and participation in consultation processes. Consultation is coordinated through the AOO Consultation Office. AOO signed an agreement in principle²⁹ with the governments of Ontario and Canada in October 2016 and continue to negotiate the settlement of their land claim at the time of writing this report.

Mattawa/North Bay Algonquins are the most locally affected Algonquin community of the AOO communities by the Project. Mattawa/North Bay community members have significant history and usage of the Project area. Mattawa/North Bay did not seek a separate consultation process with IAAC. Therefore, AOO has focused its consultation efforts on behalf of Mattawa/North Bay interests, perspectives and potential Project interactions as a locally affected Algonquin community.

²⁷ Antoine Nation elected to be consulted independently of AOO for this project. The effects on this nation are analyzed in Chapter 6.1.2. AOPFN was also consulted independently of AOO; the effects on AOPFN are analyzed in Chapters 5.6 to 5.8 and Chapter 7.

²⁸ The other communities in AOO are: Bonnechere, Greater Golden Lake, Kiicho Manito Madaouskarini (Bancroft), Ottawa, Shabot Obaadiiwan (Sharbot Lake), Snimikobi (Ardoch) et Whitney et ses environs.

²⁹ <https://www.ontario.ca/files/2025-02/maa-proposed-aip-fr.pdf>



Asserted Rights

AOO are involved in negotiations for a modern treaty with the federal and provincial governments. The territory covered by these discussions spans 36,000 km² of land. A future treaty would further clarify the rights being claimed.

Description of Current Land Use and Views Expressed

Mattawa/North Bay community members harvest and consume a wide variety of traditional foods around the Project. The traditional diet includes game, edible plants (strawberries, raspberries, cranberries, blueberries, blackberries, Saskatoon berries, and apples), mushrooms (chaga and other mushrooms), and fish (northern pike, walleye and bass). Medicinal and ceremonial plants are also harvested on Long Sault Island, although some species are not abundant there. Mattawa/North Bay community members have pointed out that the Long Sault Rapids are an important spawning habitat for many fish species living in the Ottawa River.

Fishing

The Ottawa River and its tributaries, Lake Nipissing, the Mattawa River and, to a lesser extent, Lake Timiskaming, are key fish harvesting areas for Mattawa/North Bay community members. AOO is of the view that the Project could reduce the local abundance of certain species important to its members, which would in turn reduce the suitability of fishing and fishing success near the site. Concerns have been raised regarding water contamination and potential effects on fish and fishing resulting from the concrete used in the new dam and from the disturbance of river bottom sediments during construction. Some Mattawa/North Bay community fishers may avoid the area owing to perceived contamination risks.

AOO has been requesting the design and implementation of a fishway for the new dam-bridge in order to mitigate the historic impacts to fish movement and habitat in the Ottawa River and Lake Temiskaming caused by the existing dam-bridge construction. Lake sturgeon cannot move past the dam-bridge to occupy habitats upstream. Lake sturgeon and walleye both currently spawn downstream of the dam bridge. AOO is also concerned for the future ability of the American eel to be able to move past the dam-bridge should populations be restored downstream in the Ottawa River. AOO is strongly of the view that the fishway design should be considered in a way that may benefit these species.

Concern was expressed by one community regarding negative effects on fish abundance and diversity as a result of the outmigration of fish species of importance and/or migration of invasive or unwanted fish species, facilitated by the construction of a fishway in the dam-bridge. This includes fish species like Asian carp and common carp that could move upstream of the dam-bridge, and that predatory fish like catfish will enter Lake Temiskaming and reduce populations of fish species of importance for cultural and traditional uses such as the pickerel and the walleye. AOO agrees with this concern, but



does not see the passage of species of cultural importance and restricting the movement of invasive or non-native species as inherently conflicting goals. AOO rather suggests the need for careful design of the fishway and other mitigation measures to achieve both goals. AOO does not expect that a fishway will result in a lack of abundance of fish species occurring downstream of the dam, especially when coupled with other enhancements.

Other Harvests

The study area encompasses a wide range of habitats that support the species important to AOO for harvesting, including moose, deer, bear, hare, grouse, beaver, muskrat, squirrels and waterfowl. The Mattawa/North Bay community members have expressed concerns about the impacts of noise, lights and other disturbances on ducks and geese. These species may temporarily avoid Long Sault Island during the construction phase, which could briefly reduce harvesting opportunities. IAAC assesses the Project's effects on migratory birds in Chapter 5.2 and does not anticipate any significant residual impacts. IAAC considers that hunting success for migratory birds in the area may decline during the construction phase but is expected to return to baseline conditions subsequently. IAAC is confident that alternative hunting locations are available elsewhere in the region.

Plants in the Project area are generally not harvested by the Mattawa/North Bay community members owing to their scarcity and concerns about contamination.

Description of Physical and Cultural Heritage and Views Expressed

Places of Cultural Significance

AOO considers the Ottawa River to be a vital location for traditional activities, including travel, fishing, hunting, harvesting and spiritual practices. Long Sault Island is regarded as a major ancestral site, formerly used as a village, gathering place and harvesting area, and is considered to have significant archaeological potential. According to AOO, these sites have been substantially altered by industrialization, transportation infrastructure, urbanization and dam developments. Such changes have affected both the actual and perceived quality of these heritage sites, which are essential to the physical, cultural and spiritual health and well-being of the Mattawa/North Bay community members.

The main concerns of AOO include the potential destruction of archaeological artifacts during construction, as well as the alteration of the natural landscape caused by the dam.

Culturally Significant Species

The American eel is a species of great cultural significance to AOO, as it was a staple food in their traditional diet present through the entire Ottawa River watershed before development of dams caused the significant decline of the species, which is now absent



in the Ottawa River. Although it is unlikely to be currently present in the Project area, AOO places great importance on the recovery of populations of the species through its historical range. AOO is concerned about the Project's potential effects on the species' habitat, population levels, and the species' ability to move upstream of the dam if and when the population of the American eel is restored in the Ottawa River.

The lake sturgeon is a species of major cultural and food value historically to AOO, who have traditionally fished for it for generations. Present in the Project study area, they are of the view that the Project could affect the well-being of the species in several ways such as impacts to the spawning ground below the dam. AOO was heavily involved in the informing development of lake sturgeon spawning ground mitigation and improvement and monitoring on the Ontario dam-bridge replacement project and desire to see similar efforts implemented for lake sturgeon during the Project.

Turtles also hold considerable cultural significance for AOO. This is reflected in their ceremonial and spiritual value, as they are inherently tied to the Algonquin creation story of the land itself. AOO views the adverse effects on turtles holistically, considering their impact on both the biophysical environment and human and social-spiritual environments.

Description of Socio-Economic Conditions and Views Expressed

AOO anticipates positive outcomes from the Project for the Mattawa/North Bay community members, including quality job opportunities and skills development. AOO also hopes to benefit from business and training opportunities associated with the Project, which would alleviate concerns and address employment barriers.

AOO has emphasized the holistic connections between the Kichi Sibi, species of cultural importance found within it, and the Algonquin way of life. AOO has expressed concerns about the potential adverse effects of the Project on the Kichi Sibi and key species, including the American eel and the lake sturgeon. These species are central to the Algonquin identity and are supporting the health and well-being of the Mattawa/North Bay community members. In expressing these concerns, AOO noted that impacts must be viewed holistically, considering the lasting impacts of the Project decision, not only on the biophysical environment, but also on the human and socio-cultural environments.

IAAC Analysis and Conclusions on AOO

IAAC considers that this environmental assessment has supported project planning in a manner that promotes the continued availability and quality of resources used for traditional purposes. IAAC is of the opinion that the Project would not result in residual effects on AOO beyond those described in Chapters 5.6 to 5.8 and 6.5. IAAC also considers that it has recommended an adequate condition (see Chapter 6.2.4) to support the protection and maintenance of the physical and cultural heritage and the health and socio-economic conditions relevant to AOO.



Therefore, IAAC concludes that the Project is not likely to have significant adverse effects, within federal jurisdiction, on asserted rights of AOO.

6.1.2 Antoine Nation

Antoine Nation is located in the Mattawa area, about 50 kilometres southeast of the Project site. Its territory extends north, west, south and east from the confluence of the Mattawa and Ottawa rivers, including the northern portion of Algonquin Provincial Park.

Asserted Rights

Antoine Nation is not currently a federally recognized First Nation and therefore does not have reserve lands. Antoine Nation is currently seeking federal recognition and is involved in the Algonquin land claim process under AOO, the political organization representing Algonquin communities that is administering the land claim.

Description of Current Land use and Views Expressed

Fishing

Antoine Nation has argued that its members fish at a much higher rate than the rest of the population. Antoine Nation considers that the Project would have minimal impact on its fishing activities if no fishway is included or if the fishway is reserved exclusively for the American eel. However, if a multi-species fishway is constructed, Antoine Nation is concerned about potential effects on fish abundance and diversity, which could impact members who rely on subsistence fishing. Antoine Nation fears that a multi-species fishway could alter fish migration patterns and allow predatory species such as catfish to reach Lake Timiskaming, potentially harming valued species like walleye. Reflecting these concerns, the nation representatives have passed a resolution categorically opposing the installation of a multi-species fishway unless conclusive scientific evidence shows that subsistence fishing would not be negatively affected. This resolution has been communicated to the proponent. The proponent is committed to studying the possibility of installing a fishway in the new dam-bridge in Quebec to minimize the structure's effects on fish habitat fragmentation.

Antoine Nation also remains concerned about the effectiveness of the new spawning grounds proposed as a means of offsetting the loss of fish habitat. Antoine Nation wishes to stay informed of environmental monitoring, particularly with respect to fisheries.

Other Harvests

Members of Antoine Nation harvest wildlife, plants, berries and mushrooms throughout the territory. Although several hunting and trapping areas are located near the Project site, members tend to avoid harvesting near roadways and populated areas. Antoine



Nation does not anticipate changes to its wildlife harvesting practices, nor does it expect negative impacts on access or mobility within the region.

Drinking Water

Antoine Nation anticipates a temporary decline in user confidence in water quality during construction, which could affect the well-being of land users. Antoine Nation has expressed concerns about long-term deterioration in water quality and safety owing to pollution. The Ottawa River, once a trusted source of drinking water, is now generally avoided because of actual or perceived contamination from point sources, such as the RYAM plant.

The Project may lead some members of Antoine Nation to avoid using the Ottawa River for drinking or swimming because of real or perceived concerns about contamination from concrete or from the resuspension of sediment and organic matter.

Description of Physical and Cultural Heritage and Views Expressed

Places of Cultural Significance

The downstream shores of the Ottawa River and Long Sault Island are culturally important to Antoine Nation, as these areas were historically used for camps or harvesting during travel and portaging. The Project could affect Antoine Nation's physical and cultural heritage by risking the destruction of artifacts on Long Sault Island and along the Ottawa River, and by altering the natural state of these significant cultural sites.

Culturally Significant Species

Antoine Nation anticipates that the Project could improve the ecological integrity of fish habitat in the Ottawa River owing to the mitigation measures proposed (see Chapter 5.1). Among the species harvested by Antoine Nation, walleye is identified as the most valued. However, certain species that were once central to the community's diet and culture have sharply declined. Lake sturgeon, still considered culturally important, is now rarely harvested because of its declining population. American eel, once a key resource, has disappeared from the upper Ottawa River Basin, primarily because dams block its migration.

Antoine Nation has observed a notable decline in the abundance of several valued species, including lake whitefish, sauger, lake sturgeon and walleye, and an increased presence of less desirable species, such as catfish, which prey on valued species. Concerns about actual or perceived contamination also lead some members to avoid consuming large fish from the Ottawa River.



Description of Socio-Economic Conditions and Views Expressed

Antoine Nation anticipates the Project's effects to be positive if opportunities are created for employment, training, participation in environmental monitoring and business development. Antoine Nation wishes to benefit from these opportunities but has expressed concerns about barriers to employment, including union requirements and the short duration of available positions.

IAAC Analysis and Conclusions on Antoine Nation

IAAC considers that this environmental assessment has supported project planning in a manner that promotes the continued availability and quality of resources used for traditional purposes. IAAC is of the opinion that the Project would not result in residual effects on Antoine Nation beyond those described in Chapters 5.6 to 5.8 and 6.5. IAAC also considers that it has recommended an adequate condition (see Chapter 6.2.4) to support the protection and maintenance of the physical and cultural heritage and health and socio-economic conditions relevant to Antoine Nation.

Therefore, IAAC concludes that the Project is not likely to have significant adverse effects, within federal jurisdiction, on asserted rights of Antoine Nation.

6.1.3 Métis Nation of Ontario and the Mattawa/Ottawa River Historic Métis Community

The Métis Nation of Ontario (MNO) is the democratically elected, federally and provincially recognized, Métis government representing Métis citizens and Métis communities in Ontario. These Métis communities include the Mattawa/Ottawa River Historic Métis Community (Métis Community), one of the seven historic Métis communities recognized by MNO and the provincial Crown in 2017 as meeting the criteria of a historic Métis communities as outlined by the Supreme Court of Canada (SCC) in *R v. Powley* (Powley).³⁰

MNO has established Regional Consultation Committees that are responsible to ensure MNO citizens and the historic Métis communities are meaningfully and effectively consulted by the Crown. As part of this environmental assessment, IAAC is engaging with the MNO's Land, Resources and Consultations Branch to consult MNO Region 5

³⁰ *R. v. Powley*, [2003] 2 S.C.R. 207, 2003 SCC 43, available at : <https://scc-csc.lexum.com/scc-csc/scc-csc/fr/item/2076/index.do>.



Consultation Committee, which represents the interests of the successor to the Mattawa/Ottawa River Historic Métis Community.³¹

Asserted Rights

In *Powley* the SCC affirmed that Métis are a “distinctive rights-bearing peoples whose own integral practices are entitled to constitutional protection” under section 35, recognizing that the Métis are a distinct Indigenous people with their own customs, way of life, and collective identity which existed before Canada became a country.³²

The federal Crown and MNO have become involved in several agreements concerning recognition of Métis section 35 rights in Ontario. In 2015, they signed the MNO-Canada Consultation Agreement which ensures the Métis communities represented by MNO are consulted and accommodated where their rights and interests may be impacted by contemplated federal Crown conduct.³³ The federal Crown has also signed two self-government agreements with MNO.³⁴ The 2019 Métis Government Recognition and Self-Government Agreement recognizes the Métis communities represented by MNO hold the inherent right of self-government protected by section 35. The 2023 Métis Self-Government Recognition and Implementation Agreement recognizes MNO as a Métis Government of the Métis Communities Represented by MNO.

The provincial Crown has also recognized MNO and the section 35 rights of the historic Métis communities. In 2017, after a decade of collaborative research, MNO and the provincial Crown jointly recognized seven historic rights-bearing Métis communities in Ontario. The Mattawa/Ottawa River Historic Métis Community was one of these communities and is identified as comprising “the interconnected Métis populations at Mattawa and spanning the Ottawa River from Lake des Allumettes (Pembroke) to Timiskaming and environs”.³⁵ In 2018 the provincial Crown and MNO signed the Framework Agreement on Métis Harvesting which accommodates Métis harvesting rights within certain parts of Ontario, including hunting, trapping, fishing, and gathering for food, social, or ceremonial purposes, subject to conservation and resource management

³¹ Consultation Protocol for the Mattawa/Lake Nipissing Traditional Territory (2009), available at: <https://www.metisnation.org/wp-content/uploads/2010/10/mno20consultation20protocol20-20mattawa-nipissing20region205.pdf>

³² *R. v. Powley*, [2003] 2 S.C.R. 207, 2003 SCC 43 at paras 10 and 12.

³³ MNO-Canada Consultation Agreement (July 31, 2015), available at: <https://www.metisnation.org/wp-content/uploads/2010/10/mno-canada-consultation-agreement-july-2015.pdf>

³⁴ MNO-Canada Métis Government Recognition and Self-Government Agreement (June 27, 2019), available at <https://www.metisnation.org/wp-content/uploads/2019/06/2019-06-27-metis-government-recognition-and-self-government-agreement.pdf>; MNO-Canada Métis Self-Government Recognition and Implementation Agreement (23 February 2023), ss. 6.04-6.07, 6.09-6.11, available at <https://www.metisnation.org/wp-content/uploads/2023/02/MNO-MGRSA-2.0-Feb-23-2023.pdf>

³⁵ Indigenous Affairs Ontario, News Release, “Identification of Historic Métis Communities in Ontario” (August 22, 2017), available at: <https://news.ontario.ca/en/backgrounder/45936/identification-of-historic-metis-communities-in-ontario>



requirements.³⁶ These rights, as protected under section 35, are based on evidence that distinct Métis communities with their own customs, way of life, and recognizable group identity emerged in the Upper Great Lakes and along fur trade routes and strategic waterways of northern Ontario before effective European control in those regions.

In 2017 MNO, federal and provincial Crown also signed the MNO-Canada-Ontario Framework Agreement for Advancing Reconciliation, through which they were committed to reach a trilateral agreement “that sets out a mutually agreeable process for addressing Crown consultation owing to rights-bearing Métis communities represented by MNO as well a map defining the geographic area over which consultation will be undertaken, including the provision of provincial and federal consultation capacity funding for MNO’s consultation processes.”³⁷

Description of Current Land Use and Views Expressed

MNO citizens with ancestral connections to the historic Mattawa/Ottawa River Community regularly consume culturally important wildlife, fish, plants and berries from the study area. They primarily consume trout, Northern pike, bass and walleye; however, some avoid fish from the Ottawa River owing to concerns about pollution. Lake sturgeon are harvested and remain a source of concern.

Fishing

MNO Region 5 Consultation Committee is concerned that the Project could lead to actual or perceived contamination of the Ottawa River. MNO is of the view this could potentially affect fish health and cause Métis fishers to avoid their usual fishing grounds, especially given ongoing concerns about past contamination. MNO indicated that they also have concerns regarding changes in the pH level in water and its impacts on fish. MNO also expresses concerns about potential restrictions on physical access to fishing areas near Long Sault Island, which could discourage or prevent recreational fishing by its members.

MNO Region 5 Consultation Committee is concerned about the potential effects of a future fishway on fish availability. It fears that a decline in fish stocks could cause Métis harvesters to avoid the river, which would affect their way of life. The proponent has committed to studying the possibility of installing a fishway in Project to limit the structure’s impact on the free passage of fish.

³⁶ MNO-Ontario Framework Agreement on Métis Harvesting (April 30, 2018) is available at: <https://www.metisnation.org/wp-content/uploads/2015/07/metis-harvesting-framework-agreement.pdf>.

³⁷ MNO-Canada-Ontario Framework Agreement for Advancing Reconciliation (December 11, 2017), section 3.6.2, available at the following link: <https://www.metisnation.org/wp-content/uploads/2010/10/scanned-from-a-xerox-multifunction-printer.pdf>. Also see 2018 Framework Agreement on Métis Harvesting, section 16.a.



Hunting

MNO stated that hunting undertaken in the area is focused on specific species, including deer, moose, elk, rabbits, beavers, porcupines, grouse, partridges, and waterfowl such as ducks and geese. MNO also pointed out that the roads located to the south and west of the project area are popular hunting spots for both small and large game.

MNO Region 5 Consultation Committee is concerned that noise from construction work may temporarily disturb ducks and geese, reduce their presence and lead to loss of nesting for birds in the area, which could impact Métis rights.

IAAC's assessment of migratory birds in Chapter 5.2 does not anticipate significant residual effects. It finds that migratory bird hunting success may decline during the construction phase but should return to baseline conditions, and that alternative hunting locations exist in the area. From MNO Region 5 Consultation Committee's perspective, a modification, relocation, or avoidance of preferred harvesting practices would be considered an impact on the Métis Community's section 35 rights.

Description of Physical and Cultural Heritage and Views Expressed

MNO Region 5 Consultation Committee is of the opinion the Project may affect physical and cultural heritage associated with the Ottawa River, Long Sault Island and archaeological resources in the area, particularly through potential disturbance of artifacts and continued alteration of the natural state of the site. These places are considered vital to the cultural continuity of the Métis community. MNO Region 5 Consultation Committee also considers that the Project could create real or perceived barriers to Métis Community's traditional way of life.

Description of Socio-Economic Conditions and Views Expressed

The Project could have positive effects on skill development by creating opportunities for training and employment during construction. MNO Region 5 Consultation Committee has expressed interest in participating in contracting, training and environmental monitoring opportunities. However, it is concerned that barriers to accessing these jobs may persist. MNO Region 5 Consultation Committee has expressed an interest in continued discussions with IAAC and the proponent as part of the environmental assessment process.

IAAC Analysis and Conclusions on MNO

IAAC considers that the environmental assessment has supported Project planning in a manner that promotes the continued availability and quality of resources used for traditional purposes, including those identified in the *Framework Agreement on Métis Harvesting*. IAAC is of the opinion that the Project would not result in residual effects on MNO beyond those described in Chapters 5.6 to 5.8 and 6.5. IAAC also considers that it



has recommended an adequate condition (see Chapter 6.2.4) to support the protection and maintenance of the physical and cultural heritage, health, and socio-economic conditions relevant to MNO.

Therefore, IAAC concludes that the Project is not likely to have significant adverse effects, within federal jurisdiction, on asserted rights of MNO as set out in the *Métis Self-Government Recognition and Implementation Agreement*.

6.1.4 IAAC Conclusions Regarding the Project's Asserted Rights of Indigenous Groups in the Process of Recognizing Rights

Therefore, IAAC concludes that the Project is not likely to have significant adverse effects, within federal jurisdiction, on asserted rights of AOO, Antoine Nation and MNO.

Determining Key Mitigation Measures

IAAC will require the proponent to publish the results of all monitoring related to the key measures identified in Chapters 5.5 to 5.8 and 6.5 in IAAC Registry. This will allow Indigenous groups in the process of recognizing rights to access the results of all monitoring and follow-up programs, particularly those relating to their concerns about water quality, fish habitat offsetting plan, and accidental discoveries of artifacts.

6.2 Transboundary Environmental Effects

The Project could result in residual transboundary effects associated with greenhouse gas (GHG) emissions during the construction phase of the new dam-bridge and the deconstruction of the existing dam-bridge.

IAAC is of the opinion that these effects are not likely to be significant, as the total amount of GHGs generated by the Project would contribute little to national emissions³⁸.

6.2.1 Component Description

GHGs are recognized to be one of the causes of climate change, which can have a range of effects on ecosystems and human health. These gases disperse globally, and their emissions are considered transboundary environmental effects under CEAA 2012.

³⁸ Total GHG emissions in Canada in 2023 amounted to 694 megatonnes CO₂ equivalent units.



6.2.2 Analysis of Potential Effect and Proponent's Proposed Mitigation Measures

The proponent anticipates that approximately 3,411 tonnes of carbon dioxide (CO₂) equivalent will be emitted during the construction of the new dam-bridge and the deconstruction of the existing one. These emissions will likely be generated primarily by the fossil fuel consumption of the machinery and vehicles used for construction, deconstruction and the transport of materials and employees.

During the operation phase, the proponent considers that emissions would be negligible, as electricity is used to run the infrastructure equipment. The proponent estimates annual emissions from the existing dam-bridge at 53.6 tonnes of CO₂ equivalent. Assuming that the new dam-bridge would use the same amount of energy, the proponent estimates that around 4,020 tonnes of CO₂ equivalent would be emitted over its 75-year useful life.

It should be noted that, while it does not generate hydroelectric power itself, the new dam-bridge would help retain the water needed by the hydroelectric facilities downstream.

Mitigation Measures

To reduce GHG emissions, the proponent has committed to investigating the possibilities of erecting a mobile concrete batch plant near the site to reduce transport distances and of using materials with a lower carbon footprint, as well as to studying options for achieving carbon neutrality.

6.2.3 IAAC Analysis and Conclusions on Residual Effects

Taking into account the implementation of mitigation measures and the proponent's commitments, IAAC assesses that the residual effect on GHG emissions would be low. Its assessment is based on the environmental effects criteria in Appendix A and the following findings:

- The intensity of the Project's residual effects would be **low**;
- The residual effects of the Project would extend **beyond the local study area**, and over the **long-term**;
- The residual effects of the Project would be **intermittent** and would be **irreversible** over time.

Therefore, IAAC concludes that the Project is not likely to have significant adverse effects, within federal jurisdiction, on GHG emissions.



Determination of Key Mitigation Measures

Given the Project's small contribution to GHG emissions, IAAC is of the opinion that no additional measures are required to mitigate the Project's GHG emissions.

6.3 Effects of Accidents and Malfunctions

Paragraph 19(1)(a) of CEAA 2012 requires that the environmental assessment take into account the environmental effects of accidents and malfunctions³⁹ that may occur in connection with the Project.

IAAC is of the opinion that the proponent adequately considered potential environmental effects as a result of accidents and malfunctions. IAAC is of the view that the Project is not likely to result in significant adverse environmental effects from accidents and malfunctions, after considering the implementation of proposed key mitigation measures and follow-up programs.

6.3.1 Analysis of Potential Effects and Proponent's Proposed Mitigation Measures

Accidents and malfunctions can occur at any phase of the Project, which may cause adverse effects on the environment.

Spills and Accidental Releases

During construction and operation phases of the new dam-bridge, equipment malfunctions could lead to spills of hazardous materials, such as hydraulic oil and hydrocarbons, as well as construction materials and debris, concrete, and concrete wash water, into the aquatic and terrestrial environments. Depending on its nature, size, and location, an accidental release could adversely affect soil, surface water, and groundwater. This could result in indirect effects on human health, fish, vegetation and wetlands, wildlife, migratory birds, and species at risk within the ASA and TSA and in areas downstream of the LSA.

To limit these risks, the proponent has undertaken to carry out regular inspections of the machinery and equipment, store the various equipment in an appropriate space as far away as possible from aquatic environments, and develop an emergency response plan and the materials needed for an emergency response in the event of a spill.

³⁹ An accident is an unexpected and sudden event involving project components or activities that results in damage to valued components. A malfunction is defined as the inability of equipment or a system to perform as intended, thereby causing damage to valued components.



Gate System Malfunction

During the operation phase, a malfunction of the gate system of the new dam-bridge could occur and limit the ability to manage water levels and flows on the Quebec side.

The proponent plans to perform regular maintenance on the system. In addition, a generator would be installed to keep the gate system running in the event of a power failure.

Dam-Bridge Malfunction or Failure

An earthquake or major flood could result in a malfunction or even a failure of the new dam-bridge, with effects on the physical and human environment, particularly the riverbanks and waterbodies, as well as the populations living there, buildings located on Long Sault Island and the infrastructure of the bridge section, such as the interprovincial highway and the gas, telephone, and electricity lines. A failure of the dam-bridge would also reduce water storage for the hydroelectric dams on the Ottawa River and cut off this access between Ontario and Quebec⁴⁰.

Simulations were carried out to estimate the effects of a failure of the new Quebec dam-bridge, the Ontario dam-bridge, and the complex, taking into account various flow conditions, including extreme flooding. The results showed that, in the event of an extreme flood, the increase in flow due to the failure of one of the dam-bridges could lead to flooding in the riverside residential areas of Mattawa. On the other hand, the Otto Holden dam has sufficient spill capacity to allow the highest simulated flows through without being submerged, even in the event of a failure of the dam bridges. However, such situations are highly unlikely.

The new dam-bridge would be built to the latest standards, and its design would take into account the effects of climate change. Furthermore, the Project is not intended to increase water levels in Lake Timiskaming. The risk of the dam-bridge failing would therefore be no greater after the Project than before. The consequences of a failure would also be similar. However, the use of mechanized gates instead of wooden stop logs would improve emergency response to specific events.

In accordance with several federal laws, the proponent is required to establish an emergency response plan for its properties and activities. This emergency response plan is reviewed annually in collaboration with all potentially concerned stakeholders. Moreover, the Canadian Dam Association and provincial regulators require dam owners to undertake regular safety reviews of these works to protect people, property, and the environment from the adverse effects of misoperation or failure.

⁴⁰ The alternative land route is 304 kilometres long, rather than 66 kilometres.



Significant Water Ingress Through the Cofferdam

During the construction phase, higher-than-expected water infiltration through the cofferdam could lead to decreased water quality due to the addition of SS, if the water were discharged untreated.

However, this risk would be mitigated by providing sufficient space to handle an additional volume of pumping water, carrying out reconnaissance drilling to estimate the hydraulic conductivity of the soils around the cofferdam, and monitoring water quality during construction.

6.3.2 IAAC Analysis and Conclusions

IAAC is of the opinion that the proponent has correctly identified and assessed the potential accident and malfunction scenarios associated with the Project and their potential effects on the environment, Indigenous peoples, and local communities.

IAAC recognizes that concerns remain about the potential environmental effects of accidental spills or releases, fires, explosions, and vehicle collisions. IAAC understands that the proponent has committed to develop emergency response plans that include measures to mitigate the potential effects on the environment in case of accidents and malfunctions. IAAC recommends that the proponent include in these emergency response plans worst-case scenarios, response measures (including on-site response times and notification measures), as well as the measures proposed to mitigate the potential environmental effects.

IAAC recommends that the proponent develop, prior to the start of the work, a plan to manage explosives and blasting activities, an emergency response plan, and emergency measures, in consultation with federal authorities and Indigenous groups, to ensure that outstanding concerns and Indigenous knowledge are taken into account. These plans should include a communication plan for accidents and malfunctions.

Although significant adverse effects could occur in some scenarios, the probability of such major accidents is low, given the Project design and the mitigation, monitoring, and follow-up measures proposed by the proponent. Therefore, IAAC concludes that the Project is not likely to cause significant adverse effects, within federal jurisdiction, due to accidents or malfunctions.

Determination of Key Mitigation Measures

To minimize the effects of potential accidents and malfunctions, IAAC has developed the following key mitigation measures:

- Implement the following mitigation measures to prevent accidents and malfunctions that may result in adverse effects within federal jurisdiction, where applicable:



- Establish fire and spill prevention plans.
- Limit refuelling and maintenance of vehicles and equipment to areas located at least 30 metres from any water bodies and ensure that such activities are carried out in a manner that prevents spill.
- Use secondary containment systems to store hazardous materials.
- Provide training to the Project employees on accident and malfunction prevention and related response measures.
- Prior to the start of the work, develop an accident and malfunction emergency response plan and maintain it throughout the operation phase, including:
 - A description of potential accidents and malfunctions that could have adverse effects within federal jurisdiction during any phase of the Project, including those resulting from the project activities and those resulting from environmental conditions acting on the Project, covering both worst-case and more likely alternate scenarios.
 - Measures for each scenario in accordance with the “National Wildlife Emergency Response Network: Guidance of Environment and Climate Change Canada”.
 - Clearly defined roles and responsibilities for the proponent, competent authorities, and other parties involved in the response effort.
- In the event of an accident or malfunction:
 - Notify appropriate emergency response authorities.
 - Inform Indigenous groups as soon as possible and IAAC within 24 hours, specifying:
 - the date, time, and location of the accident or malfunction;
 - a summary of the accident or malfunction;
 - the substance and the quantities spilled;
 - the competent authorities who have been notified and are involved in the response.
 - Submit a report to IAAC within 60 days, describing:
 - the incident and its adverse effects under federal jurisdiction;
 - measures taken to mitigate negative effects under federal jurisdiction;
 - comments from Indigenous groups and competent authorities;
 - residual effects and any additional mitigation or monitoring measures.
 - Steps taken to prevent recurrence.



- Develop a communication plan in consultation with Indigenous groups for accidents and malfunctions, including:
 - Geographical areas within which Indigenous groups want to receive notifications.
 - Incident types and thresholds that would trigger notification.
 - Information to include in notifications to support community preparedness and response.
 - The method and frequency of notifications, including opportunities for Indigenous groups to participate in response efforts.

6.4 Effects of the Environment on the Project

Paragraph 19(1)(h) of CEAA 2012 requires that the environmental assessment take into account any change to the Project that may be caused by the environment, including extreme and periodic weather events.

IAAC is of the opinion that these effects are not likely to be significant in light of the mitigation measures.

6.4.1 Analysis of Potential Effects and Proponent's Proposed Mitigation Measures

The proponent indicated that environmental factors may damage the Project infrastructure and equipment, lead to interruptions in Project operations, and increase the likelihood of accidents and malfunctions.

Hydraulic Conditions

For the construction phase, the proponent has established a flow management schedule for the Timiskaming Dam Complex to avoid flooding upstream and downstream of the Project. This schedule was designed to ensure safe management of the water retained while preserving the safety of people and property.

The cofferdam should be designed to withstand a 10-year flood. An alert threshold⁴¹ has been set up to ensure that the river flow does not exceed the capacity of the Ontario dam-bridge. If water levels at the dam-bridge reach this alert threshold during the

⁴¹ The alert threshold proposed, which triggers an alert procedure to signal a hazard, is the maximum operating level of Lake Timiskaming, an elevation of 179.56 metres. At this water level, the theoretical flow at the Ontario dam is 1,940 m³/s.



construction phase, the proponent would contact the stakeholders, including towns and Indigenous groups, to determine the actions to be implemented based on flow and water-level forecasts established by the Ottawa River Regulation Planning Board⁴². In the event of an exceptional flow that cannot be managed by the Ontario dam bridge alone, the entire cofferdam would have to be removed and the site evacuated to allow the reopening of the existing Quebec dam-bridge within 24 to 48 hours.

For the operation phase, the proponent used Ouranos (2015) climate change modelling for the 2080 horizon (2071–2100) to provide a framework for analyzing the potential expected environmental effects on the Project's hydraulic conditions. Climate change is expected to lead to an increase in liquid precipitation, especially in spring, and to a lesser extent in summer. Winter temperatures are expected to rise. Annual snowfall is set to decline, with sharper decreases in spring and fall.

The design flow rate for the new Quebec dam-bridge is 6,532.5 m³/s⁴³, which would make it possible to handle the additional flows and precipitation associated with climate change. Replacing the wooden stop logs used in the existing dam-bridge with mechanized gates opening from below would make it possible to respond more effectively to specific climate events. The new system would achieve a flow of 1,000 m³/s in 30 minutes instead of five hours. The dam would continue to be managed to maintain planned water levels in Lake Timiskaming and limit downstream flooding.

Earthquakes

The dam-bridge is located in an area of high seismic activity. The new dam-bridge will be designed in accordance with the National Building Code of Canada for earthquakes to ensure its ability to withstand these phenomena. The proponent carried out an assessment of the level of consequence in accordance with the dam safety recommendations of the Canadian Dam Association. Natural Resources Canada is of the opinion that the information provided by the proponent concerning seismic changes and risks is satisfactory.

Despite the low probability of such an event⁴⁴, an earthquake of a magnitude greater than the capacities of the new dam-bridge could cause it to fail, triggering a wave of water and resulting in flooding. However, the small difference in water levels between the areas upstream and downstream of the dam-bridge minimizes the effects of such a situation.

An emergency response plan is currently in place to deal with such situations.

⁴² <https://ottawariver.ca/location/timiskaming-2/>

⁴³ The dam design takes into account the Canadian Dam Association's Dam Safety Guidelines, i.e., for calculations, the 1,000-year flood flow (5,282 m³/s) + 1/3 of the maximum probable flood.

⁴⁴ Between 1985 and 2023, only one earthquake had a perceptible magnitude (5.5) within a 50-kilometre radius of the Project site. No damage was caused to the existing dam-bridge.



6.4.2 IAAC Analysis and Conclusions

IAAC considers that the proponent has correctly accounted for the environmental factors that could affect the Project.

Determination of key Mitigation Measures

Taking into account the application of the mitigation measures presented in Chapter 6.3.2, IAAC is of the opinion that it is unlikely that environmental effects would have significant adverse effects on the Project.

6.5 Cumulative Environmental Effects

Cumulative environmental effects are defined as the effects of a project that are likely to result when a residual effect acts in combination with those of other projects or physical activities that have been or will be carried out. IAAC focused its analysis on three valued components identified by Indigenous Peoples and the public as being of particular interest: lake sturgeon, the current use of lands and resources for traditional purposes, and physical and cultural heritage. IAAC is of the view that effects on the other valued components identified in this report are unlikely to act in combination with the effects of other past, present, or reasonably foreseeable projects or physical activities, given the negligible to low magnitude and limited geographic extent of the Project's anticipated residual effects on these components. IAAC therefore excluded other valued components from the analysis of cumulative effects.

Based on its cumulative effects assessment, IAAC is of the view that the Project, in combination with past, present, and reasonably foreseeable projects and physical activities, is not likely to cause significant adverse cumulative effects on lake sturgeon, on the current use of lands and resources for traditional purposes, or on physical and cultural heritage. This determination takes into account the application of the recommended mitigation and monitoring measures, as well as other considerations presented in Chapters 6.5.2 and 6.5.3.

The proponent identified past, present, and reasonably foreseeable projects and physical activities that could potentially interact with the Project (Table 4).



Table 4: Projects and Physical Activities Included in the Cumulative Effects Assessment

Category of Physical Activity	Specific Project or Physical Activity
Past or Present Physical Activities that Have Been Carried Out	
Forest Industry	Dredging and log driving.
Pulp and Paper	Sawmills Pulp and paper mills
Hydroelectric dams, reservoirs, other dams	All dams and structures that affect flows in the Ottawa River watershed.
Commercial fishing	Commercial fishing, mainly for lake sturgeon
Chemicals and Nuclear materials Industry	Chalk River Nuclear Laboratories, founded in 1945 and now known as Atomic Energy of Canada Limited Nuclear power plant operations Incidents in the 1950s involving the discharge of radioactive material into water The National Research Universal reactor at Chalk River Laboratories; incident in 1958; shutdown in 2018; decommissioning ongoing Expansion of the storage pit
Future Physical Activities that are Certain or Reasonably Foreseeable	
Forest Industry	Logging, dredging, sawdust management
Pulp and Paper Industry	Pulp and paper mills (RYAM plant)
Hydroelectric dams, reservoirs, other dams	The potential Onimiki Project on Gordon Creek.
Chemicals and Nuclear materials Industry	Near-surface waste management facility (Perch Lake and Creek, which are 1.1 km from the Ottawa River), Global First Power's modular microreactor project.

6.5.1 Cumulative Effects on Lake Sturgeon

Analysis of Potential Effects and Mitigation Measures Proposed by the Proponent

The anticipated residual effects of the Project on lake sturgeon are described in Chapter 5.1. Historically abundant in the Ottawa River, the lake sturgeon population has experienced significant declines owing to cumulative anthropogenic pressures, notably the construction of dams that have fragmented the river system and created barriers to



the species' migratory routes. These barriers also impede movements during the spawning period. Since the early 1960s, movements of lake sturgeon between the St. Lawrence River and the Ottawa River have been almost entirely blocked by the Carillon hydroelectric dam at the entrance of the Lake of Two Mountains, resulting in a decline in lake sturgeon populations in the Ottawa River segment between Carillon and Gatineau.

According to the proponent, the Project would not result in additional habitat fragmentation or create an additional barrier to the species' movements. If implemented, the fishway could even allow movement from downstream to upstream of the dam-bridge. The proponent has also committed to developing, as required, a fish habitat offsetting plan to mitigate potential residual effects of the Project on fish and fish habitat. For these reasons, the proponent concluded that cumulative residual effects of the Project, in combination with other reasonably foreseeable projects and activities, on fish and fish habitat are not expected.

Fisheries and Oceans Canada is also of the view that the Project would not create a new barrier to fish passage, as it involves the replacement of a structure that has existed for several decades. The Project could provide an opportunity to improve the current situation through the potential addition of a fishway, which would restore fish passage and reduce cumulative effects observed in the river, particularly for lake sturgeon. In addition, Fisheries and Oceans Canada considers that the proposed mitigation measures, combined with offsetting measures such as the creation of an equivalent in quality spawning habitats downstream of the structure (see Chapter 5.1.3), would prevent or limit the Project's cumulative effects. Environmental monitoring will be required to assess the effectiveness of these measures and to make adjustments as necessary, in collaboration with the proponent and Indigenous groups.

Views Expressed

SART First Nations indicated that the areas with the greatest relative abundance of lake sturgeon were found in Upper and Lower Alumette Lakes and Lake Coulonge, while the areas with the lowest abundance were found in Lake La Cave (below the Timiskaming Dam Complex), Holden Lake (below the Otto Holden dam) and Lake Deschenes. They mentioned that 263 lake sturgeons were caught in the Upper Alumette Lake, and a minimum of one individual was caught in Lake La Cave. In spring 2022, SART First Nations recorded 14 lake sturgeons in spawning areas below the Timiskaming Dam Complex. In spring 2013, 49 lake sturgeons were recorded in spawning areas.

IAAC Analysis and Conclusions

Lake sturgeon is a highly valued species for the First Nations affected by the Project. Cumulative effects on the current use of lands and resources for traditional purposes, as well as on the physical and cultural heritage associated with lake sturgeon, are analyzed in Chapter 6.5.2 and 6.5.3, respectively.



IAAC acknowledges that there would be an overlap between the effects of the project and the effects of past and present projects and physical activities identified in Table 4, which may act cumulatively to adversely affect lake sturgeon. The reasonably foreseeable Onimiki Project would have spatial and temporal overlap with the present Project. IAAC is of the opinion that the residual effects of the Project on lake sturgeon could interact with the effects of the Onimiki Project. Potential cumulative effects could include, among other things, the permanent destruction or alteration of lake sturgeon habitat, changes in fish passage, and changes in individual health and mortality. However, IAAC is of the view that the mitigation measures and the monitoring and follow-up programs proposed, as well as the key mitigation measures identified in Chapters 5.1 and 5.6, would minimize the Project's contribution to cumulative effects on lake sturgeon.

Therefore, IAAC concludes that, taking into account the Project's residual effects and their interactions with the effects of past, present, and reasonably foreseeable projects and activities, the Project is not likely to result in significant cumulative adverse environmental effects on lake sturgeon.

Determination of Key Mitigation Measures

IAAC does not recommend additional mitigation measures or follow-up programs, as it is of the view that the measures recommended in Chapters 5.1.3 and 6.6.2 of this report, which address the Project's direct effects, are sufficient to mitigate cumulative effects on lake sturgeon.

SART First Nations' View on IAAC's Analysis and Conclusion

SART First Nations recognize that the project's effects, along with the cumulative impacts of the Timiskaming Dam Complex on Neme, are significant. SART First Nations have developed a Neme Conservation Plan as a site-specific, action-oriented strategy designed to manage and protect the Neme populations in the Ottawa River, specifically focusing on the area below the Complex known as Lake La Cave. The plan serves as a guide for stewardship and governance, focusing on several critical objectives:

- **Population Stability:** Defining methods and strategies to maintain or enhance the current population of Neme in the study area.
- **Connectivity and Habitat:** Addressing the limitations on movement caused by the dam and restoring linkages between essential habitats required for different life stages.
- **Threat Mitigation:** Identifying and reducing the impact of human activities, including dam operations and changes to water flow.



- **Indigenous Stewardship:** Centering Algonquin Anishinaabeg knowledge and jurisdiction in the management of the species, ensuring a nation-to-nation approach to its recovery.
- **Scientific and Community Monitoring:** Establishing long-term ecological monitoring to address knowledge gaps and verify the effectiveness of conservation measures.

The plan is part of a larger effort to recognize that while lake sturgeon are migratory and have an extensive home range, their ability to thrive in the Ottawa River watershed is currently restricted by physical barriers. By exercising this conservation plan, the Algonquin Anishinaabeg assert their role as traditional stewards of the Kichi Sibi, ensuring the long-term persistence of Neme throughout its current and historically occupied range.

