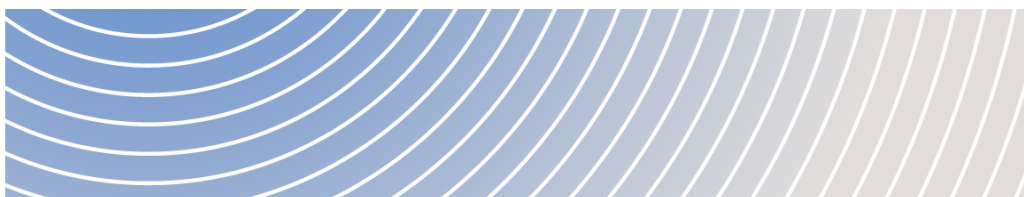




Agence d'évaluation
d'impact du Canada

Impact Assessment
Agency of Canada

Timiskaming Dam- Bridge of Quebec Replacement Project



INFORMATION REQUEST NO. 1 (PART 1)

18 May 2023



Canada



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Important information to consider when responding to the information request

Rationale for missing elements of information

The proponent must answer all the following questions to allow the Impact Assessment Agency of Canada (the Agency) to continue its analysis. Referring to the sector studies is not a sufficient response. These studies support the Environmental Impact Statement (EIS). The proponent must clearly indicate how it considered these studies in its environmental assessment and decisions.

If the proponent chooses to provide a single answer for more than one question, the proponent must clearly identify which questions the answer relates to.

The proponent must provide a rationale if no information is submitted for any of the items requested in this information request.

Review of the environmental effects assessment

For any questions that require a revision of the project's environmental effects assessment, the proponent must also update the following aspects:

- description of potential environmental effects
- mitigation measures
- description and assessment of the significance of residual environmental effects
- cumulative effects assessment
- follow-up and monitoring programs

Mitigation measures

In responding to the questions in this information request, the proponent must describe the practices, policies and commitments that constitute mitigation measures, i.e., technically and economically feasible measures for the elimination, reduction or control of the project's environmental effects. In its analysis of the significance of the effects, the Agency assesses whether the mitigation measures proposed by the proponent are adequate to mitigate the anticipated effects on the various valued components. In the absence of adequate mitigation measures proposed by the proponent, the Agency may conclude that there are significant adverse environmental effects and present its conclusions in the environmental assessment report submitted to the Minister.

Methodology of Analysis

Information requests directed to the proponent

IAAC-1-1 Valued component and applicable legislation

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 1, section 3.2.2 (Valued components to consider)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 4, 5.1 and 10.1.2 and Chapters 18 to 20*

Context

Sections 4 and 5.1 of the EIS state that the entire project is located on land owned by the proponent, Public Services and Procurement Canada, a federal government department. The entire property would therefore be on federal land, which implies that subparagraph 5(1)(b)(i) of the *Canadian Environmental Assessment Act, 2012* (CEAA 2012) applies to the project. As such, any potential changes to the environment on federal land must be assessed by the proponent.

In Section 5.1 of the EIS, it is noted that additional federal authorizations would be required to allow the project to proceed, including from Transport Canada under the *Canada Navigable Waters Act* (CNWA). As such, sections 5.2(a) and 5.2(b) of the CEAA 2012 apply to the project. In other words, the EIS must include the changes that are likely to be caused to the environment in connection with this authorization, as well as the impacts of those changes on non-Indigenous people in terms of health and socio-economic conditions and physical and cultural heritage (including any structures, sites or things of historical, archaeological, paleontological or architectural significance).

The Agency notes that, in the table in section 10.1.2 and in those in chapters 18 to 20 of the EIS, CEAA 2012 is not mentioned for several components, but should apply. Also, for some components, the section of CEAA 2012 that is referred to is incorrect. For example, in the table in section 10.1.2, for the component “Health and socio-economics – Indigenous Groups,” subsection 5(2) of CEAA 2012 is listed, whereas this component refers to subparagraph 5(1)(c)(i). Note also that the “Aboriginal or Treaty rights – Indigenous Groups” component should refer to section 35 of the *Constitution Act, 1982*, and not to a section of CEAA 2012.

As another example, subparagraph 5(1)(b)(i) (Health and socio-economic conditions) should be applied in the summary table of effects on the physical environment in Chapter 18 and in the summary table of effects on the human environment in Chapter 20. In other words, the effects of the project on the environment (air, soil and water quality, noise, etc.) that could affect the health of the non-Indigenous population must be considered in the assessment.



The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) for each component of the tables in section 10.1.2 and Chapters 18 to 20, check the applicable section numbers of CEAA 2012 or any other applicable legislation, make the necessary corrections and submit revised tables; and
- B) ensure that, for each of the components to which CEAA 2012 applies, the effects on these components have been assessed by the proponent. If not, assess the effects on the components that have not been assessed, identify and describe the mitigation and follow-up measures to be implemented, and assess the residual effects.

IAAC-1-2 Legislative framework

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, Section 1.4 (Regulatory framework and the role of government)*.

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 12.1.3.1*.

Context

Several laws and regulations are named in relation to protected areas in the first bullet of section 12.2.3.1 of the EIS.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) for each law and regulation, specify whether it is under the jurisdiction of the government of Quebec, of Ontario or of Canada.

IAAC-1-3 Studies carried out to identify wildlife species using the dam site as a feeding ground

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.1.7 (Birds and bird habitat) and 7.1.8 (Species at Risk)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 12.1*

Context

Section 12.1 of the EIS presents the wildlife species that are likely to be found in the project area, but does not specify whether these species are likely to use the dam site as a feeding ground.



The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) identify which benthic studies have been conducted to substantiate the feeding of fish species in the project area and in the area of influence of the dam operation; and
- B) specify which wildlife species are likely to use the dam site as a feeding ground and specify the methodology used to find this information.

IAAC-1-4 Wildlife data sources

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, Sections 7.1.6 (Fish and fish habitat), 7.1.7 (Birds and bird habitat) and 7.1.8 (Species at Risk)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, Chapter 12*

Context

For several species, only the Quebec wildlife databases were cited and added to the EIS. The study area should include Ontario even though the work site is in Quebec. The information available in the Ontario databases must be added to the EIS.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) provide data from Ontario wildlife databases and available studies on the various wildlife species present and potentially present in the study areas and consider these data in the analysis of the effects of the project on these species. If not, provide a rationale as to why this data was not considered in the study.



Project Background

Information requests directed to the proponent

IAAC-1-5 Controlled Harvesting Areas

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, Section 1.3 (Project location)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 4.4*

Context

Section 4.4 of the EIS mentions the presence of the Kipawa controlled harvesting area (ZEC) 70 kilometres northeast of the project. Three other ZECs are located in the vicinity of the project.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) name and locate the other three ZECs to complete the picture of ecologically sensitive areas in the project area.

Comments and advice for the proponent

Comment 1-1 Approval under the *Canadian Navigable Waters Act*

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 1.4 (Regulatory framework and the role of government)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 1 of the Summary and Appendix 5.1*

Comments and advice

Section 1 of the EIS Summary and item F-4 of the table in Appendix 5.1 refer to the need to apply for approval under the *Canadian Navigable Waters Act* from Transport Canada's Navigation Protection Program.

Transport Canada suggests making one application for the project, but clearly distinguishing the different phases. Depending on the project and the assessment, safety booms may be required during the



construction work. In addition, when applying to the Navigation Protection Program, the following additional points should be provided:

- the choice of scenario (location of the work and methodology)
- the coordinates of the structures directly on the plans
- a general arrangement drawing (to show all existing and proposed works as a whole)
 - a plan for temporary works and a plan for permanent works, **or**
 - a plan of all structures, with a distinction between temporary and permanent structures
- the following points, already present in the environmental assessment, should be retained:
 - bathymetry maps
 - tables and maps on the effects on water levels and current speeds
 - plans of the construction works (top down and side view)

Comment 1-2 Projects and activities in the project area

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 1, section 3.2 (Factors to be considered)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 4.1.3*

Comments and Advice

The Agency notes that a reference to the Kipawa Rare Earths Project is present in section 4.1.3 of the EIS and wishes to clarify that the environmental assessment of this project under CEAA 2012 ended on August 28, 2022, as the proponent of this project has exceeded the deadline for submitting the required information and studies.

Comment 1-3 Permits under the *Explosives Act*

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 1.4 (Regulatory framework and the role of government)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, Appendix 5.1A*



Comments and advice

Natural Resources Canada (NRCan) wishes to inform the proponent that the information regarding the licence that may be required is not accurate. It is suggested that the information in line F-6 of the table in Appendix 5.1 be corrected. Under the column “Requirements,” instead of “Permit for the handling of explosive”, it should read “Licence for the storage of explosives.” Under the column “Applicability to the Project,” replace the term “permit” with “licence” and remove the last sentence: “The permit is required when quantities exceed 75 kg or 100 blasting caps.”



Alternative Means of Carrying out the Project

Information requests directed to the proponent

IAAC-1-6 Comparison of options

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 2.2 (Alternative means of carrying out the project)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 6.3.1*

Context

In section 6.3.1, there is a difference in the colour ratings for the same value between “Option 1 – Downstream” and “Option 2 – Upstream” under the row “Residual materials – Metals – 40,000 kg.” in Table 6.7, which details the comparisons of the options on the basis of advantages and disadvantages.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) check the colour ratings under the row “Residual materials – Metals – 40,000 kg.” in Table 6.7 for options 1 and 2; and
- B) correct these ratings where appropriate.

Comments and advice for the proponent

Comment 1-4 Location and configuration of the eastern exit of the dam-bridge

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 2.2 (Alternative means of carrying out the project), 7.3.5 (Other valued components that may be affected by the project), 7.4 (Mitigation measures) and 7.6.1 (Effects of potential accidents or malfunctions)*

Comments and advice

An industry representative commented on the inconvenience to his company, the local population, trucking companies and city officials during the temporary construction on the existing causeway over the past two years. The main concern is the east exit of the dam-bridge, which restricted large vehicle traffic and could create a safety hazard for pedestrians and light vehicles. Trucking companies have also reportedly suffered property damage during this work.



The representative makes the four recommendations below. The Agency recommends that the proponent consider these recommendations in the context of the dam-bridge replacement project, that it evaluate them from a technical and economic standpoint and that it justify the decisions to implement them or not:

- a wide roadway with no safety issues allowing two lumber trucks to meet and pedestrians, cyclists and snowmobilers to travel on the side;
- approaches at each end of the dam-bridge that do not encroach on the right-hand side of the road. For example, truckers should not have to turn onto a sidewalk at the end of the roadblock
- The eastern end of the dam-bridge should be far enough away from the main entrance of the plant to allow semi-trucks to park between the exit of the dam-bridge and the main entrance of the plant, without restricting normal light vehicle traffic. More than four trucks can wait on the side. Consider that trucks need sufficient radius at the bridge exit to turn south and park safely.

Adequate timing and organisation. The work should be completed as quickly as possible without limiting traffic to one lane.



Atmospheric Environment

Information requests directed to the proponent

IAAC-1-7 Reduction of air contaminant emissions

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.2.1 (Changes to atmospheric, sound and light environments)*

Environment and Climate Change Canada, Government of Canada, 2022. *Achieving a Sustainable Future, Federal Sustainable Development Strategy 2022 to 2026. [2022 to 2026 Federal Sustainable Development Strategy.pdf \(fsds-sfdd.ca\)](#) p.123*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec), Environmental Impact Statement, sections 6.2.1 and 11.1.4*

Context

Section 11.1.4 of the EIS mentions that air quality is worse in the project area compared to the regional level. In addition, section 6.2.1 of the EIS mentions that noise and dust would have an impact on surrounding properties due to the heavy traffic of construction machinery and vehicles.

Since air pollution affects human health and food safety (ECCC, 2022), Health Canada recommends that all economically feasible mitigation measures be implemented to reduce air contaminant emissions associated with the project. Particular attention should be paid to emissions of sulphur dioxide, nitrogen dioxide and fine particulate matter from fossil fuel use, as well as coarser dust (e.g. PM₁₀ and above).

Health Canada would like to point out that electrical equipment usually generates less noise than fossil fuel equipment, and also reduces air emissions.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) identify and describe measures to be implemented to minimize the amount of fossil fuel consumed in the project and the emissions of sulphur dioxide, nitrogen dioxide and fine and coarse particles; and
- B) explain how these measures would minimize these emissions and fossil fuel consumption.

IAAC-1-8 Air quality – Baseline conditions

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.1.1 (Atmospheric, light and noise environment)*



Tetra Tech, February 2023. Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec), Environmental Impact Statement, section 11.1.4

Context

Section 11.1.4 of the EIS mentions certain elements concerning baseline air quality conditions such as

- the air zone in which the project site is located with a brief description of the sources of contaminants within this zone;
- comparison of the concentrations of contaminants measured by the station (PM_{2.5}, Ozone, SO₂) to provincial standards and to the Canadian Ambient Air Quality Standards (CAAQS) (Figures 11-1 to 11-3 in section 11.1.4); and
- contaminants emitted by the pulp and paper mill (Rayonier) and their annual quantities (section 11.1.4). These data were obtained from the mill's reports to the National Pollutant Release Inventory (NPRI). The most important contaminants in terms of quantities are reported: CO, SO₂, NO₂, PM_{2.5} and VOCs.

However, other contaminants and their quantities reported to the NPRI in the immediate project area, including from the Rayonier plant, are not mentioned. These other contaminants are: total particulate matter (TPM), PM₁₀, ammonia, cadmium, cobalt, chromium, selenium, lead, manganese, formaldehyde, chlorine dioxide and methanol.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) Complete the description of ambient air quality conditions by providing the missing information, i.e., all other contaminants reported to the NPRI for the region that were not mentioned in the impact statement, and their quantities.

IAAC-1-9 Estimated quantities of contaminants emitted

References

CEAA, August 2018. Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.2.1 (Changes to the atmospheric, sound and light environments)

Tetra Tech, February 2023. Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec), Environmental Impact Statement, section 11.2.1 and 11.2.1.1.1

Context

Atmospheric dispersion modelling of contaminants was not required for this project. However, information on sensitive receptors and a quantification of atmospheric emissions of the main contaminants over the whole potentially affected area were required to complete the effects section. In addition, the detailed methodology for assessing atmospheric emissions was to be presented, taking care to identify, for all phases of the project, the project-related activities/equipment (sources) likely to produce maximum contaminant



emissions, including blasting activities (worst-case emission scenario), the use of heavy machinery during construction and road transport.

In the final version of the EIS from February 2023, some of the information was provided, such as

- activities and equipment likely to produce contaminant emissions;
- quantities of contaminants emitted from fuel combustion on an annual basis for CO, NO_x, SO₂ and PM_{2.5}; and
- volatile organic compounds (VOCs) that were mentioned as part of machinery emissions, but not estimated (table at the end of section 11.2.1.1.1).

The references that were used to estimate the quantities of contaminants emitted are also provided. However, the tables presented as references do not allow for review and analysis of the information provided, which is insufficient without all the parameters required for this estimation. This information should be detailed and allow interested parties to reproduce the data provided in the impact statement (section 11.2.1).

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) provide full references and a detailed description of the methodology adopted to evaluate
- i. atmospheric emissions, including the types of equipment involved and the parameters used (emission factors and assumptions used for these calculations, power, model years, Groups or Tier, etc.); and
 - ii. The quantities of VOCs emitted.

IAAC-1-10 Dust

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.2.1 (Changes to the atmospheric, sound and light environments)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec), Environmental Impact Statement, sections 11.2, 11.2.1 and 11.2.1.1.2*

Context

In the final version of the EIS of February 2023, some information for ambient air quality was provided, such as

- activities and equipment likely to produce contaminant emissions; and
- quantities of dust emitted annually by the activities on the site (PM₁₀ and PM_{2.5}).

The references that were used to estimate the dust quantities were also provided. However, although the reference is notable, it is insufficient without all the parameters required for this estimation.



The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) provide for each of the materials handled:
 - i. the silt content and moisture percentage of the materials used in equations (1) and (1a) mentioned at the end of section 11.2.1.1.2;
 - ii. the average wind speed used in equation (1); and
 - iii. justification for the number of days of precipitation used (to derive a 40% mitigation rate).

IAAC-1-11 Blasting activities

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.2.1 (Changes to atmospheric, sound and light environments) and 7.4 (Mitigation measures)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec), Environmental Impact Statement, sections 11.2, 11.2.1 and 11.2.1.1.1*

Context

The description of blasting activities is brief. According to the information the table in section 11.2.1.1.1, blasting would be “minimized,” and the planned mitigation measure would be to “minimize any blasting.” Little information is provided on the use of explosives during construction, estimated quantities, timing of blasting activities, etc. Blasting activities are an important part of the project. Blasting activities are sources of contaminant (NO₂ in particular) and dust emissions that cannot be neglected. Furthermore, no measures to mitigate the effects on air quality have been presented, other than reducing their use. Although this information may not be available at present, it should be considered under the worst-case scenario.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) provide a description of a conservative scenario involving blasting activities, as well as the quantities of explosives used, the time periods, the location of blasting and any other relevant information; and
- B) identify and describe, for the scenario presented in (A), the mitigation measures to be put in place to avoid emissions of contaminants into the atmosphere, including dust.

IAAC-1-12 Missing elements

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.2.1 (Changes to atmospheric, sound and light environments)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec), Environmental Impact Statement, sections 11.2, 11.2.1, 11.2.1.1.3 and 11.2.1.1.3.1.2*



Context

The source “Daily travel by workers” has not been included in the calculation of greenhouse gases (GHGs), since fuel use for workers’ travel to and from the project site has been estimated to be “negligible” compared to total project emissions. This may be the case, but this assessment would need to be more fully described, calculated or justified to support it.

Sources relating to the transport of materials have been considered (SSR 1 to SSR 4 in Table 11.14). However, it would appear that the fuel consumption of trucks waiting during loading and unloading of materials has not been considered as a potential source of GHG emissions.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) estimate, to the extent possible, the GHG emissions for worker travel to and from the project site (at least an order of magnitude). If applicable, provide a more detailed justification of why it is negligible; and
- B) estimate GHG emissions from trucks and others during the loading and unloading of materials, if applicable.

IAAC-1-13 Mitigation measures to reduce GHGs

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.2.1 (Changes to atmospheric, sound and light environments) and 7.4 (Mitigation measures)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec), Environmental Impact Statement, section 11.2.1.1.3.6*

Context

The table at the end of section 11.2.1.1.3.6 presents measures to mitigate GHG emissions related to the operation of machinery and transport of materials. However, these measures represent only possibilities and not measures that would be adopted with certainty. Moreover, the terms used are “explore the option” or “assess the possibility.” Environment and Climate Change Canada (ECCC) recommends that a clear strategy for GHG reduction be adopted.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) compare the options of using a concrete plant close to the site (e.g. installing a portable concrete plant close to the site) versus other options to determine the best solution from a technical, economic and environmental point of view.

**IAAC-1-14 Mitigation measures – Vehicle emissions**

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.2.1 (Changes to atmospheric, sound and light environments) and 7.4 (Mitigation measures)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 11.2*

Context

Section 11.2 of the EIS mentions the use of Tier 4 vehicles as a measure to mitigate the effects of the project on air quality and GHG emissions. Overall emissions of air pollutants and GHGs are presented.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) include individual vehicle and engine descriptions, such as engine type, engine make and model, model year, emission class (e.g. Tier 4), fuel type, etc.; and
- B) include assumptions with activity data and emission factors referenced for emission estimates for air pollutants and GHGs.

IAAC-1-15 Air Quality Management Plan

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.1.1 (Atmospheric, light and noise environment), 7.1.9 (Indigenous peoples) and 7.2.1 (Changes to atmospheric, sound and light environments), and 7.3.4 (Indigenous peoples)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 23.7.1.1*

Context

Section 7.2.1. of the *Guidelines for the Preparation of an Environmental Impact Statement* (2018) states that the EIS must describe all methods or practices that will be implemented to minimize and control air emissions throughout the project life cycle. The Air Quality Management Plan in section 23.7.1.1 of the EIS is very brief. It is an example of an air quality management plan and not one developed specifically for the project.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) submit a detailed air quality management plan (including dust management) specific to the construction phase of the project or provide a justification for its absence. This plan must include, but not be limited to, key mitigation measures and details of follow-up and monitoring practices.



Comments and advice for the proponent

Comment 1-5 Mitigation measures for the protection of air quality (1)

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 1, sections 7.2.1 (Changes to atmospheric, sound and light environments) and 7.4 (Mitigation measures)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 23.7.1.1*

Comments and advice

Although the proponent provides a series of mitigation measures for the protection of air quality, it does not refer to the Cheminfo Services Inc. document (2005) [Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities](#). Health Canada encourages the proponent to consider the mitigation measures identified in this document and to improve its mitigation measures, where appropriate.

Comment 1-6 Mitigation measures for the protection of air quality (2)

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.2.1 (Changes to atmospheric, sound and light environments) and 7.4 (Mitigation measures)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec), Environmental Impact Statement, section 11.2.1.1.3.6*

Comments and advice

The table on page 11-62 presents GHG mitigation measures related to the operation of machinery and transport of materials. However, these measures are only possibilities and not measures that will be adopted with certainty. The terms used are “explore” or “assess.” ECCC recommends that low-carbon materials, such as “decarbonised concrete,” be identified and described prior to project construction and that their use be ensured. ECCC also recommends that “options for carbon neutrality” be clarified and detailed and implemented.

Comment 1-7 Mitigation measures – Air quality and GHGs

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 1, sections 7.1.1 (Atmospheric, light and noise environment), 7.2.1 (Changes to atmospheric, sound and light environments) and 7.4 (Mitigation measures)*

Tetra Tech, February 2023. Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 11.1.4 and 23.7.1.1

Comments and advice

Section 11.1.4 of the EIS explains that “at the local level ... air quality is poorer in the Project area. Based on available data for the 2008 to 2019 period, air quality is good from 26% to 38% of the time and poor from 17% to 41% of the time.” Furthermore, although the annual average concentrations of fine particles (PM_{2.5}) at the Timiskaming station of Quebec’s Ministère de l’Environnement et de la Lutte contre les changements climatiques (MELCC) seem to be gradually decreasing over the years, they exceed the limits established by the CAAQS (Figure 11-1).