6.5.2 Cumulative Effects on Current Use of Lands and Resources for Traditional Purposes

Analysis of Potential Effects and Proponent's Proposed Mitigation Measures

The proponent considers that the numerous development Projects carried out over the last century, including the existing dam-bridge, have altered the ecosystem of the Ottawa River and its watershed. It acknowledges that this has reduced the ability of the First Nations to exercise their ancestral rights. In the proponent's opinion, the Project would have effect equivalent to those of the existing dam-bridge, once compensation is carried out and the planned mitigation measures are implemented.

Views Expressed

SART First Nations

Many different cumulative effects have disrupted SART First Nation's ability to exercise their laws, rights and responsibilities in and around the Ottawa River watershed, including:

- Alienation from unceded lands;
- Disruption of water- and land-based livelihoods;
- Loss of sacred places and rituals;
- Erosion of customary governance and inherent management systems;
- Degradation of lands and waters, sacred sites;
- Erosion of cultural identity;
- Disruption of land-based activities;



- Decline in access to Indigenous food;
- Increased contamination and diseases in Indigenous food;
- Increases in income inequality;
- Land and waterway contamination impacts;
- Reduction in food availability;
- Negative impacts on mental health and spiritual well-being;
- Loss of accumulated Indigenous knowledge and eco-friendly practices.

“I am not nearly as knowledgeable regarding the environment, the economy or even my own culture as I would like to be. However, if there is one thing that I am absolutely certain of, it is that we should not allow profit to take precedence over sustainability. The proposed inconveniences are a meager sacrifice compared to the suffering we would impart on future generations should we not preserve the natural environment. I hope that those with the experience and influence to advocate for our descendants are of like mind and will do so. I appreciate the opportunity to weigh in on this issue, yet resent my inability to do so meaningfully. I can only hope that the right thing will be done.” Timiskaming First Nation member

SART First Nations are of the view that the Project is likely to result in significant cumulative effects on the use of their ancestral lands. They assert that the existing dam-bridge is a historical symbol of the colonization suffered by the Algonquins over the last century, as well as of the legacy of the Catholic Church, the fur trade, forestry, farming and mining.

At the local level, SART First Nations consider that the existing dam-bridge has made all subsequent dams technically possible. These dams have altered the ecosystem of the Ottawa River, particularly with respect to water quality and biodiversity. The existing dam-bridge would be partially responsible for SART First Nations communities' food insecurity, as it would have resulted in:

- the loss of the Long Sault Rapids and multiple changes in navigation;
- a decline in the number and abundance of fish in the Ottawa River;
- the loss of intact and natural riparian habitats;
- increased access to their territory;
- the loss of productive spawning grounds and wild rice harvesting areas.

The SART Algonquins have a heavily impacted food system and are very concerned about protecting their access to wild foods, particularly fish – Bio-Cultural Impact Pathways Study (SART, 2024).

SART First Nations are of the view that the Project has contributed to their progressive loss of access to the Ottawa River. Several Algonquin families formerly lived in the vicinity of the RYAM plant site. In the early 1920s, they were reportedly relocated to make space for the plant. The presence of the plant and the release of contaminants into the water, combined with the perception of contaminated sediments from the existing dam-bridge, would also lead a number of members to avoid fishing activities in the Project area. They add that a closure of the plant would contribute to further degradation of Algonquin territory.

Although it is recognized that the dam-bridge historically facilitated the colonization and displacement of the Anishinaabeg, it now allows them to travel between the provinces of Quebec and Ontario.

SART First Nations note that the Project has facilitated access to an area that has been heavily disrupted by the Quebec government's establishment of controlled harvesting zones (ZEC), which allow sport hunting and fishing. They state that, since the 1800s, lake sturgeon and other species have suffered from poorly regulated commercial and recreational overfishing, as well as a multitude of anthropogenic non-Indigenous disturbances, including the transport of timber on waterways.

Lastly, they reiterate the lack of adequate consultation by the proponent during the Ontario dam-bridge replacement project over the past decade, particularly with respect to the Project's fishing licence. This situation would have impacted fish habitat, the number of spawning lake sturgeon, and SART First Nations communities' ability to manage the land. In their view, this recent history forms part of the cumulative context that makes the Project a source of residual cumulative adverse effects on their use of the land.



SART First Nations consider the effects of the Project on their current uses of lands and resources to be of high significance.

The cumulative effects of the Project, combined with industrial activities adjacent to the Project site, have not been fully assessed by SART First Nations. The significance of these effects is likely to be high.

Algonquins of Pikwakanagan First Nation (AOPFN)

According to the Algonquins of Pikwakanagan First Nation, dams have contributed to the extirpation of the American eel and a significant decline in walleye and lake sturgeon populations in the Ottawa River. It also reiterates that several dams on the Ottawa River, including the existing dam-bridge, have historically contributed to water pollution and methylmercury contamination in fish.

According to the AOPFN, the Project's construction phase would undoubtedly exacerbate this perception of contamination in the Ottawa River, which is already well entrenched among the Nation's members owing to past industrial development in the same area. More generally, the AOPFN note that the cumulative effects of development in the region, particularly logging, have driven animals away, forcing AOPFN members to adapt and relocate their activities in order to maintain their harvest.

The AOPFN are of the view that each dam built on the Ottawa River has reduced the ability to navigate and move freely to important cultural sites within Algonquin territory. They anticipate that the Project could further exacerbate the current degradation of Long Sault Island, which remains an important cultural site.

The AOPFN therefore expect that the Project could result in cumulative effects and contribute to food insecurity among its members, mainly due to fears of contamination. They would like the Project to include measures to repair and mitigate the historical damage caused by dams to Algonquin cultural transmission.

IAAC Analysis and Conclusions

In Chapter 5.6, IAAC concluded that the Project was likely to have moderate residual effects on Algonquin subsistence fishing and the quality of the experience of the territory, but that these effects would not be significant due to the key mitigation measures and monitoring program identified.

IAAC is of the opinion that the Project could have adverse cumulative effects on the availability of fish and the fishing experience quality on the Ottawa River. For the assessment of cumulative effects on the Algonquin fisheries, the geographic scope determined by IAAC is limited to the Ottawa River, extending from the area downstream of the existing dam-bridge to the Carillon Dam. The temporal scope identified by the IAAC for this assessment is from 1900 to 2025.



Cumulative Decline in the Availability of Fish for Fishing

IAAC takes into account the cumulative effects of past projects that have altered the ecosystem most frequently used by the First Nations, that is, the Ottawa River and its watershed. IAAC is of the view that the First Nations have already experienced adverse cumulative effects from the significant industrialization of the region, as evidenced by the presence of nine major dams, eight of which are still in operation on the Ottawa River, including the existing dam-bridge.

IAAC acknowledges that dam construction on the Ottawa River has occurred progressively and continuously over the last century, with construction concentrated in the 1950s. These developments have had lasting impacts on the river and surrounding lands, which continue to affect the Algonquin people who use and rely on these areas today. IAAC recognizes that, over the last century, the First Nations have consistently had to adapt to constant changes in navigational conditions in the only watershed where they hold subsistence fishing rights formally recognized by the Supreme Court of Canada (*R. v. Côté*⁴⁵). IAAC recognizes that the ability to navigate the river is essential to the practice of fishing.

IAAC recognizes that the American eel, which is a valued species, no longer occurs in the section of the Ottawa River where the Project is located, partly as a result of these dams. Furthermore, IAAC notes that all of these dams have contributed to the fragmentation of critical habitat for lake sturgeon, a species highly valued by the First Nations, resulting in impaired migration capacity and reduced populations. For these reasons, IAAC is of the view that cumulative adverse effects on the availability of fish, particularly American eel and lake sturgeon, already exist as part of the Project's baseline conditions. According to the First Nations, the critical thresholds for disturbance of lake sturgeon habitat on the river have already been exceeded, and each subsequent project would result in significant residual cumulative effects for this species. IAAC recognizes that any additional changes in this altered area of value could be perceived as significant by the First Nations. IAAC understands the link drawn by the First Nations between industrial development (dams, water-based timber transport, plants and paper mills), pollution and the decline in populations of fish species valued by the First Nations.

IAAC also takes into account reasonably foreseeable projects, such as the Onimiki Renewable Energy hydropower plant Project. This project could affect Gordon Creek, which flows into the Project study area. In addition, the Onimiki Renewable Energy Project could cause cumulative effects on fish and the aquatic environment and is likely to have adverse effects on the availability of fish in the Project area. However, the magnitude of these effects remains to be determined, as the Project is still being developed and assessed by provincial authorities at the time of writing this report.

⁴⁵ <https://decisions.scc-csc.ca/scc-csc/scc-csc/en/item/1421/index.do>



Nonetheless, the proponents of this project include the First Nations of Kebaowek and Wolf Lake. IAAC recognizes their willingness to participate in the socio-economic development and stewardship of the territory in this area, given the historical context of the past century.

Although IAAC is of the view that replacing the dam-bridge does not create a new footprint on the Ottawa River, it nevertheless considers that the Project's construction phase would be a source of cumulative adverse effects on the availability of lake sturgeon for the Algonquin fisheries. This is due to the probable loss of three spawning seasons for this species and the uncertainties that remain regarding the recovery of spawning once habitat offsetting measures have been implemented (see Chapter 5.6). IAAC and Fisheries and Oceans Canada reiterate that the quality of the existing spawning ground is poor and that the offsetting measures planned for the Project could significantly enhance the quality of the lake sturgeon spawning habitat in the future. During the engagement sessions on the draft environmental assessment report, IAAC received feedback on both concerns and expressions of interest regarding fish stocking. However, IAAC recognizes that stocking requires a thorough assessment by Fisheries and Oceans Canada as well as the potential involvement of provincial governments. IAAC also acknowledges that First Nations would require further information in order to take position. IAAC therefore recommends that the proponent, in consultation with the SART First Nations, AOPFN, and Fisheries and Oceans Canada, assess the possibility of stocking fish species of interest, including lake sturgeon, as a measure to reduce the likelihood of cumulative effects.

After taking into account additional key measure, IAAC considers that the cumulative adverse effects of the Project on the availability of lake sturgeon would still be mitigated by the legally required fish habitat offsetting plan, and that these would be low, temporary and limited to a relatively small area, given the substantial geographic extent of the Ottawa River.

For these reasons, IAAC concludes that the cumulative adverse effects of the Project on the Algonquin fisheries would not be significant. IAAC is of the view that the success of the fisheries for future generations of Algonquins in this section of the Ottawa River should remain stable, or even improve, once the planned compensation measures are implemented. IAAC does not recommend any additional monitoring programs, in light of the program already recommended in Chapter 5.6 for monitoring the effectiveness of restored spawning habitats.

Cumulative Decline in the Quality of the Experience on the Ottawa River due to Perceived Contamination and Trust Issues

IAAC considers that the Project would be part of a regional context marked by a history of water contamination, particularly associated with past water contamination from the RYAM plant and log driving on waterways. IAAC understands the reasons why the First Nations avoid fishing in the area of Long Sault Island. However, IAAC underlines that fish



consumption at this location is possible under baseline conditions and should remain so, taking into account the mitigation measures identified in Chapter 5.5 (Human Health).

IAAC's analysis also takes into account the potential Chalk River nuclear waste site, which is located near the Ottawa River, approximately 150 kilometres downstream of the existing dam-bridge. The Algonquin Nation of Kebaowek has raised concerns about this Near Surface Disposal Facility (NSDF) Project. IAAC considers that the implementation of this project could strengthen the perception that water quality in the Ottawa River would be compromised for consumption of fish. However, IAAC points out that, if implemented, the NSDF Project would be located downstream of the Project and, given the direction of water flow, would not be expected to affect the Project site. IAAC also recognizes that the perception of contamination in this important river could increase if the Chalk River Project proceeds. The geographic extent of this potential avoidance remains difficult to predict.

IAAC therefore considers that the construction phase could slightly exacerbate the First Nations already high perception of contamination at the Project site. IAAC recognizes that it is difficult to predict the exact extent of the areas that may be avoided by the First Nations because of the Project, or the potential duration of such avoidance. IAAC considers that the Project could result in low to moderate cumulative adverse effects on the experience of the territory, given the avoidance that is already occurring under baseline conditions. IAAC acknowledges that the SART First Nations disagree with this sub-conclusion. IAAC has noted concerns regarding trust in the resources, the environment in the project area, and the proponent's ability to mitigate impacts. IAAC therefore recommends an additional mitigation measure aiming to establish, prior to the start of construction and in consultation with the SART First Nations, an Indigenous environmental committee. This committee would be tasked with fostering dialogue, information sharing, and dispute resolution between the proponent and the SART First Nations regarding the designated project. IAAC believes that this committee could help maintain a useful channel of communication between the proponent and the SART First Nations throughout the project's various phases, thereby improving the First Nations' confidence in the mitigation of the project's impacts over time.

IAAC reiterates that it does not anticipate any significant effects on the health of the First Nations, given the key measures recommended to limit risks and ensure the participation of First Nations in water quality monitoring (see Chapter 5.5). IAAC also reiterates its recommendation to hire an independent environmental monitor and to enable the First Nations to participate in the Project's various environmental monitoring activities to ensure the compliance, effectiveness and success of the mitigation measures and monitoring (see Chapter 5.6).

IAAC considers that the cumulative adverse effects of the Project on the First Nations' experience of the territory would not be significant owing to the planned mitigation measures and environmental monitoring. IAAC does not recommend adding any specific



mitigation or monitoring measures, in light of the measures already proposed by the proponent and those outlined in Chapters 5.5 and 5.6.

Determination of Key Mitigation Measures

Cumulative Effects on the Availability of Lake Sturgeon for Subsistence Fishing

Assess, in consultation with the SART First Nations, AOPFN and Fisheries and Oceans Canada, the possibility of stocking fish species of interest, including lake sturgeon, as a measure to reduce the likelihood of cumulative effects on the availability of lake sturgeon for Algonquin subsistence fishing.

Cumulative Decline in the Quality of the Experience on the Ottawa River due to Perceived Contamination and Trust Issues

Develop and establish, prior to the start of construction and in consultation with the SART First Nations, and maintain throughout the various phases of the designated project, an Indigenous environmental committee responsible for fostering dialogue, information sharing, and dispute resolution between the proponent and the SART First Nations regarding the designated project.

SART First Nations' View on IAAC's Analysis and Conclusion

While IAAC claims the Onimiki project is 'likely to have adverse effects' on the availability of fish, SART First Nations fundamentally counter this framing. As the Wolf Lake and Keboawek First Nations are community owners of the project, the SART First Nations hold the highest possible incentive to ensure that no adverse effects occur to their traditional food sources or the Kichi Sibi ecosystem.

This project is not merely an energy development; it is a profound exercise of the right to economic self-determination and supports the implementation of the SART Neme Conservation Plan. By controlling the project, Wolf Lake and Keboawek First Nations ensure that hydroelectric operations are governed by Algonquin standards of stewardship. Through the Onimiki project, SART First Nations are proactively managing cumulative effects by integrating sustainable economic growth with the mandatory protection and restoration of Neme, asserting their inherent jurisdiction over the health and future of their unceded territory.



6.5.3 Cumulative Effects on Physical and Cultural Heritage of Indigenous Peoples

Analysis of Potential Effects and Proponent's Proposed Mitigation Measures

The proponent considers the impact of the following industrial development as having been and continuing to be significant on the physical and cultural heritage of Long Sault Island and the Ottawa River.

The proponent acknowledges that dams, specifically, have had an impact on the First Nations, changing travel routes and access to cultural sites. It notes that this development has harmed culturally significant fish species. It acknowledges that these cumulative effects are recent, since there were no dams in the Ottawa River watershed before 1909. The proponent states that this ecosystem, which is important for Algonquin cultural practices in many ways, has been altered by the 43 dams and 30 reservoirs that have been constructed in this watershed since colonization began.

The proponent acknowledges that the Project will perpetuate many of the effects of the original dam-bridge but is of the opinion that the planned replacement would increase cumulative effects only marginally, mainly because of the mitigation measures it is proposing. It assesses the cumulative effect on the physical and cultural heritage of the Algonquin First Nations as low-intensity, local, irreversible, continuous but not significant.

Views Expressed

SART First Nations

SART First Nations expressed concern that the connection to the waterway has been severely impacted by the construction of over 50 major dams and hydroelectric stations, as well as, smaller water control structures on tributaries, over the years. They indicated that the Project will affect the flow of water and the migration of fish along the watershed.

SART First Nations have established links between the dam building on the Ottawa River, the fragmentation of lake sturgeon habitat, the decline in lake sturgeon populations, reduced fishing opportunities and intergenerational cultural loss. This loss of culture results from the fact that fishing is culturally a social practice that promotes community, a sense of place and the sharing of stories, knowledge and legends about species of interest. It is also said to be very common among members. This cultural loss also means fewer opportunities to share one's catch with members of the community.

SART First Nations state that the existing dam-bridge and subsequent dam development have led to the loss of several inland river islands in the Ottawa River, places that would have continued to be important places for cultural practices today. This loss of places and access has resulted in fewer opportunities to pass the Algonquin culture to younger generations. SART First Nations also point out that the development of the Ottawa River



has undermined its ecological integrity and the ability of Algonquin women to fulfill their roles as guardians of the watershed's waters.

Algonquins of Pikwakanagan First Nation (AOPFN)

AOPFN have found that development has altered the Ottawa River Waterway, reducing land use and the practice and transmission of Algonquin culture to younger generations. AOPFN lists the cumulative effects on physical and cultural heritage as follows:

- Displacement from cultural sites due to land privatization;
- Reduced access to land and resources for harvesting and other cultural purposes;
- Reduced availability of culturally important species;
- Reduced confidence in the quality of water and culturally significant plants, animals and fish;
- Disturbances in and around sacred Algonquin sites.

AOPFN links the cumulative effects of the Project to a diminished sense of place, cultural continuity and cultural transmission:

For AOPFN members' sense of place, accumulating developments and other changes in AOPFN unceded Algonquin Traditional Territory have created a highly altered visual landscape and sensory environment. Relative to the past, it is today much more difficult to peacefully enjoy many culturally important places valued by AOPFN members, including places along the length of Kichi Sibì and in the vicinity of the Project. The Timiskaming Dam and associated changes to Long Sault Island have been causes of this altered landscape and experience since the Timiskaming Dam Complex's construction in the early 20th century. At the site of the Project, Kichi Sibì and Long Sault Island have been largely overtaken by modifications and built structures (e.g., modified banks, roads, support buildings) and little natural vegetation remains. These changes have resulted in little opportunity for sense of place and Knowledge Sharing



and associated cultural practices of any kind in the immediate vicinity of the Project - Cumulative Effects Study (AOPFN, 2022)

AOPFN has also identified a pathway of effects between industrial development and dam building, the fragmentation of American eel habitat, and its known disappearance from the Ottawa River, which has affected the cultural practice of eel fishing and the transmission of cultural traditions.

AOPFN is of the view that the proponent should better understand that the importance of harvesting activities like hunting, trapping, and fishing extend beyond subsistence or economic values, and are critical to AOPFN culture and transfer of Traditional Knowledge. As such, the ability to continue engaging in these activities must be protected. AOPFN recommends the co-development of best practice mitigation of impacts to fish, animals and plants harvested, and their habitats, as well as the protection of members' access to harvesting, in consultation with AOPFN. Transmission of AOPFN Algonquin Knowledge can also be supported through proponent provided capacity for AOPFN cultural programs designed to reduce impacts from the Project.

IAAC Analysis and Conclusions

In Chapter 5.7, IAAC concluded that the Project was likely to have low to moderate residual effects on the physical and cultural heritage of the First Nations but that these effects would not be significant because of the key mitigation measures recommended.

The geographical extent defined by IAAC for assessing cumulative effects on First Nations physical and cultural heritage is limited to Long Sault Island and the Ottawa River downstream of the existing dam-bridge. The temporal scope specified by IAAC for this assessment is from 1900 to 2025.

Cumulative Effects on Cultural Landscapes of Long Sault Island and Ottawa River

IAAC assesses that replacing the existing dam-bridge would perpetuate most of the effects of the dam-bridge built in 1909. IAAC acknowledges that this development has decreased the practice of traditional activities and related Algonquin cultural practices, as well as opportunities for intergenerational transmission.

The Project would continue to alter the visual aesthetics of Long Sault Island as an Algonquin heritage site. Although the Project footprint would change because the road would be relocated, IAAC is of the view that the encroachment of the new road on the island would be similar to that of the existing road, once the revegetation plan has been carried out. IAAC acknowledges that the existing dam-bridge has changed the use of the



island and notes that its Algonquin heritage characteristics are currently obscured. As a key measure in Chapter 5.7, IAAC recommended implementing a plan to recognize Long Sault Island's Algonquin heritage. It is of the view that implementing this plan, in consultation with the First Nations, would mitigate the Project's ongoing effects on the Algonquin heritage of Long Sault Island by highlighting cultural landmarks of significance to the First Nations.

The Project would also continue to alter the ecological integrity of the Ottawa River at this location, including changing its original flow, which remains important to the First Nations. IAAC notes that this perpetuation of ecological change would occur in a context where the major regional industrial development that has altered the ecological integrity of this river is beyond the proponent's influence. The Project would continue to fragment the habitat of the lake sturgeon as a sacred species, unless a fishway is included in the Project, which is not certain at the time of writing.

IAAC considers that the Project could have cumulative adverse effects on the cultural landscapes of Long Sault Island and the Ottawa River and on possible intergenerational cultural transmission that can be practised on Long Sault Island and on the Ottawa River. The intensity of the cumulative adverse effects of the Project is considered low by IAAC because of the measures to restore the island's aesthetic characteristics while enhancing the Algonquin heritage at this location. These effects would be considered non-significant because they would be localized, one-time and partially reversible.

Cumulative Effects on Cultural Transmission in Long Sault Island Area

IAAC acknowledges that the Project would make Long Sault Island a less desirable place for Algonquin cultural practices, especially for fishing although it is still considering heritage by First Nations. Fishing in a noise- and dust-free environment is no longer possible on Long Sault Island. IAAC takes into account that the existing dam-bridge and nearby industrial development have resulted in the avoidance of the area for plant and fish harvesting by Algonquin First Nations.

IAAC considers that the Project would accentuate the industrial appearance of Long Sault Island, making it less desirable for fishing and cultural gatherings. The Project could also increase the perception of contamination and the avoidance of Long Sault Island for fishing. The Project could therefore reduce opportunities to practise Algonquin culture and pass it on to younger generations. IAAC recommends adding one additional key measure to mitigate the cumulative effects of the Project on intergenerational cultural transmission, the development and organization of culturally relevant activities led by SART First Nations and AOPFN aimed at intergenerational knowledge transmission on Long Sault Island. IAAC assesses that the Project could result in low, not significant and temporary cumulative adverse effects on intergenerational cultural transmission in the Long Sault Island area once this measure is taken into account.



Cumulative Effects on Lake Sturgeon as Sacred Species

IAAC considers all the industrial development described in Chapter 6.5.2 in its analysis of the effects on lake sturgeon as a sacred species in Algonquin culture.

IAAC acknowledges that the abundance of this sacred species inherently influences its harvest and associated Algonquin cultural practices. IAAC understands that declining populations have led to cultural loss for First Nations and that the Project could have cumulative effects on this important species. IAAC concludes that the construction work, which would be carried out in the existing spawning grounds, could be considered a non-negligible symbolic cultural loss for the First Nations.

However, IAAC is of the view that the offsetting plan required by Fisheries and Oceans Canada would mitigate the potential effects on the lake sturgeon, a sacred species.

Having considered the effects of the Project and its interaction with effects from past, present and reasonably foreseeable future projects or activities, IAAC finds it not likely that these effects will be significant.

Determination of Key Mitigation Measures

Cumulative Effects of the construction phase on Cultural Transmission in Long Sault Island Area

Develop and participate, in consultation with the SART First and AOPFN, in the creation of an opportunity for the intergenerational transmission of Algonquin Knowledge on Long Sault Island—an initiative that is technically and economically feasible, led by the First Nations, and culturally relevant to them.



7. Impact on Aboriginal and Treaty Rights

This chapter summarizes how the Project may affect the rights of the First Nations consulted.

IAAC assessed the potential impacts on the rights of Indigenous peoples and their degree of severity by examining the relationship between project activities and the conditions necessary for the exercise of rights, such as the availability and quality of resources, access to territory, and experience related to the exercise of rights and cultural transmission. Where potential impacts on Aboriginal and treaty rights are identified, IAAC considers appropriate mitigation measures before determining the severity of potential impacts.

In this document, IAAC reports on the visions of land occupancy proposed by the First Nations, and this, in full respect of the positions shared by other First Nations. The effects on current uses of land and resources for traditional purposes are considered and assessed in Chapter 5.6 of this report. The cumulative effects of the project on current land and resource uses are assessed in Chapter 6.5.2.

7.1 Consultation with Anishinaabeg (Algonquin) Nations

IAAC assesses that SART First Nations and AOPFN hold inherent rights, enabling them to practice contemporary and traditional activities, including camping, fishing, hunting, trapping, gathering, harvesting traditional medicinal plants, visiting sacred sites and participating in ceremonies recognized in this watershed⁴⁶.

7.1.1 Rights Impact Assessment written by SART Anishinaabeg First Nations

Introduction

This Rights Impact Assessment has been developed by Wolf Lake First Nation (WLFN), Kebaowek First Nation (KFN) and Timiskaming First Nation (TFN). Those three

⁴⁶ As per the Supreme Court Judgment in R. v. Côté, 1996.



Algonquin bands on the upper Ottawa River are the signatories to the Statement of Asserted Rights and Title (2013). As Anishinaabeg (Algonquin) communities, we share a common experience and intertwined history around the Project site.

For our SART First Nations, a key component of self-determination is an environmental assessment framework that enables our communities to participate without compromising our long-held values, rights, responsibilities and title on our customary lands or our independence as sovereign peoples. Having this chapter (e.g., the chapter that considers the impacts of the Project on our rights and our views of the Project and the consultation process) drafted by the SART First Nations is an important part of demonstrating respect our self-determination and expertise within this assessment process.

This chapter also sits within a broader context. It is one part of our engagement with the IAAC to approach the Project assessment process as a pilot project for aligning the assessment process with the spirit and objectives of the UNDRIP. It is our goal via the pilot to establish consultation, assessment and decision-making processes that are consistent with the UNDRIP and that ground the implementation of the *United Nations Declaration on the Rights of Indigenous Peoples Act* in the context of environmental assessments in Indigenous jurisdiction. Accordingly, this chapter is part of a Consultation Framework Agreement and ultimately connecting the Project environmental assessment to the process of aiming to secure the free, prior and informed consent of SART First Nations.

It is important to acknowledge the process of developing this Rights Impact Assessment was not without challenges resulting from the environmental assessment process. The proponent's EIS failed to present feasible project design options for consultation with SART First Nations during the 2022 review period. In response to this concern, SART First Nations sought to transition the assessment of the Project to the IAA, in order to facilitate a more collaborative process aimed at addressing the feasibility of additional options. SART First Nations' request was declined by IAAC, forcing SART First Nations to conclude the Project environmental assessment within the allotted regulatory time of the CEEA 2012.

Notwithstanding these limitations and the challenges they created for a proper review of design solutions, this chapter includes information on SART First Nations and the proponent design-build solution. A core conclusion of this chapter is that the mitigation approach occurring through the design-build collaboration outside of the environmental assessment report is directly relevant to lessening community impacts from the downstream replacement option for the Project that is presented in this environmental assessment report.

In addition, the chapter finds that the solution led by the SART Kichi Sibi Technical team can lessen SART First Nations concerns that the Project downstream option will worsen the historical and cumulative impacts that SART First Nations members report in



attempting to exercise their Aboriginal rights and responsibilities within the area of the Ottawa River watershed at the Timiskaming Dam Complex.

About SART First Nations

Background and Algonquin Governance

SART First Nations are three of eleven communities that constitute the broader Algonquin Nation of Canada. For centuries, the Algonquin Nation occupied the length of the Kichi Sibi watershed, from its headwaters in north-central Québec, all the way to its outlet in Montreal. The traditional territory of the Algonquin Nation includes the entire Ottawa River watershed in what is now part of the Canadian provinces of Québec and Ontario. The Algonquin Nation has never ceded its traditional territory, and its rights and title have not been extinguished.

For centuries, we have relied on our lands and waterways for our ability to exercise our inherent rights under our own system of customary law and governance known to us as *Ona'ken'age'win*. This law is based on our mobility on the landscape, the freedom to hunt, gather and control the sustainable use of our lands and waterways for future generations. That is how the Europeans discovered us – as a well-established society in control of the Ottawa River watershed. We had a vast trade network supported by our own economies that included levying tolls on canoe flotillas that descended the Ottawa River from Morrison Island. We were not only the gateway to the continent but the technology provider of the only craft that could navigate the rivers ahead. In no other part of the world have water and the canoe had such a huge influence on both in terms of Algonquin culture and the development of Canada post European contact.

Traditionally, our peoples' social, political and economic organization was based on watersheds, which served as our transportation corridors and family land management units (St. Denis 2009)⁴⁷. Speck (1915)⁴⁸ notes how members of each regional band traditionally held a territory in common, and this collectively held tenure was recognized in alliance with other bands. Algonquin, like all First Nations in Canada, has both rights to our territories and rights as people governed under customary laws. As Roark-Calnek⁴⁹ (2013:13) explains, "Mutuality, respect and consultation are integral to Algonquin social and political organization on a number of levels: family to family, band to band, and nation to nation".

⁴⁷ St. Denis, H. 2009. Fish Out of Water (TV Interview) Aboriginal Peoples Television Network Series. InterINDigital Entertainment (Ottawa, Ontario) Joe Media Group (Calgary, Alberta).

⁴⁸ Speck, F. G. Family Hunting Territories and Social Life of Various Algonkian Bands of the Ottawa Valley. Geological Survey, No. 8, 1915.

⁴⁹ Roark-Calnek, Sue. 2013. Cultural Impacts Assessment. Document prepared for Wolf Lake First Nation and Eagle Village First Nation-Kipawa, Quebec.



As a people we regard ourselves as ‘keepers of the land’, with ‘seven generations’ worth of responsibilities for livelihood security, cultural identity, territoriality, and biodiversity.

Today, WLFN, KFN, and TFN are each recognized under the *Indian Act* in addition to being part of the Algonquin Nation in Canada.

Memberships combined our SART First Nations have a total of approximately 3,879 people living on and off reserve.

KFN and TFN off reserve members generally live within the Algonquin Nation in what is now the Provinces of Québec and Ontario. All SART First Nations members continue to occupy, manage, safeguard and intensively use their territory as they carry out traditional and contemporary activities. All such initiatives are based on a model of self-determination and a history of Algonquin traditional knowledge, ecological sustainability and land governance.

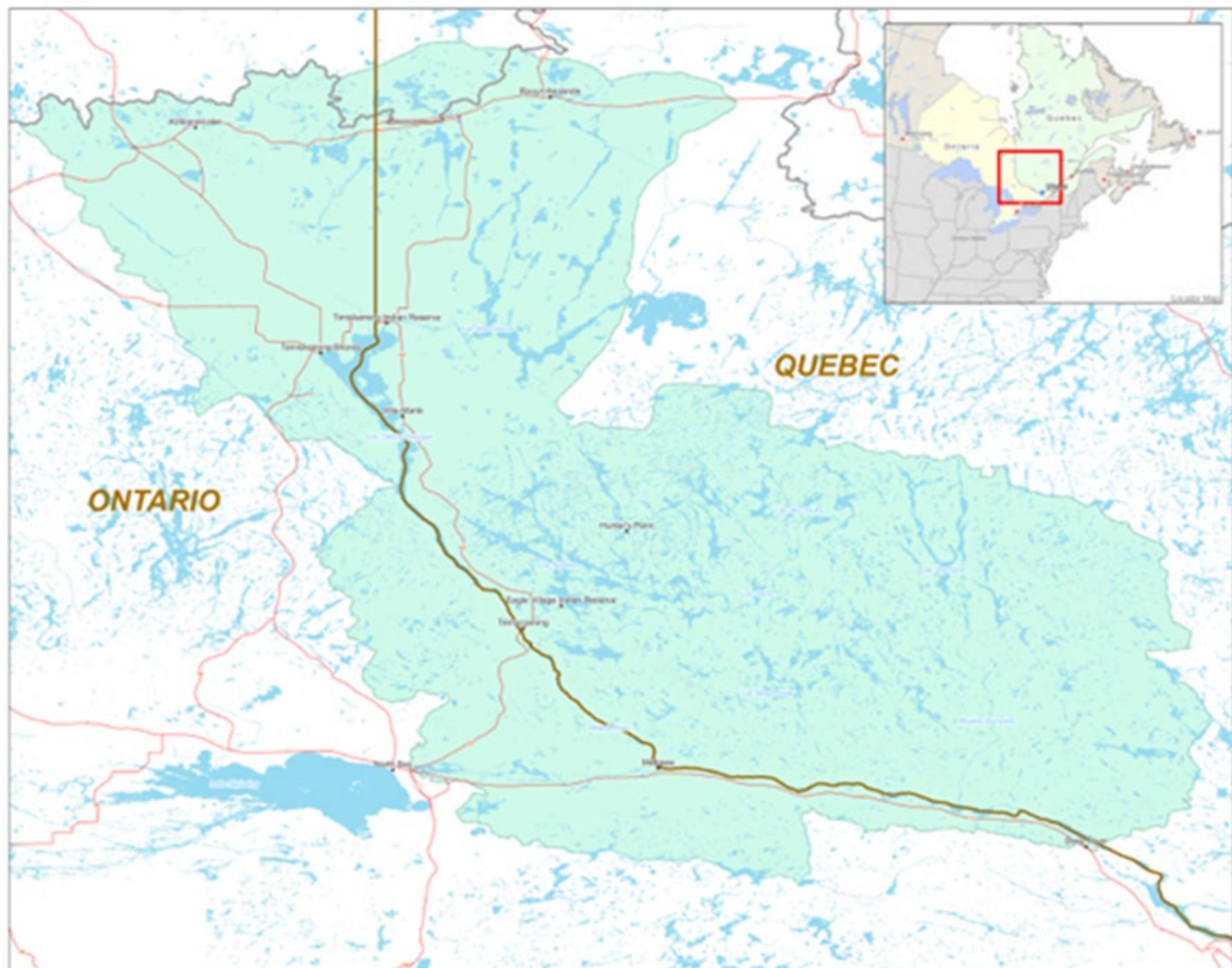
WLFN, KFN and TFN traditional territory has been established, documented and substantiated through historical research and professional current land use and occupancy mapping projects.

Statement of Asserted Rights and Title

On January 23, 2013, WLFN, KFN, and TFN jointly released a Statement of Asserted Rights and Title (SART) which summarizes the Aboriginal rights, including title, that the three First Nations assert and provide detailed evidence to substantiate it. Copies of the SART, maps and background documentation were transmitted to the governments of Canada, Québec and Ontario in January 2013. In summary, our communities have not relinquished Aboriginal rights and title, over lands that straddle the Ottawa River Basin on both sides of the Quebec-Ontario boundary, including the location of the Timiskaming Dam Complex as depicted in Figure 8.



Figure 8: WLFN,KFN,TFN Asserted Rights and Title Area (2013)



Anishinaabeg peoples have a profound cultural and historical connection to the Kichi Sibi watershed, which has been their homeland since time immemorial. They have maintained their sovereignty and never surrendered their lands to any foreign or domestic entity, despite the imposition of settler state borders and laws.

Our communities acknowledge the implementation of the UNDRIP⁵⁰ as Canadian positive law in advancing our rights, dignity, survival, security and well-being. This environmental assessment is subject to SART First Nations seeking free, prior and informed consent subject to *Ona'ken'age'win* legal order and oriented towards

⁵⁰ United Nations. 2008. United Nations Declaration on the Rights of Indigenous Peoples. 18 pp. http://www.un.org/esa/socdev/unpfi/documents/DRIPS_en.pdf



maintaining the life-affirming practices that flow from reciprocal relations with lands and waters.

Traditionally referred to as Mamowiihini (down river peoples), the Anishinaabeg travelled to the river's tributaries each spring to gather, connect, and conduct seasonal feasts and ceremonies. These gatherings served to report on resource stewardship and sustainability, reflecting a sophisticated system of cultural and territorial management. This system was rooted in mobility, balance with the land, and mutual respect among families and bands.

The Mamowiihini entered treaties of peace and friendship with the British Crown at Oswegatchie and Kahnawake in 1760, and at Niagara in 1764, affirming the recognition of their nation's laws as equal. To this day, the Anishinaabeg have not relinquished Aboriginal title or jurisdiction over their traditional territory, which remains unceded under the *Royal Proclamation* of 1763.

The Algonquin Nation's Aboriginal title stems from their historical occupation and enduring connection to the land. This title is asserted across both Ontario and Quebec, where the Anishinaabeg Nation comprises eleven nations recognized under the *Indian Act*. The provincial boundary, marked by the deepest channel of the Kichi Sibi, is a colonial construct that does not align with the historical or contemporary boundaries of the Anishinaabeg Nation. Aboriginal title and rights, including those under section 35 of the Canadian Constitution, and held at the community level within the Nation.

Several Algonquin Nations have lived on both sides of the Quebec-Ontario border since immemorial time. Their use of the land is centred around the Kichi Sibi. This history is recently affirmed by King Charles III, King of the United Kingdom in his speech from the throne opening the 45th session of Canadian parliament May 27, 2025:

“I would like to acknowledge that we are gathered on the unceded territory of the Algonquin Anishinaabeg people. This land acknowledgment is a recognition of shared history as a nation. While continuing to deepen my own understanding, it is my great hope that in each of SART Nations and collectively as a country a path is found towards truth and reconciliation in both word and deed.”

The project is located in core SART First Nations rights and title area. Any analysis of the project land impacts on the Anishinaabeg Nation should start by acknowledging the



historical context of colonization and the existing dam-bridge role in colonization, Algonquin dispossession, land privatization, and industrialization in and around the existing project area. One critical aspect of this historical context is that the existing project site was appropriated decades ago by the Federal government without any consent from or consultation with the Anishinaabeg Nation. In addition, in 2013, SART First Nations were not consulted on the Ontario side dam replacement or related fisheries permitting decisions at the Timiskaming Dam Complex, or operational controls of the dam and Kichi Sibi water levels and flows more generally.

Anishinaabeg hold inherent ancestral rights and responsibilities to protect the fish for food in this watershed for future generations according to their own laws, traditional ecological values and practice. SART First Nations consider its Aboriginal rights are and have been violated by the proponent and IAAC during the entire process of seeking approval for the Project.

Our communities, with other First Nations in Canada, have advocated for the implementation of the UNDRIP⁵¹ for advancing our rights, dignity, survival, security and well-being.

Impacts of Colonialism and Other Challenges to SART First Nations' Way of Life

The temporal and spatial cumulative impacts of colonialism (of which the Timiskaming Dam Complex is a significant part) have been devastating for the three Anishinaabeg Algonquin First Nations of the upper Kichi Sibi. The Catholic church, the fur trade, forestry, agriculture, mining, hydroelectric industries, dam infrastructure, sports tourism and residential development over two hundred years have diminished our lands and waters and almost wiped out our culture. But we have survived! Our people are now learning the truth about our history. We are reclaiming our culture, territory and stewardship responsibilities to the resources that have been unsustainably taken from our land.

SART First Nations Objectives on Rights, Dignity, Survival and Well-Being

Our Indigenous-led assessment as described in Chapter 13.1 of the Proponent's EIS has determined that the following are the key community objectives for SART First Nations:

- The Statement of Asserted Rights and Title 2013 asserts authority of our three nations over our traditional territory and re-establishes our title to the lands on both sides of the Kichi Sibi. This is the highest priority value for our three communities.
- Sufficient Lands and Services to enable our people and future generations to live in harmony with one another and with the land, plants, animals and waters around us.

⁵¹ United Nations Declaration on the Rights of Indigenous Peoples. 18 pp.
http://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf



- Culturally safe space and opportunity for younger generations to reclaim our language and culture.
- Control over development and services on our territory.
- Ability to heal our people and territory from historical events, and get social, cultural, economic and environmental reparations for the cumulative effects visited upon us.

Cumulative Effects of the Timiskaming Dam Complex

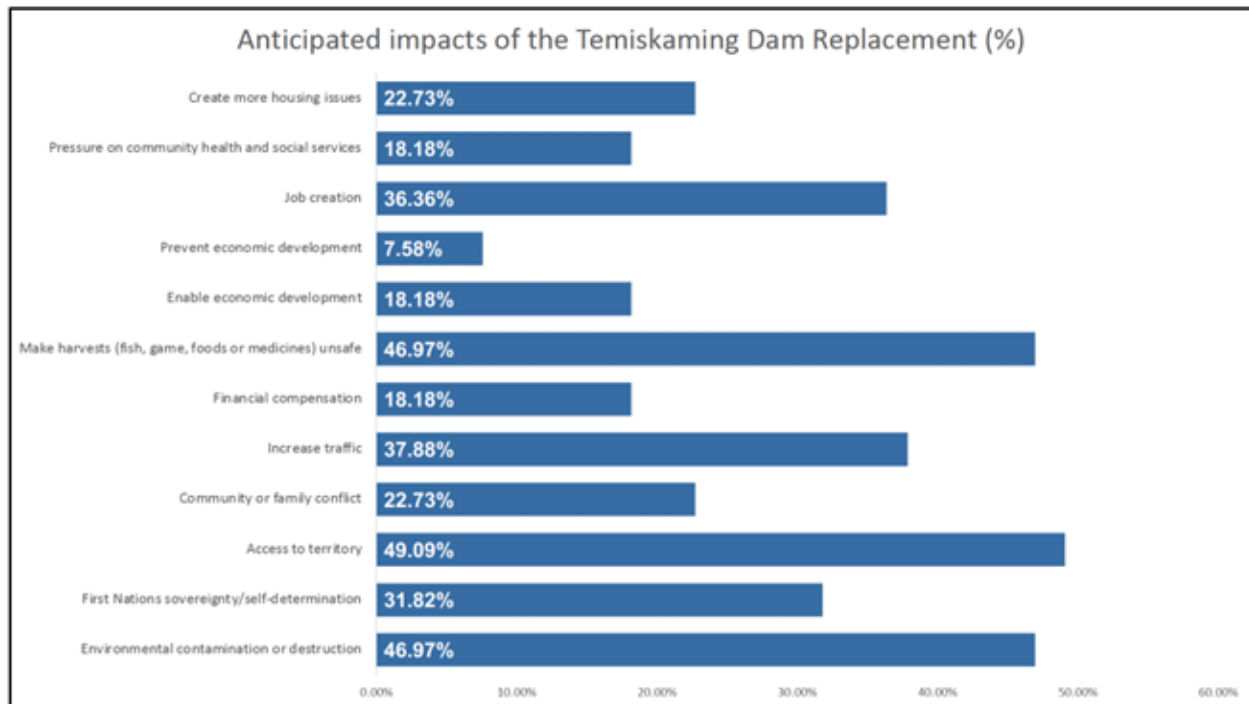
The Timiskaming Dam Complex continues to enable the same colonial impacts as it did at the time of its construction in 1909-1913. Without the dam, the hydroelectric facilities downstream from it would not function. The Long Sault rapids would return, and with them, the fish, wetlands and riparian habitat, including successful spawning beds, wild rice and other wild food sources.

The Project represents an enormous opportunity to the federal government to redress these historic wrongs.