However, according to the threshold values of the air zone management levels, the site would fall into the “Orange” management level whose objective is to “prevent exceedance of the CAAQS.” ECCC recommends that all necessary measures be taken to avoid exacerbating air quality during demolition and construction.

In order not to further reduce air quality, it would be useful to recall that:

- the mitigation measures planned to reduce the project’s effect on air quality should be based on best management practices. For example, the proponent could draw on the document issued by Environment Canada in March 2005: [Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities](#).
- To ensure effective and rigorous implementation of mitigation measures, it would also be useful to ensure that all planned air quality measures are taken into account by the various contractors involved in the project. Awareness of these measures among contractors should therefore be included in the specific air quality and GHG management plans mentioned in section 23.7.1.1.

Some examples of additional mitigation measures that could be considered in the project to reduce contaminant and GHG emissions include, but are not limited to, the following:

- optimizing machinery and vehicle movements
- developing a strategy for planning activities to reduce unnecessary movement of materials on site
- using fuel-efficient equipment
- using trucks that are in good working order and meet ECCC on- and off-road emissions standards
- carrying out prior and regular inspection of machinery to ensure that it is in good condition and working properly, including exhaust and emission control systems
- using low-carbon fuels such as alternatives to diesel and gasoline (renewable fuel such as B5, LNG, propane, etc.)
- washing material transport trucks (chassis, tires, etc.) before using public roads

**Comment 1-8 GHG emissions – operational and decommissioning phases**

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.1.1 (Atmospheric, light and noise environment) and 7.2.1 (Changes to atmospheric, sound and light environments)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 11.2.1.1.3.2.3*

Comments and advice

The *Guidelines for the Preparation of an Environmental Impact Statement* (2018) require that the EIS identify, describe and quantify all sources of GHGs during all phases of the project. The EIS does not present GHG emissions for the operational and decommissioning phases of the project. ECCC recommends that GHG emissions be estimated for the operational and decommissioning phases (end of life of the new structure), in accordance with the [Strategic Assessment of Climate Change](#). ECCC also recommends including emissions from acquired energy (electricity consumption) in the emissions estimate for the operational phase.



Surface Water

Information requests directed to the proponent

IAAC-1-16 Areas used for the project and water mitigation measures

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 3.1 (Project components), 7.2.2 (Changes to surface water) and 7.4 (Mitigation measures)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 7.1 and 11.2 and chapter 18*

Context

Figure 7.1 of the EIS maps several work areas that would be used as part of the project, and section 7.1.1 describes the use of some of these areas. Several would be located near the shoreline, and the EIS does not appear to present any mitigation measures to limit runoff and flow of these waters into the aquatic environment. However, section 11.2.2.1 of the EIS states that, during the vegetation clearing and earthworks for setting up the site during the pre-construction phase, sediment barriers will be placed along the edges of the construction areas to capture suspended solids (SS) from runoff from these sites and prevent them from entering the aquatic environment. ECCC is uncertain whether this measure will be implemented.

Furthermore, section 11.2.2.2 mentions the use and potential storage of a significant number of petroleum products. However, Figure 7.1 does not show any petroleum product storage or refuelling areas. Furthermore, the mitigation measures presented (e.g. effects table in section 11.2.3.4.8) indicate that these activities would have to take place more than 30 metres from a watercourse. As these areas are not identified, the relevance of this measure cannot be verified. In addition, no machinery maintenance areas are mentioned or described in the EIS.

A storage area of 818 m² is planned at the northwest of Long Sault Island and would overlap the shoreline as shown in Figure 7.1. No specific use or mitigation measures are presented for this area in relation to its proximity to the aquatic environment.

Finally, although the selected contractor would be responsible for supplying the concrete and may choose to build a temporary concrete plant, Figure 7.1 does not show an area related to a concrete plant or for washing of concrete mixers.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) detail the mitigation measures planned to capture SS runoff from the edge of construction areas;
- B) locate potential machinery maintenance, petroleum storage and machinery refuelling sites on a map and present additional mitigation measures if their distance from watercourses is less than 30 metres;



- C) describe the intended use of the 818-m² storage area northwest of Long Sault Island and identify and describe specific mitigation measures to protect the aquatic environment; and
- D) map the location of the concrete mixer washing area and the concrete plant, if applicable.

IAAC-1-17 Concrete work areas – concrete plant or washing area

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.2.2 (Changes to surface water) and 7.4 (Mitigation measures)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 11.2.3.4.2*

Context

Section 11.2.3.4.2 of the EIS states that the contractor would reuse or treat concrete mixer wash water before discharging it into the environment and that water will be conducted daily to ensure compliance with water quality criteria.

More information regarding containment measures, treatment targets and comparison criteria must be provided in order to assess the potential effect of concrete mixer wash water on the quality of the receiving environment. In addition, ECCC believes that wash water discharges may also result in the dispersion of SS in the aquatic environment and that these should be considered in the treatment and monitoring.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) describe methods of storing wash water prior to treatment and eventual discharge;
- B) describe the wash water treatment that would be carried out to limit the effects on the receiving environment; and
- C) explain the methods for managing and monitoring water quality in relation to the quality criteria for pH and SS to determine when discharge into the receiving environment would be possible.

IAAC-1-18 Sequence of construction work

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 3.2.1 (Site preparation and construction), 7.2.2 (Changes to surface water) and 7.4 (Mitigation measures)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 7.1.2.1*



Context

According to section 7.1.2.1 of the EIS, the Phase 1 of construction includes tasks that must be carried out in a dewatered area, inside a cofferdam. However, many of the activities presented in this section occur prior to the construction of the cofferdam that would dewater the work area. It is unclear whether some of the work, such as the temporary installations for the fishway culvert, are planned to be carried out in water.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) present a detailed sequence of works clearly showing the works that would be carried out in water and insert these into the works schedule;
- B) indicate in this sequence when the turbidity curtain would be installed and removed; and
- C) present the mitigation measures that would be implemented specifically during in-water works.

IAAC-1-19 Construction of cofferdam – concrete trenches

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 3.1 (Project components), 7.1.5 (Surface water), 7.2.2 (Changes to surface water), 7.4 (Mitigation measures) and 9 (Follow-up and monitoring programs)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 7.1.2, 7.4 and 22.5*

Context

Section 7.1.2.1 of the EIS states that dredging will not be carried out as part of the project. However, according to Figure 7.3, the construction of the cofferdam would involve the excavation of two 1.5-metre-deep trenches, which would then be filled with concrete. We understand that this work would necessarily be carried out in water. The EIS does not describe the work associated with these trenches, the specific sediment characterization at this location, the assessment of effects, mitigation measures or monitoring and follow-up.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) describe the work involved in the planned trenches on either side of the cofferdam, including the pouring of concrete;
- B) include a characterization program for the sediments to be excavated specifically at this location to complement the characterization program presented in section 22.5 of the EIS. This program should provide a representative characterization of the mass of sediments to be removed (vertical [depth] and horizontal). Specify the volume to be dredged;
- C) describe how excavated sediments will be managed;
- D) evaluate the effects of the excavation work and identify and describe the mitigation measures to limit or prevent the dispersion of SS in the aquatic environment;

- E) assess the effects of concrete pouring and identify and describe mitigation measures to limit the dispersion of SS and pH decrease; and
- F) identify and describe the monitoring and follow-up measures that would be applied during the excavation of the trenches and their filling with concrete.

IAAC-1-20 Sediment characterization

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.1.5 (Surface water)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 11.1.9.5 and 22.5*

Context

Section 22.5 of the EIS states that a characterization of sediment will be conducted following the closure of the existing dam-bridge between the turbidity curtain and the existing dam-bridge.

It is stated that the characterization results would be compared to the ECCC and MELCC (2007) sediment quality assessment criteria and that the sediments would be managed in a terrestrial environment.

Section 11.1.9.5 presents the results of a 2020 sediment study, and Figure 11-14, taken from this study, shows the location of three sampling sites within the study area. The scale of the map does not allow the precise location of these sites to be determined, in particular site 2, which would be closer to the project site. Table 11.5 shows that the mercury exceeds the occasional effects level (OEL) criterion at these three sites.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) describe the sampling effort planned to characterize the sediments prior to construction of the downstream cofferdam in terms of sample density and distribution (including number of surface and depth samples), sediments volume to be removed and parameters to be analyzed, particularly at the location of the concrete trenches planned for the cofferdam anchorage;
- B) determine which quality criterion/criteria would be used to determine whether the sediment should be managed on land and how they would be managed once on land; and
- C) map sample site 2 of the Camila Arbour (2020) study at a scale to verify its proximity to the project and its relevance to the project.

IAAC-1-21 Demolition of existing retaining walls

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 3.2 (Project activities), 7.2.2 (Changes to surface water) and 7.4 (Mitigation measures)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec)*



Environmental Impact Statement, section 7.1.3

Context

Section 7.1.3 of the EIS lists the work that would be carried out during the dismantling of the existing structure. It is not specified whether the bank retaining walls of the existing dam-bridge would be dismantled. Furthermore, measures or works specifically aimed at protecting the banks (and water quality) during the dismantling of the retaining walls are not presented.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) determine if the work to dismantle the existing structure includes the removal of the left and right bank retaining walls. If so, describe the mitigation measures that would be put in place during the works to avoid or minimize impacts on water quality at these locations.

IAAC-1-22 Work in connection with the fishway

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 3.1 (Project components), 7.2.2 (Changes to surface water), 7.4 (Mitigation measures) and 9 (Follow-up and monitoring programs)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, Chapters 7, 22, 23 and Appendix 7.1*

Context

The EIS lists, in Chapter 7 among others, possible works related to the fishway without presenting the details, particularly whether some of the work would be carried out in water. For example, for the upstream portion of the fishway, Figure 7.2 (Phase 4) suggests that there would be concrete structures built on the banks as well as certain facilities that are not described. In addition, very little information is provided on measures to avoid or minimize the resuspension of SS, including those aimed at protecting the banks during these works, or at increasing the pH or avoiding the release of concrete form oil into the receiving environment, where applicable. Finally, no monitoring and follow-up measures specific to this work are presented in chapters 22 and 23.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) describe the works related to the fishway, both upstream and downstream. Identify any works that would likely cause effects on the water quality of the receiving environment, in particular those that would take place in water;
- B) indicate whether concrete form oil would be used. If so, specify which ones;
- C) present, to the extent possible, specific mitigation measures for these works aimed at avoiding or minimizing the resuspension of SS, the increase in the pH of the water in the receiving environment and, if applicable, the spread of concrete form oil in the aquatic environment; and

- D) determine, to the extent possible, whether monitoring and follow-up measures targeting, among other things, SS, pH and concrete form oil (e.g. C10-C50 hydrocarbons), would be implemented during the fishway works, and present these measures, if applicable.