In 2022, the Kichi Sibi technical team conducted a Socio-Cultural Economic Impact Assessment, to provide a baseline picture of our social fabric, cultural traditions, governance, economy, and overall livelihood. We wanted to know how our people are dealing with the past cumulative effects of colonial development, and to canvass our future hopes and worries about the future development of our lands and territories. The 2022 Social Cultural survey asked band members if they were aware of the Dam Replacement Project, and 66.67% of Kebaowek members and 74.7% of Wolf Lake members responded “yes”.

SART First Nations Concerns and Expectations Relating to the Project

Based on our past lived experience and the lack of consultation with SART First Nations on the Ontario dam-bridge replacement project in 2014, SART First Nations had a number of sociocultural-economic concerns and expectations, especially related to job creation, unsafe country food harvesting, increased traffic and traffic delays, access to territory, First Nation sovereignty/self-determination and environmental contamination and spawning bed destruction as the following figure 10 demonstrates.

**Figure 9: Anticipated Impacts of the Project**

Clearly, most of the socio-cultural-economic problems facing our people cannot be solely attributed to the Timiskaming Dam Complex, neither can they be resolved through this Project. All we can expect is that the Project will not make things worse and will contribute to wellness of our bands, the spawning beds supporting fisheries and the Kichi Sibi watershed. The major sociocultural-economic effect of the Project has been and continues to be its effect on Algonquin sovereignty and on the SART First Nations' ability to exercise our inherent rights and responsibilities to protect our sacred relations with the Kichi Sibi watershed.

Rights Impact Assessment Approach

SART First Nations Rights Affected by the Project

SART First Nations have identified five categories of rights that are most relevant for this Rights Impact Assessment:

- Rights to harvest
 - Harvesting rights include the right to hunt, fish, and gather food or plants through SART First Nations' preferred means and in the Project location. Harvesting rights protect the ability to engage in activities necessary to facilitate the



harvesting right (e.g., improving current fisheries life cycle conditions at the Project).

- Rights to Govern and Protect the Territory
 - Governance rights include the right to make decisions about issues that will impact SART First Nations' rights and interests (such as decisions around resource allocation or land development); the right to apply SART First Nations customs, protocols and law; and the right to exercise traditional governance mechanisms. As stewards, SART First Nations also has a sacred obligation to protect the land and resources, not only for its members but also other living beings rights to a healthy environment on the territory. SART First Nations must maintain and protect its treaty relationship with the living beings on the land.
 - In particular, women have a special role as protectors of the Kichi Sibi watershed:

“Within Anishinaabeg societal knowledge(s), women’s responsibility extends to the protection and preservation of Nibi, water. In these understandings, all forms of water are considered. Women generate water, while their child is within their first lodge, within their bodies. Anishinaabekwe have these life responsibilities...which also encompass water animals and other beings” - McGuire, P., 2020

- Rights to maintain a cultural and spiritual relationship with the territory
 - To maintain a relationship with the territory, SART First Nations must be able to protect, revitalize and teach their ways of being to future generations. SART First Nations ways of being are often understood in relation to natural environment and physical landscapes. As such, a crucial aspect of SART First Nations relationship with the land is SART First Nations’ ability to use, travel through, and enjoy the surroundings in peace, without fear or trepidation. Physical obstructions in or alterations to the natural environment can not only sever the physical but also spiritual relationship to the territory.
- Rights to Access and Occupy Traditional Territory

- As traditionally nomadic peoples, mobility on the territory is a key aspect of Anishinaabe and SART First Nations' culture. Mobility means eliminating physical, environmental, legal, and psychological barriers (e.g., fear) to accessing the territory. A right to access and occupy traditional territory is both a right in itself, and a necessary condition for exercising other rights (e.g., harvesting).
- Rights to Dignity of Culture and Enterprise
 - SART First Nations' relationship with Long Sault Island is another crucial foundation for Algonquin culture and way of life. Algonquin culture comes from the land, and from being on the land. This relationship, based on respect and gratitude, is expressed through enterprise that reflects our cultural history, for example the Algonquin Canoe Company just next to the Project site. The integrity of and the access to this business site are a major concern to WLFN (see WLFN Business Impact Assessment Report).

Valued Components and Indicators

The SART First Nations developed and recommended the following as indicators/valued components to measure the Project's contribution to our SART First Nations' interests, values and needs:

- Respect for a recognition of the Statement of Asserted Rights and Title issued by our First Nations in 2013, including an understanding that – when the Québec -side bridge is being discussed – it is our First Nations who have jurisdiction and must be accommodated, not the Algonquins of Ontario;
- Commitment to respect the rights and title of our First Nations in future proponent plans and Projects including the Project;
- Support for Kichi Sibi Ikidowin Anishinaabeg – the Algonquin People Powered Governance Model for the Ottawa River Watershed, including continuing economic support for the Kichi Sibi Technical Team.
- The extent to which lands and resources to support the reclamation of community and traditional practices are increased by the Project: protection and enhancement of fish and fish habitat, restoration of Ottawa River water quality and riparian areas;
- The extent to which fish habitat is enhanced or damaged, in particular, lake sturgeon spawning beds. A lake sturgeon spawning area will be damaged/destroyed if Option 1 is approved. SART First Nations have made a free, prior and informed consent decision through two surveys (2022 and 2025) that this is not the best option.

- The extent to which contamination caused by previous colonial/industrial activity in the vicinity of the dam is remediated, and/or compensated.
- The extent to which the Project contributes to economic opportunities for SART First Nations on the Project itself – specifically the enhancement of the Algonquin Canoe Company and SART First Nations subcontracting opportunities during construction and maintenance afterwards. The Algonquin Canoe Company on Long Sault Island is the Anishinaabeg Algonquin Nation ambassador location to the territory.
- The extent to which the public and First Nation members are made aware of Anishinaabeg Algonquin culture on the Kichi Sibi through architectural design elements, commemorative artwork on the site and elsewhere, educational materials, and support for research and publication about our Peoples.
- The extent to which construction does or does not contribute to drug and alcohol addictions, lateral violence and bullying in the proximate communities, or places greater demands on community services like housing, education and health.
- The extent to which the dam supports outside access to traditional lands, remembering the colonial impacts of roads on Indigenous rights and title.
- The extent to which the Project construction and operation affect the life cycle dynamics of aquatic species and species at risk in the Kichi Sibi.
- The extent to which the Project accounts for cumulative impacts on freshwater ecosystems and related SART First Nations' Aboriginal fisheries through flooding, hydrologic alteration, fragmentation and obstructing migration routes.
- The extent to which the Project respects Indigenous-led conservation efforts and fisheries co-management priorities into the future. The adoption of the SART Neme conservation plan.
- The extent to which the Project design options consider nature as infrastructure versus human-centred infrastructure development thinking and actions.

SART First Nations' Rights Impact Assessment Findings

Results of 2023 Rights Impact Assessment Survey

The following section includes excerpts of the SART First Nations' comprehensive 2023 Project Rights Impact Assessment surveys. Results include elder, land user, knowledge holder and community member observations and perspectives related to constraints, stressors and barriers to their current and future ability to undertake associated cultural practices at the Project development site.

Qualitative information and observations about the state of the watershed at the Project on SART First Nations Traditional Territory the host landscape and Project area, as witnessed and experienced by SART First Nations members are set out in individual community reports. Results information relating to specific development features is



categorized through questions (e.g., location preference related to impacts, fishway design, transportation activity, land use, etc.). In total 324 community survey responses were elicited.

From the SART First Nations' perspective, it makes little sense to talk about the potential impacts of the Project without considering the current quality and state of the Kichi Sibi and the state of the Aboriginal fisheries that are further vulnerable to the Project. In short, that is a right impact assessment that makes sense to the community, governs our reality and plays a determinative role in how and where the Project and the fishway could be constructed.

The following summary of the project's environmental impacts on the SART First Nations indicates the severity of these impacts as determined by the SART First Nations.

Appendix E present SART Summary of Effects of the Project on the SART Environment and denotes the severity of impacts as determined by SART First Nations.

Results of Consideration of Preferred Location of the Dam

In 2023, the SART First Nations survey specifically asked community members about their preferred option for the replacement of the dam-bridge. The options provided by the proponent at this time were:

- Option 1: Construction of a new dam/bridge downstream of the existing dam/bridge and deconstruction of the existing dam.
- Option 2: Construction of a new dam/bridge upstream of the existing dam/bridge and deconstruction of the existing dam.
- Option 3: Reconstruction of the dam/bridge based on the same place and layout as the existing dam/bridge and deconstruction of the existing dam.

SART First Nations members were asked to provide their first and second preferences to identify the preferred option. Although option 2 was described as technically viable in the EIS, the proponent later informed SART First Nations in 2023 that it was not viable.

A total of 358 responses from community members were submitted over 179 surveys. Regarding the Primary Location of Dam, the top choice for preferred location of the Timiskaming Dam Replacement was option 2 – Upstream of Existing Location. It was chosen by 47.5% of KFN members. Option 3 was a close second choice with 33.8% of responses. There were much fewer responses for option 1 with only 14.5%. There were a total of 15 responses that were not submitted.



Table 5: Results of Surveys on the Preferred Location for the Dam

Location of Dam	Responses	Responses
Please provide your first choice for the location of the new dam		
Option 1 – Downstream of Existing Location	21	11.7%
Option 2 - Upstream of Existing Location	88	49.2%
Option 3 - In Same Location	65	36.3%
Option 4 - No Opinion or Unlisted	5	2.8%
Total	179	100%
Please provide your second choice for the location of the new dam		
Option 1 – Downstream of Existing Location	31	17.3%
Option 2 - Upstream of Existing Location	82	45.8%
Option 3 - In Same Location	56	31.3%
Option 4 - No Opinion or Unlisted	10	5.6%
Total	179	100%
Total number of responses for each option		
Option 1 – Downstream of Existing Location	52	14.5%
Option 2 - Upstream of Existing Location	170	47.5%
Option 3 - In Same Location	121	33.8%
Option 4 - No Opinion or Unlisted	15	4.2%
Total	358	100%

In 2024, the proponent informed SART First Nations that the original upstream design option described in the EIS was not operationally feasible. The proponent proposed an in-situ option D, prompting SART First Nations to commission a third-party engineering review of all options. This review assessed the technical aspects of replacement options, including reasons some were deemed unfeasible by the proponent. It also involved creating visualizations, conducting multi-criteria analyses, and holding workshops with the Kichi Sibi technical team and a fisheries working group.

In this re-evaluation process, the third-party engineer and SART First Nations introduced two new options both eliminating the need for a cofferdam in the downstream spawning bed.

SART First Nations Member Comments

Below we provide comments received from SART First Nations Members during the Project and Kichi Sibi Ikidowin Anishinaabeg – the Algonquin People Powered



Governance Model for the Ottawa River Watershed surveys that underscore concerns with the Project:

“Truth and reconciliation need to pump the brakes: need truth before reconciling”. Kichi Sibi Ikidowin survey

“When I was a kid, we used to swim in the Ottawa River by the marina right along its edges but in the late 50s we stopped because of the pollution contaminating the water....We used to catch river fish in the 60s, but by that point we couldn’t eat them because of how much mercury there was. The Ottawa River experienced a lot of pollution from the logging business because of the residue from the wood seeping into the water....There was brown muck coming out of the mill and going straight into the river. Sometimes the logs would pass through the dam and go on the Ontario side and cause further pollution.” WLFN member

“I hear people talk about the pollution, but do we ever see anything positive come out of it? Does it ever get cleaned up? We never hear anything about it.” WLFN member

“Neme sibi- the river was known as Neme-Sibi because the sturgeon travelled everywhere. The fish and the animals provided the medicines. Today they are threatened and suffering. When the earth suffers everything suffers.” Kichi Sibi Ikidowin survey



***“When I was younger, friends and I would go fishing off the dam when we had no access to a vehicle to get elsewhere.”
KFN member***

“My kids use it to go with the school for activities. Go down there to hang out with friends to look at the view, take pictures, etc.” KFN member

“Algonquin Canoe Company visits. Indigenous and Anishinaabek activities at Long Sault grounds and Ottawa River. Ottawa River boat access is always needed.” KFN member

“Yes, it is important for me due to its proximity to our lands and our People. I enjoy using the river recreationally for both fishing and paddling. I’ve rafted several parts of the river as far as Ottawa itself, but also Pembroke and Laniel.” KFN member

“Traditional territory. Spawning areas for endangered species. It provides habitat for many fish species and other aquatic habitats.” KFN member

“Get started on clean up and then talk to me. Everyone has a role to play if they want to enjoy the water. We know there is cleanup that is needed- I was born on the Ottawa Rive me. At one time it was fine to pick up a cup and drink. They talk about minimizing pollution but I’ll be happy when I start



hearing about what's being done to clean it up.” Kichi Sibi Ikidowin survey

“The Ottawa River is very important to my people and has been for a long time. It produces habitat for fish and game. It provides food to the members. It was also our way of travel.” KFN member

“The Ottawa River is important to me because it's home to the prehistoric lake sturgeon. I'd hate to see this fish become extinct. I'd hate for the water to become contaminated due to a new dam or bridge being constructed and then having the existing dam demolished.” KFN member

“I see a lot to be worried about. The land our water, all being destroyed, our animals getting sick. We can't even get our traditional medicine, we have to be careful where we get our drinking water, there is machines everywhere... It's unbelievable how much they can destroy for greed. When will they realize that? Kichi Sibi Ikidowin survey

“It is important that the area be not further damaged. There are people from our communities who use the area for family gatherings, trips up the lake, to fish & to camp.” WLFN member

“Bridge is old and needs replacement; Temporary fix is not safe; wood top is very slippery in certain weather conditions; time for a modern up-to-date bridge” WLFN member



***“The island is a place where we the Algonquin of Wolf Lake have business and have had some gatherings on this land.”
WLFN member***

“The dam/bridge is our main way of transportation to the Ontario Province, it is used daily/weekly from members in my family.” WLFN member

“Yes, I would like to make sure that our environment isn't damaged as much as possible. Our food, our land, our source of water, etc.” WLFN member

“Our traditional activities depend on water for transportation and provides habitat for plants & animals, we use for medicines & food. Fishing & swimming. Visiting areas close by.” WLFN member

***“Yes, to have a safe traffic and pedestrian passage as well as a safe environmental passage for all the aquatic species”
WLFN member***

“It is important to me and my family, it is our only means of access family, friends in Ontario. We have all our medical professionals on the Ontario side.” WLFN member

“Home for many vital aquatic species that hold important environmental knowledge, space, and place for community members to connect with the land and its gifts.” TFN member



"I want to just say the fish ladder pretty much so we can get sturgeon and maybe eels would be cool to get more of back up into the Lake." TFN member

"I think the most important issue we should be addressing is the fish habitat. That does not get affected." TFN member

"Making sure our environment and land are spilling free and contamination free." TFN member

"Our Elders walked this land ancestors...Making sure that all spawning and other animal habitats are protected." TFN member

SART First Nations Views on Impacts to Rights

It is our assessment that the downstream option for the Project as presented in the environmental assessment report is expected to have, among other things:

- **significant adverse impacts** on our Rights to Harvest with emphasis on the Timiskaming Dam Complex and the Project continued impact on Aboriginal fisheries spawning grounds and life cycles
- **significant adverse impacts** on our Rights to govern and protect the territory with emphasis on our inherent responsibility to protect the threatened Neme population which in our laws is the leader of the Fish Nation
- **significant adverse impacts** on Rights to maintain a cultural and spiritual relationship with the territory with significant emphasis on Long Sault Island and Gordon Creek as both as a historic and contemporary Algonquin Anishinaabeg ceremonial gathering location
- **significant adverse impacts** on Rights to access and occupy traditional territory with emphasis on water flows at the Project site and access to fishing grounds from bridge and Gordon Creek

- **significant adverse impacts** on Rights to dignity of culture and enterprise with emphasis on Project disrupting Algonquin Canoe Company business and cultural gatherings on Long Sault Island, for example, National Aboriginal Day.

This assessment takes into account consideration of available information, engagement with community members and advice from the Kichi Sibi technical team.

As described in more detail below, this conclusion would change if the Project were to advance in alignment with the option 1A. This solution would mitigate the potential adverse effects of the Project on the Neme and their critical habitat at the site as well as SART First Nations inherent rights and responsibilities for wildlife protection within their constitution *Ona'ken'age'win*. Put differently, the option 1A, when combined with robust Project conditions, Project oversight and measures from Fisheries and Oceans Canada relating to lake sturgeon would lessen impacts to SART First Nations Rights compared to the impacts associated with the options presented in the environmental assessment report.

SART First Nations View on Crown Consultation

Construction of the Timiskaming Dam Complex site on Algonquin territory, in an area central to Algonquin traditional way of life began in 1909. For over 100 years, SART First Nations have suffered impacts as well as no consultation on this major infrastructure providing access into the heart of SART First Nations territory. Access and spiritual connection to the fishing site at Gordon Creek has diminished because of development of the Timiskaming Dam Complex.

It is our conclusion that the environmental assessment process under CEAA 2012 did not allow for the Crown to meaningfully discharge its consultation obligations for a number of reasons, including, e.g., the timelines were too short to allow for necessary technical reviews, studies and collaboration. SART First Nations provides the following consultation overview as to how the components of the Crown's Aboriginal consultation obligation has not been fulfilled by IAAC to date regarding the Project.

It is our understanding that there is a shared acknowledgement that more needs to be done for consultation to be completed. On June 3, 2025, SART First Nations provided in-person testimony during a tri-party mediation session with the IAAC and the proponent. We stated that the proponent had failed to include viable options in the EIS review and requested an extension of the assessment process under the IAA. This extension was sought to allow for meaningful consultation on viable options, including SART First Nations' preferred option 1A, which could potentially eliminate fisheries impacts associated with an in-situ cofferdam via an alternative sheet pile design option. While IAAC declined to transition the environmental assessment to the new act, the proponent identified a "term sheet" for continued study and collaboration to prevent, mitigate, and accommodate any negative impacts of the downstream option. For example, implementing the option 1A through a design-build approach.



The “term sheet” is in a consultation phase at the time of writing this report. As a result, further work is anticipated to consult and collaborate on the option 1A. To be clear, commitments to advance the option 1A is a necessary part of consultation because it is a solution that would mitigate the potential adverse effects of the Project on Neme and their critical habitat at the site as well as SART First Nations’ inherent rights and responsibilities for wildlife protection within their constitution *Ona’ken’age’win*.

The Crown’s obligations for the Project environmental assessment include a positive duty to ensure SART First Nations’ concerns and impacts to our rights and interests are seriously considered and demonstrably integrated into the environmental assessment report. This has not even begun to occur. Therefore, changes to the Project description and alternative design, among other considerations may be required to accommodate SART First Nations’ concerns which, at this point, remain outstanding.

SART First Nations View on Alignment with UNDRIP and United Nations Declaration on the Rights of Indigenous Peoples Act

As we continue to explore solutions, the SART First Nations are expecting that decision-making regarding the Project will be in keeping with provisions of UNDRIP and *United Nations Declaration on the Rights of Indigenous Peoples Act*. Related, UNDRIP article 27 states:

States shall establish and implement, in conjunction with Indigenous Peoples concerned, a fair, independent, impartial, open and transparent process, giving due recognition to Indigenous Peoples’ laws, traditions, customs and land tenure systems, to recognize and adjudicate the rights of Indigenous Peoples pertaining to their lands, territories and resources, including those which were traditionally owned or otherwise occupied or used. Indigenous Peoples shall have the right to participate in this process.

In practice, UNDRIP would promote, among other things, transitions towards sustainability and enhanced legitimacy in environmental assessment decisions and regulatory outcomes on Algonquin lands versus a drift towards more conflict, legitimate activism and litigation as a result of the misrepresentations of section 35 consultation and



accommodation. UNDRIP includes a number of articles, towards recognizing the need for a dominant state to respect and promote the rights of First Nations as affirmed in treaties and agreements, including how First Nations participate in decision-making processes that affect their traditional lands and livelihoods (UNDRIP, 2007).

For example, article 18 of UNDRIP mentions that:

Indigenous peoples have the right to participate in decision-making in matters which would affect their rights, through representatives chosen by themselves in accordance with their own procedure, as well as to maintain and develop their own indigenous decision-making institutions.

Moreover, article 32(2) of UNDRIP states:

States shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free and informed consent prior to the approval of any Project affecting their lands or territories and other resources, particularly in connection with the development, utilization or exploitation of mineral, water and other resources.

The concept of free, prior, and informed consent promoted by UNDRIP article 32 is of paramount importance to the SART First Nations in terms of the Project site and option selection. The SART First Nations have been clear that commitments to further collaboration and implementation of the option 1A is a critical component of aligning the Project with UNDRIP.



7.1.2 Rights Impact Assessment written by the Algonquins of Pikwakanagan First Nation (AOPFN)

Introduction

AOPFN represents the rights and interests of its First Nation community members in AOPFN's unceded and unsurrendered Algonquin Traditional Territory. AOPFN land users hold Indigenous Knowledge and practice traditional activities throughout the Ottawa River watershed in Ontario and Quebec. The lands and waters within AOPFN territory are of great historical, cultural, spiritual, and ecological significance to AOPFN members. AOPFN members have deep-rooted connections to the area around the Project site that go back through generations of AOPFN members. The area around the Timiskaming dam is essential to the exercise of AOPFN's rights and traditional practices, despite restrictions to access and a legacy of environmental degradation.

To inform the AOPFN rights section, AOPFN undertook a rights review by meeting with AOPFN Knowledge Holders and leadership to verify reports and studies conducted for the Project. The purpose of this Rights Review was to better understand and confirm:

- How AOPFN members define and conceptualize their Aboriginal rights;
- What resources and conditions AOPFN members need to practice their Aboriginal rights;
- What ways have AOPFN Aboriginal rights and culture have been impacted in the past (in the Project area and in AOPFN territory) and what are the current conditions of these rights and culture; and
- What are the potential interactions between the proposed Project and AOPFN Aboriginal rights going forward through the lifetime of the Project?

AOPFN's unceded and unsurrendered traditional territory encompasses the Project Area on the Kichi Sibì. AOPFN's Algonquin ancestors have occupied the length of Kichi Sibì for 9,000 years or more. AOPFN members have, since time immemorial, exercised their rights to hunt, trap, fish, gather, and perform other activities integral to their culture and way of life throughout their unceded and unsurrendered traditional territory.

Methodology

AOPFN did not have time or capacity to conduct a fulsome Rights Impact Assessment but was able to review impacted rights through the results of AOPFN-led studies for the Project and through verification with AOPFN Knowledge Holders. The methodology undertaken for the AOPFN Rights Review uses a "right-by-right" approach, which considers potential impacts of the Project on each of the AOPFN's rights identified under three interconnected main categories of rights: harvesting rights, governance and stewardship rights, and cultural continuity rights.



To evaluate the potential impacts of the Project on AOPFN’s rights, AOPFN focused on identifying the potential pathways through which the Project could impact AOPFN’s ability to exercise their rights using a strong emphasis on Algonquin knowledge and the perspectives of AOPFN rights holders.

Process Steps

Table 6 outlines the overarching process steps that AOPFN followed to Conduct the AOPFN Rights Review. This involved multiple verification steps, involving the AOPFN Advisory Committee and Chief and Council.

Table 6: Process Steps for Completing the AOPFN Rights Review

Steps	Primary Inputs	Verification
Step 1: Identification of potentially impacted rights and interests	AOPFN Algonquin Knowledge and Land Use Study (AKLUS) AOPFN Alternative Means Assessment (AMA) AOPFN Socio-Economic and Well-being Study (SEIA) AOPFN Cumulative Effects Study (CES)	AOPFN Advisory Committee Meeting 1
Step 2: Identification of current baseline conditions including cumulative effects, current territorial capacity and historical context	AOPFN AKLUS, AOPFN CES	AOPFN Advisory Committee Meeting 1
Step 3: Identification of potential project interactions/pathways with identified rights and interests (i.e., potential changes to current baseline conditions related to the project)	AOPFN AKLUS AOPFN AMA AOPFN SEIA AOPFN CES	AOPFN Advisory Committee Meeting 2
Step 4: Identification of severity of potential project interactions with identified rights and interests (including collaborative development of criteria and steps to assess and determine severity)	AOPFN AKLUS, AOPFN AMA, AOPFN SEIA, AOPFN CES	AOPFN Advisory Committee Meeting 2 and 3; Chief and Council Review



Steps	Primary Inputs	Verification
<p>Step 5: Identification of potential mitigation and/or accommodation measures to address identified potential project interactions with identified rights and interests</p>	<p>AOPFN AKLUS, AOPFN AMA, AOPFN SEIA, AOPFN CES</p>	<p>AOPFN Advisory Committee Meeting 2 and 3: Chief and Council Review</p>
<p>Step 6: Consideration of acceptability of Project impacts and review for need of additional mitigation and/or accommodation measures</p>	<p>AOPFN AKLUS, AOPFN AMA, AOPFN SEIA, AOPFN CES</p>	<p>AOPFN Advisory Committee Meeting 2 and 3: Chief and Council Review</p>

Sources of Information Used in the AOPFN Rights Review

The primary AOPFN-led data sources informing the identification of these AOPFN rights and conduct of this Rights Impact Assessment include:

- Engagement between AOPFN’s Consultation Department and the AOPFN Advisory Committee including previous sessions with the Proponent and three meetings specific to the AOPFN Rights Review
- AOPFN Algonquin Knowledge and Land Use Study for the Project
- AOPFN Alternative Means Assessment for the Project
- AOPFN Cumulative Effects Study for the Project
- AOPFN Socio-economic and Well-being Study
- Leadership review session with Chief and Council

Acceptability of Impacts

Rather than determining significance, AOPFN Knowledge Holders advised that the acceptability of impacts to AOPFN members’ rights was a more culturally and spiritually appropriate approach rather than the determination of significance from a western perspective.

AOPFN Knowledge holders identified the following criteria to determine if an impact was unacceptable:

- If information assessed or a proposed mitigation measure concerning a value has a high degree of uncertainty from an Algonquin Knowledge perspective (improper baseline, mitigation has risks, etc.).

- If cumulative effects have already reached or surpassed AOPFN determined thresholds for the value making the value highly sensitive to change.
- If mitigation relies on compensation or offsetting rather than avoidance.
- If the impact to the value was found to be irreversible and for AOPFN any impact lasting 10 years or more would be considered irreversible.
- If a value has a high cultural and/or spiritual value and there is likely high community concern

AOPFN Rights Subject to the Assessment

Disclaimer on AOPFN Rights

This section summarizes the spectrum of AOPFN rights subject to the Rights Review, as described by AOPFN Knowledge Holders and Leadership. AOPFN's rights include harvesting rights, rights to steward and govern aspects of AOPFN unceded and unsurrendered Algonquin traditional territory, and Algonquin cultural continuity rights. These rights are held by each member of the AOPFN, whether they currently exercise them or not, and regardless of where they currently reside. AOPFN's Chief and Council and government departments are responsible to support the promotion and protection of those AOPFN rights. Canada and all of its representatives are also responsible for protecting these rights, as part of the Honour of the Crown, and where those rights cannot be protected, to accommodate for their infringement in an appropriate manner.

Note: The material provided in this Rights Review is not an exhaustive list of AOPFN Aboriginal rights and cannot be read as such. In addition, AOPFN outstanding title claim is not subject to this Rights Review; this does not imply that the Project would not have impacts on AOPFN title should it proceed. The Aboriginal rights of AOPFN members are protected by section 35 of The Constitution Act, 1982. They cannot be extinguished, even when they are infringed upon. These rights should be practicable anywhere within AOPFN traditional territory. They do not rely on any Treaty with Canada, and the entirety of AOPFN territory, including the area where the Project is proposed, is considered by AOPFN to be unceded and unsurrendered Algonquin territory.

The focus of this Rights Review is on how AOPFN Rights are practiced and valued within the Project site (and in its vicinity).

Characterizing the Breadth of AOPFN Rights for the Purpose of this Assessment

AOPFN-led studies and engagement with the AOPFN Advisory Committee provided information related to AOPFN's rights that are understood as core aspects of the AOPFN way of life:

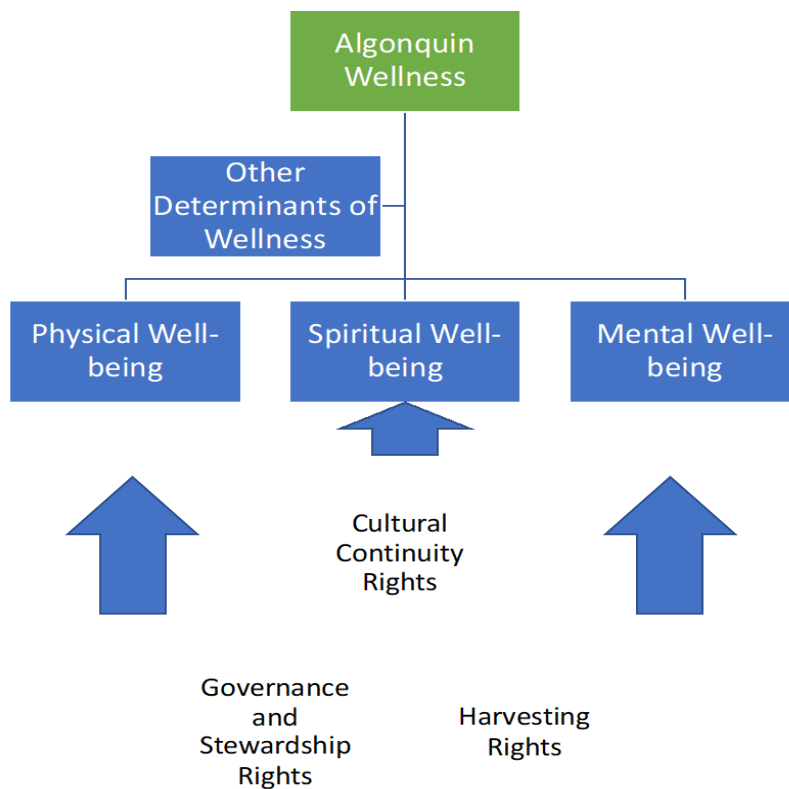
- harvesting,
- governance and stewardship, and



- cultural continuity.

There is obvious overlap between many of the rights brought forward under the three discrete categories. Each of these categories of rights intersects with the others to form a large portion of the basis for Algonquin wellness, comprising physical, spiritual and mental well-being as shown in Figure 11. AOPFN members do not think of these rights as separate but rather it is important to understand that they are highly connected. In addition, there is no “hierarchy” of rights; the three categories are not presented in any order of priority.

Figure 10: AOPFN Rights Categories and Algonquin Wellness



Project Interactions with AOPFN Rights

AOPFN knowledge holders have emphasized the importance of understanding legacy and cumulative effects in the context of AOPFN Rights. AOPFN Knowledge Holders have recounted the various industrial and development activities that have occurred over time within the AOPFN unceded and unsurrendered traditional territory, which have induced the accumulation of negative effects on the environment and on AOPFN's way



of life. The Project is one among many dams and control structures throughout the Kichi Sibi watershed that contribute to undesirable changes in AOPFN's traditional territory, including the continuous loss of use and exercise of AOPFN rights. From the perspective of AOPFN Knowledge Holders, any project impact regardless of magnitude will have a meaningful and lasting impact on AOPFN rights therefore the cumulative context is integral to assessing the three AOPFN Rights Categories.

AOPFN Harvesting Rights

AOPFN Knowledge Holders have described their relationship to wildlife, fish and plants in their unceded and unsurrendered traditional territory and the importance to AOPFN's way of life. The areas around and within the Project site provide important locations of several species that are significant to AOPFN members' sustenance and culture, such as fish (e.g., yellow perch, pickerel and bass), wildlife (e.g., moose, deer and beaver) and culturally important plants (e.g., berries, sweet grass and sage).

Although harvesting activities are critical for sustenance, they are equally important to AOPFN cultural practices that sustain familial and social ties, and members' connection to the land demonstrating the interconnectedness of AOPFN rights. AOPFN Knowledge Holders have described the decrease in population and diversity of fish and other wildlife in their traditional territory and the resulting implications of these impacts on present and future generations of AOPFN members. For instance, the construction of previous dams led to reduced populations of eel in the Kichi Sibi, a fish species that is important to AOPFN diet and culture.

Project Interactions

Table 7 identifies Harvesting Rights identified by AOPFN Knowledge Holders as having interactions with the Project. AOPFN Members are concerned about additional impacts to wildlife and harvesting from the Project. For example, Project activities potentially impact lake sturgeon, another species that is significant to AOPFN diet and culture and currently a population designated threatened by the COSEWIC, with a provincial status of Sensitive. AOPFN is particularly concerned about impacts to fish and fish habitat from sediment loading, sensory disturbances (light, noise and dust), changes to downstream flow, potential spills and loss of habitat (including spawning areas) from permanent and temporary structures.

Acceptability of Impacts for Harvesting

AOPFN has deemed the impacts to AOPFN Harvesting Rights from the Project as Unacceptable for the following reasons and issues:

- AOPFN Cumulative Effects Study identifies AOPFN Harvesting rights and values as already exceeding thresholds.

- Mitigation measures for fish and fishing rely on compensation and offsetting rather than avoidance.
- It is uncertain whether fish passage will be part of the project.
- The success of offsetting measures is uncertain for AOPFN.
- The Kichi Sibì is highly important culturally and spiritually to AOPFN members and integral to AOPFN Harvesting Rights.

Table 7: The Project Interactions with AOPFN Harvesting Rights

AOPFN Harvesting Rights and the Project Interactions		
Harvesting Right	Current Condition	The Project Interaction
Healthy populations of game in preferred hunting areas	Current impacts are significantly negative. Healthy populations of game are only available in some portions of AOPFN's unceded and unsurrendered Algonquin Territory; in some cases, AOPFN members are alienated from use in those areas.	Prolongs impacts associated with dam- bridge and habitat loss on Long Sault Island.
Healthy populations of fish in preferred fishing water bodies (including the Kichi Sibì, other rivers and streams, lakes, and ponds)	Current impacts are significantly negative within the Kichi Sibì and many other important areas within AOPFN's unceded and unsurrendered Algonquin Territory	Prolongs existing impacts associated with the barriers across the Kichi Sibì at Timiskaming; construction and operations will further impact spawning habitat.
Clean and plentiful water from natural sources on the land.	Current impacts are significantly negative within the Kichi Sibì and many other important areas within AOPFN's unceded and unsurrendered Algonquin Territory	Prolongs existing impacts on water quality (from traffic on the bridge; existence of crossing) and water quantity (regulation of water levels)
Healthy and abundant food plants and medicines in preferred areas.	Current impacts are significantly negative. Wild Plants within AOPFN's unceded and unsurrendered Algonquin Territory are impacted by habitat loss,	Prolongs and exacerbates existing impacts on Wild Plants associated with the original construction of the Timiskaming dam-bridges and habitat loss along the Kichi Sibì at



AOPFN Harvesting Rights and the Project Interactions		
Harvesting Right	Current Condition	The Project Interaction
	fragmentation, invasive plants, climate change, and contamination from industrial sites.	Timiskaming and on Long Sault Island.
Confidence in quality (e.g., free from contamination) of wild foods.	High levels of industrial development, urbanization, and agricultural development across AOPFN's unceded and unsurrendered Algonquin Territory mean that AOPFN members have low confidence in the quality of wild foods across most (if not all) of the Territory.	Prolongs existing impacts on air quality from increased bridge traffic across the Kichi Sibi at Timiskaming; prolongs concerns about wild food quality in Project area.
Unrestricted access to lands, waters and resources, accessible within the constraints of time and cost	Significantly high loss of use within AOPFN's unceded and unsurrendered Algonquin Territory due to access constraints. The Kichi Sibi and tributaries particularly constrained due to dams and other regulatory structures.	Prolongs existing barriers at Timiskaming, effectively preventing easy transport through this section of the Kichi Sibi.
A substantial and healthy land base on which to pursue harvesting and traditional use	Significantly loss of land base for the pursuit of harvesting and traditional use within AOPFN's unceded and unsurrendered Algonquin Territory: spatial analyses show that AOPFN members are alienated from 74.5% of the Territory	Prolongs and exacerbates existing alienation in the Project area, particularly due to the ongoing presence of the movement barrier and habitat loss on Long Sault Island and associated riparian areas.
Feelings of safety and security on the land	Large areas of AOPFN's territory are not available for peaceful enjoyment of cultural practices.	Prolongs and exacerbates existing loss of peaceful enjoyment, safety and security in the Project area.



AOPFN Harvesting Rights and the Project Interactions		
Harvesting Right	Current Condition	The Project Interaction
Healthy cultural and spiritual relationships with the land	While AOPFN members work to ensure cultural and spiritual relationships are maintained, use within certain highly significant areas of their unceded and unsurrendered Algonquin Territory has been damaged or constrained.	Prolongs and exacerbates impacts to areas of AOPFN's unceded Algonquin Traditional Territory within proximity to the Project, an area which is considered the gateway to AOPFN's lands.
Algonquin knowledge of specific locations, and the ability to pass this knowledge across generations	While AOPFN members work to ensure that Algonquin knowledge and transmission of that knowledge is maintained, high levels of development across much of AOPFN's unceded and unsurrendered Algonquin Territory has significantly affected this factor.	Compounds loss associated with original inundation of this area; prolongs and exacerbates loss of Algonquin knowledge and ability of AOPFN members to transmit knowledge to younger generations about this important area of AOPFN's unceded Algonquin Traditional Territory.
Ability to Maintain Traditional Governance, Land Tenure and Stewardship Systems	Significantly impacted due to colonialism and existing relationships with the province and the Crown. AOPFN continues to lack appropriate involvement in decisions about their unceded and unsurrendered Algonquin Territory.	Current process falls within "business as usual" model, perpetuating the lack of appropriate involvement at all levels of AOPFN members in decision-making.



AOPFN Governance and Stewardship Rights

AOPFN Knowledge Holders have identified the fundamental importance of land and water to their culture and to their spirituality as caretakers of the environment. As stewards of the land, AOPFN members have the right and responsibility of preserving the natural resources and systems within their traditional territory. AOPFN Knowledge Holders have also spoken of the interconnectedness of the natural environment and the need to maintain these dynamic relationships. It should be noted that AOPFN does not consider the environment to be divisible into constituent parts for protection based on priority; instead believes that every component has inherent value and importance in its relationship to the rest of the environment. AOPFN is concerned that the Project as proposed will interfere with AOPFN's holistic approach to stewardship of the lands and watersheds.

Project Interactions

AOPFN members are worried over their continued ability to use the traditional conservation system to fulfill their roles and rights as stewards of the land and watershed throughout the territory and within the vicinity of the Project. In addition, while AOPFN understands that there may be some role for AOPFN stewardship through the proponent's monitoring program, at the time of writing, the shape, format, and degree of AOPFN involvement in that program is uncertain. Table 8 provides the Project Interactions with AOPFN Stewardship and Governance Rights. The cumulative deterioration of the environment and restrictions to access have had continuous and persistent negative impacts on AOPFN's rights. As AOPFN Members currently engage in harvesting of animals and plants, and fishing in and around the Project area, AOPFN is concerned about additional impacts from the Project to the exercise of rights and on AOPFN Stewardship goals. Return of fish passage for culturally and spiritually valued species like American eel and lake sturgeon is an integral stewardship goal for AOPFN and not guaranteed by the Project.

Acceptability of Impacts for Governance and Stewardship

AOPFN has deemed the impacts to AOPFN Governance and Stewardship from the Project as unacceptable for the following reasons and issues:

- AOPFN Cumulative Effects Study identifies AOPFN Governance and Stewardship Rights as already impacted by colonialism and industrial development without AOPFN's consent.
- It is uncertain whether fish passage will be part of the project and a lack of fish passage would interfere with AOPFN's Rights and stewardship responsibilities for fish and fish habitat, particularly lake sturgeon and American eel.
- It is uncertain to what extent AOPFN's Neya Wabun Guardian Program will be supported for monitoring the Project Area.



- The Kichi Sibi is highly important culturally and spiritually to AOPFN members and integral to AOPFN Stewardship and Governance Rights.

Table 8: The Project Interactions with AOPFN Stewardship and Governance Rights

Governance and Stewardship Rights		
Rights-enabling Factor	Current Condition	The Project Interaction
Ability to maintain traditional governance, land tenure, and stewardship systems	Significantly impacted due to colonialism and existing relationships with the province and the Crown. AOPFN continues to lack appropriate involvement in decisions about their unceded and unsurrendered Algonquin Territory.	Current process falls within “business as usual” model, perpetuating the lack of appropriate involvement at all levels of AOPFN members in decision-making.
Ability to participate in decision-making processes regarding AOPFN’s unceded and unsurrendered Algonquin Territory	Significantly impacted due to colonialism and existing relationships with the province and the Crown. AOPFN continues to lack appropriate involvement in decisions about their unceded and unsurrendered Algonquin Territory.	Current process falls within “business as usual” model, perpetuating the lack of appropriate involvement at all levels of AOPFN members in decision-making.
Consultation process for projects proposed in AOPFN’s unceded and unsurrendered Algonquin Territory that support AOPFN’s Free, Prior, and Informed Consent	Significantly impacted due to colonialism and existing relationships with the province and the Crown. AOPFN continues to lack appropriate involvement in decisions about their unceded and unsurrendered Algonquin Territory.	Current process falls within “business as usual” model, perpetuating the lack of appropriate involvement at all levels of AOPFN members in decision-making.
Full Accommodation of AOPFN’s requirements regarding projects proposed in AOPFN’s unceded and	Significantly impacted due to colonialism and existing relationships with the province and the Crown. AOPFN continues to lack appropriate involvement in decisions about their	Current process falls within “business as usual” model, perpetuating the lack of appropriate involvement at all



unsurrendered Algonquin Territory	unceded and unsurrendered Algonquin Territory.	levels of AOPFN members in decision-making.
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AOPFN Cultural Continuity Rights

The sense of identity and spirituality of AOPFN Members is intricately connected to the natural environment and involves traditional activities on the land within AOPFN unceded and unsurrendered Algonquin Territory (including areas within the Project study area) that have been practiced for thousands of years. The significance of cultural activities like hunting and fishing extend beyond subsistence or economic values. These practices are critical for maintaining AOPFN members’ inherent connection to the land, building and maintaining familial connections, as well as transferring Knowledge across generations.

Project Interactions

The Kichi Sibi, remains a location of significant cultural, spiritual and historical importance for AOPFN Members. For instance, as a major travel route, the Kichi Sibi provides access to other areas of cultural importance to AOPFN members. The highly valued waterway is already impacted by development on the river and members are concerned about increased degradation from project activities, and impacts to current and future values and use of the river. AOPFN Members have expressed concern for preserving the integrity of this critical area, especially as AOPFN protocol dictates that sacred areas should be kept clean and free of contamination.

While AOPFN Members have expressed concern about the potential project impacts to cultural practices, more worry has been expressed over the abilities of future generations to engage in these practices. The continued disruption/loss of critical teaching areas will impact the cultural heritage of present and future generations of AOPFN members. For instance, impacts to fish (real and perceived) harvested by members and/ or decrease in fish populations would in turn affect the ability to pass on Algonquin Knowledge on fishing to the younger generation. A detailed summary of project impacts to AOPFN Cultural Continuity Rights is provided in Table 9.

Acceptability of Impacts for Cultural Continuity

AOPFN has deemed the impacts to AOPFN Continuity from the Project as unacceptable for the following reasons and issues:

- The Kichi Sibi is highly important culturally and spiritually to AOPFN members and integral to AOPFN Cultural Continuity rights including spirituality and the transmission of Algonquin Knowledge to future generations.
- AOPFN Cumulative Effects Study identifies AOPFN Cultural Continuity Rights as already impacted by colonialism and industrial development.