IAAC-1-23 Rainwater drainage

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 3.2 (Project activities) and 7.2.2 (Changes to surface water)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, chapter 7*

Context

The beginning of Section 7 of the EIS states that the road drainage system would be rebuilt to be similar to the existing drainage system, that it would include stormwater pipes that would discharge water into the river immediately downstream of the dam, and that it would include settling ponds. No description of these works or their effects are presented.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) present a description of the works related to the drainage of the new road and map the settling ponds; and
- B) provide an assessment of the effects of the construction of these structures on the receiving environment.

IAAC-1-24 Increased flow upstream of the dam-bridge

Reference

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.2.2 (Changes to surface water)*

Context

At a public consultation session on the EIS held by the Agency in April 2023, a non-governmental organization noted that if the Onimiki hydroelectric project on Gordon Creek were to proceed, it could increase the flow upstream of the Timiskaming dam-bridge.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) validate whether the Onimiki hydroelectric project could add an additional flow to that upstream of the dam-bridge, and specify these flows; and
- B) assess the effects of this additional flow on the capacity of the dam-bridge.

**IAAC-1-25 Surface water quality – fecal coliforms**

Reference

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.1.5 (Surface water)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 11.1.13.2*

Context

Section 11.1.13.2, the EIS presents fecal coliform concentrations in the waters of Gordon Creek. The data in question is from 2015 and 2016.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) present in the EIS more recent data on fecal coliform concentrations in Gordon Creek waters, if available.

Comments and advice for the proponent

Comment 1-9 Dispersion of sediments

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.2.2 (Changes to surface water)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 11.2*

Comments and advice

The Kebaowek, Wolf Lake and Timiskaming First Nations (SART) stated that they are still concerned about sediment dispersion patterns and existing contamination in the sediment and on the shoreline around the project area.

Comment 1-10 Turbidity curtain

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.2.2 (Changes to surface water) and 7.4 (Mitigation measures)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 11.2*

Comments and advice

Section 11.2 of the EIS states that turbidity curtains will be used to mitigate effects on the aquatic environment during construction. The Kitchi Sibi Technical Team, including the Kebaowek, Wolf Lake and Timiskaming First Nations (SART), specifies that turbidity curtains are only effective if they are properly installed and if they are monitored and maintained throughout their use. It is imperative that the contractor designs the curtain to form an adequate seal with the river bottom along its entire length. The curtain must also be anchored with sufficient weight to prevent its movement. The amount of weight used to anchor the curtain will be determined by the amount of potential wind and wave exposure at that location. The curtain should also be monitored regularly to ensure that there are no tears or openings, and that debris has not caused the floating part to sink. Maintenance of the curtain should be carried out as required.

Figures 11-31 and 11-32 show current velocities that are well in excess of 2 m/s where the downstream cofferdam would be constructed in Phase 1, and the end of section 11.2.3.4.1 states that a turbidity curtain is planned to be used when sluices 6 to 10 are reopened (scenario 9).

ECCC is of the opinion that excessive current speeds limit the effectiveness of the turbidity curtains and recommends that the proponent consult the [Recommendations for the management of suspended solids \(SS\) during dredging activities \(MDDELCC and ECCC, 2016\)](#) on this subject.

Comment 1-11 Dispersion of suspended sediments

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.2.2 (Changes to surface water) and 7.4 (Mitigation measures)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 11.1 and 22.4*

Comments and Advice

The Kebaowek, Wolf Lake and Timiskaming First Nations (SART) noted the following with respect to the dispersion of suspended sediments.

Increasing the sediment load beyond the levels to which the aquatic biota of a given ecosystem is adapted can have significant negative effects on the health and survival of organisms in that body of water. An influx of suspended sediments into a system, whether as a result of natural or anthropogenic disturbance, can negatively influence water quality, biodiversity and biological community composition, decrease reproductive capacity and growth rates of fish, increase the incidence of fish diseases, alter fish migration patterns, and alter the feeding success of locally foraging species. High concentrations of sediments can kill fish by limiting their respiratory capacity. Thus, the potential impact on aquatic biota of the Timiskaming Dam-Bridge of Quebec Replacement Project (TDQRP) is also a potential impact on SART communities.

Aquatic biota respond to both the concentration of sediment in the water and the time of exposure to sediment levels. These parameters must be taken into account when considering the potential impacts of a non-



avoidable sediment load entering a watercourse. The European Inland Fisheries Advisory Commission has developed the following guidelines on the effects of sediment loads on fisheries:

- <25 ppm, no harmful effects
- 25–80 ppm, good
- 80–400 ppm, unlikely to support good fishing
- 400 ppm and above – poor fishery
- ppm (parts per million) roughly corresponds to mg/l

In cases where there is already a background sediment load in a watercourse, it is the increase in sediment load relative to the background load that is the measure of interest, not the absolute value of the sediment concentration, as the biota will be adapted to living with this background sediment load. The Canadian Council of Ministers of the Environment (CCME) suggests a guideline of a maximum increase in sediment load relative to background load of 25 mg/l for the short term (<24 hours), and no more than 5 mg/l relative to background load for the long term (up to 30 days).

Risk levels for sediment concentrations have been established by the CCME and are as follows:

- 0 mg/l – no risk
- <25 mg/l – very low risk
- 25–100 mg/l – low risk
- 100–200 mg/l – moderate risk
- 200–400 mg/l – high risk
- >400 mg/l – unacceptable

The shape of the particles that make up suspended sediments can also play a part in the risk level presented to aquatic biota. It has been established that more angular particles result in higher fish mortality.

Sub-lethal effects of sediment concentration can be difficult to determine, and different species of organisms will have different levels of tolerance to sediment. Salmon reduced their feeding at 100 mg/l and stopped feeding completely at 300 mg/l of suspended sediment. Arctic Grayling had impaired feeding ability and reduced growth rates after exposure to 100 mg/l suspended sediment after six weeks.

The TDQRP presents the likelihood of a release of sediment into the Ottawa River as a result of construction of the new dam. The most likely circumstances where sediment loading may result from work on the new dam are during cofferdam removal and during deconstruction of the old dam. Modelling presented in the EIS by Tetra Tech in Chapter 11, section 11.2, Effects on the physical environment, indicates that in almost all circumstances the sediment load will remain below the thresholds set by the Department of Fisheries and Oceans (DFO). Tetra Tech's modelling indicates that, during cofferdam removal, it is possible to produce a sediment load to the Ottawa River that exceeds DFO thresholds for maximum concentration over a period of time. At no time does the modelling indicate that sediment levels will become high enough to be acutely toxic to aquatic life, which would correspond to a suspended sediment concentration in the order of 1,000 mg/l.



Riparian, Wetland and Terrestrial Environments

Information requests directed to the proponent

IAAC-1-26 Construction – managing contaminated soil

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.1.3 (Topography, terrestrial environments and soil) and 7.2.3 (Changes to riparian, wetland and terrestrial environments)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 7.1 and 11.1.9 and Appendix 12.3*

Context

According to Map 11.3 and section 11.1.9.1 of the EIS, a sample from the F-A borehole on Long Sault Island had a manganese concentration of 1,100 mg/kg. There are no federal (CCME) or Ontario recommendations or criteria/standards for this parameter. The site is on the Ontario side of the border and on federal land. This concentration was compared to the values in the Quebec government's [Guide d'intervention – Protection des sols et réhabilitation des terrains contaminés \(Beaulieu, 2021\)](#) and would be in the B-C contamination range of this guide, which corresponds to the quality for commercial use. Finally, this borehole is located at the limit of one of the areas planned for storage (Figure 7.1), and it is mentioned that if these soils were to be excavated, they would be managed according to the applicable regulations towards a final disposal site.

According to section 11.1.9.4, sites S1 and S2 of the Kitchi Sibi Technical Team 2021 Study (Appendix 12.3 of the EIS) would have soil with metal concentrations in the A-B range of the [Guide d'intervention – Protection des sols et réhabilitation des terrains contaminés \(Beaulieu, 2021\)](#). These sites are located on the left bank downstream of the existing dam-bridge. Map 2 in Appendix 12.3 of the EIS does not indicate whether they are located on areas planned for construction (Figure 7.1) or whether they are on federal land. Finally, the EIS does not mention whether there will be any excavation work at these locations.

In both cases discussed, if soils were to be excavated and managed on site (on federal land), ECCC recommends to federal land managers that soils be managed according to the CCME Canadian Soil Quality Guidelines (CSQG), in addition to applicable provincial regulations and/or guidelines. In addition, ECCC recommends that the proponent follow the principle of avoiding degradation of the receiving environment, i.e., avoiding increasing contaminant concentrations in soils by considering aspects such as ambient concentrations.

Comment:

As a precautionary principle, ECCC is of the opinion that land-based fill with concentrations of a substance above natural background concentrations should not be brought closer to an aquatic environment.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) determine the final disposal site for manganese-contaminated soils at the F-A borehole site on Long Sault Island if they were to be excavated and managed off-site;
- B) specify whether sites S1 and S2 of the 2021 Kitchi Sibi Technical Team study are located on a project-related work area and/or whether they are on federal land and, if so, describe the construction work that would take place there (e.g. excavation, backfill); and
- C) describe how the soil would be managed for these two sites (F-A borehole on Long Sault Island and the 2021 Kitchi Sibi Technical Team study sites), taking into account the CCME's CSQG, applicable provincial regulations and/or guidelines, and the principle of avoiding degradation if they were to be excavated, reused, or managed on or off site.

IAAC-1-27 Identification of wetlands

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.1.4 (Riparian and wetland environments), 7.2.3 (Changes to riparian, wetland and terrestrial environments) and 7.4 (Mitigation measures)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 10.1.2 and 12.1.5.1.1, Appendix 1 from Appendix 12.1 and Map 9-1*

Context

Section 12.1.5.1.1 of the EIS, as well as section 5.3.1 of Appendix 1 (Biofilia, 2018) of Appendix 12.1 of the EIS, states that there are no wetlands in the study area.

However, in the table in section 10.1.2 of the EIS, wetlands are included as a valued component (VC) for the purposes of the environmental assessment, and it is indicated that there are no wetlands within the project footprint and its immediate vicinity, but that wetlands are present in the Gordon Creek area and further downstream in the Ottawa River.

Although, according to Map 9-1, Gordon Creek is partially located in the aquatic study area and just outside the terrestrial study area, it is nevertheless located in the immediate vicinity of the work. In this context, ECCC questions the reasons that led to the exclusion of this aquatic zone in the project's zone of influence.

ECCC believes that, depending on the exact location of wetlands, their functions could be affected by the project (e.g. through indirect effects associated with changes in water levels downstream of the dam or changes to the atmospheric environment [noise and dust] of the Gordon Creek wetlands).



The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) identify on a map at an appropriate scale the wetlands identified in the table in section 10.1.2 of the EIS;
- B) describe, quantify and identify on a map the wetland types listed in this table and describe their functions;
- C) identify the direct and indirect, temporary and permanent effects of the project on these wetlands or justify why they are considered outside the project's area of influence; and
- D) identify and describe mitigation measures to be put in place to minimize effects on wetlands, where applicable.

IAAC-1-28 Most significant seismic event

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.1.2 (Geology and geochemistry)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 11.1.7*

Context

In order to properly assess the potential effects of earthquakes on the project site, further details on the most significant historical seismicity in the vicinity are required. The proponent mentions historical activity in the Western Quebec seismic zone but did not indicate the proximity or extent of damage caused by the 1935 earthquake near the City of Témiscaming. Information on the event is available at this [link](#).

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) provide the distance of this earthquake from the project site; and
- B) provide the extent of damage caused by this seismic event.

IAAC-1-29 Regional seismic events

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.1.2 (Geology and geochemistry)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 11.1.7*

Context

In order to assess the potential effects of earthquakes on the project site, detailed and correct information on nearby regional seismicity is required. According to section 11.1.7 of the EIS, the National Earthquake



Database (NEDB) indicates that a single earthquake with low magnitude (M2.7) has occurred within 17 kilometres of the project site since 1990.

A search of the NEDB from 1985 to the present shows that more than 150 earthquakes have been recorded within a 50-kilometres radius of the site. Ten of these had a magnitude of 3 or larger. The largest event (magnitude 5.2, 2000/01/01) occurred within 20 kilometres of the site.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) revisit this database and update the information related to earthquakes within a radius of 0 to 50 kilometres of the project site.

IAAC-1-30 Regional seismicity map

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.1.2 (Geology and geochemistry)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 11.1.7*

Context

Figure 11-10 is incorrectly titled “Earthquakes Recorded in Quebec Since the Beginning of the Century.” In fact, the figure shows a selection of earthquakes of magnitude greater than 3 for the western Quebec seismic zone only, from the earlier 1700s until 2013.

In addition, the location of the dam-bridge site is not indicated. This would provide context and show the proximity of the site to the magnitude 6.3 earthquake of 1935 and the magnitude 5.0 earthquake of 2000.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) update Figure 11-10 and identify the location of the project site.

Comments and advice for the proponent

Comment 1-12 Seismic hazard map for Quebec

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.1.2 (Geology and geochemistry)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 11.1.7 and figure 11-9*



Comments and Advice

Figure 11-9 shows the simplified seismic hazard map for the province of Quebec. NRCan suggests that the proponent identify the location of the project site on the figure to help orient the reader to the relative level of risk at that location.



Fish and Fish Habitat

Information requests directed to the proponent

IAAC-1-31 Habitat type, species use and encroachment

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.1.6 (Fish and fish habitat)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 12.2.3.2 and Appendix 6 of Appendix 12.1*

Context

In order to properly assess the types of habitats that would be affected by the project, a habitat characterization is essential prior to the project's implementation. The proponent carried out the necessary characterizations of the habitats that would be temporarily and permanently encroached upon and provided sufficient detail on the spawning habitat that would be impacted by the project for the fish species present in this area. The proponent also gave some detail on the habitats used for other functions (growth and feeding) and provided in Appendix 6 of the EIS the habitat characteristics sought by the species.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) provide a more detailed description, based on existing information, of the other habitats (nursery, feeding and wintering) whose surface area is reported in Table 12.35 (chapter 12) and which total 6,162 m²;
- B) identify the species that would use these other habitats;
- C) describe how Indigenous knowledge and systems have been integrated into the surveys;
- D) revise the total permanent and temporary encroachment of other habitats in Table 12.35 to provide the actual encroachment, as there appears to be an error (6,907 m² + 65 m² = 6,162 m²); and
- E) specify whether the areas encroached upon by the project would affect the types of habitats sought by the species mentioned in the Appendix 6 table. An addition could be made to this table to confirm whether the areas that would be encroached upon serve certain useful functions (other than reproduction) for the species present in this sector.

**IAAC-1-32 Hickorynut – avoidance and mitigation measures**

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.1 (Fish and fish habitat)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 12.1.10.2.4 and 12.1.10.3*

Context

Hickorynut is an Endangered species under the *Species at Risk Act* (SARA) and therefore benefits from the terms and conditions of protection provided by this Act. It is likely to be designated as threatened or vulnerable in Quebec and is considered endangered in Ontario. The species is also a concern for Indigenous communities because of its role in the aquatic ecosystem. Its distribution has been studied little in the region. Sightings in the Ottawa River used in the last status report on the species are over a decade old but showed the presence of Hickorynut upstream of the Timiskaming Dam. There is reason to believe that the species may occur in different areas of the Ottawa River.

According to the proponent's EIS, there would be no potential habitat for the species because the substrate downstream from the dam-bridge is not sandy. The proponent's preferred location for the proposed dam-bridge would encroach mainly on coarse substrate. However, data show that Hickorynut can be present in rivers with coarse substrates in the presence of substrates that still allow burrowing. According to the results of a Hickorynut survey conducted in five Montréal rivers (MFFP, 2019), the granulometry of the substrate where the species can be found is variable. The species is most often found on sandy bottoms (58%), but it is also present in areas with silty bottoms (38%), gravelly bottoms (2%) and bottoms with debris (2%). Hickorynut may therefore use a wider range of substrate types, and the effects of the project on the species may extend beyond the construction area.

No mollusc surveys were conducted as part of the EIS. Surveys over a distance upstream and downstream of the existing dam-bridge would confirm or rule out the presence of Hickorynut. As this is a relatively small area in terms of encroachment and it may be difficult and dangerous to conduct surveys in the vicinity of a dam, Fisheries and Oceans Canada (DFO) believes that avoidance and mitigation measures for the species would be the approach to consider. For example, the fine substrate exposed by the cofferdam (either upstream or downstream of the dam, depending on the dam-bridge location option selected) could be inspected at shallow depths to remove and relocate any Hickorynut individuals buried in the dewatered area.

Considering the status of the species, its value and its potential presence in the project's area of influence, the proponent must ensure that the effects of the project on the species are mitigated. The following reference documents may guide the proponent in the event that survey and relocation of specimens must be carried out:

[Protocol for the detection and relocation of freshwater mussel species at risk in Ontario-Great Lakes Area \(OGLA\)](#) (Mackie, G., Morris, T.J., and Ming, D., 2008)



[Inventaire de l'obovarie olivâtre \(*Obovaria olivaria*\) dans cinq plans d'eau de la Montérégie](#) (Ministère des Forêts, de la Faune et des Parcs, 2019)

Périodes pour la conduite des inventaires de moules d'eau douce et des travaux de relocalisation (Ministère des Forêts, de la Faune et des Parcs, 2019; Annexe I)

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) explain and detail the avoidance and mitigation measures that would be implemented to ensure that the effects of the project on the species in the project's area of influence are eliminated or reduced; and
- B) reassess the residual effects of the project on this component.

IAAC-1-33 Potential Lake Sturgeon habitats

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.1.6 (Fish and fish habitat)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 12.1.6.5*

Context

Lake Sturgeon is present throughout the Ottawa River, which has several dams identified as impassable barriers to fish passage. The sturgeon population in each area between these dams has been assigned a status relative to its precariousness. It appears that the segment where sturgeon numbers are the most precarious (very low status) is the river between the Timiskaming Dam Complex and the Otto Holden dam, a little over 50 kilometres downstream.

Furthermore, the surveys conducted on Lake Sturgeon by the proponent in recent years, including the dam replacement project on the Ontario side, confirm this status by a limited number of captures from one survey to the next.

Since 2006, the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) has designated the Lake Sturgeon as a Threatened species in the Great Lakes and Upper St. Lawrence River.

Certain habitat functions could be limiting for the maintenance of the species in this river segment. Breeding habitat could be one of these functions.

The Timiskaming Dam-Bridge has favoured the creation and maintenance of Lake Sturgeon spawning habitat characteristics, since it provides sufficient current at the foot of the structure and the coarse substrate is present and is unlikely to become clogged with such high water velocity. Such conditions may be rare or non-existent further downstream in this segment of river, which is confined between two dams.



The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) identify, using existing information or information held by other organisations, potential breeding habitats for Lake Sturgeon or any other habitat function that may be limiting in this river segment.

IAAC-1-34 Information on Lake Whitefish

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.1.6 (Fish and fish habitat) and 7.3.1 (Fish and fish habitat)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 12.1.6.5.3.1.3, 12.1.6.5.4.2.13 and 12.2.3.2.1.4 and Appendix 12.1*

Hatch, 2014. *Environmental Effects Evaluation Report for Timiskaming Ontario Dam Replacement. 737 pages including appendix*

Hatch, 2018. *Timiskaming Ontario Dam – Year One Monitoring Report For Timiskaming Ontario Dam Replacement. 23 p. + appendix*

Hatch, 2019. *Post-Construction Environmental Monitoring – Year Two For Timiskaming Ontario Dam Replacement. 39 p. + appendix*

Tetra Tech, 2018. *Offsetting plan. 7 p. + annexes*

Tetra Tech and Biofilia. 2017. *Environmental Effects Assessment – Replacement of the Quebec Timiskaming Dam – Draft Report (October 20, 2017). Report submitted to Public Services and Procurement Canada for comment (109 pages + appendices)*

Context

The presence of Lake Whitefish has been confirmed on a few occasions in the segment of the Ottawa River downstream of the Timiskaming Dam-Bridge (Quebec side). However, the EIS indicates that no spawning grounds have been identified in the study area (sections 12.1.6.5 and 12.2.3.2).

In contrast to the pre-construction surveys, Lake Whitefish spawning in the post-construction period on the Ontario side of the dam was confirmed during the 2017 and 2018 surveys according to the two Hatch monitoring reports (2018 and 2019). Potential Lake Whitefish spawning sites were also identified for the Quebec side of the dam-bridge (Tetra Tech and Biofilia, 2017). An offsetting plan by Tetra Tech (2018) includes this information in a summary table that mentions which spawning grounds could potentially host the species during its spawning.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) consider information on the monitoring of Lake Whitefish by Hatch, information on potential spawning grounds referred to by Tetra Tech in its offsetting plan, and any information on Lake Whitefish spawning grounds upstream or downstream of the Timiskaming Dam-Bridge, update information on Lake Whitefish



in terms of available habitat and surveys, as well as any mitigation and offsetting measures that may be required for the species.

IAAC-1-35 Options for the location of the dam-bridge

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 2.2 (Alternative means of carrying out the project)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 6.3.1*

Context

The proponent proposed three location options for the dam-bridge reconstruction, and a preference for option 1 emerged for various reasons. According to DFO, option 3 is favoured for the following reasons:

- Lake Sturgeon (Great Lakes and Upper St. Lawrence populations) has been assessed by COSEWIC as Threatened, and its status is under review for addition to Schedule 1 of SARA.
- The Lake Sturgeon population is particularly precarious between the Timiskaming Dam-Bridge and the Otto Holden dam.
- The breeding habitat at the foot of the dam may be the only one available for Lake Sturgeon and other species in this river segment.
- The amount of fish habitat destroyed and to be offset by option 1 is more than double that generated by option 3 for the species of interest, namely Walleye, Lake Sturgeon and Lake Whitefish.
- The priority is to avoid and minimize impacts before opting for offsetting.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) detail and compare the risks discussed for options 3 and 2 against option 1; and
- B) explain whether these risks can be avoided and allow a bridge to be built with a life span as long as that of option 1.