- The Project prolongs and exacerbates impacts to areas of AOPFN’s unceded and unsurrendered Algonquin Traditional Territory within proximity to the Project (bridge will exist for longer than 10 years), an area which is considered the gateway to AOPFN’s lands and watershed.

Table 9: Detailed Summary of Project impacts to AOPFN Cultural Continuity Rights

The Project Interactions with AOPFN Cultural Continuity Rights		
Rights-enabling Factor	Current Condition	The Project Interaction
Healthy quantities and quality of resources for teaching the practice of AOPFN rights	Resource quantity and quality significantly impacted due to a myriad of factors identified in this study.	Prolongs and exacerbates existing resource conditions in the Project area.
Healthy quantities and quality of resources for future generations to be able to harvest and practices traditions that are being reintroduced into the AOPFN community	Resource quantity and quality significantly impacted due to a myriad of factors identified in this study.	Prolongs and exacerbates existing resource conditions in the Project area; little consideration of AOPFN’s goals with respect to recovery of these resources and practices.
A substantial land base on which to teach cultural activities	Significantly impacted: 74.5% of AOPFN’s AOPFN’s unceded and unsurrendered Algonquin Territory is subject to some degree of alienation	Prolongs and exacerbates existing loss of land base for use within the Project area, particularly the highly impacted Long Sault Island as well as the ability of AOPFN members to move freely within the Kichi Sibi.
Unrestricted access to known and preferred habitation sites on land	Significantly impacted: 74.5% of AOPFN’s AOPFN’s unceded and unsurrendered Algonquin Territory is subject to some degree of alienation	Prolongs and exacerbates existing loss of land base for use within the Project area, particularly the highly impacted Long Sault Island.
Feelings of safety and security on the land while teaching and practicing Algonquin rights	Significantly impacted: large areas of AOPFN’s AOPFN’s unceded and unsurrendered	Highly impacted during construction; prolongs and exacerbates existing loss of



The Project Interactions with AOPFN Cultural Continuity Rights		
Rights-enabling Factor	Current Condition	The Project Interaction
and culture and spirituality on the land.	Algonquin Territory are not available for peaceful enjoyment.	land base for use within the Project area, particularly the highly impacted Long Sault Island.
Healthy cultural and spiritual relationships with the land	While AOPFN members work to ensure cultural and spiritual relationships are maintained, use within certain highly significant areas of their AOPFN's unceded and unsurrendered Algonquin Territory has been damaged or constrained.	Prolongs and exacerbates impacts to areas of AOPFN's unceded Algonquin Traditional Territory within proximity to the Project, an area which is considered the gateway to AOPFN's lands.
High levels of Algonquin knowledge of specific locations, and the ability to pass this knowledge across generations	While AOPFN members work to ensure that Algonquin knowledge and transmission of that knowledge is maintained, high levels of development across much of AOPFN's unceded and unsurrendered Algonquin Territory has significantly affected this factor.	Compounds loss associated with original inundation of this area; prolongs and exacerbates loss of Algonquin knowledge and ability of AOPFN members to transmit knowledge to younger generations about this important area of AOPFN's unceded Algonquin Traditional Territory.
Ability to Maintain Governance, Land Tenure, and Stewardship Systems	Significantly impacted due to colonialism and existing relationships with the province and the Crown. AOPFN continues to lack appropriate involvement in decisions about AOPFN unceded and unsurrendered Algonquin Territory.	Current process falls within "business as usual" model, perpetuating the lack of appropriate involvement at all levels of AOPFN members in decision-making.



Conclusions

The AOPFN Rights Review has identified that project impacts to AOPFN Harvesting, Governance and Stewardship, and Cultural Continuity Rights are unacceptable to AOPFN Members. The protection of AOPFN Rights is critical, therefore a precautionary approach must be adopted as part of assessment and there is a need for additional robust mitigation measures to be in place. As part of the Rights Review, AOPFN has identified and supports the following Project conditions if the Project is approved:

AOPFN Proposed Project Conditions and Recommended Complementary Measures for the Project

Note: The following proposed conditions are informed by AOPFN studies, input from the AOPFN Advisory Committee and direction from AOPFN Chief and Council. Please note that providing comment and proposing conditions does not mean that AOPFN supports or consents to the Project. AOPFN expects to be meaningfully included as part of all conditions and resulting programs at a government-to-government level. AOPFN must be involved in all planning for all project management and monitoring plans for the Project.

Socio-economic, Community Health and Well-being

1. With affected First Nations, co-develop a socio-economic monitoring and follow-up plan for submission to IAAC at least 90 days prior to construction. The proponent to submit an annual monitoring report to IAAC and affected First Nations. The Program to include additional data gathering with affected First Nations on the barriers to that currently exist to accessing project-related employment and business opportunities. Monitoring programs must include the following metrics:
 - a. performance reporting/ metrics on agreed-to benefits with affected First Nations including commitments that extend to third-party contractors
 - b. First Nations participation in contract bid processes, contracts awarded, and subcontracts
 - c. employment and training metrics including number of First Nations hired, positions hired for, number/ type of training programs carried out, etc.
2. With affected First Nations, ensure culturally appropriate and GBA+ policies for employment of First Nations employees that accommodate community and cultural activities are developed and in-place prior to construction.
 - a. Proponent to review and verify cultural policies with affected First Nations at least 90 days prior to construction.
 - b. Proponent to establish grievance mechanisms for managing First Nations employees concerns in the workforce.



- c. Proponent to ensure that contractors are aware of and required to take any cultural awareness training provided by affected First Nations.
3. With affected First Nations, co-develop a Spill and Emergency Response Management Plan at least 90 days prior to construction and submit to IAAC. The Management plan to promote project safety, by ensuring transparency and communication of accidents and spills, as well as high safety standards for the mechanical gate during the operation phase.
 - a. As part of the development of the Plan, the proponent will undertake a study to understand the worst-case spill scenario during construction and develop a comprehensive mitigation plan (including compensation) for pollution of the Ottawa River.
 - b. The plan to require that fuelling and or other contaminants be kept a minimum of 30 metres away from the water.
4. Proponent to ensure continued and or improved First Nation navigation on the Ottawa River and access to Lake Timiskaming, through the co-development of navigation measures with affected First Nations which may include the use of mechanized boat lifts into the new bridge design, or the provision of trucks and/ or other forms of transport at boat launches to transport boats to the other side of the dam.

Water, Fish, Aquatic Species and Aquatic Habitat

5. Proponent to work with affected First Nations and Fisheries and Oceans Canada to ensure that water flow is protective of aquatic life and habitat and personal safety during construction and operations of the dam-bridge.
 - a. Affected First Nations must be involved in all planning and discussions on flow rate and flow management, as well as in monitoring and follow-up for pre-construction, construction, operations, and decommissioning.
6. Proponent to meaningfully engage and involve affected First Nations in the protection of culturally important fish species and aquatic habitats, including the use of a co-management approach to governance to preserve fish species.
 - a. Proponent to provide a fish and fish habitat management, monitoring and follow-up plan to IAAC at least 90 days prior to construction including steps for affected First Nation involvement in:
 - i. the design and monitoring of the fishway;
 - ii. habitat offsetting design, implementation, and monitoring;
 - iii. fish relocation/rescue plan;



- iv. fish restocking initiatives and monitoring;
 - v. First-nation-led studies on culturally important species (i.e., lake sturgeon and American eel).
- b. Offsetting of habitat must meet a minimum 3:1 ratio and must be designed to address the heavily impacted baseline conditions in the proposed project area. Cultural values of affected First Nations must be considered as part of this plan (i.e., the value of the area from a cultural perspective, and accumulated loss of those values in the aquatic study area).
 - c. Monitoring of aquatic species and habitat must include capacity support for monitoring by affected First Nations during pre-construction, construction, and post-construction.
 - d. Monitoring must include the collection of a full suite of water quality data during pre-construction, construction, and post-construction including the monitoring of heavy metals and mercury, specifically on benthic organisms that accumulate loading quickly, and on fish (i.e., fish health and consumption of fish).
 - e. Annual Monitoring Reports to be submitted to IAAC and affected First Nations for review.
- 7. Construction timing will be set in consideration of fish spawning periods and water temperature (in real time; not based on likely windows or averages).
 - 8. Proponent required to submit a fish relocation plan, to be co-develop with affected First Nations, at least 90 days prior to construction and support First Nation participation in implementing the Fish Relocation Plan during construction.
 - 9. Proponent required to ensure avoidance of the introduction of invasive species including through the cleaning and inspection of any equipment and or boats entering water to ensure that invasive species (e.g., zebra mussels) are not transferred across water bodies – Fishway must also be designed to prevent passage of invasive species upriver.
 - 10. Proponent to develop a Construction Environmental Monitoring Plan, to be submitted to IAAC at least 90 days prior to construction, which must include the management and monitoring of noise and vibration on and in the water with thresholds, indicators, and adaptive measures co-developed with affected First Nations.
 - 11. Proponent to complete an habitat inventory for turtles in the Project area prior to construction, at a scale larger than 100 metres, and submit results at least 90 days prior to construction.



12. Proponent to co-develop with affected First Nations a Turtle Monitoring and habitat restoration plan to submit to IAAC at least 90 days prior to construction.
 - a. The plan to include a specific approach for turtle habitat improvement as part of restoration and revegetation plans.
 - b. Exclusion/containment fencing for turtles must be in place during construction as part of turtle protective measures.

Culture and Heritage

13. Proponent to support and provide capacity for ceremonies to take place prior to construction by affected First Nations.
14. Proponent to work with affected First Nations to create appropriate signage and displays using Algonquin place names, language, art, and interpretation at the project site, to recognize and promote education related to Algonquin culture and heritage, and ongoing presence and stewardship.
15. Proponent to fund and support cultural programs identified by affected First Nations to address project and cumulative effects to culture.
16. Co-develop and implement with affected First Nations a Culture and Heritage Management Plan. Plan to be submitted to IAAC at least 90 days prior to construction.
 - a. Plan to include marine and terrestrial chance find procedures.
 - b. Plan to support culture and heritage monitoring at the project site by affected First Nations prior to and during construction.
17. Proponent to fund and work with affected First Nations to secure and develop a cultural space on Long Sault Island for affected First Nations communities to practice their culture.

Vegetation and Culturally Important Plants

18. Proponent to collaborate with affected First Nations to develop a Vegetation Restoration plan and submit to IAAC at least 90 days prior to construction.
 - a. Work with affected First Nations to identify appropriate native and culturally important plants for the restoration of project-disturbed areas with a goal of net improvement in habitat conditions.
 - b. Plan to include indicators of success for site restoration based on Algonquin Knowledge.



- c. Plan to include offsetting/habitat creation for medicines and other culturally important plants were identified by affected First Nations (3:1 minimum offset ratio).
19. Conduct full vegetation survey before and after construction, with affected First Nations providing guidance on the area that will be assessed to determine the full extent of project effects.
- a. Inventory to identify any vulnerable and or culturally important plants and medicines.
 - b. Proponent to support Indigenous Guardian programs as part of vegetation inventories.
 - c. Proponent to support harvesting of medicines and culturally important plants prior to construction.
20. Proponent to avoid the use of herbicides, fungicides, pesticides as part of vegetation management. Agreement with affected First Nations must be sought prior to any use.
21. Proponent to avoid introduction of invasive species through vehicle and equipment washing and inspection, especially during restoration work. Proponent to also monitor and prevent introduction of invasive plant species potentially introduced through fill and grading activities.

Terrestrial Wildlife and Wildlife Habitat

22. With affected First Nations, co-develop Wildlife and Wildlife Habitat Monitoring and Management Plan and submit to IAAC at least 90 days prior to construction.
- a. Plan must include measures to mitigate mortality during construction and operations phases in areas where wildlife may be moving through the Project area, especially around roads.
 - b. Plan must include measures to avoid potential negative effects on wildlife during sensitive periods (e.g., nesting/breeding season for birds), and appropriate mitigation and/ or accommodations.
 - c. Proponent to fund and support guardian program involvement of affected First Nations in wildlife monitoring and habitat restoration.
 - d. Plan must include habitat restoration and alternative nesting grounds for bats and birds using the existing bridge and for other impacted habitats in the Project area.
 - i. Proponent to work with affected First Nations to integrate Algonquin knowledge of wildlife and habitat into site restoration planning,



including through the use of Algonquin Knowledge Studies were desired by First Nations.

- ii. Restorations plans should include the installation of important habitat features; e.g., nesting trees or platforms.
- iii. Offsetting for wildlife habitats should at minimum meet a 3:1 ratio

Algonquin Monitoring, Consultation and Engagement with Algonquin Nations

23. Proponent to work with affected First Nations to co-develop a communication strategy regarding the protection of land and water to sufficiently address gaps in knowledge, consultation, and understanding.
 - a. Strategy must include funding for community meetings and or other forms of community engagement as identified by affected First Nations for the life of the Project
24. Proponent to fund and support Indigenous Guardian Programs as part of Project Monitoring and follow-up programs during pre-construction, construction, post-construction.
 - a. Guardians must be provided opportunities for involvement in site assessments and inventories, offsetting, monitoring and adaptive management. They must also be given capacity support to do so.

Complementary Measures

1. Recommendation for Fisheries and Oceans Canada, the proponent, AOPFN and other affected First Nations to work together to prevent illegal fishing in the Project area. This is especially important if restocking measures are undertaken.
 - a. Fisheries and Oceans Canada, the Proponent, provincial authorities and First Nations to co-develop a monitoring strategy to ensure compliance with conservation regulations in the area.
 - b. Monitoring could also involve responsible government authorities stationing a game warden or conducting digital surveillance of such areas
 - c. Provide opportunities for First Nations to involve the participation of guardian monitors in compliance monitoring and reporting.
2. Recommendation for the formation of a Cumulative Effects Working Group Comprised of federal and provincial authorities, industry, and First Nations to gather data and develop measures to reduce cumulative effects pressures in the Ottawa River watershed.



- a. A priority task of the working group to create a database of all ongoing projects and dam locations on the Ottawa River, also outlining current and past fish population data.

7.2 Potential Adverse Effects of the Project on Aboriginal and Treaty Rights

7.2.1 Pathways of Potential Impacts on the Exercise of Traditional Resource Rights

IAAC assesses that the project has the potential to cause adverse environmental effects, which may also adversely impact Aboriginal, and treaty rights related to fishing, cultural practices and stewardship of the land of Indigenous Nations. Due to the location of the Project area within or adjacent to traditional, recognized or claimed lands used for the exercise of rights, the following Indigenous Nations are most likely to be directly affected by the project: SART First Nations and AOPFN.

The main concerns raised by Indigenous groups since 2017 are:

- the impacts on fish at risk (primarily lake sturgeon), impacts on all fish (AOPFN), the destruction of a multi-species spawning ground, and the loss of associated cultural practices since the lake sturgeon is considered sacred and considered as the leader of the Fish Nation for the SART First Nations;
- the impacts of the construction phase on the mobility of Indigenous peoples and their ability to gather culturally on an island considered to be part of Algonquin cultural heritage;
- the impacts of the construction phase on the Wolf Lake First Nation business sales;
- the impacts of the construction phase on water quality and the perception of contamination;
- the impacts of the Project on potential artifacts of Algonquin origin;
- the impacts of the Project on the Nations' right to governance, their ability to oversee resource management, and their ability to participate in decisions regarding land development;
- the Project's construction phase cumulative effects that could exacerbate avoidance of the area (perception of contamination) and the decline in lake sturgeon populations available for Algonquin culture in a regional context marked by the major development of the Ottawa River that occurred in the last century.



7.2.2 Methodology: Potential Impacts on the Exercise of Traditional Resources Rights

IAAC considered how changes to the environment on Indigenous Peoples' health and socio-economic conditions (Chapter 5.8), physical and cultural heritage and sites of significance (Chapter 5.7), and current use of lands and resources for traditional purposes (Chapter 5.6) would impact the exercise of each community's section 35 rights.

Given SART First Nations concerns about CEAA 2012 methodology lacking holistic considerations, IAAC and SART First Nations commonly agreed to apply the "Guidance: Assessment Potential Impacts on the Rights of Indigenous Peoples" to this section. IAAC's methodology for assessing impacts on section 35 rights involved identifying existing rights and key values that support the exercise of rights and understanding pathways of effects from the project with the potential to impact rights. IAAC considered the likelihood of effects, geographic extent, and frequency, duration, and reversibility, as well as how these effects impact and could be informed by additional factors, such as cultural well-being, community health, and governance. IAAC also considered the impact of cumulative effects and historic context for the exercise of rights, as well as the proposed mitigation measures and accommodation for minimizing impacts.

Pathways of effects to section 35 rights are organized into three categories: effects to resources, access, and experience. Effects to resources considered Indigenous communities' right to sufficient quality resources in culturally important areas, to steward keystone species important for governance, and to connect to resources in order to support cultural continuity and intergenerational transfer of cultural practices and knowledge. Effects to access considered Indigenous communities' right to access important areas throughout their traditional territory without difficulty or health and safety risks, and to use preferred modes of travel and visit areas at preferred and appropriate times. Effects to experience considered Indigenous communities' right to spend time on the land in peace and quiet, in physical and mental safety, and free from sensory disturbance.

For AOPFN, IAAC also used that Guidance and presented its reasoning through the lens of the AOPFN identified enabling factors presented in the AOPFN Cumulative effects study (2022) presentation to IAAC (2025).

7.3 Consultation with First Nations

7.3.1 IAAC Rights Impact Assessment co-drafted with the SART First Nations

Right to Access and Occupy the Traditional Territory

Context provided by SART First Nations

Before the Government of Canada completed construction of the Timiskaming Dam Complex in 1913, no assessment was undertaken to determine how that dam might affect upstream or downstream areas of the Ottawa River. No thought was given to how that dam might affect the members of the Algonquin Nation, their dependence on the plentiful watershed resources of the Kichi Sibi, or their multi-generational socio-cultural connection to the places and customs associated with the Kichi Sibi. No thought was given to whether the promises of the Royal Proclamation could be upheld if the dam was built. No thought was given to Algonquin jurisdiction around the Kichisibi at all. The Timiskaming Dam Complex was built on the shores of the Kichi Sibi without the free, prior, and informed consent of the Algonquin Nation.

It is SART First Nations' conclusion that the environmental assessment process under CEAA 2012 did not allow for the Crown to meaningfully discharge its consultation obligations for a number of reasons, including, e.g., the timelines were too short to allow for necessary technical reviews, studies and collaboration. SART First Nations provide the following consultation overview as to how the components of the Crown's Aboriginal consultation obligation has not been fulfilled by IAAC to date regarding the Project.

It is IAAC understanding that there is a shared acknowledgement that more needs to be done for consultation to be completed. On June 3, 2025, SART First Nations provided in-person testimony during a tri-party mediation session with the IAAC and the proponent. We stated that the proponent had failed to include viable options in the EIS review and requested an extension of the assessment process under the IAA. This extension was sought to allow for meaningful consultation on viable options, including SART First Nations' preferred option 1A, which could potentially eliminate fisheries impacts associated with an in-situ coffer dam via an alternative sheet pile design option. While IAAC declined to transition the environmental assessment to the IAA, the proponent identified a "term sheet" for continued study and collaboration to prevent, mitigate, and accommodate any negative impacts of the downstream option. For example, implementing the option 1A through a design-build approach.

The "term sheet" with the proponent is in a consultation phase at the time of writing this report. As a result, further work is anticipated to consult and collaborate on the option 1A. To be clear, commitments to advance the option 1A is a necessary part of consultation



because it is a solution that would mitigate the potential adverse effects of the Project on Neme and their critical habitat at the site as well as SART First Nations' inherent rights and responsibilities for wildlife protection within their constitution *Ona'ken'age'win*.

The Crown's obligations for the Project's environmental assessment include a positive duty to ensure SART First Nations' concerns and impacts to our rights and interests are seriously considered and demonstrably integrated into the environmental assessment report. This has not even begun to occur. Therefore, changes to the project description and alternative design, among other considerations may be required to accommodate SART First Nations' concerns which at this point, remain outstanding.

IAAC Main Findings on Impacts to SART First Nations Right to Access and Occupy Traditional Land

The proposed dam-bridge project is designed to maintain vehicular access by keeping the existing crossing open while the new bridge is built approximately 19 metres downstream, thereby limiting disruptions to traffic. Despite this mitigation, a moderate, geographically confined reduction in traffic flow is expected over the three-year construction phase. Navigation around Long Sault Island would also be temporarily affected, particularly near active construction zones where conditions may be less attractive or perceived as less safe; however, navigation outside these areas would remain largely unchanged. IAAC recommended that the boat ramp and its parking area remain accessible at all times to reassure First Nations. Land access to the island would be significantly constrained during construction because of the physical footprint of the works, with temporary consequences for traditional activities, cultural gatherings, and a community-owned business operated by the Wolf Lake First Nation. IAAC considers these mobility-related impacts to be short term, reversible, but occurring within a broader context of cumulative infrastructure projects on the island during the last 15 years. IAAC is also noting that navigation and access are expected to return to similar baseline conditions once construction is complete. IAAC considers this impact to be short-lived relative to the project's anticipated 75-year lifespan, which would complete major infrastructure on both sides of the island and provide long-term stability for interprovincial travel for future generations of Algonquins.

From an experiential perspective, IAAC recognizes that temporary access constraints and altered navigation could lead to fatigue, frustration, and additional travel planning, and may slightly affect the exercise of governance, stewardship, and culturally valued mobility and presence on and around Long Sault Island. To mitigate these effects, IAAC recommends comprehensive communication plans for all SART First Nations, with a targeted strategy for Wolf Lake First Nation to support business operations, inform customers, and improve predictability regarding access changes. Additional measures include maintaining traffic flow, proactively communicating navigation restrictions, enabling at least two major cultural gatherings on the island during construction, and ensuring active participation of SART First Nations in monitoring programs through on-site observers during key construction phases.



Considering the mitigation measures recommended by IAAC and based on the criteria set out in the assessment methodology, IAAC concludes that the severity of the project impacts on SART First Nation's right to access and occupy traditional land right would be low.

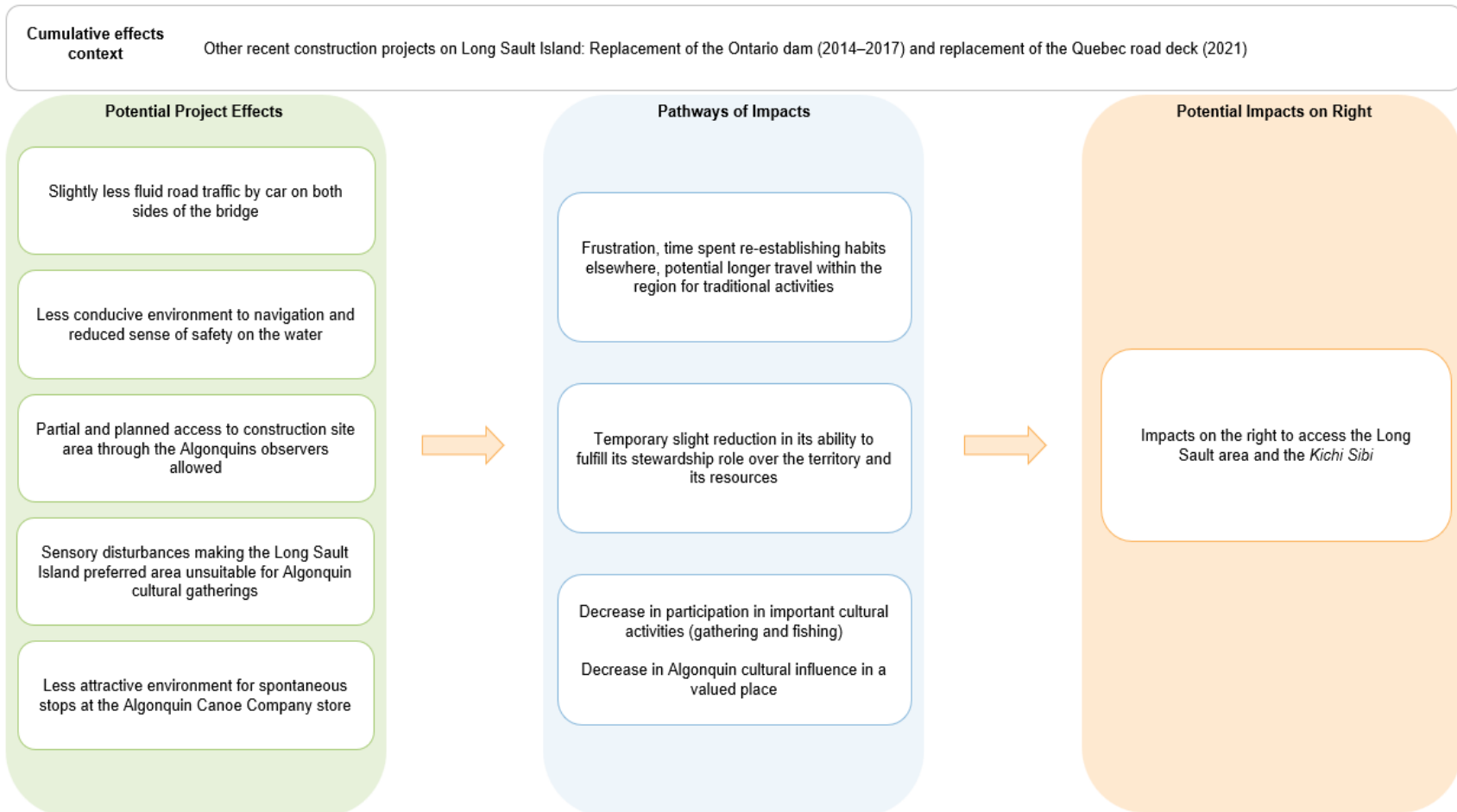
IAAC draws its conclusion on the fact that most adverse effects on mobility and access would be limited to the construction phase, manageable through adaptation and communication, and be fully reversible over the project's long operational lifespan. Figure 11 presents the pathway of impacts on the right to access and occupy the traditional territory.

SART First Nations' View on IAAC's Analysis and Conclusion on the Right of Access and Occupation of Traditional Territory

It is SART First Nations' assessment that the downstream option for the project as presented in the environmental assessment report is expected to have **significant adverse impacts** on the right to access and occupy traditional territory with emphasis on changing water flows at the Project and access to fishing grounds from bridge infrastructure and Gordon Creek.



Figure 11: Pathway of Impacts on the Right to Access and Occupy Traditional Territory – Construction phase





Right to harvest

Context provided by SART First Nations

The cost of groceries is an issue for many SART First Nations' members. Neither the Kebaowek First Nation nor the Timiskaming First Nation have a grocery store on their reserves, so they travel to major shopping centres in Ontario cities (North Bay for Kebaowek First Nation and New Liskeard for Timiskaming First Nation). Food shopping requires driving quite long distances. This is expensive and time-consuming. Many people, both on and off the reserves, said that they sometimes ran out of food and needed to use a food bank. All three SART First Nations have food banks.

SART First Nations would like to underline the relation between colonial practices and migratory species:

« The relationship nexus between First Nations (Canada), Tribal Nations (US) and *Anguilla rostrata* has been under-documented amid a violent and oppressive history of colonial practices, which render poor outcomes for ecology that support eel migration. In fact, some of the most egregious environmental injustices for migratory animals, fish in particular, result from the exclusion and undermining of Indigenous knowledge and perspectives related to water governance. » (Gansworth, 2025; Marine Policy 155, 2024; Muir et al., JSARTnal of Great Lakes Research, 49 (2023).

SART First Nations emphasized the alarming decline in Neme populations due to the impact of the Ontario dam replacement project on their spawning habitat and capabilities. This loss has disrupted SART First Nations' inherent rights and responsibilities with regard to the Neme, as well as their traditional way of life. SART First Nations have proposed a Neme Conservation and Co-Management Plan, and is requesting the application of extinction accounting as a governance tool to address biodiversity loss in the context of the Anishinaabeg people's inherent rights, laws and responsibilities.

IAAC Main Findings on Impacts to SART First Nations Right to Harvest



IAAC expects no noticeable effects on terrestrial game harvesting and only a temporary, fully reversible reduction in plant harvesting during construction, with revegetation measures anticipated to restore and potentially improve plant harvesting conditions once the work is completed.

Fishing success is likely to decrease mostly during the construction phase for most species, particularly around Long Sault Island, an area valued by the SART First Nations. Slight variations in fish availability may occur within a 50 kilometres downstream stretch of the river due to construction. IAAC has therefore recommended measures to reduce disturbance to fish and fish habitat at the source, alongside habitat offsetting and effectiveness of new spawning ground monitoring with tailored communication of the results to the nations, which would help alleviate stress related to the resumption of spawning locally inherent to Algonquin cultural well-being. Although some community members who rely heavily on fishing in this section of the Kichi Sibi may experience temporary reductions in food security, IAAC considers these effects short term. Community resilience, the ability to fish elsewhere during construction, and advance communication are expected to help maintain food security.

Given that lake sturgeons generally don't spawn every year, the potential loss of up to three spawning seasons introduces uncertainty regarding construction phase duration effects. Regarding lake sturgeon availability, it is possible that impacts will be felt beyond the construction period, i.e., until the fish habitat offsetting is completed and functional, approximately more than five years. IAAC recommended exploring fish stocking to minimize this effect to the proponent. If fish stocking appears to be impossible or not relevant, other measures will be identified through the proponent's offsetting plan required by the *Fisheries Act*. Fisheries and Oceans Canada is responsible for approving the proponent's offsetting plan. At the time of writing this report, the proponent had submitted only preliminary plans to Fisheries and Oceans Canada.

IAAC reiterates that the offsetting plan, designed in consultation with the Indigenous groups, must be relevant and sufficient to offset:

- temporary and permanent losses;
- the time lag between the losses and the point at which mitigation measures are fully operational;
- any uncertainty related to the success of mitigation measures.

SART First Nations are expected to participate actively in all mitigation measures related to fish, reflecting the cultural importance of their knowledge about fish. IAAC recognizes that lake sturgeons and its spawning grounds are considered sacred in Algonquin culture, and that the destruction of spawning grounds could carry a significant negative symbolic and spiritual burden for some members of the SART First Nations. During construction, noise and in water- work may temporarily reduce the quality of the fishing experience, including access to a sacred lake sturgeon spawning ground of high cultural



and spiritual importance to the SART First Nations. However, IAAC recommended mitigation measures and effective communication plan allowing relocating fishing activities temporarily and the opportunity for one intercultural transmission activity during construction, are intended to reduce the duration, increase reversibility, and reduce cultural impacts of these disturbances. IAAC also recommended a monitoring program to assess access to and the quality of the experience at Long Sault Island in response to First Nations' requests to maintain the well-being necessary for harvesting. IAAC required the developer to establish a protocol with the First Nations to determine when the water would reach the ideal temperature to protect an eventual last lake sturgeon spawning before construction begins.

Overall, IAAC recognizes the cumulative impacts of historical development on lake sturgeon habitat in the Kichi Sibi and acknowledges that this project construction phase adds to those pressures. However, meaningful participation of SART First Nations in mitigation and monitoring measures will help limit and manage impacts on fishing and harvesting rights. IAAC also underlines that the project may include a fishway, whose selection would be made in consultation with the SART First Nations, could reduce the historic lake sturgeon habitat fragmentation in this area.

IAAC recognizes the desire of the SART First Nations to participate in a co-management of lake sturgeon populations in the Kichi Sibi, a desire that was repeatedly expressed during the environmental assessment. IAAC underlines that this plan goes beyond the influence of the proponent and the scope of this environmental assessment. Nevertheless, IAAC has been discussing the content of this plan with Fisheries and Oceans Canada. Fisheries and Oceans Canada is open to discuss SART First Nations' plan on lake sturgeon through their future consultation on fish habitat offsetting for this project.

Considering the mitigation measures and the follow-up programs recommended by IAAC, the Fisheries and Oceans Canada permitting process, and based on the criteria set out in the assessment methodology, IAAC concludes that the severity of project impacts on the exercise of SART First Nations rights to harvest would be low to moderate.

IAAC draws its conclusion notably on the fact that the project effects would occur mainly during the three-year construction phase and the early years of operation. IAAC considers that the fish availability is reversible with the offsetting plan. IAAC also considered the sacred nature of both lake sturgeons and the affected spawning ground. Finally, IAAC considered that SART First Nations maintain that some impacts on their fishing rights cannot be fully mitigated. Figure 12 presents the pathway of impacts on the right to harvest.



SART First Nations' View on IAAC's Analysis and Conclusion on the Right to Harvest

It is SART First Nations' assessment that the downstream option for the project as presented in the environmental assessment report is expected to have **significant adverse impacts** on our right to harvest with emphasis on the Timiskaming Dam Complex and the Project continued impact on Aboriginal fisheries spawning grounds and life cycles.

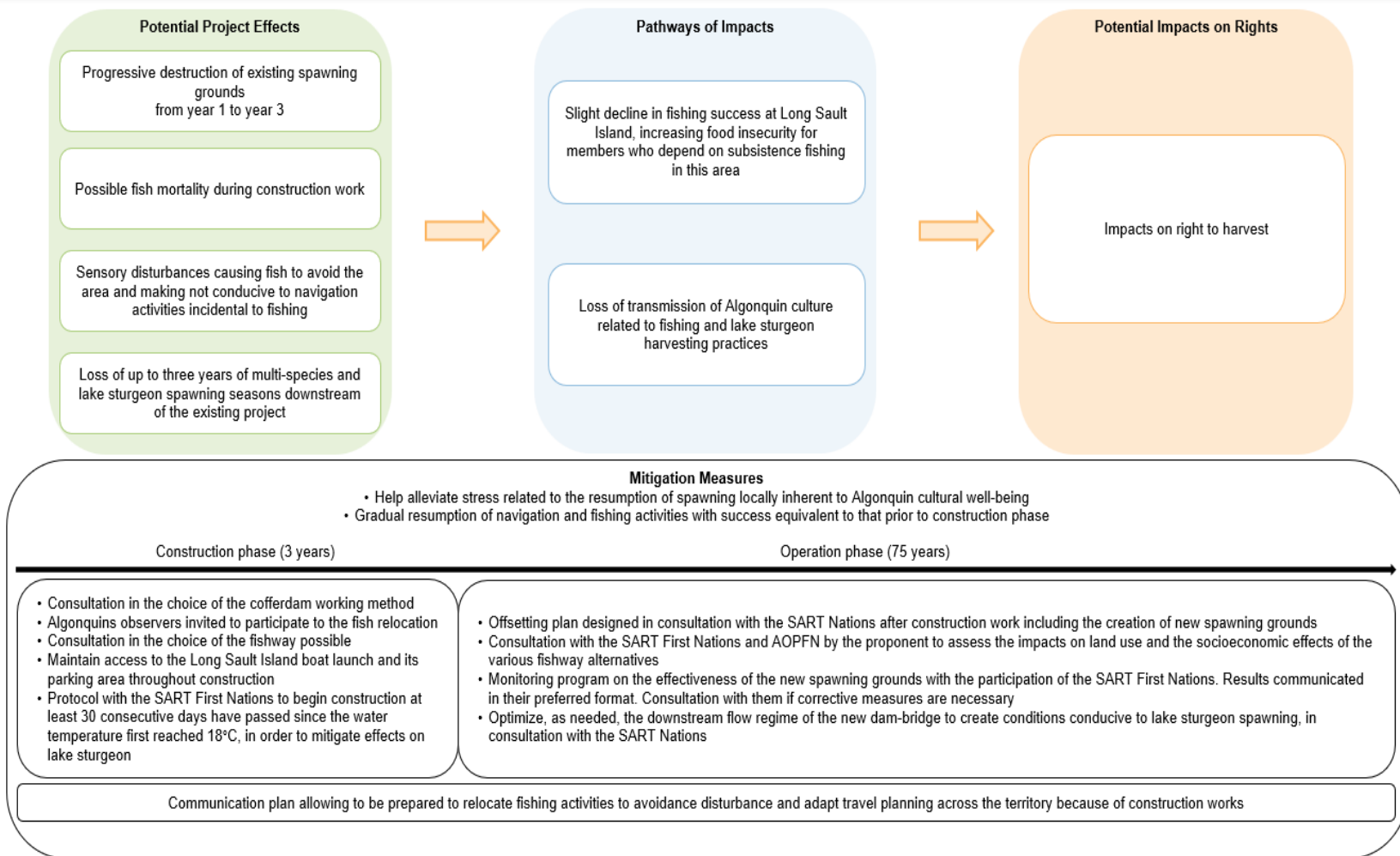
SART First Nations request condition to engage SART's fisheries committee facilitating the transition from the environmental assessment stage to the Fisheries and Oceans Canada regulatory stage.

In Chapter 5.1 (Fish and Fish Habitat), IAAC assesses that the residual effects of the project on fish and fish habitat, including benthic fauna and species of special status, are likely to be moderate. SART First Nation rates the impact as severe significance of effects.

Thus, IAAC concludes that there is likely to be no significant residual effects on the traditional use of land and resources. SART First Nations disagree and identify that the project amplifies and continues to escalate residual effects on the traditional use of lands and resources.



Figure 12: Pathways of Impacts on the Right to Harvest in Long Sault Island Area – Construction phase





Right to a Safe and Healthy Environment

Context provided by SART First Nations

The Project is located directly within the Rights and Title Traditional Territories of the Anishinaabeg Nation. Water controlled by the Timiskaming Dam Complex comes directly from the Upper Ottawa River, which is fed by many tributaries on Anishinaabeg Aki (land).

The cumulative effects of the Project in conjunction with industrial activities adjacent to the project site have not been fully assessed. These activities include emissions from, management of RYAM wastes currently on site, remediation of contaminated areas and riparian shoreline. The severity of these impacts is likely to be high. SART First Nations are currently reviewing various cumulative effects to properly assess the project impacts on SART First Nations' exercise of rights in and around the Project. SART First Nations can describe the exercise of rights that are already curtailed, in order to understand their vulnerability to new harmful effects by the Project. SART First Nations do not agree with IAAC wording of "perception of contamination". Past historical events have proved SART First Nations "perceptions" were right and that environment of SART First Nations was completely destroyed and SART First Nations' people had to move or harvest else where.

Within Algonquin Anishinaabeg societal knowledge(s), women's responsibility extends to the protection and preservation of Nibi, water. In these understandings, all forms of water are considered. "Women generate water, while their child is within their first lodge, within their bodies. Anishinaabekwe have these life responsibilities...which also encompass water animals and other beings" (Mcguire, P., 2020, p. 21). Reconciliation begins with recognition of women's life-giving and supporting relationships to our territories and our shared targets of improving biodiversity, ecosystem health, and socio-economic health.

This Project adds to Anishinaabeg SART community alienation from their unceded lands, disruption of water and land-based livelihoods, reduction in food availability and negative impacts on their mental health and spiritual well-being. The cumulative effects of the project on SART First Nations members health and women's responsibilities as water keepers must be considered.

IAAC Main Findings on Impacts to SART First Nations Right to a Safe and Healthy Environment

IAAC recognizes that the Kichi Sibi watershed has undergone extensive development over the past century, which has altered water quality and water resources, increasing real and perceived contamination in various locations.

IAAC notes that, from the outset, and although fish consumption is possible and not subject to any public health restrictions, many members of the SART First Nations



already avoided the project area due to proven historical contamination associated with a paper mill located on the opposite shore. Despite this baseline avoidance, some SART First Nations' members still fish at Long Sault Island and rely on that location for subsistence fishing.

During the construction phase, the project could increase noise and dust, temporarily reducing local air quality, and could increase risks of suspended sediments (still potentially contaminated by the paper mill) during in-river work, potentially affecting water quality and the real and perceived contamination. These changes—especially heightened concerns about water quality—could lead to greater avoidance of fishing and cultural use of Long Sault Island and nearby waters, with knock-on effects on food security, cultural well-being, and physical/psychological well-being. Concerns about contamination also intersect with Algonquin cultural values tied to the sacred lake sturgeon and broader river biodiversity health (including hickorynuts potentially present in the riverbed), which could be harmed by construction activities if not protected.

To mitigate construction-phase effects and, importantly, reduce resource avoidance linked to long-standing contamination concerns, IAAC recommended a set of measures designed to maximize SART First Nations' confidence in environmental quality and improve predictability for land users. An independent environmental monitor would oversee and present water quality monitoring results during construction directly to the SART First Nations in their preferred format, supported by a reporting approach to document any exceedances of established thresholds. In-water works would be managed through the installation of a turbidity curtain and the treatment of water returned to the river, with Algonquin observers present during critical activities (including turbidity curtain installation) to strengthen oversight, stewardship, and trust in the integrity of mitigation. The proponent will also comply with applicable municipal and provincial noise standards and implement air quality monitoring to track and manage dust and other temporary emissions. A communication plan will provide advance notice and clearer scheduling so Nation members can plan cultural gatherings and fishing activities outside periods of disturbance or temporarily relocate activities to alternative locations if desired. Measures to promptly inform the SART First Nations of any accidents, malfunctions, or other events that could affect water quality, combined with an accessible complaint system, will support rapid issue identification and response. In addition, the proponent would work directly with the Algonquin Canoe Company located on Long Sault Island to develop site-specific mitigation to reduce acoustic and nuisance impacts on workers and visitors. IAAC also recommended an inventory and the hickorynuts relocation in consultation with the SART First Nations to protect culturally important biodiversity associated with the sacred lake sturgeon healthy ecosystem.

Overall, IAAC expects that confidence in water and resource quality may decline at the beginning of construction, then gradually improve from year 1 to year 3 as monitoring data accumulates and observers participate on site. Increase avoidance driven by perceived contamination is considered reversible, with a likely return to baseline



conditions (or a potential slight improvement) after several years of consistent monitoring and communication. Noise and dust impacts are expected to be continuous during construction but fully reversible once construction ends. In contrast, IAAC anticipates no impacts to air, water, or resource quality during the operation phase, and it does not expect contamination issues once the project is operating, especially given the required construction phase controls and the relatively short construction duration. Finally, this environmental assessment anticipates that fish would continue to be safe for consumption.

Considering the mitigation measures and follow-up program recommended by IAAC and based on the criteria set out in the assessment methodology, IAAC concludes that the severity of project impacts on the exercise of SART First Nations right to a safe and healthy environment would be low. Figure 13 presents the pathway of impacts on the right to a safe and healthy environment.