IAAC-1-36 Potential effects on fish – operation of dams

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.1 (Fish and fish habitat)*

Algera, D. A., Rytwinski, T., Taylor, J. J., Bennett, J. R., Smokorowski, K. E., Harrison, P. M., ... & Cooke, S. J. (2020). *What are the relative risks of mortality and injury for fish during downstream passage at hydroelectric dams in temperate regions? A systematic review. Environmental Evidence, 9(1), 1-36*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec)*

Environmental Impact Statement, sections 11.2.3.4.6, 12.2.3.2.1.4 and 19

Context

The EIS only discusses the impacts of changes in flows and levels associated with the dam operations that may impact aquatic ecosystems, including behaviour and reproduction. The EIS does not contain a detailed assessment of the construction and operational impacts of the project and the dam on the full life cycle and life stages of fish. The proponent did not fully assess the potential effects on fish between the wooden truss system (currently in use) and the use of mechanized gates, or the impact on all fish life cycles. The shift in operation from top to bottom may alter the impact of the project on downstream fish passage. The difference in current strength and water temperature between the two types of water flow mechanisms could potentially affect fish habitats downstream of the dam. The operations of a dam can also have an impact on the thermal regime of a water body or river. This could have a negative impact on several life stages of fish and wildlife.

Chapter 19 of the EIS (second paragraph) states that a fish offsetting program will be developed to offset the loss of spawning grounds (walleye and sturgeon) downstream of the dam. This program will be implemented in collaboration with Indigenous groups and DFO, and its effectiveness will be monitored.

However, larval and rearing stages have not been sufficiently considered for most, if not all, of the fish species mentioned in the EIS. Additional efforts should be made to ensure that all life stages important for the survival and perpetuation of the species are properly considered.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) characterize and describe the potential effects related to dam operation (power, thermal regime, etc.), because of the change from top operation (timber beams) to bottom operation (mechanised gates), on the whole life cycle of fish, including the construction and operation phase;
- B) describe the impact on the reproductive success of fish spawning downstream of the dam, on rearing habitat or on forage or prey species, where applicable; and
- C) as these effects may be difficult to quantify, investigate them as part of the research and follow-up monitoring of the project. The proponent will need to work with stakeholders to adaptively manage potential adverse effects on fish.

IAAC-1-37 Fishway options

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.1 (Fish and fish habitat)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 12.2.3.3.2*

Context

As mentioned in the EIS, the authorization issued by DFO for the replacement of the Timiskaming Dam-Bridge on the Ontario side states that a fishway for American Eel is planned for one of the two Timiskaming



dams. It was also determined that the Quebec side would be the most interesting for the various species present in this segment of the Ottawa River.

In the meantime, discussions with some Indigenous communities and organisations have led to an interest in providing multi-species passage over this dam.

Also, in August 2019, the new *Fisheries Act* came into force, and section 34.3 dealing with free passage of fish aims to promote the restoration of fish habitat connectivity.

Four options as to whether or not a fishway should be installed are discussed in the EIS. It is also mentioned that with the current knowledge and data, it might be preferable to carry out additional studies or surveys to address the remaining uncertainties.

DFO comment:

In particular, in the absence of threats to biodiversity (e.g. the presence of aquatic invasive species downstream) or barriers in the vicinity of the project, restoration of connectivity is recommended by DFO. While some species may be lost in the short term by providing access to another historically accessible segment of the watershed, critically endangered species will have access to higher quality habitat, and this restored habitat connectivity would allow for increased exchange between downstream and upstream fish populations.

Without intervention or the application of other protective measures for the fish and its habitat, a species such as Lake Sturgeon in the segment of the river between the dam-bridge and the Otto Holden dam is unlikely to see its population grow, and this in the event that further study confirms that the population has insufficient numbers to persist in this segment of the river.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) specify and explain what additional information and data the proponent considers necessary to eliminate uncertainties in the choice of the fishway option; and
- B) include detailed assessment of the designs, efficiencies, and potential impacts of each fishway option.

IAAC-1-38 Location of the fishway

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.1 (Fish and fish habitat)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 7.6*



Context

Ideally, a fishway should be constructed at the location that is most favourable to fish passage. Generally, this is the section of the watercourse where fish are naturally directed because of different characteristics of the watercourse (e.g. current speed, depth, obstacles, etc.).

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) present data, Indigenous knowledge or information to support the view that the proposed fishway location is the optimal location to maximise fish passage (e.g. recent surveys show significantly higher catch numbers along the left bank at the foot of the dam).

IAAC-1-39 American Eel fishway

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.1 (Fish and fish habitat)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 12.2.3.3.2*

Context

According to the latest status report from COSEWIC (COSEWIC 2013), American Eel is not present upstream from the Carillon dam near Montreal.

Several dams downstream of the Timiskaming Dam-Bridge do not have a fishway in their structure and therefore represent an impassable or difficult obstacle for eels.

Also, the authorization issued by DFO for the replacement of the Timiskaming Dam-Bridge (Ontario side) mentions that the American Eel-specific fishway could only be installed once the arrival of American Eel upstream of the Otto Holden dam is imminent. Since several downstream dams do not yet have such a fishway for eels, this additional structure could be installed at a later date.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) clarify and explain whether the concept of a multi-species fishway could allow the passage of the American Eel;
- B) if not, indicate and justify where the eel-specific fishway should be located to maximise the number of eels making the ascent (on the dam or in the multi-species fishway); and
- C) Considering that some types of eel fishways are rather simple to install, specify whether such a specific eel fishway could be installed at a later stage in this project. If so, identify and describe the potential effects on fish and fish habitat.

**IAAC-1-40 Habitat function protection**

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.1 (Fish and fish habitat)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 7.4*

Context

Downstream spawning grounds could be degraded if the measures implemented are not sufficient or adequate. Some downstream spawning grounds would be directly encroached upon by the cofferdam or rendered inaccessible (area dewatered by the cofferdam). Other spawning areas or portions of spawning areas downstream would be partially encroached upon, and there will be changes in current velocities that could also alter spawning habitat.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) identify and describe measures to be put in place to ensure protection of the shoreline substrate at the location of temporary encroachments (e.g. cofferdam) to ensure the same habitat functions thereafter.

IAAC-1-41 Use of explosives – avoidance and mitigation measures

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.1 (Fish and fish habitat)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 6 and 7.1.1*

Context

DFO recommends that the use of explosives be avoided as much as possible, as it may result in fish mortality prohibited by the *Fisheries Act*.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) identify alternatives that could be used to avoid the use of explosives during the construction; and
- B) if there is no alternative, explain what additional mitigation measures it would put in place to limit the maximum overpressure threshold inherent in blasting in or near watercourses by aiming for a threshold at 30 kPa (210 dB re 1 µPa).

**IAAC-1-42 Effects of climate change on fish – mitigation measures**

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 2.2 (Alternative means of carrying out the project), 7.3.1 (Fish and fish habitat) and 7.4 (Mitigation measures)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 6 and 7.9*

Context

Climate change poses a significant threat to the communities of Kebaowek, Wolf Lake and Timiskaming (SART) who exercise their Indigenous fishing rights on the project site.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) specify how the dam's technology could be modified, or operations adjusted, to consider the effects of climate change on fish spawning or other species' life cycle and population concerns.

IAAC-1-43 Construction schedule – larval drift

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.1.6 (Fish and fish habitat)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 19*

Context

The Kebaowek, Wolf Lake and Timiskaming First Nations (SART) indicate that mortality during the egg stage can be high, due to predation by other fish and crayfish species, as well as poor water quality and siltation. The number of larvae that reach the drift stage is imperative for Lake Sturgeon. According to SART, there does not appear to be a strong correlation between depth and the number of drifting larvae, based on the literature. Sampling for larval drift in a new environment may require testing various depths and locations to optimise larval catch. SART indicated that, to date, the survey work at the Timiskaming Dam complex does not appear to have been extensive enough to determine the timing of larval drift. Mid-July may be too early.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) justify the construction schedule with the larval drift periods; and
- B) describe how the operation of dams can contribute to the success of post-spawning larval sturgeon drift each year.



Comments and advice for the proponent

Comment 1-13

Molluscs

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.1.6 (Fish and fish habitat) and 7.3.1 (Fish and fish habitat)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 12.1.10 and 12.2.4*

Comments and advice

The Agency notes that, for the baseline condition, molluscs are discussed with insects and treated in a different section than fish and notes that, for the assessment of effects, Hickorynut, a mollusc species, is assessed with aquatic Species at Risk. The Agency notes that molluscs fall within the definition of “fish” as defined in subsection 2(1) of the *Fisheries Act* and are therefore included in the components of the environment that are within the legislative authority of Parliament and referred to in paragraph 5.(1)(a) of CEAA 2012, specifically the component of “fish and fish habitat, as defined in subsection 2(1) of the *Fisheries Act*.”

Comment 1-14 Habitat offsetting

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.1 (Fish and fish habitat)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 12.2.3.5*

Comments and advice

Each of the three options for the location of the dam replacement project would destroy fish habitat that would need to be offset. DFO considers that there would be a destruction of habitat for a multitude of species, of which Lake Sturgeon, Walleye and Lake Whitefish would be the three species primarily impacted. The offsetting proposal should minimally represent gains for these three species and allow a more specific gain for Lake Sturgeon in terms of spawning grounds. Also, for Walleye, the breeding habitat characteristics of this species overlap with the breeding habitat characteristics of Lake Whitefish. The creation of spawning habitat for Walleye and Lake Whitefish would be potentially feasible if the characteristics of the watercourse allow for such a development. DFO remains open to proposals for offsetting projects and encourages an exchange with its department and any other stakeholders or Indigenous communities that wish to participate or receive information. The proponent must engage directly with the Algonquins of Pikwakanagan First Nation (AOPFN) in the development and implementation of the fish habitat offsetting plan. At a minimum,



the commitment must address the suitability, stability, function and monitoring of all spawning grounds or other areas important to fish. This commitment should involve clear communication, reasonable timelines and capacity funding.

Comment 1-15 Water management and influence on spawning habitats

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.1 (Fish and fish habitat)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 11.2.3.3.2.5*

Comments and advice

DFO indicates that the quality and quantity of fish spawning habitat downstream of dam-bridges is influenced by water management. It is important to avoid variations in habitat characteristics during the spawning periods of some species and also to some extent during incubation. Otherwise, this could cause fish or embryo mortality or lead to non-use of habitats. It is stated that flows and openings would be managed in the same way after the replacement of the dam as before. However, it would be useful to model under what conditions fish spawning habitat is maximized consistently during the spawning periods of the various fish species for the two Timiskaming dams, since they are interdependent.

The Kitchi Sibi Technical Team of the Kebaowek, Wolf Lake and Timiskaming First Nations (SART) states that operational flows from dams pose a significant threat to aquatic species populations due to the lack of attention to their life cycle in the management of water levels and flows, and that this can pose a threat to sustainable Indigenous fisheries performance and food security. In addition, the inability to predict rapid changes in water levels and flows makes current on-water and net fishing activities difficult.

The SART Kitchi Sibi Technical Team also mentions that the current mid-July dewatering period in the construction schedule is inadequate to protect the sturgeon spawning period, as it does not support the early development of Lake Sturgeon eggs into larvae and the timing of their downstream drift. It is essential to define the extent and duration of post-spawning larval drift at the dam, and consistent monitoring methodologies are needed to determine this. The SART Kitchi Sibi Technical Team recommends that the proponent refer to the study by Auer and Baker (2002)¹ and ask if the construction schedule for Phase 1 and future management of the dam can be modified to accommodate the water level, flow, sediment and temperature requirements of Lake Sturgeon or other fishery and benthic species related to their life cycle and population dynamics.

¹ N.A. Auer, E.A. Baker. Duration and drift of larval lake sturgeon in the Sturgeon River, Michigan. *J. Appl. Ichth*, 18 (2002), pp. 557-564



Comment 1-16 Aquatic invasive species

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.1.6 (Fish and fish habitat)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, Section 4.1.5 and Environmental Impact Statement Summary*

Comments and Advice

The Wolf Lake First Nation community secured funding in 2022 to install a boat wash on Long Sault Island to control aquatic invasive species. The acquisition of the wash station has been completed, and it remains to be installed on site. The Government of Quebec's Wildlife and Parks sector suggests that the proponent add this information to the study and describe the most up-to-date developments on this project, where applicable.

Furthermore, at a public consultation session on the EIS held by the Agency in April 2023, a non-governmental organization suggested that the proponent consider the possibility of improving the washing station project in order to prevent the introduction of invasive species into Lake Timiskaming upstream of the dam-bridge.

Comment 1-17 Options for the migration fishway

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.1 (Fish and fish habitat)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 7.6 and 12.2.3.3.2*

Comments and advice

The authorization obtained from DFO for the Ontario portion of the dam included the condition of constructing an eel fishway in this project. This condition was considered a mitigation measure to restore free movement of fish. Following consultations with some Indigenous communities, a multi-species fishway was also considered. Each of the two options presents advantages and disadvantages, involves uncertainties and raises concerns from certain First Nations regarding their fishing rights and the effects on fish populations upstream and downstream from the dam. In light of this, the proponent presents four options in its impact statement: (1) eel-only fishway; (2) multi-species fishway; (3) no fishway; and (4) delay the possible construction of a fishway by first conducting a detailed assessment of the effects as part of a fisheries management plan for the Ottawa River.

Sections 7.6 and 12.2.3.3.2 of the EIS state that further discussions between the proponent, DFO experts and Indigenous communities are required before deciding on one of the four options. The proponent must

support engagement and consultation on the multi-species fishway (Option 2) in a meaningful way to allow the AOPFN and other Indigenous groups to provide early input into the assessment and decision-making on the fishway. Specific activities with the AOPFN should be negotiated directly with the AOPFN and may include timely information sharing, transparent communication, and community workshops/meetings in the community with knowledge holders, elders and independent professional advisors.

The Government of Quebec's Wildlife and Parks sector wishes to participate in discussions on the options and asks the proponent to involve it in these discussions.

Comment 1-18 Considerations for the fishway – TCO

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.1 (Fish and fish habitat)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement*

Comments and advice

The table de concertation de la rivière des Outaouais (TCO), whose mandates include developing and maintaining integrated management of the water resources of the Ottawa River (Quebec section between downstream of the Première-Chute dam and downstream of the Carillon dam) in order to identify and detail the issues deemed to be priorities, points out that the destruction of wildlife and plant habitats is one of the priority issues identified on the Ottawa River.

The Centre de données sur le patrimoine naturel du Québec (CDPNQ) lists 74 species of fish in the Ottawa River, many of which have threatened, vulnerable or likely-to-be-threatened status. American Eel once represented 50% of the fish biomass in the Ottawa River. The impassability of many of the dams during the upstream migration and mortality due to turbines during their downstream migration are the main causes of the decrease in its range and the loss of 90% of its population.

The presence of dams leads to fragmentation of the territory and therefore of the habitats that aquatic species require to move, reproduce and feed. In the case of American Eel, the addition of species-specific fishways is a recognised and effective solution to enable it to cross obstacles in its path. The TCO is in favour of integrating such an installation on the proposed dam-bridge, despite the absence of the species in the section of the Ottawa River linked to the project.

For almost 20 years, efforts have been made to restore American Eel populations, including a major effort to raise awareness among dam owners and managers so that they include a fishway in their structure. This means that it is not impossible that the American Eel will return to the Ottawa River.

However, in addition to the concern about habitat fragmentation caused by the presence of dams, the invasion and occupation of the aquatic ecosystem by invasive alien species has also been raised as an important issue of concern for the Ottawa River. When present, an invasive alien species usually colonizes

the environment very quickly and can form dominant populations, thus becoming a threat to native species. The presence of invasive alien species can have serious impacts on biodiversity, the environment, the economy and communities. Given that invasive alien species already occupy the Ottawa River ecosystem, the TCO believes that the choice of a multi-species fishway, which is one of the options under consideration, would only amplify the circulation of invasive alien species in the river. The risk of invading new sections of the river is considered to be higher by allowing the passage of various fish species. Furthermore, the type of fishway for the passage of a variety of species is not appropriate for the American Eel, which will not be able to use it.

In conclusion, taking into account the above-mentioned considerations, the TCO recommends the installation of a fishway specific to the American Eel, which, in the long term, could support the recovery efforts of the species in the Ottawa River. In the event that the installation of a fishway is not possible during the replacement of the dam, the TCO recommends that the owner of the structure create a fund containing the necessary funds to carry out the work required to install a fishway for American Eels at the appropriate time.

However, at a public consultation session on the EIS held by the Agency in April 2023, another non-governmental organization stated that it was in favour of allowing sturgeon to return to Lake Timiskaming but was concerned about the risk that a fishway could also promote the passage of invasive species. It suggested that the proponent explore the idea of a fishway to filter species.

Comment 1-19 Considerations for the fishway – AOPFN

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.1 (Fish and fish habitat)*

MacGregor, R., Casselman, J., Greig, L., Dettmers, J., Allen, W., McDermott, L., & Haxton, T. (2013). *Strategy for the American Eel (Anguilla rostrata) in Ontario. Ontario Recovery Strategy Series. Peterborough, Ontario: Ontario Ministry of Natural Resources*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement*

Comments and advice

The AOPFN recommends the construction of an eel fishway (option 1) and the completion of a detailed study to evaluate the potential for a multi-species fishway (option 4). This is important, as there is a broad agreement that the dam should be ready for the potential passage of eel in the future. Moreover, the cost-savings and design flexibility to construct a functional eel fishway during construction will be much more favourable than if the structure is built after the project is completed. It would therefore be preferable to construct the eel fishway as part of the project. This would align recommendations put forward in the Recovery Strategy for the American Eel (MacGregor, et al., 2013).



The AOPFN states that a detailed impact assessment and fishway decisions should be conducted as part of the environmental assessment of this project and must be completed before the end of that process.

Comment 1-20 Objectives for describing the baseline condition

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.1.6 (Fish and fish habitat)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 12.1.6.1*

Comments and advice

Section 12.1.6.1 of the EIS specifies the following objectives for the fish population and habitat description:

- confirm that spawning activities take place
- assess the presence, absence, and distribution of fish species
- determine the availability of spawning habitats

The Government of Quebec's Wildlife and Parks sector considers that the proponent must also ensure the presence and sustainability of all elements essential to the fish species present in the sector to complete their life cycle (e.g. nursery sites, feeding sites, shelters, spawning sites, etc.).

Comment 1-21 Marginal species

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.1.6 (Fish and fish habitat)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 12.1.6.3.1.1 and 12.1.6.3.1.2*

Comments and advice

The Government of Quebec's Wildlife and Parks sector has noted and informed the proponent that certain species captured during the surveys conducted by Hatch and Biofilia are marginally present in the sector, notably Lake Trout and Walleye.

Comment 1-22 Information to come – conservation plan and flesh survey

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.1.6 (Fish and fish habitat)*



Tetra Tech, February 2023. Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 12.2.3.2, 17.1 and 20.1

Comments and advice

SART indicates that the SART Lake Sturgeon Conservation Plan and the results of the flesh survey should be considered, when available, as part of the 2020 cooperative project with the Ottawa Riverkeeper.

Birds and Bird Habitat

Information requests directed to the proponent

IAAC-1-44 Baseline conditions for avian fauna

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.1.7 (Birds and bird habitat)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 12.1.9*

Context

ECCC notes that no avian-specific surveys were conducted for this project. Indeed, surveys conducted in 2017 and 2021 did not target avian fauna, and only incidental observations were recorded. No details are provided on the sampling effort (e.g. time effort, area effort, and the specific dates and time of day observers were present) and on the observers' skills in identifying birds.

Furthermore, the *eBird* data do not seem to have been used for the nesting period, a period when construction generating sensory disturbances is planned. This data would improve the survey data and could possibly improve the use of the project's area of influence by avian fauna during this critical phase.

ECCC believes that the information provided from existing data and field observations is not sufficient to allow for the description of current conditions for birds in the study area. There needs to be an evaluation of alternative options, and the prediction of effects. ECCC believes that it is important to select survey methods that take into account the predicted effects of the project on birds and focus on measuring appropriate response variables. To obtain reliable and reproducible results, it is important to conduct field surveys following standard protocols.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) carry out additional surveys to document the use on the project's area of influence by avian fauna during the nesting period or justify why such surveys are not required;
- B) provide all the necessary methodological information on the observations made of avian fauna in 2017 and 2021, in order to assess the probability of occupation of the dam-bridge structure and the probability of detection of individuals, including: the effort in terms of time spent observing the structure, the precise dates and time of day when the observers were present, and the skills of the observers in identifying the birds; and
- C) review the description of the use of the study area by migratory birds considering the different sources of information available.

**IAAC-1-45 Use of the dam-bridge structure during the nesting period**

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.1.7 (Birds and bird habitat), 7.3.2 (Birds and bird habitat), 7.4 (Mitigation measures) and 9 (Follow-up and monitoring programs)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 12.1.9.4 and 12.2.8*

Context

ECCC notes that several bird species were incidentally observed near the dam in 2017 and 2021.

The last paragraph of section 12.1.9.4 of the EIS describes opportunistic bird observations (passerines, swallows, starlings) made in May 2021 and provides reasons to suggest that the dam-bridge structure is not used by birds for nesting. It is also mentioned in section 12.2.8 that no Barn Swallow nests have ever been observed on this structure, although it could be suitable for nesting.

The ECCC notes that the surveys carried out in 2017 and 2021 did not target avian fauna. For example, in 2021, only incidental observations of migratory birds were made between May 11 and 28. No details are provided on the sampling effort (e.g. effort in time, area, specific dates and time of day observers were present) and the skills of observers in identifying birds.

ECCC is of the opinion that several species are likely to nest on a man-made structure such as the dam-bridge in the project area, e.g. House Finch, Eastern Phoebe (observed species), Cliff Swallow, Barn Swallow (observed species and threatened under SARA), Peregrine Falcon, Merlin, etc.

Each of these species has its own nesting season. In the case of the Barn Swallow, the nesting period in the project area only begins at the end of May. It may therefore be quite normal that the individuals observed in 2021 were not seen landing or entering the dam-bridge structure, since at the time the observations took place, the species may not have started to nest.