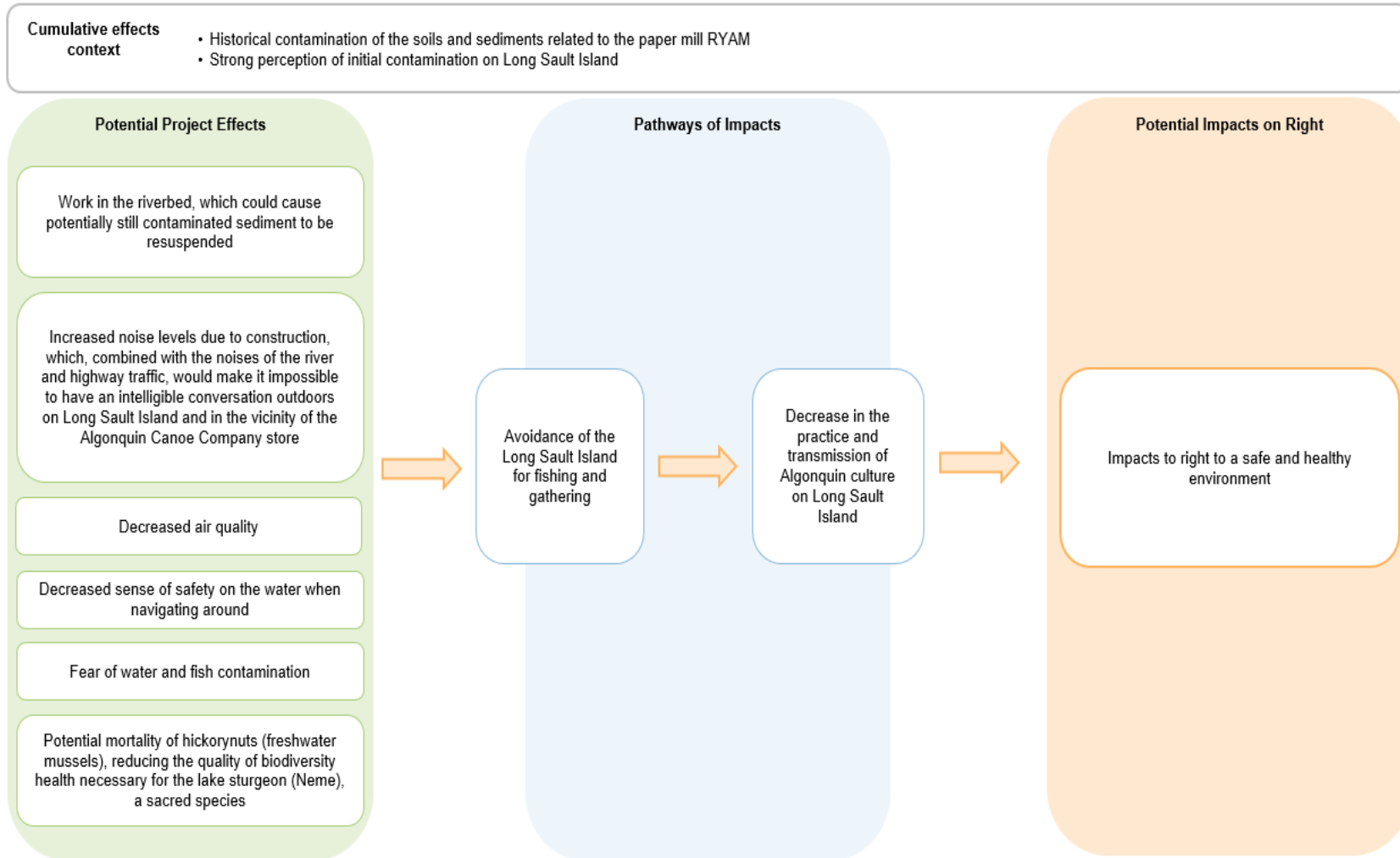
SART First Nations' View on IAAC's Analysis and Conclusion on the Right to a Safe and Healthy Environment

It is SART First Nations' assessment that the downstream option for the Project as presented in the environmental assessment report is expected to have significant cumulative impacts on Anishinaabeg SART community alienation from their fisheries, disruption of water and land-based livelihoods, reduction in food availability and negative impacts on members' mental health and spiritual well-being. The cumulative effects of the Project on SART First Nations members' health and right to a healthy environment must be considered.

To protect, regenerate and steward the ecological and environmental health, harvest and beauty of SART First Nations' land, waters, air and natural heritage throughout its traditional territory for current and future generations. We focus on educating ourselves and others in a healthy way of living (Bimaadziwin) in a respectful relationship with our environment, based on our Algonquin knowledge and culture.



Figure 13: Pathways of Impacts on the Right to a Safe and Healthy Environment – Construction phase





Right to Maintain a Cultural and Spiritual Relationship with the Territory

Context provided by SART First Nations

SART First Nations stressed that the well-being and connection to their ancestors are intricately linked to the health of the entire ecosystem, access to territory and the cultural sustainability through current and future land use. SART First Nations highlighted the importance of restoring Neme and all Aboriginal fisheries populations to facilitate the improvement and future for fishing and associated cultural land use activities and learning, such as food sharing and feasts.

IAAC Main Findings on Impacts to SART First Nations Right to Maintain a Cultural and Spiritual Relationship with the Territory

During the approximately three-year construction phase, Long Sault Island is expected to be physically accessible but less attractive and less suitable for regular cultural community gatherings—notably around the Algonquin Canoe Company buildings—because construction would create sensory disturbances and a noticeable physical footprint, including the temporary loss of vegetation over about 1,025 m². IAAC recognized that several gatherings would have to be temporarily relocated; for this reason, it recommended an effective communication plan to allow the First Nations to plan alternative locations in advance for about three years. However, IAAC also recommended pausing work so the SART First Nations can gather at their preferred site on at least twice a year during construction. IAAC also considered that the temporary loss of the quality of the experience at Long Sault Island could affect cultural transmission and sense of belonging, so it recommended compensation for cultural gathering loss during construction through the creation of an Algonquin cultural space (including basic outdoor facilities to support Algonquin cultural gatherings) or the improvement of an existing space for this purpose. IAAC has determined that a monitoring program is needed to track the well-being of First Nations communities in relation to cultural gatherings on Long Sault Island, in order to monitor the quality of cultural gatherings held during the construction suspension and during the operational phase, through the use of the new gathering space.

To restore the island's heritage landscape, IAAC recommended measures to ensure satisfactory revegetation of Long Sault Island after construction so that its visual appearance is restored in line with the heritage significance accorded to it by the SART First Nations. IAAC also maximized the participation of the SART First Nations in the selection of plants and trees to be planted and recommended preserving an area of the island free of future development that could be used as a garden of native plants. Because the project would change the road alignment, IAAC recommended revegetating the existing footprint to maintain physical access to Long Sault Island for practicing Algonquin culture during operation. IAAC anticipated that a few years of operation would be necessary for vegetation to mature and restore the landscape, and indicated that the



effects on the visual appearance of sites used for cultural practices would be continuous during construction and then persist through the revegetation period needed for mature plants and trees during operation—around 10 to 20 years—but that these effects are reversible. After one or two decades of operation, the visual characteristics of Long Sault Island allowing connection to the land could even be better than those of the reference state because of the mitigation measures recommended. In the interest of fairness for Wolf Lake First Nation, IAAC also recommended improvements to the area surrounding the Algonquin Canoe Company so it would remain visually appealing for gatherings and attract tourists during the operational phase. For the operational phase, IAAC assessed that the project is not likely to alter access to the island for cultural practices or the beauty of its landscapes. To reduce impacts on cultural well-being and to restore and recognize Algonquin heritage once the work is completed, IAAC identified a measure requiring new cultural signage on Long Sault Island highlighting its Algonquin heritage and its importance in Algonquin culture and also recommended adding visual elements after completion to restore and highlight the island's Algonquin heritage.

To address concerns about potential damage to artifacts, IAAC recommended conducting a riverbed archaeological inventory with SART First Nations representatives present, if safe, to help maintain their connection to the land in another way during the construction phase.

Finally, acknowledging potential cumulative effects on Algonquin cultural transmission on Long Sault Island—given the repeated development in the area in the last 15 years—IAAC recommended that the proponent be required to participate to the development of a project that would be culturally relevant, led by the SART First Nations, for intergenerational transmission during the construction phase.

IAAC also recommended the participation of SART First Nations representatives in several mitigation measures related to water and fish habitat offsetting, including measures requiring the proponent to consult with the SART First Nations on the dam management plan and on the conditions necessary for lake sturgeon reproduction in operational flows. IAAC suggests that the SART First Nations could choose to involve Algonquin women as their representatives in these water-related mitigation measures and monitoring programs so that women who participate can share their knowledge and influence project governance by their traditional knowledge on the waters, while IAAC recognizes that representation choices remain with the First Nations.

Considering the mitigation measures recommended by IAAC and based on the criteria set out in the assessment methodology, IAAC concludes that the severity of project impacts on the exercise of SART First Nations' rights to maintain a cultural and spiritual relationship with the territory would be low. IAAC draws this conclusion notably on the fact that a vast majority of the adverse effects to cultural land connection would occur during the three-year construction phase. Figure 14 presents the pathway of impacts on the right to maintain a cultural and spiritual relationship with the land.

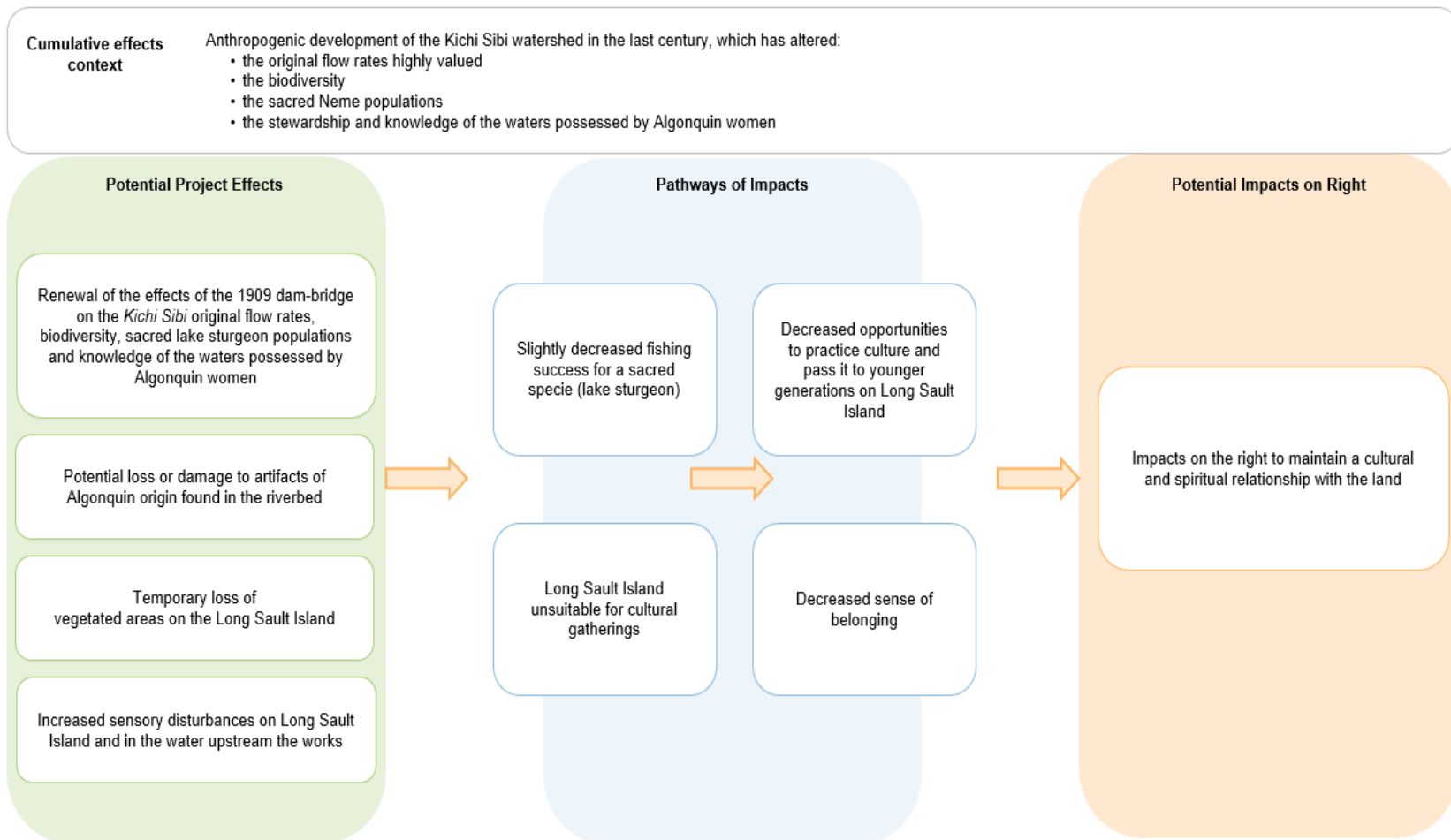


SART First Nations' View on IAAC's Analysis and Conclusion on the Right to Maintain a Cultural and Spiritual Relationship with the Land

It is SART First Nations' assessment that the downstream option for the Project as presented in the environmental assessment report is expected to have significant adverse impacts on Rights to maintain a cultural and spiritual relationship with the territory with significant emphasis on Long Sault Island and Gordon Creek as both as a historic and contemporary Algonquin Anishinaabeg ceremonial gathering location.



Figure 14: Pathways of Impacts on the Right to Maintain a Cultural and Spiritual Relationship with the Land – Construction Phase





Right to Cultural Dignity and Socio-Economic Development

Context provided by SART First Nations

Wolf Lake First Nation and the Algonquin Nation Secretariat Tribal Council host summer gatherings on the island. The store produces and sells local crafts and offers workshops to community members on site. These local crafts include sewing, beadwork, working a loom, curing hides/doing leatherwork, making moccasins, leather mitts, carving, regalia making, snowshoe making, moose calls, paint/drawing, drumming, jewelry making, birch bark crafts, rattle making, medicine making, teas, jams and jellies from wild fruits.

IAAC Main Findings on Impacts to SART First Nations Right to Cultural Dignity and Socio-Economic Development

IAAC reiterates that the construction phase of the project is likely to have adverse effects on a craft sales and boat rental business, the Algonquin Canoe Company, owned by the Wolf Lake First Nation Band Council, which is located on federal lands (see chapter 5.8).

IAAC acknowledges that Long Sault Island has been the site of several construction projects over the past 15 years, which have successively impacted the Algonquin Canoe Company, requiring it to demonstrate resilience and adaptability. IAAC is also aware that when the dam on the Ontario side was replaced by the same proponent, no compensatory measures were successfully taken for the Algonquin Canoe Company's financial losses. IAAC therefore recognizes that the current project is part of a negative and recent cumulative context for the Algonquin Canoe Company.

During the three-year construction phase, IAAC anticipates temporary declines in Algonquin Canoe Company sales, canoe rentals, and cultural influence due to reduced tourist stop appeal, potential safety concerns for navigation on the water, noise, and dust accumulation on these heritage-valued buildings. However, IAAC emphasizes that physical access to the Algonquin Canoe Company would always be maintained.

To reduce impacts during construction, the proponent already committed to maintaining smooth access to the business and working closely with the Wolf Lake First Nation through a communication plan that makes disruptions more predictable and allows the Algonquin Canoe Company to adjust its operations. Visitors would be clearly informed that the business remains open by signs installed at the proponent's expense, while practical measures—such as cleaning dust from heritage buildings, responding quickly to complaints, and implementing noise controls—would help protect cultural dignity and the experience on site. Air quality would also be monitored near the closest human receptors (which would be the Algonquin Canoe Company), with corrective actions taken if needed, and the area would be restored after construction through landscaping and visual improvements, including measures to restore and recognize Algonquin heritage on Long Sault Island to support renewed visitor interest. IAAC also required the proponent to



assess, in consultation with First Nations, the socio-economic impacts of the various fish passage options.

IAAC also requires a financial loss monitoring program and the identification of compensatory measures in consultation with the Wolf Lake First Nation, intended to offset temporary income losses (including Algonquin artists), reduce related stress and anxiety, and support the Algonquin Canoe Company's broader community goals (youth employment, ecotourism, education, land stewardship). No impacts are expected during the operation phase.

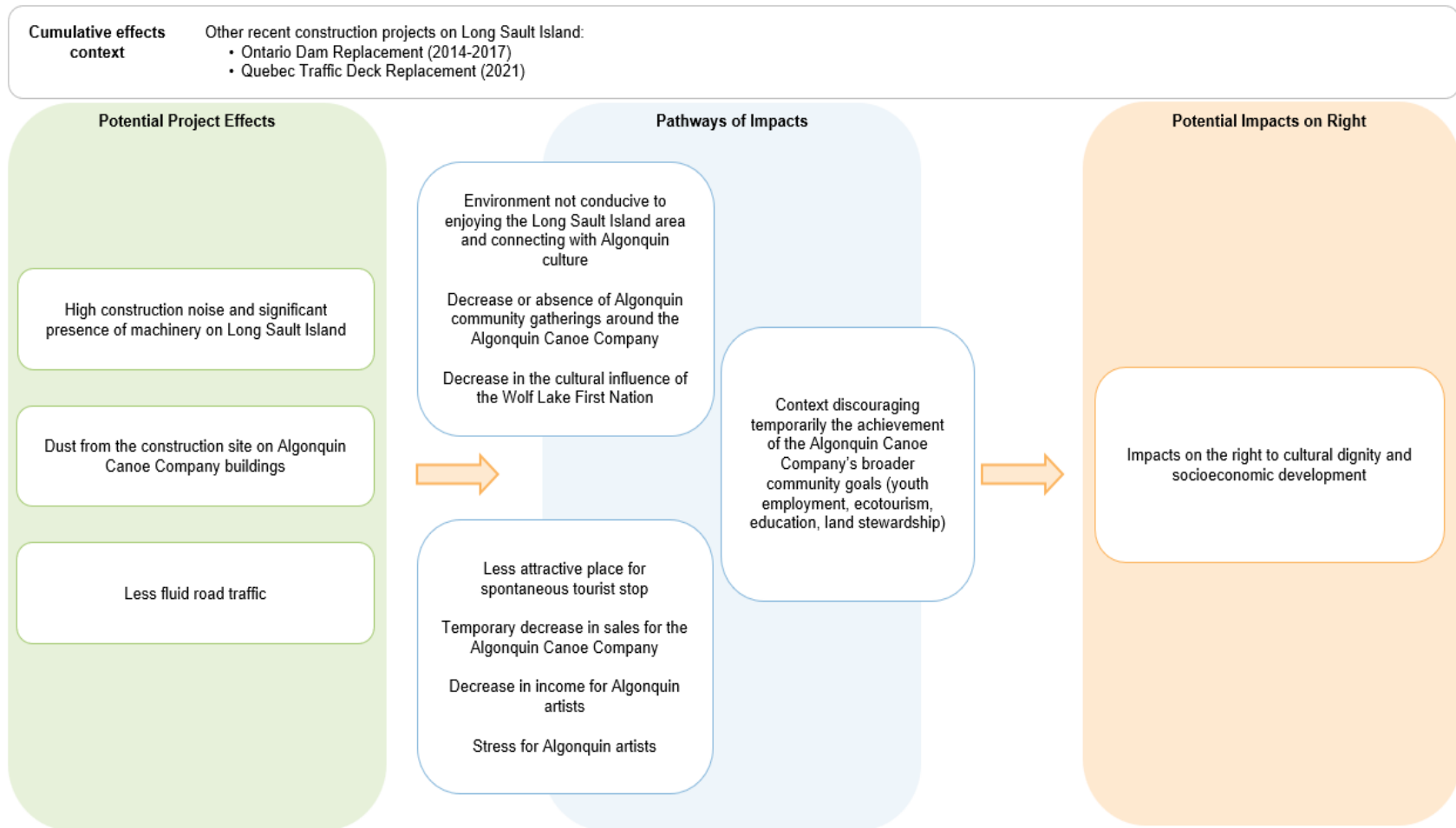
Considering the mitigation measures and follow-up program recommended by IAAC and based on the criteria set out in the assessment methodology, IAAC concludes that the severity of project impacts on the exercise of SART First Nations right to cultural dignity and socio-economic development would be low. IAAC draws this conclusion notably on the fact that a vast majority of the adverse effects to the Algonquin Canoe Company socio-economic conditions and cultural influence would occur during the three-year construction phase. IAAC also considers the fact that the proponent committed to all mitigation measures identified in the *Algonquin Canoe Company: Business Impact Analysis Report* to guarantee a fluid access to the Algonquin Canoe Company during the construction phase. Figure 15 presents the pathway of impacts on the right to cultural dignity and socio-economic development.

SART First Nations' View on IAAC's Analysis and Conclusion on the Right to Cultural Dignity and Socio-Economic Development

It is SART First Nations' assessment that the downstream option for the Project as presented in the environmental assessment report is expected to have significant adverse impacts on Rights to dignity of culture and enterprise with emphasis on project disrupting Algonquin Canoe Company business and cultural gatherings on Long Sault Island, for example, National Aboriginal Day.



Figure 15: Pathways of Impacts on the Right to Cultural and Socio-economic Development – Construction phase





Right to Govern and Protect the Territory

Context provided by SART First Nations

This report's chapter on land use presents the project presents cumulative jurisdictional and environmental changes that affect the current and future use and governance of land and resources protected by Section 35 constitutional rights including the free, prior and informed consent of the Anishinaabeg Nations.

Protecting water quantity and quality has extremely high value for SART First Nations and the contemporary and future exercise of their land rights and responsibilities. Impacts at the Project site continues to be severe.

Throughout the EIS, SART First Nations expressed its concerns about the project as proposed and as assessed. SART First Nations sought community free, prior and informed consent on an alternative design build solution and development of a collaborative agreement with the proponent as a mechanism to ensure protection of the spawning bed at the Project site.

SART First Nations provides their needs regarding the project:

- The need for automation and management of more gradual changes to water levels to minimize impacts on Aboriginal fisheries life cycles.
- The need for holistic understanding of project impacts and how the consideration of significant effects and broader project effects on land use must be included in the finalization of terms and conditions with the proponent.
- The need for clarity regarding the purposes of the SART First Nations alternative design-build solution and how that is described in IAAC Decision Document Statement.

This combines with continued Timiskaming Dam Complex water flow alterations that negatively impact the lake sturgeon life cycle and other ecological biodiversity alongside SART First Nations member navigation conditions. SART First Nations suggest the fishway subject must be addressed as part of the offsetting plan and not later in the process. The proponent has changed the fishway from the proposal in the final EIS to a sluice gate option without SART First Nations consultation.

IAAC Main Findings on Impacts to SART First Nations Rights to Govern and Protect the Territory

IAAC acknowledges that the SART First Nations have expressed a desire to exercise stewardship by determining the project design and cofferdam working method that would least affect lake sturgeon prior the end of this environmental assessment process. Further, IAAC understands that SART First Nations expressed that this environmental assessment process and proponent consultation over the last decade did not allow them



to fully make that choice and that they have characterized as an impact on their right to govern and protect the territory. IAAC also recognizes that the SART First Nations have argued that they have invested a great deal of energy in asserting their right to governance and that this time investment has led to consultation fatigue. IAAC also understands the connection that the SART First Nations make between this time invested in evaluating the project was time not invested in other issues that are equally important to these communities, potentially affecting their broader cultural well-being.

IAAC understands that SART First Nations link this concern with cultural obligations to their treaty relationship with the living beings on the land and waters. IAAC understands that the right to decide is essential for the SART First Nations to fulfil their cultural obligations, which are considered to be as important as a treaty relationship with the living beings on the land and waters.

At the same time, IAAC notes that some effects on the spawning grounds are unavoidable when replacing this interprovincial link, regardless of the project design. In addition, IAAC also recognizes that the construction phase and the footprint of the working zones will make harder for SART First Nations to be fully present on the island to exercise stewardship responsibilities noting that is an Algonquin heritage place.

To mitigate impacts on lake sturgeon and reduce concerns regarding governance and stewardship, IAAC recommended a set of measures that maximize SART First Nations' consultation in decisions, monitoring, and on-the-ground oversight. IAAC would like to highlight the fact that it required the proponent to conduct a feasibility study on the choice of cofferdam working method in consultation with the SART First Nations and with Fisheries and Oceans Canada expertise. IAAC required the proponent to specifically evaluate the preferred option of the SART First Nations regarding the cofferdam construction method—namely, sheet piling—which demonstrates the influence the First Nations had on the mitigation measures deemed necessary for the project. IAAC considers that SART First Nations have succeeded in partially influencing the design of the project by making it essential to compare cofferdam working methods on fish habitat. Although the choice of work method remains uncertain at the time of concluding this environmental assessment, IAAC believes that SART First Nations' involvement has influenced this aspect of project planning, demonstrating that their concerns related to stewardship of land and resources were addressed through the assessment process.

IAAC also included enabling safe, agreed-upon access for SART First Nations' observers on the construction site to reduce the frequency of access loss to Long Sault Island for monitoring and stewardship. IAAC also recommends that SART First Nations Algonquin observers to be present during key activities such as fish relocation, hickorynut surveys and relocation, and the installation of turbidity curtains, as well as during the archaeological inventory of the riverbed, so they can observe, ask questions, relay concerns to their communities, and strengthen confidence in compliance and construction quality.



In addition, IAAC recommends measures directly aimed at protecting lake sturgeon, including monitoring the effectiveness of restored spawning grounds, with SART First Nations playing a role in that follow-up and receiving results in the manner they prefer. More broadly, IAAC recommends mitigation related to fish, fishway selection, and dam management that would keep SART First Nation engaged and allow them to share Algonquin knowledge and expertise, recognizing their role in environmental oversight and decision-making and helping to reduce impacts on cultural well-being. IAAC also included, in its mitigation measures, a requirement that the proponent take into account the objectives and recommendations identified in the SART First Nation's *Neme (Lake Sturgeon) Conservation Plan for the Ottawa River* when addressing mitigation of impacts on lake sturgeon. This measure demonstrates the importance of incorporating the knowledge and stewardship of the SART First Nations into decisions regarding fish. IAAC required that the proponent establish an environmental monitoring committee with the SART First Nations in which they could participate on an ongoing basis, further recognizing the importance of their participation in monitoring the project's environmental quality. Finally, IAAC notes the proponent's commitment to conclude an Environmental and Socio-Economic Management Plan (ESMP) with the SART First Nations to support involvement and provide training and employment opportunities. IAAC also recognizing the cumulative historical context in which SART First Nations were often excluded from decisions affecting the Ottawa River and Long Sault Island in the last century. This includes, as SART First Nations mentioned, the Ontario dam-bridge replacement project done without engagement of the SART First Nations.

IAAC also considers the fact that, at the end of this environmental assessment, SART First Nations continue to argue that a change in the project design (cofferdam working method mainly that is still subject to a feasibility study at the time of writing this report) is necessary and maintains that impacts remain despite mitigation measures. IAAC took into account the position advanced by SART First Nations which, in their opinion, includes the right to decide on project designs in their traditional territory, and noting that the current situation has not allowed them to make this choice.

IAAC also considers the fact that the project, as assessed, would still not comply with SART First Nations customs, protocols, and law. IAAC notes the fact that the project has a long lifespan and that this dissatisfaction and perceived inconsistency with their stewardship of the territory could potentially continue throughout the operational phase.

Considering the mitigation measures and follow-up programs recommended by IAAC and based on the criteria set out in the assessment methodology, IAAC concludes that the severity of project impacts on the exercise of SART First Nations' right to govern and protect the territory would be low to moderate. IAAC draws its conclusion notably on SART First Nations' perspective of the right to govern and the high level of involvement recommended for the SART First Nations in most of the mitigation measures and recommended follow-up programs. Figure 16 presents the pathway of impacts on the right to govern and protect the territory.



SART First Nations' View on IAAC's Analysis and Conclusion on the Right to Govern and Protect the Territory

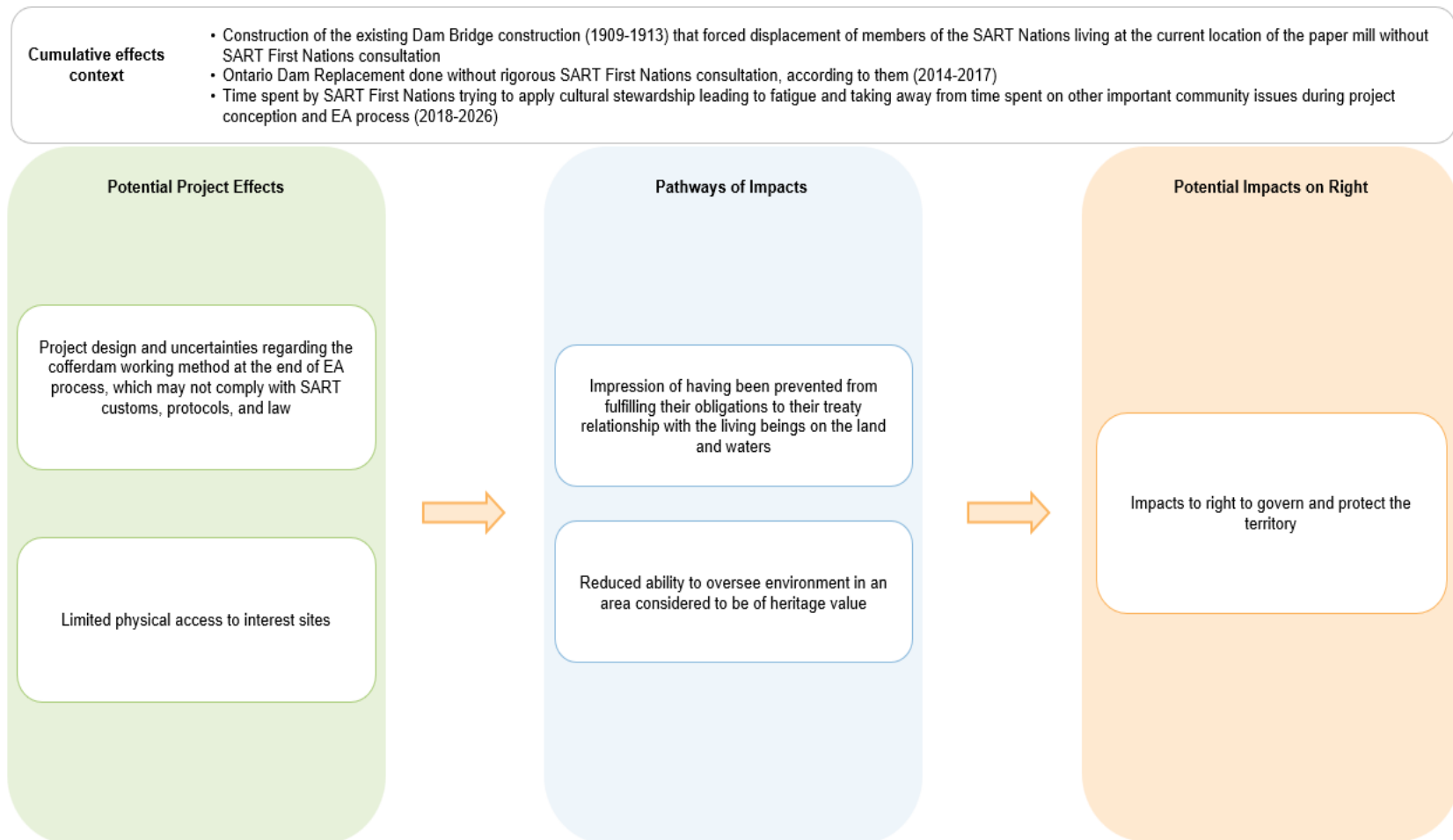
It is SART First Nations' assessment that the downstream option for the Project as presented in the environmental assessment report is expected to have significant adverse impacts on our Right to govern and protect the territory with emphasis on our inherent responsibility to protect the threatened Neme population which in our laws is the leader of the Fish Nation. It needs:

- for extinction accounting
- that decision-making regarding the Project will be in keeping with provisions of UNDRIP and *United Nations Declaration on the Rights of Indigenous Peoples Act*.

SART First Nations request condition to engage SART's fisheries committee facilitating the transition from the environmental assessment stage to the Fisheries and Oceans Canada regulatory stage.



Figure 16: Pathways of Impacts on the Right to Govern and Protect the Territory – Construction Phase





7.3.2 Algonquins of Pikwakanagan First Nation (AOPFN) Rights Impact Assessment written by IAAC

Consultations

In the following analysis, IAAC presents its conclusions by applying the “Guidance: Assessment Potential Impacts on the Rights of Indigenous Peoples”. IAAC organized its reasoning through AOPFN rights enabling factors identified in its *Cumulative effects study* to draw on the holistic vision of the AOPFN. The AOPFN rights enabling factors identified for each right are the italic subtitles throughout the text.

Right to harvest

IAAC Main Findings on Impacts to AOPFN Rights to Harvest

Reasonable access to lands, waters, and resources, accessible within the constraints of time and cost

The project is designed to maintain car access by keeping the existing crossing open while the new bridge is built approximately 19 metres downstream, thereby limiting disruptions to traffic to access land-use areas. Despite this mitigation, a moderate, geographically confined reduction in traffic flow is expected over the roughly three-year construction phase. IAAC considers these mobility-related impacts to be short term, reversible, but acknowledges that over the past 15 years, several other infrastructure projects have altered traffic flow on the island in some ways. IAAC requested that Long Sault Island boat launch remains accessible at all times so that navigation from downstream the island remains possible. IAAC believes that the Project is planned notably to ensure uninterrupted access between the two provinces, with similar travel times and costs.

An adequate land base on which to pursue harvesting and traditional use

Long Sault Island access would be significantly constrained during construction because of the physical footprint of the works and heavy machinery, that would make the island unattractive for traditional activities. IAAC assesses that direct navigation around Long Sault Island could be temporarily modified. The cofferdam and turbidity curtain could act as temporary physical barriers reducing the navigable area temporarily.

IAAC considers that general access to the island would be similar to the baseline once the surfaces have been revegetated and restored, which could take around two decades to be interesting both visually and for plant gathering. IAAC underlines that navigable surface is expected to return to similar baseline conditions once construction is complete. IAAC is of the view that the project will cause a negligible and reversible land base loss to pursue harvesting and traditional use.



Feeling of safety and security on the land

Marine navigation around Long Sault Island would also be temporarily affected, particularly near active construction zones where conditions may be less attractive or perceived as less safe; however, navigation outside these areas would remain largely unchanged. IAAC points out that no navigation exclusion zones are planned during the project. An existing navigation “warning zone” established for safety purposes, indicated visually by buoys and signs, would be renewed once the construction phase is complete. Once the construction phase is complete, the flow modifications associated with the new dam-bridge would change land user habits, prompting users of the area to once again demonstrate resilience in the face of changing conditions after the Ontario side of the dam replacement. Knowing that navigation safety on the Kichi Sibi is considered crucial for AOPFN, IAAC recalls that Transport Canada will engage with them for their permit process. This engagement process might help in getting confidence that safe navigation will remain possible after construction.

IAAC is of the view that the Project will result in a temporary loss of the sense of safety on the water in the immediate vicinity of the Project.

Healthy and abundant food plants

IAAC anticipates only a temporary, reversible reduction in plant harvesting during construction. In consultation with AOPFN, revegetation measures and the recommendation to keep part of the island free of future development are expected to restore and possibly improve current harvesting conditions, which would enable AOPFN land users to have access to healthy and abundant food plants.

Healthy populations of fish in preferred fishing water body (including Kichi Sibi)

IAAC expects no noticeable effects on terrestrial game harvesting from the project. However, fishing success is likely to decrease mostly during the construction phase for most species, particularly around Long Sault Island, an area valued by AOPFN. Due to the loss of a multispecies spawning ground that would have to be recreated downstream after the works, slight variations in fish availability may occur within a 50 kilometres downstream stretch of the Kichi Sibi, where AOPFN members have land use sites.

IAAC has therefore recommended measures to reduce disturbance to fish and fish habitat at the source, alongside habitat offsetting and effectiveness of new spawning ground monitoring with tailored communication of the results to the First Nations, which would help alleviate stress related to the resumption of spawning locally inherent to Algonquin cultural well-being. Although some community members who rely heavily on fishing in this section of the Kichi Sibi may experience temporary reductions in food security, IAAC considers these effects short term. Community resilience, the ability to fish elsewhere during construction, and advance communication are expected to help maintain food security.

Regarding lake sturgeon availability specifically, it is possible that impacts will be felt beyond the construction phase, i.e., until the fish habitat offsetting is completed and functional, approximately more than five years. IAAC recommended exploring fish stocking to minimize this effect to the proponent. If fish stocking appears to be impossible or not relevant, other measures will be identified through the proponent's offsetting plan required by the *Fisheries Act*. Fisheries and Oceans Canada is responsible for approving the proponent's offsetting plan. At the time of writing this report, the proponent had submitted only preliminary plans to Fisheries and Oceans Canada. IAAC reiterates that the offsetting plan, designed in consultation with the Indigenous groups, must be relevant and sufficient to offset:

- temporary and permanent losses;
- the time lag between the losses and the point at which mitigation measures are fully operational;
- any uncertainty related to the success of mitigation measures.

AOPFN are expected to participate actively in several mitigation measures related to fish, reflecting the cultural importance of their knowledge sharing about fish. Nonetheless, IAAC recognizes that AOPFN does not believe that the offsetting plan is a proper mitigation measure. IAAC acknowledges the validity of AOPFN's recommendations that offsetting should be provided prior to construction and should be structured to achieve a 3:1 offsetting ratio, according to AOPFN members knowledge. IAAC acknowledges that the federal environmental assessment process design does not allow for this sequence of events and that Fisheries and Oceans Canada will consult with AOPFN to determine the appropriate offsetting ratio for this specific project in a near future. IAAC also notes that, according to Fisheries and Oceans Canada, the quality of the existing spawning ground to be destroyed is poor and that the project could create a much higher quality one. IAAC underlines that it required the proponent to establish a protocol with the First Nations to determine when the water would reach the ideal temperature to protect an eventual last lake sturgeon spawning before construction begins. Taking into account the planned offsetting and the fact that the effectiveness of the restored spawning grounds will be monitored, IAAC believes that the project is designed to maintain fish populations in the Kichi Sibi.

Healthy and spiritual relationships with the land

IAAC is aware that according to AOPFN, all fish species of the Kichi Sibi are important for AOPFN land use, including walleye and eel that are not present anymore in the river because of cumulative historic development. AOPFN has a holistic understanding of nature, and the destruction of the spawning ground might affect their spiritual relationship with the land and the river. AOPFN mentioned to IAAC its need for an additional requirement for the proponent to assure that AOPFN can undertake appropriate cultural ceremonies to honor the relationship with the land before construction works begin, which IAAC did.



IAAC also recommended mitigation measures and effective communication plan allowing relocating fishing activities temporarily and the opportunity for one intercultural transmission activity during construction, are intended to reduce the duration, increase reversibility, and reduce cultural impacts of these disturbances. AOPFN underlined to IAAC the need for that opportunity to be designed by the First Nation to assure its cultural relevance. IAAC made changes to that measure to take that element into account. IAAC also recommended a monitoring program to assess access to and the quality of the experience at Long Sault Island in response to First Nations' requests to maintain the well-being necessary for harvesting. IAAC believes that, given the project's limited geographic scope and the measures taken following consultation with AOPFN, the project is designed to consider the ongoing relationship between health and spirituality tied to the territory.

High levels of traditional knowledge of specific locations, and the ability to pass this knowledge across generations

IAAC understands the connection that AOPFN draws between the large-scale development of the Kichi Sibi on eel populations and lake sturgeon habitat, the gradual loss of land suitable for traditional uses, and the decline in the intergenerational transmission of culture from one generation to another. Furthermore, IAAC acknowledges that this project construction phase adds to those pressures making the Long Sault Island area and its surroundings somewhat less appealing for general land use of the land.

However, meaningful participation of AOPFN in mitigation and monitoring measures will help limit and manage impacts on fishing and harvesting rights, enabling them to share their cultural knowledge. IAAC also underlines that the project may include a fish passage, whose selection would be made in consultation with the AOPFN, which could reduce the historic lake sturgeon habitat fragmentation in this area. IAAC also requested the proponent to offer AOPFN at least one opportunity for a culturally relevant activity during the construction phase which would help preserve a certain level of traditional knowledge specific to Long Sault Island.

Clean and plentiful water from natural sources on the land and confidence in the wild food quality enabling factors

IAAC notes that, from the outset, and although fish consumption is possible and not subject to any public health restrictions, AOPFN still considers the project area as likely contaminated due to proven historical contamination associated with RYAM located on the opposite shore. Despite potential fear and avoidance, AOPFN members still fish in the project area and rely on Kichi Sibi in general for subsistence fishing.

During the construction phase, the project could increase noise and dust, temporarily reducing local air quality, and could increase risks of suspended sediments (still potentially contaminated by RYAM) during in-river work, potentially affecting water quality

and the real and perceived contamination. These changes—especially heightened concerns about water quality—could lead to greater avoidance of fishing and cultural use of Long Sault Island and nearby waters, with knock-on effects on food security, cultural well-being, and physical/psychological well-being.

An independent environmental monitor would oversee water quality monitoring results during construction and the beginning of post-operation. Measures are also recommended so that AOPFN would also be informed of any accidents, malfunctions, or other events that could affect water quality, combined with an accessible complaint system, will support rapid issue identification and response. IAAC recognized AOPFN's need to communicate effectively about the risks associated with contamination in the event that regulatory limits are exceeded. IAAC recommended the proponent to design a risk communication program in consultation with AOPFN. This will ensure that information is conveyed to the right people, at the right time, and in the most effective manner possible to safeguard the community's well-being.

Overall, IAAC expects that confidence in water and resource quality may decline at the beginning of construction, then gradually improve from year 1 to year 3 as monitoring data accumulates. Increase avoidance driven by perceived contamination is considered reversible, with a likely return to baseline conditions (or a potential slight improvement) after several years of consistent monitoring and communication, which should maintain confidence in the traditional foods. Noise and dust impacts are expected to be continuous during construction but fully reversible once construction ends. In contrast, IAAC anticipates no impacts to air, water, or resource quality during the operation phase, and it does not expect contamination issues once the project is operating, especially given the required construction phase controls and the relatively short construction duration. Finally, this environmental assessment anticipates that fish would continue to be safe for consumption just like the water from natural sources on the land.

Ability to maintain traditional governance, land tenure and stewardship systems.

From an experiential perspective, IAAC recognizes that temporary access constraints and altered navigation could lead to fatigue, frustration, and additional travel planning, and may slightly affect the exercise of governance, stewardship, and culturally valued mobility and presence on and around Long Sault Island.

IAAC recognizes AOPFN's desire to participate in monitoring the project site before, during and after the works, as requested repeatedly throughout this environmental assessment, by hiring AOPFN guardians' program. While IAAC recommended AOPFN consultation for many follow-up programs, it was noted that it is not possible to require the proponent to offer monitoring contracts specifically to AOPFN. IAAC understands the connection that AOPFN makes between undertaking monitoring contracts on the land and higher levels of confidence and trust in the quality of the environment at the Nation's scale. IAAC also understands why this is considered as a key element of their ability to oversee the land and the Kichi Sibi health and maintaining their stewardship. IAAC also



required the proponent to assess, in consultation with First Nations, the socioeconomic impacts of the various fish passage options, which will also allow AOPFN to exercise stewardship.

However, IAAC is of the view that AOPFN can still actively advocate for its participation in certain project activities through the potential signing of the ESPM. This would allow AOPFN to stay informed about what is happening on Long Sault Island and the Kichi Sibi, protect the natural environment, and keep its members informed.

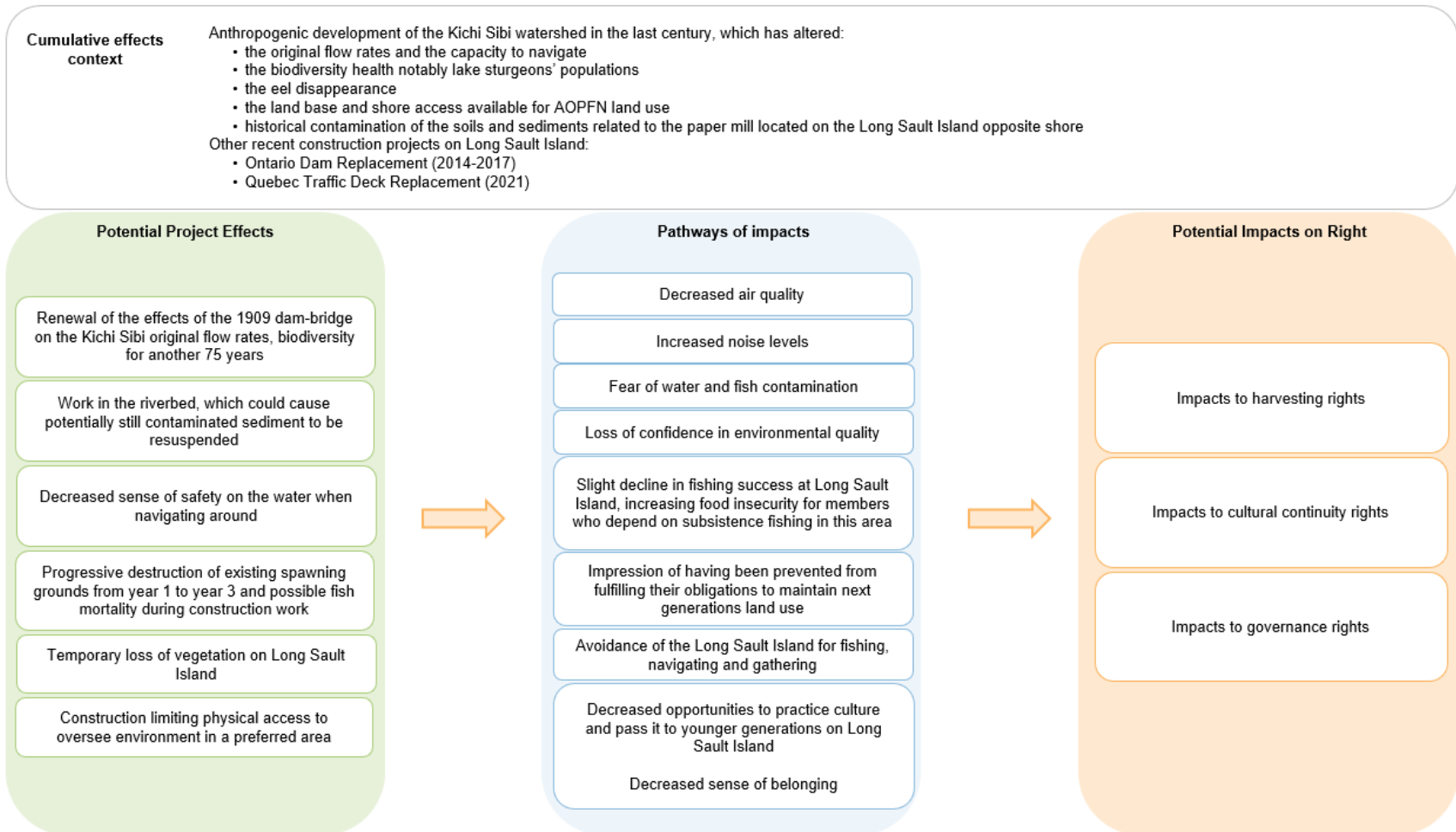
IAAC conclusion

Considering the mitigation measures and the follow-up programs recommended by IAAC, as well as the permits issued by Fisheries and Oceans Canada and Transport Canada, and based on the criteria set out in the assessment methodology, IAAC concludes that the severity of project impacts on the exercise of AOPFN rights to harvest would be low to moderate.

IAAC draws its conclusion notably on the fact that the project effects would mainly occur during the three-year construction phase and the early years of operation. IAAC considers that the fish availability would be reversible with the offsetting plan. IAAC also considered the importance of cumulative effects on AOPFN's ability to harvest on the land. Finally, IAAC considered that AOPFN maintains that some impacts on their fishing rights cannot be fully mitigated, notably because they don't agree that the offsetting plan is a mitigation measure. Figure 17 presents the pathway of impacts on AOPFN's rights.



Figure 17: Pathways of Impacts on AOPFN Rights – Construction phase





Rights to cultural continuity

IAAC Main Findings on Impacts to AOPFN Rights to Cultural Continuity

Adequacy of – and access to- known and preferred habitation sites on the land

During the approximately three-year construction phase, Long Sault Island, as a preferred site, is expected to be physically accessible but less attractive and less suitable for regular cultural community gatherings because construction would create sensory disturbances, adding to the already existing high noise of the highway and the Kichi Sibi water flows.

IAAC recognized that several Algonquin gatherings and activities would have to be temporarily relocated; for this reason, it recommended an effective communication plan to allow the First Nations to plan alternative locations in advance for about three years.

This relates to the adequacy of — and access to — known and preferred habitation sites on the land, because access is not only a question of whether a site can still be physically reached, but also whether it remains culturally usable, appropriate, and sufficient for its intended purposes. In this case, although Long Sault Island would not be completely inaccessible, construction would reduce its adequacy as a preferred site for gatherings and would interfere with meaningful access to it. IAAC recognizes that any loss of access is considered significant by AOPFN, even more when cumulative effects on the Kichi Sibi watershed are considered. IAAC concludes, however, that this loss would be negligible, as it is very localized and of short duration.

Feelings of safety and security on the land while teaching and practicing Aboriginal rights and culture on the land

IAAC believes that Long Sault Island could temporarily be perceived as less safe for pedestrians and members navigating the Kichi Sibi downstream from the construction site. However, this would be short and temporary and could be mitigated through effective communication via the proponent's communication plan, which must inform AOPFN of any restrictions on traditional activities on the territory.

IAAC recommended suspending construction work twice a year to allow the AOPFN to hold cultural events or gatherings on Long Sault Island and the surrounding area in a calmer and safer environment. IAAC anticipates that the operational phase will restore a sense of security on the island and on the water comparable to the baseline thereby enabling the practice of Algonquin culture and rights.

An adequate land base on which to teach cultural activities

To restore the island's heritage landscape, IAAC recommended measures to ensure satisfactory revegetation of Long Sault Island after construction so that its visual appearance is restored in line with the heritage significance accorded to it by the



AOPFN. Because the project would change the road alignment, IAAC recommended revegetating the existing footprint to maintain physical access to Long Sault Island for practicing Algonquin culture during operation.

IAAC recommended a measure to create or improve outdoor gathering infrastructure on Long Sault Island, as well as the addition of several visual elements to restore and highlight the island's Algonquin heritage after the work is completed, notably by installing plaque and by making visible cultural sites signage and Algonquin toponymy. IAAC recognizes that AOPFN does not consider this a sufficient mitigation measure that could address the legacy cumulative effects that the project continues to prolong. IAAC believes that, through project planning, it has maximized mitigation measures to minimize the impacts of the construction phase and to enable Long Sault Island and the Kichi Sibi in this area to once again become adequate land base where Algonquin culture can be practiced and shared.

IAAC acknowledges the historical and symbolic cumulative harms caused by the dam, which paved the way for the construction of all subsequent dams on the Kichi Sibi over the past century.

Heathy quantities and quality of resources for teaching the practices of AOPFN rights

IAAC recommended a mitigation measure to allow AOPFN to conduct a final plant harvest on Long Sault Island prior to the construction work, as they had requested. IAAC has recommended several measures to ensure vegetation conditions that will support and even improve plant harvesting on Long Sault Island and maintain the availability of fish in the Kichi Sibi for the cultural practices of future generations.

Healthy cultural and spiritual relationship with the Land

To address concerns about potential damage to artifacts, IAAC recommended conducting a riverbed archaeological inventory with AOPFN present, if safe, to help maintain their connection to the land in another way during the construction phase. AOPFN will also be able to help influence the plan for the restoration of the Algonquin heritage on Long Sault Island, which will highlight their cultural practices and their connection to the land. IAAC also made it possible for them to hold a ceremony before the project begins and to establish a culturally relevant opportunity for intercultural exchange for their members on Long Sault Island will, in a way, help maintain their connection to the land. Finally, IAAC has determined that a monitoring program is needed to track the well-being of First Nations communities in relation to cultural gatherings on Long Sault Island, in order to monitor the quality of cultural gatherings held during the construction suspension and during the operational phase, through the use of the new gathering space.



Healthy quantities and quality of resources for future generations to be able to harvest and practice traditions that are being reintroduced to the AOPFN community so those traditions may continue to grow

IAAC recommended the participation of AOPFN representatives in several mitigation measures related to water and fish habitat offsetting, including measures requiring the proponent to consult with the AOPFN on the dam management plan and on the conditions necessary for lake sturgeon reproduction in operational flows, opportunities to share their knowledge about the Kichi Sibi ecosystems needs to maintain healthy quantities and quality of resources for future generations. AOPFN will also be engaged by Fisheries and Oceans Canada for the fishway to be chosen, allowing them sharing their views of what next generations of Algonquin land users will need.

Ability to maintain traditional governance, land tenure, and stewardship systems

IAAC believes it has maximized the AOPFN's participation in mitigation measures and monitoring programs to highlight their stewardship of the land and their knowledge of the Kichi Sibi. IAAC believes that this significant participation will contribute to maintaining the quality and quantity resources necessary for the cultural continuity despite the project's construction phase and renewal of existing dam-bridge effects.

IAAC Conclusion

Considering the mitigation measures recommended by IAAC and based on the criteria set out in the assessment methodology, IAAC concludes that the severity of project impacts on the exercise of AOPFN rights to cultural continuity would be low. IAAC draws this conclusion notably on the fact that a vast majority of the adverse effects to cultural continuity would occur during the three-year construction phase only and that this project is planned to likely improve plant gathering at Long Sault Island and maintain fish availability for future generations, as well as allowing some cultural activities to be undertaken during the construction phase, which IAAC considers as enabling factors for AOPFN cultural continuity right.

Rights to Governance

IAAC main findings on impacts to AOPFN rights to governance

Ability to maintain traditional governance, land tenure, and stewardship systems and ability to participate in decision-making processes regarding AOPFN unceded Algonquin traditional territory

To mitigate impacts on fish and reduce concerns regarding governance and stewardship, IAAC recommended a set of measures that maximize AOPFN consultation in decisions, monitoring, and on-the-ground oversight. IAAC recommends that AOPFN be present in key activities such as fish relocation, hickorynut surveys inventories and relocation, as



well as during the archaeological inventory of the riverbed, so they can participate, ask questions, relay concerns to their communities, and strengthen confidence in compliance and construction quality.

In addition, IAAC recommends measures directly aimed at protecting fish populations of the Kichi Sibi, including monitoring the effectiveness of restored spawning grounds, with AOPFN playing a role in that follow-up and receiving results in the manner they prefer. More broadly, IAAC recommends mitigation related to fish, fish passage selection, and dam management that would keep AOPFN engaged and allow them to share Algonquin knowledge and expertise, recognizing their role in environmental oversight and decision-making and helping to reduce impacts on cultural well-being. IAAC believes that this will contribute to maintaining AOPFN's ability to exercise stewardship of the land, including by incorporating its cultural knowledge on the Kichi Sibi watershed into decision-making processes related to the project.

Finally, IAAC notes the proponent's commitment to conclude an ESMP with the AOPFN to support involvement and provide training and employment opportunities, which would certainly improve capacity building.

Adequate consultation processes for projects proposed in AOPFN unceded Algonquin traditional territory

IAAC also recognizes the cumulative historical context in which AOPFN were often excluded from decisions affecting the Ottawa River and Long Sault Island in the last century. This includes, as AOPFN mentioned, the existing dam-bridge built in 1909. IAAC acknowledges that this long-standing lack of consultation has denied AOPFN its right to participate in governance of the Kichi Sibi watershed.

IAAC considers that it has provided AOPFN with appropriate and rigorous Crown consultation throughout this federal environmental assessment. IAAC signed a consultation agreement (Terms of Reference) with AOPFN in December 2025 and co-drafted many chapters of this report. IAAC believes that this consultation enabled AOPFN to see its concerns and priorities regarding the Project and the Kichi Sibi reflected in this report to enlighten the Minister's decision.

Adequate accommodation of AOPFN requests regarding projects proposed in AOPFN unceded Algonquin traditional territory

During this environmental assessment, IAAC carefully reviewed each concern and mitigation measure modification raised by AOPFN. Several comments led to changes in this final report. When it was not possible to accommodate a request from AOPFN, an explanation was provided.

IAAC Final Conclusion



Considering the mitigation measures and follow-up programs recommended by IAAC and based on the criteria set out in the assessment methodology, IAAC concludes that the severity of project impacts on the exercise of AOPFN rights to governance would be low. IAAC draws its conclusion notably on the high level of involvement recommended for the AOPFN in most of the mitigation measures and recommended follow-up programs.

7.4 Issues to be addressed during the regulatory approval phase

IAAC recognizes that several issues considered important by the Indigenous groups consulted remain outstanding for the upcoming permitting process with Fisheries and Oceans Canada and Transport Canada.

The regulatory approval phase, during which federal authorizations or permits are considered, will take place after the environmental assessment is complete. Should the project be authorized under CEAA 2012, Fisheries and Oceans Canada would continue to consult with First Nations in the pursuit of regulatory processes under the Fisheries Act, particularly with regard to the following permitting issues:

- Fishway selection;
- Offsetting plan details;
- Cofferdam working method;
- Potential blasting in water.

Under the *Navigation Protection Act*, Transport Canada will continue to consult with First Nations regarding navigation safety requirements.

IAAC has forwarded the comments it received from First Nations during the environmental assessment report to Fisheries and Oceans Canada so that the department can consider them when making decisions under the act it administers. Where appropriate, Fisheries and Oceans Canada's decisions will consider the results of ongoing consultations with First Nations as well as the record of consultations resulting from the environmental assessment. The federal authorities participated actively in the engagement sessions undertaken with the First Nations are aware of the First Nations' concerns regarding remaining permit-related issues.



7.5 Issues beyond federal jurisdiction

IAAC has received concerns that extend beyond the scope of federal jurisdiction and the proponent's influence within the environmental assessment.

IAAC acknowledges that several First Nations have noted the additional and cumulative effects of illegal fishing on lake sturgeon and the availability of fish for Indigenous fishing in the Kichi Sibi. While IAAC recognises this concern, restricting access to fishing for the proponent's workers during the three-year construction phase would be challenging, as they may have acquired the right to fish. IAAC understands that this concern extends beyond the temporary workforce and targets illegal fishing throughout the Kichi Sibi. Illegal fishing by non-Indigenous people falls under provincial jurisdiction, and IAAC has communicated this concern to its provincial counterparts.

IAAC has also discussed the possibility of including the stocking lake sturgeon or other species of fish valued by First Nations. While several First Nations are interested in discussing this measure with Fisheries and Oceans Canada as part of the upcoming engagement through the offsetting plan, IAAC recognizes that further discussions are needed with the provincial authorities of Ontario and Quebec. IAAC acknowledges that fish stock management falls under provincial jurisdiction and has ensured that these concerns have been communicated to the relevant authorities.

7.6 IAAC Conclusions Regarding Section 35 Rights

Throughout the environmental assessment process, IAAC considered the concerns and views shared by SART First Nations and AOPFN regarding the potential impacts of the project on their section 35 rights. Comments from the First Nations on the draft environmental assessment report were considered by IAAC when finalizing its conclusions regarding the potential impacts from the project on the exercise of section 35 rights. IAAC also considered the disagreements identified by the First Nations during the co-drafting of the chapter. IAAC acknowledges the time and efforts invested by the First Nations in the assessment, which reflects their worldviews and the issues at stake, in order to inform the Minister's decision.

Based on its final analysis and the assessment criteria set out in the "Guidance: Assessment of Potential Impacts on the Rights of Indigenous Peoples", IAAC concludes that the project is likely to impact the following First Nations rights:

SART First Nations

- Rights to access and occupy traditional territory (low severity of impacts)
- Rights to harvest (**low to moderate** severity of impacts)



- Rights to a safe and healthy environment (low severity of impacts)
- Rights to maintain a cultural and spiritual relationship with the land (low severity of impacts)
- Rights to cultural dignity and socio-economic development (low severity of impacts)
- Rights to govern and protect the territory (**low to moderate** severity of impacts)

The application of mitigation measures and surveillance and follow-up program should allow SART First Nations and AOPFN to continue practising their section 35 rights in a manner similar to that before the Project.

Algonquins of Pikwakanagan First Nation

- Rights to harvest (**low to moderate** severity of impacts)
- Rights to cultural continuity (low severity of impacts)
- Rights to governance (low severity of impacts)



8. IAAC Conclusions and Recommendations

In preparing this Environmental Assessment Report, IAAC considered the proponent's EIS, its responses to information requests, comments from federal authorities, Indigenous peoples, and the public, the measures proposed to mitigate the Project's effects, as well as the monitoring and follow-up programs.

The Project's environmental effects and their significance were determined using an assessment methodology consistent with currently accepted practices among environmental assessment and socio-economic assessment practitioners, including consideration of potential accidents and malfunctions and cumulative environmental effects.

IAAC acknowledges that, following the implementation of mitigation measures, the Project could result in residual adverse effects on valued components. IAAC concludes that, taking into account the implementation of mitigation measures and the proposed monitoring and follow-up programs, the Project is not likely to result in significant adverse residual environmental effects, as defined under section 5 of the CEEA 2012. IAAC has identified the key mitigation measures and monitoring and follow-up programs that the Minister must consider in establishing the Project conditions as part of the Environmental Assessment Decision Statement, should the Project be authorized to proceed.

Furthermore, to ensure that the Project is carried out with due care and precaution, IAAC expects that all commitments made by the proponent – including mitigation measures and the monitoring and follow-up programs described in the EIS and supporting documents – will be implemented as proposed. IAAC also expects the proponent to continue to engage and inform Indigenous peoples and to maintain communication with them throughout the duration of the Project.



Appendices

Appendix A: Environmental Effects Rating Criteria

General Definitions of Criteria Used to Assess Residual Effects on Each of the Valued Components (VCs)

Magnitude: Indicates the level of disturbance (change) that the studied valued component (VC) would experience. The magnitude assessment takes into account the component's ecological context. The magnitude can incorporate the concept of the time when the effect would occur, which can refer to a phase of the component's life cycle (migration, reproduction, feeding, etc.) or a period during which a cultural, spiritual or recreational practice by a First Nation or population would occur (e.g., hunting season).

Extent: Geographical extent of the adverse effects.

Duration: Period of time during which the adverse effects would occur.

Frequency: Pace at which the adverse effects would occur in a given period.

Reversibility: Likelihood of a VC recovering from the adverse effects caused by the Project.

Significance: The significance of the adverse effects is determined by the combination of levels assigned to each of the criteria (magnitude, extent, duration, frequency and reversibility) for each component. A grid for determining the significance of the residual effects on the components is used for this purpose is presented below.



Table A-1: Definitions of levels for extent, duration, frequency, and reversibility

Assessment Criteria	Level Descriptions
Extent	<p>Site-specific: The effects would be limited to the Project site, the Aquatic Study Area (ASA) and the Terrestrial Study Area (TSA).</p> <p>Local: The effects would extend beyond the Project site, the ASA and TSA, but are in the local study area.</p> <p>Regional: The effects extend beyond the local study area.</p>
Duration	<p>Short term or temporary: The effects would occur over a period of less than one year.</p> <p>Medium term: The effects would occur over a period of one to five years.</p> <p>Long term: The effects would occur over a period of more than five years.</p>
Frequency	<p>Once: The effects would occur once in any phase of the Project.</p> <p>Intermittent: The effects would occur from time to time or intermittently during one or more phases of the Project.</p> <p>Continuous: The effects would continually occur during one or more phases of the Project.</p>
Reversibility	<p>Reversible: The VC would recover completely from the Project's effects (e.g., return to the baseline or another target).</p> <p>Partially reversible: The VC would partly recover from the Project's effects.</p> <p>Irreversible: The VC would not recover from the Project's effects.</p>



Table A-2: Definition of Magnitude Levels for Each of the VCs

Levels	Descriptions of Magnitude Ratings
Fish and Fish Habitat, Including Special-Status Species	
LOW	<p>The effect would cause little to no disruption to one or more sensitive phases in the life cycle of fish.</p> <p><u>In the case of special-status fish:</u></p> <p>The effects would not disrupt the sustainability and/or management and/or recovery of one or more of these species.</p>
MEDIUM	<p>The effects would disrupt one or more sensitive phases of the life cycle of fish, BUT without harming the sustainability of the fish population.</p> <p><u>In the case of special-status fish:</u></p> <p>Effects on these species are anticipated, BUT measures (offsetting or protective) could be taken to avoid disrupting the sustainability and/or management and/or recovery of one or more of these species.</p>
HIGH	<p>The effects would disrupt the sustainability of the fish population.</p> <p><u>In the case of special-status fish:</u></p> <p>Effects on these species are anticipated AND no measures (offsetting or protective) could be taken to ensure the sustainability and/or recovery of one or more of these species.</p>
Birds, Including Special-Status Species	
LOW	<p>The effects would cause little to no disruption to one or more sensitive phases in the life cycle of birds.</p> <p><u>In the case of special-status birds:</u></p> <p>The effects would not disrupt the sustainability and/or management and/or recovery of one or more of these species.</p>
MEDIUM	<p>The effects would disrupt one or more sensitive phases of the life cycle of birds, BUT without harming the sustainability of the bird population.</p> <p><u>In the case of special-status birds:</u></p> <p>Effects on these species are anticipated, BUT measures (offsetting or protective) could be taken to avoid disrupting the sustainability and/or management and/or recovery of one or more of these species.</p>
HIGH	<p>The effects would disrupt the sustainability of the bird population.</p> <p><u>In the case of special-status birds:</u></p>



Levels	Descriptions of Magnitude Ratings
	Effects on these species are anticipated AND no measures (offsetting or protective) could be taken to ensure the sustainability and/or recovery of one or more of these species.
Other Special-Status Species	
LOW	The effects would not disrupt the maintenance <u>and/or</u> management <u>and/or</u> recovery of one or more of these species.
MEDIUM	Effects on these species are anticipated, BUT measures (offsetting or protective) could be taken to avoid disrupting the sustainability <u>and/or</u> management <u>and/or</u> recovery of one or more of these species.
HIGH	Effects on these species are anticipated AND no measures (offsetting or protective) could be taken to ensure the sustainability and/or recovery of one or more of these species.
Current Use of Lands and Resource, Physical and Cultural Heritage and Socio-Economic Conditions of Local Communities	
LOW	The effects would modify practice conditions in a way that would result in few changes to land and resource use. AND/OR The effects would involve few behavioural changes, which would allow the maintenance of practice conditions on Crown land.
MEDIUM	The effects would modify practice conditions without compromising land and resource use. AND/OR Some behaviours would be modified , but land and resource use on Crown land would not be compromised.
HIGH	The effects would modify practice conditions in a way that would result in changes that compromise land and resource use. AND/OR Land and resource use on Crown land would no longer be possible or would be compromised.
Human Health	
LOW	The potential effects on physical health are related to exposure to contaminant levels that are well below the applicable standards and criteria for the protection of physical health. AND/OR Contaminant management and mitigation measures would minimize residual effects on the acoustic environment, air, water, soil, food or



Levels	Descriptions of Magnitude Ratings
	<p>quality of life (including contaminants for which there are no thresholds);</p> <p>AND/OR</p> <p>Potential effects on physical health are related to exposure to low levels of nuisance (noise, light, vibrations, odours, dust). The effects can be felt by a few individuals.</p> <p>AND/OR</p> <p>The perception of the risk to health or safety that could be caused by Project-related changes to the environment is manifested by a few individuals but is not a concern for many social groups.</p>
MEDIUM	<p>Potential physical health effects are related to exposure to contaminant levels that are below the applicable standards and criteria for the protection of physical health, BUT at moderate levels of nuisance (noise, light, vibration, odour, dust). The effects may be felt by certain social groups.</p> <p>AND</p> <p>Residual effects will persist on acoustic environment, air, water, soil, food or quality of life despite contaminant management and mitigation measures (including contaminants for which there are no thresholds)</p> <p>AND/OR</p> <p>Certain individuals and social groups who would be affected by the Project perceive a risk to their health or safety that could be caused by Project-related changes to the environment but mitigation or compensation measures could be put in place.</p>
HIGH	<p>Potential physical health effects are related to exposure to contaminant levels that are above applicable standards and criteria for the protection of physical health or to high levels of nuisance (noise, light, vibration, odour, dust). The effects may be felt by several social groups or a significant portion of the affected population.</p> <p>AND</p> <p>Residual effects will persist on acoustic environment, air, water, soil, food or quality of life despite contaminant management and mitigation measures (including contaminants for which there are no thresholds).</p> <p>AND/OR</p> <p>Several social groups that would be affected by the Project perceive a high risk to their health or safety that could be caused by Project-</p>



Levels	Descriptions of Magnitude Ratings
	related changes to the environment, AND no mitigation or compensation measures could be put in place.
Current Use⁵² of Lands and Resources for Traditional Purposes⁵³ by Indigenous Peoples	
LOW	The effects would alter the conditions of traditional practices ⁵⁴ in a manner resulting in few changes to current use. AND/OR The effects involve few changes to behaviour , allowing current use to continue , in preferred ways or locations.
MEDIUM	The effects would alter the conditions of traditional practices without compromising current use. AND/OR Some behaviours would be modified , but current use would not be compromised.
HIGH	The effects would alter the conditions of traditional practices in a manner resulting in changes that would compromise current use. AND/OR Current Indigenous use would no longer be possible in accordance with preferred ways or would be compromised in the only suitable, available or most preferred locations.
Physical or Cultural Heritage by Indigenous Peoples	
LOW	The effects would slightly alter the characteristics of the unique nature of an element of the physical or cultural heritage and/or of a structure, site or thing of historical, archeological, paleontological or architectural significance. AND/OR

⁵² In the context of an environmental assessment, “current use” refers to the manner in which land and resource use may be affected in the course of the life cycle of a proposed project. “Current use” includes active use by Indigenous Peoples at the time of the environmental assessment and uses that are likely to occur in a reasonably foreseeable future provided that they have continuity with traditional practices, traditions or customs. Furthermore, uses that may have ceased due to external factors and should also be considered if they can reasonably be expected to resume once conditions change.

⁵³ Traditional purposes typically relate to activities that are integral to a community’s way of life and culture and have continuity with historic practices, customs and traditions of the community.

⁵⁴ A “practice” is a way of doing something that is common, habitual or expected, generally related to activities that are integral to a community’s way of life and culture and offer continuity with historic practices.

“Conditions of practice” are baseline conditions for the practice of activities. Examples of these are quantity or quality of available resources and access to the area.



Levels	Descriptions of Magnitude Ratings
	<p>Access to or use of an element of the physical or cultural heritage and/or of a structure, site or thing of importance would not be altered for users.</p> <p><u>In the case of designated heritage elements:</u></p> <p>The effects would not disrupt the sustainability and/or management of designated heritage elements.</p>
MEDIUM	<p>The effects would alter some characteristics of the unique nature of an element of the physical or cultural heritage and/or of a structure, site or thing of historical, archeological, paleontological or architectural significance, BUT would not compromise its integrity.</p> <p>AND/OR</p> <p>Access to or use of an element of the physical or cultural heritage and/or of a structure, site or thing would be altered BUT would not be compromised for users.</p> <p><u>In the case of designated heritage elements:</u></p> <p>The sustainability or management of designated heritage elements would be altered BUT would not alter their designation.</p>
HIGH	<p>The effects would lead to the loss of characteristics of the unique nature of an element of the physical or cultural heritage or of a structure, site or thing of historical, archeological, paleontological or architectural significance, such that its integrity would be compromised.</p> <p>AND/OR</p> <p>The effect would prevent users from accessing or using an element of the physical or cultural heritage or a structure, site or thing of historical, archeological, paleontological or architectural significance.</p> <p><u>In the case of designated heritage elements:</u></p> <p>The effects would interfere with the sustainability and/or management of designated heritage elements and could compromise their designation.</p>
<p style="text-align: center;">Socio-Economic Conditions⁵⁵ by Indigenous Peoples</p>	

⁵⁵ Definition: all social and economic conditions required for the continuation of activities undertaken by the population affected by the environmental changes caused by the project (e.g., jobs, education, housing, infrastructure, community social services and physical community infrastructure, medical and social services, or recreational services and facilities)



Levels	Descriptions of Magnitude Ratings
LOW	The area is not commonly used for activities. The effects would cause few changes to behaviours required for carrying out activities and their economic impact.
MEDIUM	The effects would lead to changes in the behaviours required for carrying out activities BUT carrying out activities would not be compromised in the most commonly used areas.
HIGH	The effects would lead to noticeable changes in the behaviours required for carrying out activities in regularly used areas, such that the activity would be compromised <u>or</u> no longer possible .



Table A-3: Decision Tree for Determining Overall Significance of a Residual Effect (High Magnitude)

Extent	Duration	Frequency	Reversibility/ Irreversibility	Level of effect	Significance	Extent	Duration	Frequency	Reversibility/ Irreversibility	Level of effect	Significance	Extent	Duration	Frequency	Reversibility/ Irreversibility	Level of effect	Significance				
Regional	Long Term	Continuous	Irreversible	High	Significant	Local	Long Term	Continuous	Irreversible	High	Significant	Site-Specific	Long Term	Continuous	Irreversible	High	Significant				
			Partially	High	Significant				Partially	High	Significant				Partially	High	Significant				
			Reversible	High	Significant				Reversible	High	Significant				Reversible	High	Significant				
		Intermittent	Irreversible	High	Significant			Intermittent	Irreversible	High	Significant			Intermittent	Irreversible	High	Significant	Intermittent	Irreversible	High	Significant
			Partially	High	Significant				Partially	High	Significant				Partially	High	Significant		Partially	High	Significant
			Reversible	High	Significant				Reversible	High	Significant				Reversible	High	Significant		Reversible	High	Significant
		Once	Irreversible	High	Significant			Once	Irreversible	High	Significant			Once	Irreversible	High	Significant	Once	Irreversible	High	Significant
			Partially	High	Significant				Partially	High	Significant				Partially	High	Significant		Partially	High	Significant
			Reversible	High	Significant				Reversible	High	Significant				Reversible	High	Significant		Reversible	High	Significant
	Medium Term	Continuous	Irreversible	High	Significant		Medium Term	Continuous	Irreversible	High	Significant		Medium Term	Continuous	Irreversible	High	Significant				
			Partially	High	Significant				Partially	High	Significant				Partially	High	Significant	Partially	High	Significant	
			Reversible	High	Significant				Reversible	High	Significant				Reversible	High	Significant	Reversible	High	Significant	
		Intermittent	Irreversible	High	Significant			Intermittent	Irreversible	High	Significant			Intermittent	Irreversible	High	Significant	Intermittent	Irreversible	High	Significant
			Partially	High	Significant				Partially	High	Significant				Partially	High	Significant		Partially	High	Significant
			Reversible	High	Significant				Reversible	High	Significant				Reversible	Moderate	Not Significant		Reversible	Moderate	Not Significant
		Once	Irreversible	High	Significant			Once	Irreversible	High	Significant			Once	Irreversible	High	Significant	Once	Irreversible	High	Significant
			Partially	High	Significant				Partially	High	Significant				Partially	Moderate	Not significant		Partially	Moderate	Not significant
			Reversible	High	Significant				Reversible	Moderate	Not Significant				Reversible	Moderate	Not significant		Reversible	Moderate	Not significant
	Short Term	Continuous	Irreversible	High	Significant		Short Term	Continuous	Irreversible	High	Significant		Short Term	Continuous	Irreversible	High	Significant				
			Partially	High	Significant				Partially	High	Significant				Partially	High	Significant	Partially	High	Significant	
			Reversible	High	Significant				Reversible	High	Significant				Reversible	Moderate	Not Significant	Reversible	Moderate	Not Significant	
		Intermittent	Irreversible	High	Significant			Intermittent	Irreversible	High	Significant			Intermittent	Irreversible	High	Significant	Intermittent	Irreversible	High	Significant
			Partially	High	Significant				Partially	High	Significant				Partially	Moderate	Not Significant		Partially	Moderate	Not Significant
			Reversible	High	Significant				Reversible	Moderate	Not Significant				Reversible	Moderate	Not Significant		Reversible	Moderate	Not Significant
Once		Irreversible	High	Significant	Once	Irreversible		High	Significant	Once	Irreversible	High		Significant	Once	Irreversible	Moderate	Not Significant			
		Partially	High	Significant		Partially		Moderate	Not significant		Partially	Moderate		Not Significant		Partially	Moderate	Not Significant			
		Reversible	High	Significant		Reversible		Moderate	Not Significant		Reversible	Moderate		Not Significant		Reversible	Moderate	Not Significant			

*Only residual impacts with a "High" effect level demonstrate a significant effect within the meaning of the *Canadian Environmental Assessment Act, 2012*.



Table A-4: Decision Tree for Determining Overall Significance of a Residual Effect (Medium Magnitude)

Extent	Duration	Frequency	Reversibility/ Irreversibility	Level of effect	Significance	Extent	Duration	Frequency	Reversibility/ Irreversibility	Level of effect	Significance	Extent	Duration	Frequency	Reversibility/ Irreversibility	Level of effect	Significance				
Regional	Long Term	Continuous	Irreversible	High	Significant	Local	Long Term	Continuous	Irreversible	Moderate	Not Significant	Site-Specific	Long Term	Continuous	Irreversible	Moderate	Not Significant				
			Partially	High	Significant				Partially	Moderate	Not Significant				Partially	Moderate	Not Significant				
			Reversible	Moderate	Not Significant				Reversible	Moderate	Not Significant				Reversible	Moderate	Not Significant				
		Intermittent	Irreversible	High	Significant			Intermittent	Irreversible	Moderate	Not Significant			Intermittent	Irreversible	Moderate	Not Significant	Intermittent	Irreversible	Moderate	Not Significant
			Partially	Moderate	Not Significant				Partially	Moderate	Not Significant				Partially	Moderate	Not Significant				
			Reversible	Moderate	Not Significant				Reversible	Moderate	Not Significant				Reversible	Moderate	Not Significant				
		Once	Irreversible	Moderate	Not Significant			Once	Irreversible	Moderate	Not Significant			Once	Irreversible	Moderate	Not Significant	Once	Irreversible	Moderate	Not Significant
			Partially	Moderate	Not Significant				Partially	Moderate	Not Significant				Partially	Moderate	Not Significant				
			Reversible	Moderate	Not Significant				Reversible	Moderate	Not Significant				Reversible	Moderate	Not Significant				
	Medium Term	Continuous	Irreversible	High	Significant		Medium Term	Continuous	Irreversible	Moderate	Not Significant		Medium Term	Continuous	Irreversible	Moderate	Not Significant				
			Partially	Moderate	Not Significant				Partially	Moderate	Not Significant				Partially	Moderate	Not Significant				
			Reversible	Moderate	Not Significant				Reversible	Moderate	Not Significant				Reversible	Moderate	Not Significant				
		Intermittent	Irreversible	Moderate	Not Significant			Intermittent	Irreversible	Moderate	Not Significant			Intermittent	Irreversible	Moderate	Not Significant	Intermittent	Irreversible	Moderate	Not Significant
			Partially	Moderate	Not Significant				Partially	Moderate	Not Significant				Partially	Moderate	Not Significant				
			Reversible	Moderate	Not Significant				Reversible	Moderate	Not Significant				Reversible	Moderate	Not Significant				
		Once	Irreversible	Moderate	Not Significant			Once	Irreversible	Moderate	Not Significant			Once	Irreversible	Moderate	Not Significant	Once	Irreversible	Moderate	Not Significant
			Partially	Moderate	Not Significant				Partially	Moderate	Not Significant				Partially	Moderate	Not Significant				
			Reversible	Moderate	Not Significant				Reversible	Moderate	Not Significant				Reversible	Low	Not Significant				
	Short Term	Continuous	Irreversible	Moderate	Not Significant		Short Term	Continuous	Irreversible	Moderate	Not Significant		Short Term	Continuous	Irreversible	Moderate	Not Significant				
			Partially	Moderate	Not Significant				Partially	Moderate	Not Significant				Partially	Moderate	Not Significant				
			Reversible	Moderate	Not Significant				Reversible	Moderate	Not Significant				Reversible	Moderate	Not Significant				
		Intermittent	Irreversible	Moderate	Not Significant			Intermittent	Irreversible	Moderate	Not Significant			Intermittent	Irreversible	Moderate	Not Significant	Intermittent	Irreversible	Moderate	Not Significant
			Partially	Moderate	Not Significant				Partially	Moderate	Not Significant				Partially	Moderate	Not Significant				
			Reversible	Moderate	Not Significant				Reversible	Moderate	Not Significant				Reversible	Low	Not Significant				
		Once	Irreversible	Moderate	Not Significant			Once	Irreversible	Moderate	Not Significant			Once	Irreversible	Moderate	Not Significant	Once	Irreversible	Moderate	Not Significant
			Partially	Moderate	Not Significant				Partially	Moderate	Not Significant				Partially	Low	Not Significant				
			Reversible	Moderate	Not Significant				Reversible	Low	Not Significant				Reversible	Low	Not Significant				

* Only residual impacts with a "High" effect level demonstrate a significant effect within the meaning of the *Canadian Environmental Assessment Act, 2012*.



Table A-5: Decision Tree for Determining Overall Significance of a Residual Effect (Low Magnitude)

Extent	Duration	Frequency	Reversibility/ Irreversibility	Level of effect	Significance	Extent	Duration	Frequency	Reversibility/ Irreversibility	Level of effect	Significance	Extent	Duration	Frequency	Reversibility/ Irreversibility	Level of effect	Significance				
Regional	Long Term	Continuous	Irreversible	Moderate	Not Significant	Local	Long Term	Continuous	Irreversible	Moderate	Not Significant	Site-Specific	Long Term	Continuous	Irreversible	Moderate	Not Significant				
			Partially	Moderate	Not Significant				Partially	Moderate	Not Significant				Partially	Low	Not Significant				
			Reversible	Moderate	Not Significant				Reversible	Low	Not Significant				Reversible	Low	Not Significant				
		Intermittent	Irreversible	Moderate	Not Significant			Intermittent	Irreversible	Moderate	Not Significant			Intermittent	Irreversible	Low	Not Significant	Intermittent	Irreversible	Low	Not Significant
			Partially	Moderate	Not Significant				Partially	Low	Not Significant				Partially	Low	Not Significant				
			Reversible	Low	Not Significant				Reversible	Low	Not Significant				Reversible	Low	Not Significant				
		Once	Irreversible	Moderate	Not Significant			Once	Irreversible	Low	Not Significant			Once	Irreversible	Low	Not Significant	Once	Irreversible	Low	Not Significant
			Partially	Low	Not Significant				Partially	Low	Not Significant				Partially	Low	Not Significant				
			Reversible	Low	Not Significant				Reversible	Low	Not Significant				Reversible	Low	Not Significant				
	Medium Term	Continuous	Irreversible	Moderate	Not Significant		Medium Term	Continuous	Irreversible	Moderate	Not Significant		Medium Term	Continuous	Irreversible	Low	Not Significant				
			Partially	Moderate	Not Significant				Partially	Low	Not Significant				Partially	Low	Not Significant				
			Reversible	Low	Not Significant				Reversible	Low	Not Significant				Reversible	Low	Not Significant				
		Intermittent	Irreversible	Moderate	Not Significant			Intermittent	Irreversible	Low	Not Significant			Intermittent	Irreversible	Low	Not Significant	Intermittent	Irreversible	Low	Not Significant
			Partially	Low	Not Significant				Partially	Low	Not Significant				Partially	Low	Not Significant				
			Reversible	Low	Not Significant				Reversible	Low	Not Significant				Reversible	Low	Not Significant				
		Once	Irreversible	Low	Not Significant			Once	Irreversible	Low	Not Significant			Once	Irreversible	Low	Not Significant	Once	Irreversible	Low	Not Significant
			Partially	Low	Not Significant				Partially	Low	Not Significant				Partially	Low	Not Significant				
			Reversible	Low	Not Significant				Reversible	Low	Not Significant				Reversible	Low	Not Significant				
	Short Term	Continuous	Irreversible	Moderate	Not Significant		Short Term	Continuous	Irreversible	Low	Not Significant		Short Term	Continuous	Irreversible	Low	Not Significant				
			Partially	Low	Not Significant				Partially	Low	Not Significant				Partially	Low	Not Significant				
			Reversible	Low	Not Significant				Reversible	Low	Not Significant				Reversible	Low	Not Significant				
		Intermittent	Irreversible	Low	Not Significant			Intermittent	Irreversible	Low	Not Significant			Intermittent	Irreversible	Low	Not Significant	Intermittent	Irreversible	Low	Not Significant
			Partially	Low	Not Significant				Partially	Low	Not Significant				Partially	Low	Not Significant				
			Reversible	Low	Not Significant				Reversible	Low	Not Significant				Reversible	Low	Not Significant				
		Once	Irreversible	Low	Not Significant			Once	Irreversible	Low	Not Significant			Once	Irreversible	Low	Not Significant	Once	Irreversible	Low	Not Significant
			Partially	Low	Not Significant				Partially	Low	Not Significant				Partially	Low	Not Significant				
			Reversible	Low	Not Significant				Reversible	Low	Not Significant				Reversible	Low	Not Significant				

* Only residual impacts with a "High" effect level demonstrate a significant effect within the meaning of the *Canadian Environmental Assessment Act, 2012*.



Appendix B: Assessment of Residual Adverse Environmental Effects – Executive Summary

Note: The information presented in Chapter 5 prevails over the information presented in this appendix.

Potential Residual Effects	Characterization of Potential Residual Effects	Significance of Potential Residual Adverse Environmental Effects
Fish and Fish Habitat, Including Special-Status Species		
<p>Harmful Alteration and Destruction of Fish Habitat</p> <ul style="list-style-type: none"> Permanent and temporary loss of fish habitat and benthic fauna habitat, including confirmed and potential spawning habitat for lake sturgeon. Flow management during the construction phase could temporarily alter fish habitat downstream of the dam-bridge and affect the spawning and productivity of certain species. Replacing the wooden stop logs with mechanical gates will increase downstream flow velocities and alter habitat within a limited area. <p>Fish Mortality</p> <ul style="list-style-type: none"> Dewatering works upstream of the cofferdam and the use of explosives (if required) could pose a risk of fish mortality. Altered Flow Regime Temporary alterations to the downstream flow regime during construction could affect fish habitat and spawning conditions. Temporary unavailability of portions of spawning groups within the work area could affect fish reproduction and habitat availability. Permanent changes to downstream flow condition during operation of the new sluice gates could alter fish habitat and spawning conditions. Altered Water Quality An increase in suspended solids, altering low-velocity aquatic habitats and potentially affecting the development of eggs and larvae. Fine sediments are not expected to accumulate in high-velocity spawning habitats, thereby limiting impacts on reproduction. <p>Change in Water Quality</p> <ul style="list-style-type: none"> An increase in suspended solids, altering low-velocity aquatic habitats and potentially affecting the development of eggs and larvae. Fine sediments are not expected to accumulate in high-velocity spawning habitats, thereby limiting impacts on reproduction. <p>Fish Passage</p>	<p><u>Magnitude</u>: Medium. <u>Extent</u>: Local. <u>Duration</u>: Long-term. <u>Frequency</u>: Continuous. <u>Reversibility</u>: Partially reversible.</p>	<p>Not Significant</p> <p>Taking into account the implementation of key mitigation measures, the proponent’s commitments, and the compensatory activities to be defined, IAAC assesses that the residual effects on fish and fish habitat, including special-status species, would be moderate.</p>



Potential Residual Effects	Characterization of Potential Residual Effects	Significance of Potential Residual Adverse Environmental Effects
<ul style="list-style-type: none"> The effects of a fishway are uncertain: it could improve recruitment if fish return to their original habitat, whereas the opposite could result in adverse effects. Risk that the fishway could facilitate the upstream spread of invasive alien species, to the detriment of native species. 		
Bird, Including Special-Status Species		
<p>Nesting, Displacement of Individuals and Habitat Loss and Alteration</p> <ul style="list-style-type: none"> Permanent and temporary loss of bird habitat. Potential destruction of barn swallow nesting habitat (deconstruction of the existing dam-bridge between July and October). <p>Mortality</p> <ul style="list-style-type: none"> Increased number of collisions associated with increased activities and road traffic during the pre-construction and construction phases. Potential risk of bird mortality associated with the use of explosives. <p>Sensory Disturbances</p> <ul style="list-style-type: none"> Risk of disturbance due to noise, dust, lights and vibrations generated by construction work. 	<p><u>Magnitude</u>: Low. <u>Extent</u>: Site-specific. <u>Duration</u>: Medium-term. <u>Frequency</u>: Intermittent. <u>Reversibility</u>: Reversible.</p>	<p>Not Significant</p> <p>Taking into account the implementation of key mitigation measures and the proponent's commitments, IAAC assesses that the residual effects on birds, including special-status species, would be low.</p>
Other Special-Status Species		
<p>Habitat Destruction and Alteration</p> <ul style="list-style-type: none"> Potential destruction of roosting habitat for bats at risk (demolition of the existing dam-bridge between July and October). Habitat loss for terrestrial wildlife due to clearing and levelling. <p>Mortality</p> <ul style="list-style-type: none"> Increased number of collisions associated with increased activities and road traffic during the pre-construction and construction phases. Potential accidental spills of petroleum products and hazardous materials. <p>Sensory disturbances</p> <ul style="list-style-type: none"> Risk of disturbance due to noise, dust, lights and vibrations generated by construction work. 	<p><u>Magnitude</u>: Low. <u>Extent</u>: Site-specific. <u>Duration</u>: Medium-term. <u>Frequency</u>: Intermittent. <u>Reversibility</u>: Reversible.</p>	<p>Not Significant</p> <p>Taking into account the implementation of mitigation measures and the proponent's commitments, IAAC assesses that the residual effects on other special-status species would be low.</p>



Potential Residual Effects	Characterization of Potential Residual Effects	Significance of Potential Residual Adverse Environmental Effects
Land and Resources Use, Physical and Cultural Heritage and the Socio-Economic Conditions of Local Communities		
<p>Physical and cultural and construction, location or significant features</p> <ul style="list-style-type: none"> No archaeological resources have been identified in the work area, and the proponent believes that there will be no residual effects on natural or cultural heritage or features of local significance during construction. During the operational phase, the effects are considered neutral or insignificant. <p>Land and resources use</p> <ul style="list-style-type: none"> The influx of non-local workers during the construction phase could lead to increased land and resources use, particularly for fishing and navigation. The project could generate noise and other nuisances that could affect the fishing experience in the vicinity of the construction site. <p>Socio-economic conditions</p> <ul style="list-style-type: none"> The project would generate demand for goods, services, and labor, some of which would need to be sources locally. Positive effects on local socio-economic conditions, including the creation of employment and business opportunities. 	<p><u>Magnitude</u>: Low. <u>Extent</u>: Local. <u>Duration</u>: Medium-term. <u>Frequency</u>: Intermittent. <u>Reversibility</u>: Reversible.</p>	<p>Not Significant</p> <p>Taking into account the implementation of key mitigation measures presented in sections 5.6 to 5.8 and the proponent's commitments, IAAC assesses that the residual effects on land and resources use, natural and cultural heritage and the socio-economic conditions of local communities would be low.</p>
Human Health		
<p>Changes to Air Quality</p> <ul style="list-style-type: none"> Dust emissions and dispersion into the air during the construction phase as a result of activities related to the installation and removal of the cofferdam, as well as the deconstruction of the existing dam-bridge. Air contaminant emissions during the construction phase due to vehicle traffic and the use of construction equipment. Effects on air quality during the operation phase are expected to be comparable to current conditions. <p>Changes to Surface Water Quality</p> <ul style="list-style-type: none"> Temporary resuspension of suspended solids and sediments potentially contaminated with mercury during the construction phase, mainly during the installation and removal of the cofferdam. Effects on surface water quality during the operation phase are expected to be comparable to current conditions. <p>Changes to Acoustic Environment</p>	<p><u>Magnitude</u>: Medium - Some individuals may experience moderate levels of nuisance and health effects (sleep disturbance) related to noise, vibrations, and dust, or may perceive a risk to their health or safety that could be caused by changes to the environment related to the project, but mitigation measures would be put in place. <u>Extent</u>: Site-specific. <u>Duration</u>: Short- to medium-term. <u>Frequency</u>: Intermittent. <u>Reversibility</u>: Reversible over time.</p>	<p>Not Significant</p> <p>Taking into account the implementation of key mitigation measures, as well as the air and water quality monitoring and follow-up programs proposed by the proponent, IAAC assesses that the residual effects on human health, including that of First Nations, would be moderate.</p>



Potential Residual Effects	Characterization of Potential Residual Effects	Significance of Potential Residual Adverse Environmental Effects
<ul style="list-style-type: none"> Construction noise levels would exceed Health Canada guidelines. The primary receptors affected would be staff and customers of the Algonquin Canoe Company, as well as residents of the nearby Ontario shoreline. Blasting activities (if required) would contribute to additional degradation of the noise environment during the construction phase. Noise levels during the operation phase are expected to be comparable to current conditions. <p>Changes to Country Foods</p> <ul style="list-style-type: none"> Reduced Indigenous groups' confidence in country foods due to perceived risk of contamination, leading to less harvesting and consumption. 		
<p>Current Use of Lands and Resources for Traditional Purposes by Indigenous Peoples</p>		
<p>Decrease Availability of Resources</p> <ul style="list-style-type: none"> The project would result in the destruction of spawning habitat for several fish species, including lake sturgeon, and could alter the abundance of harvested species, thereby affecting local fishing success. Temporary risks of water contamination could adversely affect water quality, fish, and the sustainability of Indigenous fisheries in the project area and downstream. Changes in flow conditions could also influence navigation conditions. A reduction in plants that are harvested is expected due to the permanent loss resulting from the required infrastructure and road modifications. <p>Change to Access to the Territory</p> <ul style="list-style-type: none"> Access to fishing areas could be affected by the presence of safety fencing around the work area during the construction phase and subsequently during the operation phase to reduce risks to human safety. <p>Decreased Quality of Experience on the Territory</p> <ul style="list-style-type: none"> Construction activities could increase perceptions that water and plants are unsuitable for consumption or use due to dust and suspended solids, potentially leading to temporary avoidance of plant harvesting out of concern for contamination. 	<p><u>Magnitude</u>: Medium.</p> <p><u>Extent</u>: Local - some residual effects extend beyond the project site, but are limited to the local study area.</p> <p><u>Duration</u>: Short- to long-term – short-term effects on fish availability for subsistence fishing; medium-term effects on land access and quality of experience; long-term effects (≥ 5 years) on lake sturgeon.</p> <p><u>Frequency</u>: Intermittent.</p> <p><u>Reversibility</u>: Partially reversible and reversible – effects on fishing are partially reversible, as the spawning ground cannot be restored identically due to new hydraulic conditions. Fish availability, access to Long Sault Island, navigation, and travel within the territory are considered reversible. The perception of contamination remains partially reversible.</p>	<p>Not Significant</p> <p>Taking into account the implementation of key mitigation measures, the proponent's commitments, and the compensatory activities to be defined, IAAC assesses that the residual effects on current uses of lands and resources for traditional purposes by First Nations, would be moderate.</p>

Potential Residual Effects	Characterization of Potential Residual Effects	Significance of Potential Residual Adverse Environmental Effects
Physical and Cultural Heritage by Indigenous Peoples		
<p>Long Sault Island and the Ottawa River</p> <ul style="list-style-type: none"> The project would perpetuate the alteration of the visual and natural characteristics of Long Sault Island, affecting its heritage integrity and potentially adversely affecting Algonquin gatherings and cultural well-being. <p>Ability to Hold Cultural and Spiritual Gatherings on Long Sault Island</p> <ul style="list-style-type: none"> The construction phase, including the presence of machinery and increased noise and dust, could reduce Long Sault Island’s appeal of as a venue for cultural gatherings and cultural well-being. <p>Archaeological heritage on land and underwater</p> <ul style="list-style-type: none"> Construction work, including excavation and soil disturbance, could affect terrestrial or underwater remains. <p>Lake sturgeon, a sacred species</p> <ul style="list-style-type: none"> The project would have an adverse effect on the natural and cultural heritage represented by the lake sturgeon, its presence within the cultural landscape of the Ottawa River, and the spawning habitat located downstream of the project. <p>Heritage buildings of the Algonquin Canoe Company</p> <ul style="list-style-type: none"> Construction work could temporarily reduce the visual appeal of the buildings and decrease spontaneous stops, leading to a decline in sales of Algonquin crafts and company services. <p>Role of Algonquin women in water guardianship</p> <ul style="list-style-type: none"> The project could repeat the context that led to a change in the conditions under which Algonquin women practise water guardianship. 	<p>Magnitude: Low to medium – medium effects on lake sturgeon and spawning ground considered sacred; minor effects on other elements.</p> <p>Extent: Local.</p> <p>Duration: Short- to long-term – long-term effect on lake sturgeon, Long Sault Island, and the Ottawa River; short-term effects on company activities.</p> <p>Frequency: Intermittent to continuous – continuous effects on lake sturgeon, Long Sault Island, and the Ottawa River; intermittent or one-time effects on other elements.</p> <p>Reversibility : Reversible, partially reversible, and irreversible – irreversible effects on any damaged artifacts and on modification of the original flows of the Ottawa River; partially reversible effects on lake sturgeon and Long Sault Island; reversible effects on other elements.</p>	<p>Not Significant</p> <p>Taking into account the implementation of key mitigation measures, the proponent’s commitments, IAAC assesses that the residual effects on physical and cultural heritage by Indigenous Peoples, would be low to moderate.</p>
Socio-Economic Conditions by Indigenous Peoples		
<p>Ability to Access the Algonquin Canoe Company’s Store, Boat Rack and Shed</p> <ul style="list-style-type: none"> The impacts would mainly affect the activities of the Algonquin Canoe Company of the Wolf Lake Algonquin Nation, such as the sale of handicrafts, the sale of outfitting services, and cottage and boat rentals. <p>Access to Services and Businesses</p> <ul style="list-style-type: none"> The project could also affect, to a lesser extent, access to services between the two provinces and the economy of the Algonquin Nations. <p>First Nations Economy</p>	<p>Intensity: Low to medium – moderate effects on the Algonquin Canoe Company; minor effects on access to services in both provinces, recreational tourism activities, and the economy.</p> <p>Extent: Site-specific and local – specific effects on access to the Algonquin Canoe Company and its sales; local effects limited to the project site on</p>	<p>Not Significant</p> <p>Taking into account the implementation of key mitigation measures, the proponent’s commitments, IAAC assesses that the residual effects on socio-economic conditions by Indigenous Peoples, would be low to moderate.</p>



Potential Residual Effects	Characterization of Potential Residual Effects	Significance of Potential Residual Adverse Environmental Effects
<ul style="list-style-type: none"> The project could result in environmental changes that would affect the socio-economic conditions of the Algonquin Nations on federal lands. 	<p>recreational tourism activities and the economy.</p> <p><u>Duration</u>: Short- to medium-term – medium-term effects on the Algonquin Canoe Company; short-term effects on access to services between the two provinces and the economy.</p> <p><u>Frequency</u>: Once.</p> <p><u>Reversibility</u>: Partially reversible – partially reversible effects on the activities or sales of the Algonquin Canoe Company and socio-economic conditions; reversible effects on access to services between the two provinces.</p>	
<p>Indigenous Groups in the Process of Rights Recognition</p>		
<p>Availability and quality of resources</p> <ul style="list-style-type: none"> Same as those discussed above regarding the current use of land and resources for traditional purposes by Indigenous Peoples. <p>Physical and cultural heritage</p> <ul style="list-style-type: none"> Same as those discussed above regarding the physical and cultural heritage of Indigenous Peoples. <p>Health and socio-economic conditions</p> <ul style="list-style-type: none"> Same as those discussed above regarding the health and socio-economic conditions of Indigenous Peoples. 		<p>Not Significant</p> <p>Taking into account the implementation of key mitigation measures, the proponent's commitments, IAAC assesses that the residual effects on availability and quality of resources, physical and cultural heritage, and health and socio-economic conditions on the Algonquins of Ontario, Antoine Nation and the Mattawa/Ottawa River Historic Métis Community, would be low.</p>
<p>Transboundary Environmental Effects</p>		
<p>Greenhouse gas emission</p> <ul style="list-style-type: none"> The construction and demolition of the bridge-dam would generate approximately 3,411 t CO₂ eq, mainly related to the use of machinery, vehicles, and transportation. During the operational phase, emissions would be negligible, as the equipment would be powered by electricity; approximately 4,020 t CO₂eq would be emitted over 75 years. The new bridge dam would have no significant impact on GHG emissions associated with vehicle traffic. 	<p><u>Magnitude</u>: Low.</p> <p><u>Extent</u>: beyond the local study area.</p> <p><u>Duration</u>: Long-term.</p> <p><u>Frequency</u>: Intermittent.</p> <p><u>Reversibility</u> : Irreversible.</p>	<p>Not Significant</p> <p>Greenhouse gas emissions would not contribute significantly to emissions at the provincial or national level.</p>

Appendix C: Key Mitigation and Monitoring Measures Identified by IAAC

IAAC has identified the key mitigation and monitoring measures required to ensure that the proposed project does not cause significant adverse environmental effects on valued components considered in the federal environmental assessment of the project. It took into account the mitigation measures proposed by the proponent, the advice of government experts, as well as the comments received from the First Nations consulted and the public. These mitigation and monitoring measures were used in the development of the document on potential conditions for the environmental assessment.

Key Mitigation Measures	Monitoring Requirements
Fish and Fish Habitat, Including Special-Status Species (Chapter 5.1)	
<p>Project Timeline</p> <ul style="list-style-type: none"> Begin any activity in fish habitat that could be harmful to fish or result in fish mortality 30 days after water temperature reaches 18°C, in order to allow spawning and egg incubation and to support the development of lake sturgeon larvae until their downstream migration, unless otherwise authorized by Fisheries and Oceans Canada. The proponent must develop and implement a protocol to monitor water temperature, in consultation with SART First Nations, AOPFN and Fisheries and Oceans Canada. A description of the protocol should be provided to IAAC prior to its implementation. As part of the protocol, the proponent shall include: <ul style="list-style-type: none"> The methods for measuring the water temperature, including the location, frequency, and duration of measurements; The procedures used to confirm the date on which the water temperature first reached 18°C, and to verify that 30 consecutive days have passed since that date; and The procedures to provide opportunities for the First Nations to participate in observing, recording and reporting on the implementation of the protocol. <p>Offsetting Measures</p> <ul style="list-style-type: none"> Develop and implement an offsetting plan, in consultation with Indigenous groups and to the satisfaction of Fisheries and Oceans Canada, that is adequate to offset all residual effects on fish and fish habitat. The plan shall be submitted to IAAC prior to implementation. <p>Fish Passage</p> <ul style="list-style-type: none"> Assess fishway options in consultation with Indigenous groups and Fisheries and Oceans Canada prior to construction. Based on the results, design and plan the installation of a fishway in accordance with Fisheries and Oceans Canada guidelines. The proponent shall consider and incorporate options to reduce effects on the well-being of the Indigenous groups arising from the fishway and incorporate measures to reduce interference with the access to the area by Indigenous groups. A description of the measures should be provided to IAAC prior to their implementation. <p>Erosion Control and Transport of SS</p> <ul style="list-style-type: none"> Limit any input of suspended solids, sediments, and debris into the aquatic environment. Implement effective measures (e.g., sediment barriers, berms, sediment traps, sedimentation basins, temporary slope stabilization, diversion of water to vegetated areas) to limit the input of suspended solids from the construction site into the receiving aquatic environment and ensure their maintenance. Ensure that 	<ul style="list-style-type: none"> The proponent will have to: During the construction phase and during the first five years of the operation phase, develop, in consultation with SART First Nations and AOPFN, and implement a monitoring and follow-up program to monitor utilization of existing spawning grounds near the work. Monitor the offsetting plan to determine its effectiveness and develop modified or additional measures should the plan prove ineffective. Develop, in consultation with SART First Nations, AOPFN, Environment and Climate Change Canada and Health Canada, and implement a program to monitor water quality downstream of the Project and upstream during the deconstruction of the existing dam-bridge to ensure that: <ul style="list-style-type: none"> Project activities do not exceed the Canadian Council of Ministers of the Environment's (CCME) Canadian Water Quality Guidelines for the Protection of Aquatic Life as well as surface water quality criteria for the protection of aquatic life, such as those established by the Ministère de l'Environnement et de la Lutte contre les changements climatiques, de la Faune et des Parcs of Québec for contaminants not covered by CCME recommendations; Concentrations of SS in the water column at 100 and 300 metres from the work area do not exceed background levels by more than 25 mg/L and 5 mg/L, respectively, for more than six consecutive hours; Identify potential contaminants to monitor, including total mercury, inorganic mercury, methylmercury and petroleum hydrocarbons, as well as the locations where these contaminants must be monitored; Monitor, beginning 4 to 6 months prior to the start of construction during the construction phase and until initial conditions are met during operation phase, the water quality;



Key Mitigation Measures	Monitoring Requirements
<p>these measures remain effective during high-flow periods, heavy rainfall, or freezing conditions, including limiting the deposition of fine particles in spawning habitats.</p> <ul style="list-style-type: none"> • Use turbidity curtains to enclose the work area and contain SS. • Retain a buffer of undisturbed vegetation of at least 10 metres along the Ottawa River shoreline. If activities related to the Project are necessary within 10 metres, the proponent must implement measures to limit runoff and erosion during those activities. • Install temporary runoff management systems, including ditches and retention basins, to capture and treat water from service and parking areas before it is discharged into the receiving environment. <p>Cofferdam and Turbidity Curtains</p> <ul style="list-style-type: none"> • In consultation with Fisheries and Oceans Canada and the SART First Nations, assess the technically and economically viable cofferdam construction options and identify which option will be selected to reduce the Project's effects on fish and fish habitat. The proponent shall include in the evaluation, at a minimum, one or more options involving the use of piles and/or sheet piles and implement a pile or sheet pile option for the cofferdam if determined, to be technically feasible. • Deploy turbidity curtains in a manner that limits the entrapment of fish within the enclosed area. • Salvage and relocate, to the satisfaction of Fisheries and Oceans Canada, any fish trapped within the cofferdam and turbidity curtains enclosed areas. • Develop and implement, prior to the start of the construction phase, a plan to capture and relocate hickorynut and other freshwater mussels, to the satisfaction of Fisheries and Oceans Canada and in consultation with provincial authorities and SART First Nations and AOPFN. • Treat water from the cofferdam enclosure before returning it to the aquatic environment to minimize sediment inputs (e.g., vegetated buffer zones, settling basins, filter trenches, "Envirobags", weir tanks, or a combination of methods) and petroleum hydrocarbons. • Treat water from excavated sediment to prevent the release of contaminants into the surrounding environment. <p>Concrete Plan</p> <ul style="list-style-type: none"> • Locate all mobile concrete plants and concrete mixer washing stations at least 60 metres from the shoreline. • Manage any water that comes into contact with concrete in such a way that its discharge does not adversely affect aquatic life (pH and suspended solids) or fish habitat. 	<ul style="list-style-type: none"> ○ Implement modified or additional mitigation measures if surface water quality monitoring results show adverse effects on fish and fish habitat resulting from changes in water quality. • Review and improve, as needed, the dam management plan in consultation with SART First Nations and AOPFN and to the satisfaction of Fisheries and Oceans Canada. Notify IAAC of the dam water management plan. • Optimize, as needed, the flow regime downstream the new dam-bridge to create suitable conditions for lake sturgeon spawning, in consultation with SART First Nations and AOPFN, and to the satisfaction of Fisheries and Oceans Canada.



Key Mitigation Measures	Monitoring Requirements
Birds, Including Special-Status Species (Chapter 5.2)	
<ul style="list-style-type: none"> • Implement measures to protect migratory birds throughout the implementation of the Project. These measures are intended to prevent injury, death, or harassment of migratory birds; to take, damage, remove, or disturb their eggs; and to destroy, take, or disturb nests protected under MBCA and its regulations, as well as under SARA. In the design and implementation of these measures, the proponent takes into account Environment and Climate Change Canada’s Guidelines to Avoid Harm to Migratory Birds. • Prior to initiating an activity, determine, under the direction of a qualified person, the presence or probable presence of the nests of migratory birds protected under MBCA and its regulations and of residences protected under SARA likely to experience adverse effects due to project-specific activities. • Establish and delineate, under the direction of a qualified person, the setback distances around nests and residences whose presence is probable or confirmed as identified above, within which the activity will not take place when these nests are protected under MBCA and its regulations or SARA. When establishing setback distances, the Guidelines to avoid harm to migratory birds - Establishing buffer zones and setback distances from Environment and Climate Change Canada should be taken into account. • Implement measures to avoid adverse effects on birds other than migratory birds, their nests, eggs or nestlings. The proponent will have to determine, under the direction of a qualified individual, the dates of the relevant nesting periods for birds for any year during which these activities are carried out. If it is not technically feasible to carry out any activity that is potentially harmful to nesting outside the nesting periods determined during a given year, submit a justification to IAAC and develop and implement additional mitigation measures to avoid the adverse effects on birds during nesting. • Carry out a complementary survey before the deconstruction of the existing dam-bridge; and develop, in consultation with SART First Nations, AOPFN and Environment and Climate Change Canada, and implement measures (e.g., exclusion nets on the structure) to prevent birds from accessing the existing dam-bridge before the start of the nesting period and no later than before the work begins on the existing dam-bridge and until the end of the deconstruction works. The proponent will have to ensure that the measures are functioning properly through regular monitoring and, in the event of a failure, implement corrective actions. • If blasting activities are carried out during the deconstruction of the existing dam-bridge, carry out the Project in a manner that protects birds, including migratory birds and birds at risk. 	<p>IAAC does not recommend any additional follow-up or monitoring programs</p>
Other Special-Status Species (Chapter 5.3)	
<p>Bats</p> <ul style="list-style-type: none"> • If bats use the existing dam-bridge, the proponent will have to: <ul style="list-style-type: none"> ○ conduct monitoring of bat maternity, hibernation and resting areas on the existing dam-bridge through a qualified person; ○ develop, in consultation with SART First Nations, AOPFN, Environment and Climate Change Canada and any other relevant authorities, and implement measures (e.g., exclusion nets on the structure) to prevent bats from accessing the existing dam-bridge. The proponent will have to ensure that the measures are functioning properly through regular monitoring and, in the event of a failure, implement corrective actions; 	<p>IAAC does not recommend any additional monitoring or follow-up programs.</p>

Key Mitigation Measures	Monitoring Requirements
<ul style="list-style-type: none"> ○ determine, prior to the start of deconstruction of the existing dam-bridge and in consultation with SART First Nations, AOPFN, Environment and Climate Change Canada and other relevant authorities, and install a compensation structure to provide bats with opportunities for resting, maternity or hibernation. <p>Turtles</p> <ul style="list-style-type: none"> ● The proponent will have to: <ul style="list-style-type: none"> ○ Develop, in consultation with SART First Nations, AOPFN and Environment and Climate Change Canada, implement measures (e.g., exclusion barriers) to prevent turtles from accessing the construction site and reduce mortality risks associated with the designated project, including measures to deter turtles from laying eggs in at-risk areas. The proponent will have to ensure that the measures are functioning properly through regular monitoring and, in the event of a failure, implement corrective actions. ○ If a turtle is observed in an exclusion area during construction, stop work in the immediate vicinity, capture the turtle, under the direction of a qualified person, as soon as technically feasible and relocate it to a safe area outside the work site. 	
<p>Current Use of Land and Resources, Physical and Cultural Heritage and Socio-Economic Conditions of Local Communities (Chapter 5.4)</p>	
<p>IAAC does not recommend any additional mitigation measures to those already mentioned in Chapters 5.6 to 5.8.</p>	<p>No follow-up program is required.</p>
<p>Human Health (Chapter 5.5)</p>	
<p>Atmospheric Environment</p> <ul style="list-style-type: none"> ● Prior to construction, develop a dust management plan and, during construction, implement relevant and feasible mitigation measures. <p>Acoustic Environment</p> <ul style="list-style-type: none"> ● Prior to construction, develop measures, in consultation with the Wolf Lake First Nation, to mitigate the Project's effects on the Acoustic environment of the First Nation's business, the Algonquin Canoe Company, and implement these measures during construction. <p>Complaint Management</p> <ul style="list-style-type: none"> ● Prior to construction, develop, in consultation with Indigenous groups, and during construction implement, a management plan to respond within 24 hours to complaints related to project effects associated with atmospheric emissions, water quality, and noise. Information on this plan and on how to file a complaint will be made available to the public online. <p>Blasting Activities</p> <p>If blasting activities are carried out during the deconstruction of the existing dam-bridge, the proponent will have to:</p> <ul style="list-style-type: none"> ● Plan and implement mitigation measures in the event that conditions are not optimal during blasting activities. The measures should minimize nitrogen dioxide emissions that can be directed to receptors near the site. The proponent should establish specific criteria that would drive the implementation of these measures; ● Avoid blasting during periods of high winds or when prevailing winds can transport blasting gases; 	<p>IAAC recommends implementing a monitoring program to verify the accuracy of the anticipated effects on human health, as well as the effectiveness of the proposed mitigation measures. The mitigation measures could be adjusted if necessary, thus minimizing adverse environmental effects.</p> <p>The proponent will have to:</p> <p>Atmospheric Environment</p> <ul style="list-style-type: none"> ● Prior to construction, develop and implement a follow-up program, in consultation with Environment and Climate Change Canada and Health Canada, which makes it possible to verify the effectiveness of the mitigation measures in addressing the environmental effects of emissions of fine particulate matter (PM2.5) in the air on human health, at the nearest human receptors and traditional harvesting locations. The proponent will have to develop additional mitigation measures to reduce PM2,5 emissions if they exceed the established thresholds. <p>Acoustic Environment</p> <ul style="list-style-type: none"> ● Prior to construction, develop and implement a follow-up program, in consultation with Health Canada, regarding project-related increases in noise levels, to include the following components: <ul style="list-style-type: none"> ○ Continuous monitoring, during the construction phase, of sound levels at human receptors, taking into account Health Canada's

Key Mitigation Measures	Monitoring Requirements
<ul style="list-style-type: none"> Use splash mats when blasting; Include blasting schedule and timetable in the communication plan. 	<p>document “Guidance for Evaluating Human Health Effects in Environmental Assessment: Noise”;</p> <ul style="list-style-type: none"> Development of additional mitigation measures, in consultation with Health Canada and Wolf Lake First Nation, to reduce noise levels if they exceed established triggers.
<p>Current Use of Lands and Resources for Traditional Purposes by Indigenous Peoples (Chapter 5.6)</p>	
<p>Navigation Access</p> <ul style="list-style-type: none"> Maintain access to the Long Sault Island boat ramp throughout the entire construction phase. If access to the boat ramp is unavailable for more than one week, the proponent will be required to provide an equivalent alternative. <p>Works in fish habitat and fish habitat offsetting plan</p> <ul style="list-style-type: none"> Designate, before construction with SART First Nations, observers during the construction phase and allow them access to the site in the presence of qualified people to ensure their safety. Allow these observers to be present notably to observe the work to install the turbidity curtain; Offer SART First Nations and AOPFN the opportunity to be present during the hickorynut searches and the relocation of fish during the in-water work. <p>Gathering, and Access and Experience of the Territory</p> <ul style="list-style-type: none"> Develop and implement a rehabilitation program for Long Sault Island, in collaboration with SART First Nations and AOPFN, within the limits of the lands managed by the proponent. The program should include: <ul style="list-style-type: none"> The identification of plant species of interest that will be used to restore self-sustaining plant communities on Long Sault Island; the designation of a protected, development-free vegetation zone, located on the lands managed by the proponent The identification of success indicators for revegetation; The monitoring of restored areas for at least the first five years of the operational phase or until the success indicators are met. Implement a communication plan, in consultation with the SART First Nations and AOPFN, to inform the members of these First Nations of the schedule of construction, operation and maintenance activities for the dam-bridge. This plan should include: <ul style="list-style-type: none"> any restrictions on access on Long Sault Island and the Ottawa River for safety reasons, within 24 hours, during each phase of the Project, if applicable; Blasting schedule and timetable and their duration. <p>Perception of Resource Contamination</p> <ul style="list-style-type: none"> Involve the SART First Nations in the installation of the turbidity curtain; Hire an independent environmental monitor prior to construction, in consultation with the SART First Nations and AOPFN, while taking into account federal procurement policies. This independent monitor would be 	<p>IAAC recommends implementing a monitoring program to verify the accuracy of the anticipated effects on current use of land and resources for traditional purposes by Indigenous Peoples, as well as the effectiveness of the proposed mitigation measures. The mitigation measures could be adjusted if necessary, thus minimizing adverse environmental effects.</p> <p>The proponent will have to:</p> <ul style="list-style-type: none"> Develop, in consultation with SART First Nations and AOPFN, and implement a program to monitor the effectiveness of the restored spawning grounds in order to verify the predictions regarding the availability of fish in the Long Sault Island area. This program should include: <ul style="list-style-type: none"> a comparison of the results obtained with the information contained in the EIS regarding the initial condition of the spawning grounds located downstream of the existing dam-bridge. meetings with First Nations representatives to assess progress and share results. The proponent must agree with the First Nations on the preferred method of presenting results to their members, if necessary. Monitor land use, in consultation with the SART First Nations and AOPFN, to validate the accuracy of the predictions in this environmental assessment regarding access to and the quality of the experience on Long Sault Island and in the immediate navigable vicinity of the Kichi Sibi.

Key Mitigation Measures	Monitoring Requirements
<p>mandated to oversee the implementation of mitigation measures and follow-up programs, as well as to effectively disseminate, as soon as possible, the results of the environmental follow-ups directly to SART First Nations and AOPFN.</p>	
<p>Physical and Cultural Heritage by Indigenous Peoples (Chapter 5.7)</p>	
<p>Cultural Gatherings on Long Sault Island</p> <ul style="list-style-type: none"> • Offer opportunities for SART First Nations and AOPFN to conduct ceremonies prior to construction and consider participating in ceremonies, if requested by First Nations. • Plan, in consultation with SART First Nations and AOPFN, the following measures: <ul style="list-style-type: none"> ○ A construction stoppage and the clearing of the areas surrounding the Algonquin Canoe Company to provide conditions conducive to holding cultural gatherings for the following annual events: <ul style="list-style-type: none"> ▪ National Indigenous Peoples Day (June 21); ▪ National Day for Truth and Reconciliation (September 30). ○ Plan the creation, in consultation with SART First Nations and AOPFN, of an Algonquin cultural space with basic outdoor facilities to facilitate Algonquin cultural gatherings, or the enhancement of an existing space for this purpose. <p>Archaeological Potential</p> <ul style="list-style-type: none"> • Conduct an archaeological survey by certified archaeologists in the riverbed once the cofferdam is installed and, if safety permits, in the presence of representatives of SART First Nations and AOPFN. • Comply with the terms set forth in the chance find protocols agreed upon between the proponent and the SART First Nations and AOPFN. • Inform the employees employed on the Project site about the chance find protocols. <p>Heritage on Long Sault Island</p> <ul style="list-style-type: none"> • Inform the employees about the cultural significance of Long Sault Island in the Algonquin culture. • Develop, prior to construction and implement a plan for the restoration and recognition of the Algonquin heritage on Long Sault Island, in consultation with SART First Nations and AOPFN, within the boundaries of proponent-managed lands and consistent with the proponent’s financial and technical capacities. The plan would include <ul style="list-style-type: none"> ○ measures aimed at restoring the island, once construction is complete, to a more natural visual appearance consistent with its heritage significance for the First Nations; ○ the inclusion of Algonquin place names at locations deemed relevant by them on signage identifying historical and contemporary Algonquin cultural sites on Long Sault Island; and ○ developing and installing a commemorative feature that acknowledges the heritage value of the island in Algonquin culture, in both of Canada’s official languages and the Algonquin language; 	<p>IAAC recommends implementing a monitoring program to verify the accuracy of the anticipated effects on natural and cultural heritage by Indigenous Peoples, as well as the effectiveness of the proposed mitigation measures. The mitigation measures could be adjusted if necessary, thus minimizing adverse environmental effects.</p> <p>The proponent will have to:</p> <ul style="list-style-type: none"> • Develop, in consultation with the SART First Nations and AOPFN, and implement a program for the Algonquin natural and cultural heritage of Long Sault Island, which would monitor: <ul style="list-style-type: none"> ○ the quality of the cultural gathering experience on Long Sault Island, including those planned during work suspensions throughout the construction phase; ○ the effectiveness of the new cultural gathering space created or improved; ○ the effectiveness of the progressive reclamation and recognition measures in the plan for the restoration and recognition of the Algonquin heritage of Long Sault Island.

Key Mitigation Measures	Monitoring Requirements
<ul style="list-style-type: none"> ○ the inclusion of Algonquin art in the architecture of the dam-bridge or on Long Sault Island. <p>Sustainability of the Sale of Crafts by the Algonquin Canoe Company and Protection of its Buildings with Heritage Value</p> <ul style="list-style-type: none"> • Develop and implement, in consultation with Wolf Lake First Nation, a landscaping plan to restore the appeal of spontaneous tourist stops near the Algonquin Canoe Company in order to promote the sale of Algonquin crafts, following completion of construction. • Develop, together with Wolf Lake First Nation, a dust-cleaning protocol and establish a protective perimeter around the Algonquin Canoe Company’s buildings throughout the construction phase. • Inform the proponent’s employees or any subcontractors of the heritage value of these buildings prior to the work. 	
Socio-Economic Conditions by Indigenous Peoples (Chapter 5.8)	
<p>Signage</p> <ul style="list-style-type: none"> • In consultation with Wolf Lake First Nation, develop signs informing the public that the business is open during construction and identify locations for installation on lands owned by the proponent. <p>Communications</p> <ul style="list-style-type: none"> • In consultation with Wolf Lake First Nation, agree on a construction communications plan for the entire duration of the construction phase. 	<p>IAAC recommends implementing a monitoring program to verify the accuracy of the anticipated effects on socio-economic conditions of Indigenous Peoples, as well as the effectiveness of the proposed mitigation measures. The mitigation measures could be adjusted if necessary, thus minimizing adverse environmental effects.</p> <p>The proponent will have to:</p> <ul style="list-style-type: none"> • Monitor, in consultation with Wolf Lake First Nation, the financial losses incurred by the Algonquin Canoe Company during the construction phase of the Project. • Once the monitoring results are available, identify, in consultation with Wolf Lake First Nation, compensatory measures to mitigate the socio-economic effects of the Project on the Algonquin Canoe Company.
Effects on Rights-Recognized Groups (Chapter 6.1)	
<p>The proponent will have to:</p> <ul style="list-style-type: none"> • Publish the results of all monitoring related to the key measures identified in Chapters 5.5 to 5.8 and 6.5 in IAAC Registry. This will allow Indigenous groups in the process of recognizing rights to access the results of all monitoring and follow-up programs, particularly those relating to their concerns about water quality, fish habitat offsetting plan, and accidental discoveries of artifacts. 	<p>No follow-up program is required.</p>
Transboundary Effects (Chapter 6.2)	
<p>No additional mitigation measures are required.</p>	<p>No follow-up program is required.</p>
Effects of Accidents or Malfunctions (Chapter 6.3)	
<ul style="list-style-type: none"> • Implement the following mitigation measures to prevent accidents and malfunctions that may result in adverse effects within federal jurisdiction, where applicable: <ul style="list-style-type: none"> ○ Establish fire and spill prevention plans. 	<p>No follow-up program is required.</p>

Key Mitigation Measures	Monitoring Requirements
<ul style="list-style-type: none"> ○ Limit refuelling and maintenance of vehicles and equipment to areas located at least 30 metres from any water bodies and ensure that such activities are carried out in a manner that prevents spill. ○ Use secondary containment systems to store hazardous materials. ○ Provide training to the project employees on accident and malfunction prevention and related response measures. ● Prior to the start of the work, develop an accident and malfunction emergency response plan and maintain it throughout the operation phase, including: <ul style="list-style-type: none"> ○ A description of potential accidents and malfunctions that could have adverse effects within federal jurisdiction during any phase of the Project, including those resulting from the project activities and those resulting from environmental conditions acting on the Project, covering both worst-case and more likely alternate scenarios. ○ Measures for each scenario in accordance with the “National Wildlife Emergency Response Network: Guidance of Environment and Climate Change Canada”. ○ Clearly defined roles and responsibilities for the proponent, competent authorities, and other parties involved in the response effort. ● In the event of an accident or malfunction: <ul style="list-style-type: none"> ○ Notify appropriate emergency response authorities. ○ Inform Indigenous groups as soon as possible and IAAC within 24 hours, specifying: <ul style="list-style-type: none"> ■ the date, time, and location of the accident or malfunction; ■ a summary of the accident or malfunction; ■ the substance and the quantities spilled; ■ the competent authorities who have been notified and are involved in the response. ○ Submit a report to IAAC within 60 days, describing: <ul style="list-style-type: none"> ■ the incident and its adverse effects under federal jurisdiction; ■ measures taken to mitigate negative effects under federal jurisdiction; ■ comments from Indigenous groups and competent authorities; ■ residual effects and any additional mitigation or monitoring measures. ■ Steps taken to prevent recurrence. ○ Develop a communication plan in consultation with Indigenous groups for accidents and malfunctions, including: <ul style="list-style-type: none"> ■ Geographical areas within which Indigenous groups want to receive notifications. ■ Incident types and thresholds that would trigger notification. ■ Information to include in notifications to support community preparedness and response. ■ The method and frequency of notifications, including opportunities for Indigenous groups to participate in response efforts. 	



Key Mitigation Measures	Monitoring Requirements
Effects of the Environment on the Project (Chapter 6.4)	
No additional mitigation measures are required	No follow-up program is required.
Cumulative Effects on Lake Sturgeon (Chapter 6.5.1)	
No additional mitigation measures are required.	No follow-up program is required.
Cumulative Effects on the Current Use of Lands and Resources for Traditional Purposes by Indigenous Peoples (Chapter 6.5.2)	
<p>Cumulative Effects on the Availability of Lake Sturgeon for Subsistence Fishing</p> <ul style="list-style-type: none"> Assess, in consultation with the SART First Nations, AOPFN and Fisheries and Oceans Canada, the possibility of stocking fish species of interest, including lake sturgeon, as a measure to reduce the likelihood of cumulative effects on the availability of lake sturgeon for Algonquin subsistence fishing. Cumulative Decline in the Quality of the Experience on the Ottawa River due to Perceived Contamination and Trust Issues Develop and establish, prior to the start of construction and in consultation with the SART First Nations, and maintain throughout the various phases of the designated project, an Indigenous environmental committee responsible for fostering dialogue, information sharing, and dispute resolution between the proponent and the SART First Nations regarding the designated project. 	No follow-up program is required.
Cumulative Effects on Physical and Cultural Heritage by Indigenous Peoples (Chapter 6.5.3)	
<p>Cumulative effects of the construction phase on cultural transmission in the Long Sault Island area</p> <ul style="list-style-type: none"> Develop and participate, in consultation with SART First Nations and AOPFN, in the creation of an opportunity for the intergenerational transmission of Algonquin Knowledge on Long Sault Island – an initiative that is technically and economically feasible, led by the First Nations, and culturally relevant to them. 	No follow-up program is required.

Appendix D: Summary of Crown Consultation with Indigenous Groups

Appendix D contains a summary of the key issues of concern related to the Timiskaming Dam-Bridge of Quebec Replacement Project that were identified by Indigenous groups throughout the environmental assessment, along with Public Services and Procurement Canada's and the Impact Assessment Agency of Canada's (IAAC) responses.

Theme	Summary of Comments or Concerns	Summary of Proponent's Response	IAAC Response
SART First Nations (Kebaowek, Wolf Lake and Timiskaming First Nations)			
Fish and Fish Habitat	Concern about impacts on fish (primarily lake sturgeon), the destruction of a multi-species spawning ground, and the loss of associated cultural practices, with lake sturgeon being considered sacred.	Alignment of the construction schedule with the spawning and hatching periods of lake sturgeon. The proponent commits to developing a fish and fish habitat offsetting plan to the satisfaction of Fisheries and Oceans Canada, and in consultation with Indigenous groups. The proponent commits to assessing fish passage options, in consultation with Indigenous groups and Fisheries and Oceans Canada, prior to construction.	IAAC assesses that the project's effects on lake sturgeon would be minimized through the planned fish habitat offsetting and the program to monitor the effectiveness of spawning grounds in consultation with First Nations.
Fish and Fish Habitat	Concern about the impacts of the construction phase on water quality and the perception of contamination, which is already high in this valued area.	The proponent will develop an Environmental Management Plan that includes erosion and sediment control measures (e.g., barriers, turbidity curtains), will characterize excavated soils and sediments, will send contaminated materials to specialized disposal facilities, and will monitor water quality (turbidity) to ensure compliance with Fisheries and Oceans Canada criteria.	IAAC believes that installing the turbidity curtain reduces the risk of water quality deterioration and has recommended a water quality monitoring program to identify any abnormal situations. IAAC recommended that Algonquin representatives be present during the installation of the turbidity curtain and that an independent environmental monitor be hired to report the results of environmental monitoring directly to First Nations in the format of their choice in order to limit the perception of contamination.
Fish and Fish Habitat	Concerns regarding the involvement of the SART Communities Working Group on fish passage in the decision-making process.	The proponent commits to involving the SART communities in discussions related to fish passage that are planned as part of Fisheries and Oceans Canada authorization process. This commitment is reflected in the proponent's Consultation and Communication Plan, developed in collaboration with SART First Nations.	IAAC notes that Fisheries and Oceans Canada has already begun consulting with the SART First Nations at the time of completing this environmental assessment regarding the fishway. IAAC also recommended a condition for project approval to ensure that the proponent is required to assess, in consultation with the SART First Nations, the socio-economic impacts of the various fish passage options.
Assessment of Alternative Means	Concern regarding the review and justification of the different options, particularly the use of a cofferdam for option 1 (downstream construction). SART	The proponent has agreed to consider the downstream option using a modified sheet-pile structure or an alternative cofferdam located closer to the work site than the earth cofferdam described in the EIS. The proponent's design-	IAAC assessed the project as presented by the proponent. IAAC assessed, with the advice of Fisheries and Oceans Canada, that the current project design would have the least impact on fish habitat. IAAC recommended a condition to ensure consultation with the SART First Nations on the choice of the cofferdam work method to be used. IAAC recommended the proponent to specifically evaluate the preferred

Theme	Summary of Comments or Concerns	Summary of Proponent's Response	IAAC Response
	First Nations do not support the cofferdam option and requests that the proponent undertake a more rigorous analysis of the alternatives in order to select the option that presents the lowest sediment load scenario.	build contractors will be required to validate the feasibility and design of this alternative cofferdam, with the participation of the SART First Nations.	option of the SART First Nations regarding the cofferdam construction method, namely, sheet piling.
Socio-economic	Concern regarding the impacts of the construction phase on the sales of the Wolf Lake Algonquin Nation's business. Concerns about access to the boat ramp from Long Sault Island.	The proponent has committed to implementing the measures recommended by the Algonquin Canoe Company to facilitate access to the business during the construction phase and to mitigate effects on the long-term viability of the enterprise.	IAAC recommends the development and implementation of a monitoring program to monitor financial losses incurred by the business during the project's construction phase. IAAC further recommends that, based on the results of this monitoring, the proponent identify appropriate compensatory measures, in consultation with the Wolf Lake Algonquin Nation, to mitigate the identified effects. IAAC recommended that the boat ramp and its parking remain accessible at all times.
Health	Fear of increased contamination due to the resuspension of sediments, making fishing, hunting, and harvesting activities perceived as unsafe. These impacts would add to an already poor perceived water quality. Concerns regarding confidence in the ability of authorities and governance mechanisms to ensure rigorous implementation of the project, including mitigation measures, environmental monitoring, and environmental protection throughout its lifecycle.	The proponent acknowledges the perceived risk of contamination of traditional foods and has incorporated this concern into the assessment of effects on human health. Although no contamination pathway has been identified, the proponent commits to including these foods in monitoring programs and in the Environmental and Social Management Plan, and to collaborating with provincial public health authorities to ensure communication and follow-up with Indigenous groups, the public, and stakeholders.	IAAC assesses that the project is unlikely to have any health effects. IAAC has recommended a dust management plan and an air quality monitoring program. IAAC assesses that the turbidity curtain will reduce the risk of water contamination from resuspended sediments. IAAC considers that the water quality monitoring program and the hiring of an independent environmental monitor will promote confidence in the quality of the environment. IAAC required that the proponent establish an environmental monitoring committee with the SART First Nations in which they could participate on an ongoing basis, further recognizing the importance of their participation in monitoring the project's environmental quality.
Physical and Cultural Heritage	Concern regarding the impacts of the construction phase on the mobility of Indigenous peoples and their ability to gather culturally on an island considered part of Algonquin cultural heritage. Concern that the project will hinder cultural well-being on Long Sault Island and the Kichi Sibi River by restricting access during both the construction and operational phases.	The proponent commits to maintaining access to parking and to implementing the measures proposed by the business. The proponent also proposes to support Algonquin Nations in holding their own cultural activities, at times they deem appropriate, prior to construction. In addition, the proponent has committed to involving Indigenous groups in the planning, design, location, installation, and maintenance of a plaque or other permanent structure presenting the history of the Ottawa River and	IAAC believes that the project design, which allows the current bridge to remain in place during construction, would maintain the flow of interprovincial traffic. IAAC recommended suspending construction work to allow for Algonquin community gatherings on two holidays: National Indigenous Peoples Day and National Day of Truth and Reconciliation. IAAC also recommended a measure to create or improve an existing structure for community gatherings on the outskirts of the Algonquin enterprise to mitigate the effects of the construction phase on the ability to gather. IAAC has determined that a monitoring program is needed to track the well-being of the SART First Nations communities in relation to cultural gatherings on Long Sault Island, in order to monitor the quality of cultural gatherings held during the construction suspension and during the operational phase, through the use of the new gathering space.

Theme	Summary of Comments or Concerns	Summary of Proponent's Response	IAAC Response
		Long Sault Island. The proponent has also committed to revegetating Long Sault Island.	
Physical and Cultural Heritage	Concern regarding the potential impacts of the project on artifacts of Algonquin origin.	The proponent has developed protocols to be followed in the event that artifacts are discovered in both terrestrial and aquatic environments, and consulted the Algonquin Nations during their development. If artifacts are found, the proponent would notify the Algonquin Nations and consult them on their final disposition, in accordance with the protocols identifying potential conservation locations. The proponent also commits to holding any artifacts in trust until the appropriate protocol is implemented, as applicable.	IAAC took First Nations concerns into account and recommended that an archaeological survey be conducted in the riverbed once the area has been drained by the cofferdam and, if safety permits, in the presence of representatives from the SART First Nations and AOPFN. IAAC has recommended that the SART First Nations be consulted during the planning of this inventory.
Cumulative Effects	Concern regarding the cumulative effects of the project's construction phase, which could exacerbate avoidance of the area due to perceived contamination and contribute to declines in lake sturgeon populations available for Algonquin cultural use, within a regional context characterized by major development along the Ottawa River over the past century. Concern that the project will undermine cultural and socio-economic well-being on Long Sault Island and the Kichi Sibi River by altering access to fishing.	The proponent assesses that the project is not likely to cause cumulative effects.	IAAC assessed that the project construction phase was likely to have cumulative effects on the availability of lake sturgeon for fishing. IAAC notes that the proponent will need to obtain a permit from Fisheries and Oceans Canada to compensate for the project's effects on fish. The offsetting project must be sufficient to offset temporary and permanent habitat losses, the delay between the losses and the time when the offsetting measures are fully operational, and any uncertainty related to the success of the offsetting measures. This reduces the likelihood of cumulative effects on fish populations. IAAC also included, in its mitigation measures, a requirement that the proponent take into account the objectives and recommendations identified in the SART First Nation's <i>Neme (Lake Sturgeon) Conservation Plan for the Ottawa River when addressing mitigation of impacts on lake sturgeon</i> . AAC also required the proponent to establish a protocol with the SART First Nations to determine when the water would reach the ideal temperature to protect an eventual last lake sturgeon spawning before construction begins. Finally, IAAC recommended a monitoring program to assess access to and the quality of the experience at Long Sault Island in response to SART First Nations' request to maintain the well-being necessary for harvesting.
Current Use of Lands and Resources for Traditional Purposes	Concerns regarding the safety of people navigating in the area downstream of the project during its operational phase.	An existing "warning zone" for navigation, established for safety purposes and marked visually by buoys and signs, would be renewed once the construction phase is complete	IAAC believes that the navigable area conditions would be similar to that of the baseline condition. Transport Canada will analyze the establishment of the warning zone, through its permitting process, in consultation with First Nations, to ensure the safety of people navigating downstream of the project.

Theme	Summary of Comments or Concerns	Summary of Proponent's Response	IAAC Response
AOPFN			
Socio-economic	The Algonquins of Pikwakanagan First Nation recognize that the project could provide opportunities for employment, training, and contracting, but emphasize that these benefits must be sustainable and planned over the long term. The Nation identifies significant challenges, including transportation to the project site, childcare, discrimination, and a lack of organizational capacity to take full advantage of employment opportunities.	The proponent commits to negotiating participation plans with each Indigenous group, prioritizing the awarding of contracts to AOPFN and SART communities, followed by the Algonquins of Ontario (AOO), the Métis Nation of Ontario (MNO), and Antoine First Nation, and subsequently to local contractors at each phase of the project.	IAAC cannot interfere in contractual relations between the proponent and First Nations. IAAC assesses that the project's impact on the Algonquin Nations' economy would be minor, local, short-term, felt during the construction phase, and reversible.
Socio-economic	The Nation sees an opportunity for skills development in the construction sector, which could strengthen local capacity and generate positive long-term benefits. However, a major concern is the risk of talent loss to the proponent, which could weaken the community if trained workers leave for external employment.	The proponent assesses that the Algonquin Nations could benefit from the project through potential employment and contracting opportunities, while acknowledging that barriers to employment may remain. The proponent also assesses that the project could result in a temporary loss of skilled labour from Algonquin Nations' services to external employment. The proponent notes that the project would create up to 50 jobs, primarily during the construction phase, which is expected to last approximately three years.	IAAC believes that several members of the Algonquin Nations could benefit from jobs, income, training, or contracts, which could improve the quality of life for families and the transferable skills of workers. However, this effect would be temporary, as the construction phase would last approximately three years. It would also be limited, as approximately 50 jobs would be available.
Current Use of Lands and Resources for Traditional Purposes	Concern regarding a decrease in fish abundance and diversity combined with risks to water quality and access to the river. These impacts would affect fishing activities and spiritual practices.	The proponent commits to developing a fish and fish habitat offsetting plan to the satisfaction of Fisheries and Oceans Canada, in consultation with Indigenous groups.	IAAC assesses that the project's effects on lake sturgeon would be minimized through the planned fish habitat offsetting and the program to monitor the effectiveness of spawning grounds in consultation with First Nations. The turbidity curtain limits the risk of water contamination from resuspended sediments. A water quality monitoring program would allow First Nations to be informed by an independent environmental monitor of the quality of the environment. Access to navigation downstream of the project would be modified during the construction phase, which would last only 30 months. IAAC recommended that the boat ramp and its parking area remain accessible at all times to reassure First Nations. IAAC also recommended a monitoring program to assess access to and the quality of the experience at Long Sault Island in response to the AOPFN's request to maintain the well-being necessary

Theme	Summary of Comments or Concerns	Summary of Proponent's Response	IAAC Response
			for harvesting. IAAC also required the proponent to assess, in consultation with the AOPFN, the socio-economic impacts of the various fish passage options.
Current Use of Lands and Resources for Traditional Purposes	Concern regarding impediments to navigation and travel to spiritual sites, exacerbating the alteration of Long Sault Island, a key place for knowledge transmission and community activities. Concern that the project will hinder cultural well-being on Long Sault Island and the Kichi Sibi River by restricting access during both the construction and operational phases.	The proponent considers that the navigability of this section of the Ottawa River would not be affected by the project. The proponent also proposes to support Algonquin Nations in holding their own cultural activities, at times they deem appropriate, prior to construction. In addition, the proponent has committed to involving Indigenous groups in the planning, design, location, installation, and maintenance of a plaque or other permanent structure presenting the history of the Ottawa River and Long Sault Island. The proponent has also committed to revegetating Long Sault Island.	IAAC recommended the implementation of a program to restore the Algonquin heritage of Long Sault Island after the work, in consultation with First Nations, which could include landscaping, Algonquin place names for cultural sites, and the installation of a commemorative feature and Algonquin art integration, recognizing the Algonquin heritage of the island. IAAC identified a measure to limit the cumulative effects of the construction phase on Algonquin cultural practices on Long Sault Island, which requires the creation of an opportunity for intercultural transmission on Long Sault Island during construction. IAAC has determined that a monitoring program is needed to track the well-being of the AOPFN communities in relation to cultural gatherings on Long Sault Island, in order to monitor the quality of cultural gatherings held during the construction suspension and during the operational phase, through the use of the new gathering space. IAAC also recommended that the AOPFN be allowed to participate in planning the archaeological survey required in the riverbed.
Current Use of Lands and Resources for Traditional Purposes	AOPFN considers that impacts on fish must be avoided and that offsetting should be implemented prior to construction. It deems current regulatory requirements to be insufficient and proposes a 3:1 offsetting ratio to protect fishing activities.	Additional discussions with Indigenous groups regarding fish passage and habitat offsetting are planned as part of the Fisheries and Oceans Canada authorization process and will be organized based on the priorities and availability of the Indigenous groups.	IAAC notes the concern and observes that current legislation allows for the Fisheries and Oceans Canada permitting process only after the project has been approved by the Minister. Thus, fish habitat offsetting is studied, regulated, and permitted once the project has been authorized. Fisheries and Oceans Canada does not have a minimum ratio for fish habitat offsetting and makes its recommendations on a case-by-case basis. IAAC is satisfied that Fisheries and Oceans Canada already consults with AOPFN as part of the permit process under the Fisheries Act and will be able to take into account AOPFN's recommendations on the required offsetting ratios. IAAC required the proponent to establish a protocol with the AOPFN to determine when the water would reach the ideal temperature to protect an eventual last lake sturgeon spawning before construction begins.
Current Use of Lands and Resources for Traditional Purposes	AOPFN is concerned about changes in water flow that would result from the project. As a steward of the Algonquin AOPFN's unceded and unsurrendered traditional territory, AOPFN must be involved in any decisions related to water flow management.	Fisheries and Oceans Canada is reviewing a draft protocol for the operation of the Timiskaming Dam Complex to protect aquatic life. Once approved, it will be shared with AOPFN and other Indigenous groups.	IAAC recommended consulting with AOPFN in the dam management plan and in choosing the optimal water flow regime for lake sturgeon spawning conditions.
Current Use of Lands and Resources for	Members of AOPFN fear that the project could lead to contamination. Any change in consumption has an impact on	The proponent acknowledges the perceived risk of contamination of traditional foods and has incorporated this concern into the assessment of effects on human health. Although no	IAAC estimates that the turbidity curtain will reduce the risk of water contamination due to sediment resuspension. IAAC believes that the water quality monitoring program and the hiring of an independent environmental monitor will help build confidence in the quality of the environment.

Theme	Summary of Comments or Concerns	Summary of Proponent's Response	IAAC Response
Traditional Purposes	human health whether the contamination is real or perceived. Concerns regarding confidence in the ability of authorities and governance mechanisms to ensure rigorous implementation of the project, including mitigation measures, environmental monitoring, and environmental protection throughout its lifecycle.	contamination pathway has been identified, the proponent commits to including these foods in monitoring programs and in the Environmental and Social Management Plan.	
AOO			
Fish and Fish Habitat	Major concern regarding the remobilization of contaminated sediments (mercury and methylmercury) during hydrological changes or in the event of flooding.	<p>In the draft Consultation and Communication Plan for the Algonquins of Ontario (AOO), the proponent added these topics for discussion and resolution. The proponent reviewed the plans with AOO to ensure they reflect how AOO wishes to be consulted and the issues to be addressed.</p> <p>The proponent will develop an Environmental Management Plan that includes erosion and sediment control measures (e.g., barriers and turbidity curtains), will characterize excavated soils and sediments, will send contaminated materials to specialized facilities, and will monitor water quality (turbidity) to ensure compliance with Fisheries and Oceans Canada criteria.</p>	IAAC estimates that the turbidity curtain will reduce the risk of water contamination from resuspended sediments. IAAC believes that the water quality monitoring program and the hiring of an independent environmental monitor will help build confidence in the quality of the environment.
Fish and Fish Habitat	Importance of installing a multi-species fish passage and an eel ladder for the American eel.	<p>In the draft Consultation and Communication Plan for the Algonquins of Ontario (AOO), the proponent added these topics for discussion and resolution. The proponent reviewed the plans with AOO to ensure they reflect how AOO wishes to be consulted and the issues to be addressed.</p> <p>Additional discussions with Indigenous groups regarding fish passage and habitat offsetting are planned as part of the Fisheries and Oceans Canada authorization process and will be</p>	IAAC is satisfied that AOO will be consulted on permits to be obtained under the <i>Fisheries Act</i> , which would include studying options for installing a fish pass.

Theme	Summary of Comments or Concerns	Summary of Proponent's Response	IAAC Response
		organized based on the priorities and availability of the Indigenous groups.	
Cumulative Effects	Ongoing concern regarding the cumulative impacts of road salt and suspended solids from roadway runoff into the Kichi Sibi.	Detailed measures are planned to limit suspended solids and protect water quality during construction, including a sediment control plan, installation of barriers and turbidity curtains, restrictions on activities within the riparian zone, management of turbid waters, daily cleanup, and rapid stabilization of disturbed areas.	IAAC believes that several standard construction site management mitigation measures will minimize the effects of road salt and that this is unlikely to have any health effects. IAAC emphasizes that the maintenance of these roads is the responsibility of the Quebec Ministry of Transport.
Human Health	Assess the health of fish communities and conduct contamination analyses to support consumption guidelines for Algonquin communities.	The proponent acknowledges the perceived risk of contamination of traditional foods and has incorporated this concern into the assessment of effects on human health. Although no contamination pathway has been identified, the proponent commits to including these foods in monitoring programs and in the Environmental and Social Management Plan.	IAAC notes that fish in the project area are edible and that this environmental assessment concludes that the project should not change this situation. IAAC recommended hiring an independent environmental monitor to monitor water quality after the turbidity curtain is installed.
Antoine Nation			
Fish and Fish Habitat	Antoine First Nation is concerned that a multi-species fish passage could disrupt migration patterns and introduce predators (e.g., catfish), thereby threatening walleye (a valued species), traditional fishing, and subsistence fishing.	Additional discussions with Indigenous groups regarding fish passage and habitat offsetting are planned as part of the Fisheries and Oceans Canada authorization process and will be organized based on the priorities and availability of the Indigenous groups.	IAAC relies on the expertise of Fisheries and Oceans Canada regarding the effects of a potential fish passage on fish available for fishing. IAAC notes that, according to Fisheries and Oceans Canada, a fish passage does not cause certain species to migrate from one section of a river to another.
Fish and Fish Habitat	Antoine First Nation is concerned about the effectiveness of the new spawning habitats proposed as a compensatory measure for fish habitat.	Additional discussions with Indigenous groups regarding fish passage and habitat offsetting are planned as part of the Fisheries and Oceans Canada authorization process and will be organized based on the priorities and availability of the Indigenous groups.	IAAC recommended the implementation of a program to monitor the effectiveness of the restored spawning grounds, which will allow corrective measures to be taken if the new spawning grounds do not have similar productivity to the original ones.
Human Health	Concerns regarding impacts on water quality during the construction phase that could result in effects on users' health.	The proponent acknowledges the perceived risk of contamination of traditional foods and has incorporated this concern into the assessment of effects on human health. Although no contamination pathway has been identified, the	The turbidity curtain limits the risk of water contamination from resuspended sediments. A water quality monitoring program would allow First Nations to be informed by an independent environmental monitor about the quality of the environment.

Theme	Summary of Comments or Concerns	Summary of Proponent's Response	IAAC Response
		proponent commits to including these foods in monitoring programs and in the Environmental and Social Management Plan.	
Métis Nation of Ontario			
Human Health	The Métis Nation of Ontario is concerned that construction could heighten fears of river contamination, which could affect fish health and discourage some Métis from fishing in their traditional areas.	The proponent acknowledges the perceived risk of contamination of traditional foods and has incorporated this concern into the assessment of effects on human health. Although no contamination pathway has been identified, the proponent commits to including these foods in monitoring programs and in the Environmental and Social Management Plan.	The turbidity curtain limits the risk of water contamination from resuspended sediments. A water quality monitoring program would allow First Nations to be informed by an independent environmental monitor about the quality of the environment. IAAC notes that fish in the project area are safe to eat and that this environmental assessment concludes that the project should not change the situation.
Fish and Fish Habitat	The Métis Nation of Ontario is concerned about the potential effects of a future fish passage on fish availability. It fears that a decline in fish stocks could lead its members to avoid the river, thereby harming their culture.	Additional discussions with Indigenous groups regarding fish passage and habitat offsetting are planned as part of the Fisheries and Oceans Canada authorization process and will be organized based on the priorities and availability of the Indigenous groups.	IAAC relies on the expertise of Fisheries and Oceans regarding the effects of a potential fish passage on fish available for fishing. IAAC notes that, according to Fisheries and Oceans Canada, a fish passage does not cause certain species to migrate from one section of a river to another.
Birds	The Métis Nation of Ontario is concerned that construction noise (including demolition) could disturb wildlife (ducks and geese) and discourage its members from hunting in the area.	<p>The proponent is of the view that construction activities for the new dam-bridge and the demolition of the existing dam-bridge could cause sensory disturbances from noise, dust, and lighting, which could deter birds from using the LSA and the RSA or alter their behaviour.</p> <p>The proponent has committed to conducting noise monitoring in areas sensitive for bird nesting. The proponent has also committed to monitoring birds in wetlands along Gordon Creek between the spring and fall migration periods during the construction and demolition phases.</p>	IAAC estimates that the project construction phase is likely to reduce the abundance of birds for Indigenous hunting in the project area itself due to sensory disturbances, but that this effect would be short-lived (30 months) and very localized geographically. IAAC believes that there are several alternative locations in the area for this type of hunting.
Physical and Cultural Heritage	The Métis Nation of Ontario is concerned that the project could compromise key heritage and archaeological sites that are essential to its cultural continuity.	The proponent has developed protocols to be followed in the event that artifacts are discovered in both terrestrial and aquatic environments.	IAAC took First Nations concerns into account and recommended that an archaeological survey be conducted in the riverbed once the area had been drained by the cofferdam.

Appendix E: The Project's Summary of Effects on the SART First Nations' Environment (modified from Table 20.1 of the EIS)

Valued Component affected	Area of federal jurisdiction (✓)	Project Activity	Potential effects	Proposed mitigation measures or enhancements	Direction of Effect	Main criteria to determine the significance of effects					Significance of residual adverse effect	Likelihood of significance of residual adverse effect
						Magnitude	Geographical extent	Duration	Frequency	Reversibility		
Health and Socio-economic conditions and activities – SART First Nations	Section 5(1) c) (i) of CEAA (2012)	Planning and pre-construction	AOO and Antoine Nation given recognition; Impacts Aboriginal Right/Responsibility to protect Territory	<ul style="list-style-type: none"> Recognize the legal distinction in how Aboriginal rights are applied to rights holders and non-right holders and proceed accordingly. Only rights holders are entitled to be afforded section 35 consultation, and SART consultation must be prioritized and held in higher regard. Respect for and recognition of the Statement of Asserted Rights and Title issued by the First Nations in 2013, including an understanding that – when the Quebec-side bridge is being discussed – it is the SART First Nations who have jurisdiction and must be accommodated, not the Algonquins of Ontario. 	Negative	Severe	Algonquin Traditional Territory	N/A	N/A	Yes	High	High
Health and Socio-economic conditions and activities – SART First Nations	Section 5(1) c) (i) of CEAA (2012)	Planning and pre-construction	Duty of Crown to consult in good faith: Dismissive and time-wasting approach by the Proponent – frustration for First Nations.	Re-evaluate consultation mechanisms to prioritize Section 35 Rights holders	Negative	Severe	Local	N/A	N/A	Yes	N/A	N/A
Health and Socio-economic conditions and activities – SART First Nations	Section 5(1) c) (iii) of CEAA (2012)	Planning and pre-construction	Continued preference by the proponent for Option 1, despite effect on spawning beds; UNDRIP / UNDA Rights impacted: Right to Protect Territory; Right to Harvest; Right to a Healthy Environment.	Proceed with design build Option 1A	Negative	High	Ottawa River/Kichi Sibi	N/A	N/A	Yes	High	Likely
Health and Socio-economic conditions and activities – SART First Nations	Section 5(1) c) (iii) of CEAA (2012)	Planning and pre-construction	Incomplete fishery contaminant studies; Potential rights impacted: Right to Harvest; Right to Healthy Environment Right to Protect Territory	Complete studies prior to choosing site option	Negative	High	Ottawa River/Kichi Sibi	N/A	N/A	Yes	High	Likely



Valued Component affected	Area of federal jurisdiction (√)	Project Activity	Potential effects	Proposed mitigation measures or enhancements	Direction of Effect	Main criteria to determine the significance of effects					Significance of residual adverse effect	Likelihood of significance of residual adverse effect
						Magnitude	Geographical extent	Duration	Frequency	Reversibility		
Health and Socio-economic conditions and activities – SART First Nations	Section 5(1) c (i) of CEAA (2012)	Dam construction	Direct and indirect employment and business opportunities	<ul style="list-style-type: none"> • Prioritize SART service providers and workers to optimize direct and indirect employment in the region • Encourage joint ventures when local capacity does not exist to create benefits for local and SART communities • Provide compensation for training SART TDQRP workers, and allow for schedule flexibility to accommodate any unpaid or paid labour responsibilities within the community to reduce likelihood of “skimming effect.” • Ensure equal pay and employment opportunities • Encourage contractor to use qualified local and Indigenous-owned services 	Positive	N/A	Local	Short Term	N/A	N/A	Significant	Low
Health and Socio-economic conditions and activities – SART First Nations	Section 5(1) c (i) of CEAA (2012)	Dam construction	Barriers to employment	<ul style="list-style-type: none"> • Institute a zero-tolerance policy for racism and sexism • Provide cultural awareness and sensitivity training to non-Indigenous workforce • Provide skills training opportunities for women from SART communities who are interested in working on the TDQRP • Institute confidential whistle-blowers/grievance system for the workplace. Have culturally appropriate responses to workplace grievances. • Encourage implementation of workplace diversity measures and incentives • Discuss and address barriers to employment during development of Indigenous Participation Plan (IPP); IPP should prioritize SART participation. 	Negative	Low	Local	Medium	Continuous	N/A	Significant	N/A
Health and Socio-economic conditions and activities – SART First Nations	Section 5(1) c (i) of CEAA (2012)	Dam construction	Skills and capacity development	<ul style="list-style-type: none"> • Develop IPP to support economic benefits. • Require the contractors to provide training and apprenticeship opportunities • SART to set TEK guidance on environmental monitoring with SART community members in concert with DFO and proponent • Provide funding for long-term sustained SART guardianship initiatives 								



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				<ul style="list-style-type: none"> Employ SART knowledge holders with jobs in fields that expertise is currently held, and where it can be applied to long-term community needs, such as monitoring. The results will then be made public to Indigenous and non-Indigenous communities Implement measures through Indigenous Participation Plan to ensure opportunities for SART to benefit. 								
Health and Socio-economic conditions and activities – SART First Nations	Section 5(1) c (ii) of CEAA (2012)	Dam construction	Decreased participation in cultural events/activities and traditional economy	<ul style="list-style-type: none"> Provide cultural awareness and sensitivity training Design employment contracts to accommodate cultural leave, and flex scheduling with SART employees Design employment contracts to have wellness and family leave policies according to Algonquin protocol Implement measures through Indigenous Participation Plan. 	Negative	High	Local		Cyclic		Significant	
Health and Socio-economic conditions and activities – SART First Nations	Section 5(1) c (iii) of CEAA (2012)	Dam construction	Increased land use by non-Indigenous workers—This will certainly add strain to an existing issue. Often when temporary camps are set up there is an increase in violence that is often linked to substance abuse and increase in partner abuse	<ul style="list-style-type: none"> Give preference to SART workers to minimize changes to harvesting. Provide cultural awareness and sensitivity training Ensure all workers are aware of, and follow, provincial rules and regulations regarding hunting and fishing; work with provincial conservation officers to monitor/enforce rules If a temporary camp is established for non-Indigenous workers, which is not recommended, ensure their camp is dry. Zero-tolerance policy for any aggression from non-Indigenous workforce to SART community members. Enforce worksite best practices to reduce spread of contagious disease, as required 	Negative	Medium	Local	Medium	Cyclic	N/A	Significant	Medium
Health and Socio-economic conditions and activities – SART First Nations	Section 5(1) c (iii) of CEAA (2012)	Duration of dam construction	Increased pressure on SART Nations governance; Less time for other community concerns	<ul style="list-style-type: none"> Flexibility with deadlines. Compensation for time provided to reading all documents, allocating resources for technical support, finalizing engagement input, conducting studies. 	Negative	High	Local	Ongoing	N/A	Yes	N/A	N/a



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Health and Socio-economic conditions and activities – SART First Nations	Section 5(1) c (iii) of CEAA (2012)	Duration of Dam Construction / Dismantling of Current Dam	Impacts on fishery, spawning beds, mussel propagation; Loss of important food sources; Malnutrition, impoverishment	<p>Non-exhaustive proposed mitigation measures</p> <ul style="list-style-type: none"> Hickorynut Mussel Studies in partnership between SART communities and Canadian Museum of Nature researchers should be carried out. To date, no thorough studies to determine the presence/absence of Hickorynut Mussels have been carried out in the area of the Temiscaming dam, either upstream or downstream. There is strong evidence that the Hickorynut Mussel relies on Lake Sturgeon for an important part of its life cycle. There appears to be a suitable habitat for this SAR mussel (soft substrate, appropriate water flow and depth) in the vicinity of the Temiscaming dam, as well as near the mouth of the Beauchene 38 river. It is important to conduct a methodical study to determine whether or not the hickorynut is found in this area as it is currently only known to exist in a small number of locations in Canada. Mussels are filter feeders, feeding very near the river bottom. This makes them susceptible to silt and sediment, as well as toxic heavy metals which will settle out of suspension due to their physical attributes. Impacts to water quality, as a result of dam construction, and especially the dismantling of the existing dam, have the potential to adversely affect the health and survival of hickorynut mussels if in fact they do inhabit this area of the river. 	Negative	N/A	Ottawa River/Kichi Sibi	Ongoing	N/A	No	N/A	N/A
Health and Socio-economic conditions and activities – SART First Nations	Section 5(1) c (iii) of CEAA (2012)	Duration of Dam Construction / Dismantling of Current Dam	Impacts on fishery, spawning beds, loss of important food sources	SART to have a co-management plan with DFO and the proponent to advance the SART Neme (a Species At Risk) Conservation Plan over time. Ongoing and regular monitoring of the sturgeon population is the only way to determine if the number of fish are in recovery mode or declining in the area below the dam. Since these fish are slow to reproduce, studies must cover many years, and ideally, decades to confidently determine any trends in the population.	Negative	Severe	Ottawa River	Ongoing	N/A	No	Significant	N/A



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Health and Socio-economic conditions and activities – SART First Nations	Section 5(2) b (i) of CEAA (2012)	Dam construction	Direct and indirect employment and business opportunities	<ul style="list-style-type: none"> Prioritize local and Indigenous service providers and workers to optimize direct and indirect employment in the region Encourage joint ventures when local capacity does not exist to create benefits for local and Indigenous communities Ensure equal pay and employment opportunities Encourage contractor to use qualified local and Indigenous-owned services 	Positive	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Natural and cultural heritage; Historical, archaeological, paleontological or architectural elements of importance – SART First Nations	Section 5(1) c (ii) and (iv); 5 (2) b (iii) of CEAA (2012)	Dam construction	Destruction of archaeological resources on Long Sault Island	<ul style="list-style-type: none"> Provide funding for SART communities to do expand baseline assessment of archaeological resources at the proposed site area(s). Halt activities if any archaeological resources are discovered, protect the site, notify SART communities and relevant authorities (provincial archaeological authorities) Comply with the Ontario Heritage Act Co-develop archaeological studies with SART communities. The proponent will work with SART communities prior to construction to prepare a protocol for the protection and management of any recovered artefacts based on the archaeological intervention plan. This plan should be done prior to construction. If artefacts are found, they must be presented to SART communities to be held in-trust. 	Negative	High	Local	N/A	N/A	N/A	N/A	N/A (Cannot account for likelihood without baseline study)
Natural and cultural heritage; Historical, archaeological, paleontological or architectural elements of Importance – SART First Nations	Section 5(1) c (ii) and (iv); 5 (2) b (iii) of CEAA (2012)	Dam construction	Destruction of marine archaeological resources	<ul style="list-style-type: none"> Provide funding and time for SART communities to lead and co-conduct an underwater archaeological potential assessment (Phase 1), underwater archaeological surveys (Phase 2, if recommended and deemed feasible), an underwater archaeological impact assessment (Phase 3) and develop an archaeological intervention plan (Phase 4). Intervention plan to be finalized prior to construction. Comply with the Ontario Standards and Guidelines for Consultant Archaeologists Conduct archaeological investigation based on the archaeological intervention plan in the dewatered area once cofferdam installed, 	Negative	High	Local	N/A	N/A	N/A	N/A	N/A (Cannot account for likelihood without baseline study)



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				<ul style="list-style-type: none"> document and recover any archaeological resources, if discovered, to prevent destruction Co-develop archaeological studies with interested SART communities The proponent will work with SART common prior to construction to prepare a protocol for the protection and management of any recovered artefacts based on the archaeological intervention plan If artefacts are found, they must be presented to SART communities to be held in-trust. 								
Health and Socio-economic conditions and activities – SART First Nations	Section 5(2) c (i) and (iii) of CEAA (2012)	Dam construction	Disruptions from traffic on bridge; Difficulty accessing services, etc. on other sides of the river; Frustration among already vulnerable people ; increased frustration of hopes and economic well-being	None proposed	Negative	Low	Footprint	Construction period	N/A	Potentially Reversible	Significant	N/A
Health and Socio-economic conditions and activities – SART First Nations	Section 5(2) c (i) and (iii) of CEAA (2012)	Dam construction	Disrupted travel/daily life over bridge (school, shopping, appointments leading to increased frustration at home); potential rights impacted: Right to Occupy Territory; Right to a Safe and Healthy Environment	Can be mitigated; none proposed	Negative	High	Local	Construction Period	N/A	Reversible	N/A	N/A
Health and Socio-economic conditions and activities – SART First Nations	Section 5(2) c (i) and (iii) of CEAA (2012)	Dam construction	Noise; Impacts Right to a safe environment; Contaminate, frighten wildlife, fish, medicines; loss of country foods	Can be mitigated; none proposed	Negative	Severe	Local	Construction	N/A	Irreversible	Significant	N/A
Health and Socio-economic conditions and activities – SART First Nations	Section 5(2) c (i) and (iii) of CEAA (2012)	Dam construction	Impacts to Algonquin Canoe company losses; Loss of income-generating, cultural business. Rights	<ul style="list-style-type: none"> Heavy machinery and construction staging equipment shall: Be located 5m away from the Algonquin Canoe Company establishment and parking 	Negative	Severe	Local	Construction	N/A	Irreversible/Compensation	Significant	Likely



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activities – SART First Nations			impacts: Right to dignity of culture and enterprise; Impoverishment, cultural identity, Worker health/safety/standards (reportable events)	<ul style="list-style-type: none"> • Be located on the opposite side of highway63 • Be located safely within the working location while maintaining its distance from customer parking. • Traffic Control Measures have a significant impact on store access and sales. This impact will require compensation for business loss. 								
Natural and cultural heritage; Historical, archaeological, paleontological or architectural elements of importance – SART First Nations	Section 5(1) c) (ii) and (iv) of CEAA (2012)	Dam construction	Physical and cultural heritage value of Long Sault Island	<ul style="list-style-type: none"> • A SART community objective is to establish a culturally and ecologically informed native plant garden on select degraded grassy areas following the reconstruction of the Timiskaming Dam. • Remediation of the soil from our garden restoration project is required and will be done on-site using natural processes. • SART communities will be relying on our natural allies to perform microbial, mycological, and phytoremediation. These natural solutions provide affordable and long-lasting benefits to contaminated soils. • Soil sampling will be conducted prior to any remediation efforts to assess the baseline soil contamination and to determine the level of remediation achieved. • Following the establishment of healthy soil, a food web of native species will be planted. • Species important to the survival of early spring pollinators and bird species should not be disturbed in construction phases. SART communities to conduct a study monitoring vegetation in advance of the construction phases to optimally protect species from potential disturbances. • All site soils require environmental remediation. Organisms such as saprophytic mushrooms, fungi, bacteria, and algae are able to remove heavy • metals or transform them into less toxic forms (Mustapha & Halimoon, 2015). In particular, mushrooms will be able to absorb maximum levels of aluminum as well as other metal elements in the soil. • Involve Indigenous groups in the planning, design, siting, installation and maintenance 	Negative	High	Local	Medium	N/A			



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				permanent commemorative artwork that provides the history of the Ottawa River and Long Sault Island and their importance to Algonquin cultural and physical heritage and recognition of how colonial projects like the TDQRP have impacted the Kichi Sibi and SART rights.								
Natural and cultural heritage; Historical, archaeological, paleontological or architectural elements of importance – SART First Nations	Section 5(1) c) (ii) and (iv) of CEAA (2012)	Dam construction and Dam operation	Physical and cultural heritage value of the Ottawa River; Less possibility to reclaim original flows of Ottawa River; Impacts Rights to access and occupy traditional territory and Rights to maintain a cultural and spiritual relationship with the territory	N/A	Negative	High	Algonquin Territory	Long term; permanent	Continuous	Irreversible	Significant	High
Current use of land and resources for traditional purpose – SART First Nations	Section 5(1) c) (iii) of CEAA (2012)	Dam construction	Destruction of spawning bed (if Option 1 proceeds); potential rights impacted: Right to Harvest; to a Healthy Environment	Feasibility of option 1A imperative in design build a term sheet arrangement between SART and the proponent	Negative	High	La Cave section of Ottawa River	Years	N/A	No	Significant	N/A
Current use of land and resources for traditional purpose – SART First Nations	Section 5(1) c) (iii) of CEAA (2012)	Dam construction	Damage to fishery and interrelated ecosystem (if Option 1 proceeds); potential rights impacted: Right to Harvest; right to a healthy environment ; to diversity (traditional foods)	If Option 1A, can be mitigated Non-exhaustive proposed mitigation: <ul style="list-style-type: none"> Construction activities should take place outside of March 31 to July 31 (breeding period for savannah sparrows—a species of concern under SARA). SART to conduct a study monitoring vegetation in advance of the construction phases to optimally protect species (birds, pollinators) from potential disturbances. 	Negative	High	Local	Construction period	N/A	No	Significant	N/A
Current use of land and resources for traditional purpose – First Nations	Section 5(1) c) (iii) of CEAA (2012)	Dam construction	Perceived/real impacts on fish health due to contaminants	<ul style="list-style-type: none"> Install turbidity curtain and remove sediments from behind it Inspect turbidity curtain after it is installed Monitor for organic mats downstream of the dam construction site within the Project area and remove if observed 	Negative	Medium	Local	Medium	Continuous	Reversible	Non-significant	N/A



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						Magnitude	Geographical extent	Duration	Frequency	Reversibility		
				<ul style="list-style-type: none"> Share information on water/fish quality Share information on construction/demolition material composition and risks to health Involve Indigenous groups in monitoring fish and fish habitat during construction and post-construction Project phases Improve fish habitat through SART mechanisms in concert with DFO permit process Include Indigenous knowledge in fish monitoring and species restoration or recovery activities, as appropriate 								
Current use of land and resources for traditional purpose – SART First Nations	Section 5(1) c (iii) of CEAA (2012)	Dam construction	Impacts to fish health due to contaminants	Exposure of water to concrete can raise the pH levels of the waterbody to the point of toxicity for fish and other aquatic organisms. The Environmental Impact Statement (EIS) states that exposed water will be treated for increased pH during concrete work. It is recommended that the appropriate gear and staff are available on-site to allow for the capture and salvage of fish that come to the surface of the water during attempts to escape exposure to highly alkaline water.	Negative	N/A	Ottawa River/ Kichi Sibi	Construction	N/A	No	Significant	N/A
Current use of land and resources for traditional purpose – SART First Nations	Section 5(1) c (iii) of CEAA (2012)	Dam Construction	Contaminant sediment disturbance; Contaminate food sources; loss of country foods	Possible mitigate disturbance of river sediments and riparian soils See (SART memo author: Yvon Gratton)	Severe	High	Local	N/A	Permanent	No	Significant	Likely
Current use of land and resources for traditional purpose – SART First Nations	Section 5(1) c (iii) of CEAA (2012)	Dam construction	Impacts on fish health due to contaminants; Impacts: Right to a Safe Environment; Right to Harvest	<ul style="list-style-type: none"> The proponent plans to use turbidity curtains to curtail the impacts of sediment on fish and other aquatic life during work on the dam. Caution should be exercised with this strategy as turbidity curtains are only effective if installed properly, as well as monitored and maintained throughout their period of use. It is crucial that the contractor design the curtain such that it effectively seals to the river bottom along its entire length and is anchored with enough weight to prevent movement. The curtain must be monitored regularly to ensure there are no tears or openings. 	Negative	High	Ottawa River/ Kichi Sibi	Long-term	Continuous	Irreversible	Significant	Likely



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				<ul style="list-style-type: none"> Maintenance of the curtain should proceed as required. 								
Health and socio-economic conditions and activities – SART First Nations; Current use of land and resources for traditional purpose – SART First Nations	Section 5(1) c (i) and (iii) of CEAA (2012)	Dam construction	Air Quality; dust from blasting; Impacts Right to a Healthy environment	None proposed; difficult to discern if blasting is or is not permitted	Negative	Medium	Local	Construction Period	N/A	Irreversible	Significant	N/A
Current use of land and resources for traditional purpose – SART First Nations	Section 5(1) c (iii) of CEAA (2012)	Increased industrial uses of road	Rights impacted : Right to Occupy and Use Territory	Lake Sturgeon conservation plan Co-Management Board for fisheries	Negative	High	Local	Construction	N/A	No	N/A	N/A
Current use of land and resources for traditional purpose – SART First Nations	Section 5(1) c (iii) of CEAA (2012)	Increase non-native/ AOO use of territory; hunting; inability to protect culturally important areas.	Rights impacted: to Occupy and use Territory; Right to Harvest; Right to Protect Territory.	Lake Sturgeon conservation plan Co-Management Board for Fisheries	Negative	High	Algonquin Territory	Operations	N/A	No	Significant	N/A
Current use of land and resources for traditional purpose	Section 5(1) c (iii) of CEAA (2012)	Dam construction and operation	Diminished Fishery, due to spawning bed destruction, contaminant release, water flows.	Of the options for dam placement, Option 1 will destroy a sturgeon spawning bed, human convenience and destruction one of the most sacred (and endangered) animal relatives. We submit that a spawning bed that nurtures sturgeon and other fish important to our diet and culture is worth the cost of Option 1A feasibility and implementation.	Negative	High	Local	Medium	Permanent	No	Significant: Rights impacted: Right to Govern and Protect Territory; Right to Harvest; right to Biodiversity	



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Current use of land and resources for traditional purposes - SART First Nations	Section 5(1) c (iii) of CEAA (2012)	Operation	Depletion of healthy fish stocks; Loss of a culturally important food source; malnutrition; impoverishment; further loss of culture	Co-management agreement centering SART communities knowledge, baseline studies, rights impacts.	Negative	Severe	Ottawa River/Kichi Sibi	N/A	N/A	No	Significant	Likely
Current use of land and resources for traditional purposes – SART First Nations	Section 5(1) c (iii) of CEAA (2012)	Operation	Changed water flows disrupting fish, benthic invertebrate, turtles and their predators	Co-management agreement centering SART communities knowledge, baseline studies, rights impacts.								
Current use of land and resources for traditional purpose – SART First Nations	Section 5(1) c (iii) of CEAA (2012)	Dam operation	Resuspension of contaminants (RYAM effluent, for example) in the river, contaminating sediments, in turn, contaminating aquatic species and leading to a loss of culturally important food sources, malnutrition, impoverishment, loss of culture	Lake Sturgeon conservation plan Fisheries Co-Management Board	Negative	Severe	Ottawa River/Kichi Sibi	Ongoing	N/A	Not while dam in operation	Significant	Likely
Current use of land and resources for traditional purpose – SART First Nations	Section 5(1) c (iii) of CEAA (2012)	Dam operation	Destruction of a fishery spawning area, leading to a loss of culturally important food source/biocultural impacts, malnutrition, impoverishment, loss of culture	<ul style="list-style-type: none"> Further Neme baseline studies Co-developed mitigation and monitoring with SART communities Option 3 of dam proposal 	Negative	Severe	Ottawa River/Kichi Sibi	During dam operation	N/A	Yes	Significant	N/A
Current use of land and resources for traditional purpose – SART First Nations	Section 5(1) c (iii) of CEAA (2012)	Dam operation	Increased AOO and industrial traffic leading to further intrusion into culturally and socially important areas of traditional territory, loss country foods, sacred	Respect for and recognition of the Statement of Asserted Rights and Title issued by the First Nations in 2013, including an understanding that – when the Quebec-side bridge is being discussed – it is the SART First Nations who have jurisdiction and must be accommodated, not the Algonquins of Ontario.	Negative	Severe	Algonquin traditional territory	Construction and operation	N/A	Yes	Significant	Likely



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			spaces, culture and identity									
Health and Socio-economic conditions and activities – SART First Nations	Section 5(1) c) (i) of CEAA (2012)	Dam construction and operation	Employment; Opportunities for guardianship and monitoring	As traditional custodians of the waterway, SART communities and the Kichi Sibi technical team must be involved in decisions regarding the local environment. A co-management agreement would act as a catalyst for improvement	Positive	High	Local	Years	N/A	N/A	Significant	Likely