This is therefore not a valid reason to determine that the species does not use the structure for nesting, nor is the fact that the dam manager has never observed any nests.

ECCC is of the opinion that, at a minimum, the combined knowledge from existing data and field surveys should make it possible to assess the probability of occupation of the dam-bridge structure, and the probability of detecting individuals.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) carry out additional surveys to document the use of the dam-bridge structure by avian fauna during the nesting period or justify why such surveys are not required;
- B) review the assessment of the potential for use of the dam-bridge structure by avian fauna during the nesting period, as well as the assessment of the negative effects of the project on avian fauna; and



- C) where appropriate, revise the identification and description of mitigation, monitoring and environmental follow-up measures to be implemented.

IAAC-1-46 Swallow identification

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.1.7 (Birds and bird habitat)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 12.1.9.5.1*

Context

The EIS states that Barn Swallow individuals have nested under the cornice of the dam manager's house in the past. It is more common for Cliff Swallow individuals, which are very similar to Barn Swallow, to use the house ledges. There has been a decline in Cliff Swallow populations in recent decades according to the North American Breeding Bird Survey. A document attached (Appendix II) shows typical individuals and nests of both species to help distinguish between them.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) compare the type of nest observed in the past under the cornice of the dam manager's house with the types of nests shown in the document provided. Then identify which species of swallow nested under this ledge.

IAAC-1-47 Swallow nesting habitat

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part II, section 7.1.7 (Birds and bird habitat)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 12.2.8, 12.1.9.4 and chapter 23*

Context

The EIS mentions that the current dam, which would be replaced and then destroyed, provides a suitable structure for Barn Swallow, although no Barn Swallow nests have been observed there. It also states that Barn Swallow only frequent the Rayonier area and the adjacent bank. One of the main threats identified for Barn Swallow is the loss and degradation of its nesting habitat. Cliff Swallow, which is also experiencing a decline in its populations, also uses bridge structures for nesting. The presence of anthropogenic structures suitable for nesting by both swallow species is therefore very important.



Other types of structures can be used to promote the nesting of these two species. Appendix E of the [Guide de recommandations – Aménagements et pratiques favorisant la protection des oiseaux champêtres](#) (QuébecOiseaux, 2019) provides examples of these structures.

It should be noted that similar structures can also accommodate both bats and swallows.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) specify whether it plans to maintain habitat suitable for nesting barn swallows and cliff swallows, and provide details; and
- B) in the case where one or more favourable habitats are maintained:
 - i. specify whether the structure of the new dam-bridge will be suitable for nesting or whether it is planned to incorporate nesting structures; and
 - ii. describe the monitoring program that would be carried out to check the use of the structures by birds (including, but not limited to, swallows) during construction.

IAAC-1-48 Critical habitat of the Chimney Swift

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.1.7 (Birds and bird habitat)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, appendix 12.5*

Context

In Table 2 of Appendix 12.5 of the EIS, it is explained that critical habitat for the Chimney Swift is designated in a recovery strategy and that this designation is based on the criteria of habitat occupancy and biophysical characteristics of suitable habitat. It is stated that the Chimney Swift habitat occupancy criterion would not be met and that the lack of information at building level in the wider study area makes it impossible to determine whether suitable habitat is likely present.

According to Table D-3 of the proposed recovery strategy for the species (ECCC, 2022), two critical habitat units are present in the City of Timiskaming.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) add information on these two critical habitat units to Table 2 in Appendix 12.5;
- B) add the two critical habitat units to map A12.5-6 in Appendix 12.5; and
- C) specify the distance of these critical habitat units from the project and indicate it on map A12.5-6.

**IAAC-1-49 Chimney Swift nesting**

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.1.7 (Birds and bird habitat)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 12.1.9.6.3*

Context

The Government of Quebec's Wildlife and Parks sector would like to clarify that the chimney of Ste-Thérèse Church is known as a Chimney Swift concentration area (roost) and not a nesting site. Although it is very possible that the chimney is also used for nesting, the species is not known to nest in colonies, and there is rarely more than one nest per chimney. Roosts are used mainly by migrating swifts and by non-breeding individuals during the breeding season. To this end, the presence of other nesting structures (e.g. masonry chimneys, hollow trees) is necessary to ensure the species' reproduction.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) note the above clarification from the Government of Quebec's Wildlife and Parks sector and explain whether any special effort has been made to identify the presence of hollow trees, masonry chimneys or other man-made structures suitable for Chimney Swift nesting in the study area to ensure that they remain available for the species.

IAAC-1-50 Pileated Woodpecker nesting

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.1.7 (Birds and bird habitat)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, table 12.30*

Context

ECCC notes that Pileated Woodpecker, a species whose nests are protected year-round under the *Migratory Birds Regulations (2022)*, was observed in the study area in 2021. Table 12.30 of the EIS indicates that nesting is possible due to the fact that the species has been observed in suitable nesting habitat during the breeding seasons.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) indicate what measures will put in place to avoid destroying nests for Pileated Woodpecker specifically, a species whose nests are protected year-round under the *Migratory Birds Regulations (2022)*.

**IAAC-1-51 Migratory birds – incidental take**

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.2 (Birds and bird habitat)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 12.2.7.5*

Context

When more than five incidental takes of migratory birds (except for Species at Risk, for which the threshold is one) are observed during construction, the proponent proposes to consult a biologist in order to determine, in collaboration with Indigenous communities, whether additional mitigation measures are necessary. The Government of Quebec's Wildlife and Parks sector is of the opinion that a threshold of two incidental takes for taking action to establish the need for additional mitigation measures seems more appropriate to minimize the project's impacts on wildlife.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) reassess and justify the incidental take threshold above which additional mitigation measures would be considered for non-endangered migratory birds.

IAAC-1-52 Migratory birds – waterfowl

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.2 (Birds and bird habitat)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 11.2.3.5*

Context

Data from *eBird* show that the rapids at the dam are used by waterfowl (e.g. Goldeneye and Merganser) in winter to take advantage of the ice-free white-water for feeding.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) assess the effects on waterfowl of changes in winter ice dynamics that may be caused by the project (construction and operation phases). Identify and describe the mitigation measures required to eliminate or reduce these effects, if any.

**IAAC-1-53 Birds other than migratory birds and not of precarious status**

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.2 (Birds and bird habitat)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 12.2.7*

Context

The EIS deals with migratory birds within the meaning of the *Migratory Birds Convention Act 1994* (MBCA), as well as certain other bird species at risk. Other bird species (e.g. birds of prey and blackbirds) are present in the construction area and may nest there. Under section 26 of the *Quebec Act respecting the conservation and development of wildlife*, it is prohibited to disturb, destroy or damage their eggs or nests.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) assess the effects of the project, for each phase, on birds not covered by the MBCA or of precarious status. Identify and describe the mitigation or offsetting measures required to eliminate or reduce these effects.

IAAC-1-54 Assessment of effects on avian fauna

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.3.2 (Birds and bird habitat), 7.4 (Mitigation measures)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 7.1.2.3, 12.2.5.2.1 and 12.2.7*

Context

ECCC notes that the description of residual effects on avian fauna provided in section 12.2.7.5 (first paragraph and table) would entail mortality and disturbance during the nesting period.

According to section 12.2.5.2.1 of the EIS, construction in Phase 3 would take place between mid-July and December, however according to section 7.1.2.3, the start of this phase would be early August. Phase 4 involves the demolition of the existing structures and would take place between July and October (section 12.2.7.2.2). Contrary to what is mentioned on page 12-153, the nesting period for migratory birds in the region extends from mid-April to late August. Several listed species, including Barn Swallow, will not have finished nesting while construction that generates significant sensory disturbance is taking place.

The last paragraph of section 12.2.7 provides simulation results of current noise levels and levels that could occur without mitigation during the construction phases at different locations. It is explained that birds usually adapt to noise from construction areas, that mitigation measures would be put in place to reduce the effects and that the additional noise level would not exceed 10 decibels (dB).



However, the information in the [Guidelines to avoid harming migratory birds](#) should be taken into account. Examples of higher levels of disturbance risk for nests and birds includes the generation of loud noises, especially those:

- higher than 10 dB above the ambient level in natural environments; and
- those above about 50 dB.

ECCC mentions that construction generating loud noise are planned from July onwards, when the nesting season would not be over for many species.

ECCC also notes that, when possible, clearing and grading activities would take place outside of the nesting season of migratory birds. If this is not possible, a scarecrow would be installed before the start of the breeding season to prevent birds from nesting in the planned construction areas. It is explained that if nests are present, access to the nests and disturbance would be minimized. Also, tree cutting or infilling of the area would be postponed until the chicks leave the nest. If this is not possible due to construction timing, construction would be carried out and incidental takes would be recorded, unless it is a provincially or federally endangered species.

ECCC wishes to inform the proponent that if there are occupied migratory bird nests where construction is planned, activities that could disturb or destroy the nests must be avoided, adapted, delayed, or relocated, regardless of whether the species is an endangered or a non-endangered avian species, so as not to contravene the MBCA and its regulations.

ECCC questions the potential use of scarecrows to prevent nesting in the construction area. More information is needed to understand how this measure can be implemented in a manner that is truly effective, and also how it would not contravene with section 5(1)a of the *Migratory Birds Regulations 2022*, which prohibits the capture, killing, taking, injuring or harassing of a migratory bird, or attempting to do so. Section 63(1) of the *Migratory Birds Regulations 2022* only permits the use of measures to scare away migratory birds that are or are likely to be a danger to human health or public safety, or that are causing or are likely to cause damage to agriculture, the environment, or other interests.

Although the EIS identifies the terrestrial study area as having limited potential for avian fauna, nesting of migratory birds is confirmed or probable for several species, despite the limitations outlined above (see question IAAC-44 and 45) in describing the baseline condition.

ECCC is concerned about the risk of mortality of avian fauna and disturbance of nesting that is described in the description of residual effects, particularly in relation to the lack of a firm commitment not to carry out clearing outside the nesting period, as well as in relation to the loud construction works planned when nesting for many species would not be finished. Considering the high ambient noise levels described, ECCC is concerned about the cumulative effects, among other things.

Based on the information presented, ECCC considers that the proposed mitigation measures may be insufficient or ineffective to reduce the risk of violating the MBCA and its regulations to an acceptable level. ECCC believes that conducting activities considered to be of high risk of disturbing nests and birds outside of the nesting season of migratory birds would be a key measure to reduce the risk of injuring, killing or disturbing migratory birds or inadvertently destroying or disturbing their nests or eggs.

The proponent must demonstrate that it understands the risk of potential effects of the project on migratory birds and their nests and eggs, and that it would take reasonable precautions and appropriate avoidance measures to comply with the MBCA and its regulations. As outlined in section 7.4. of the Guidelines for the Preparation of an Environmental Impact Statement (2018), mitigation measures must be specific, achievable, measurable, verifiable, and described in a manner that avoids ambiguity in intent, interpretation, and implementation. The proponent is also strongly encouraged to use an avoidance and minimization approach. This approach may require changes to the project design or relocation of project components.

Important note: In answering the following questions, the proponent should take into account the information provided in questions IAAC-1-44 and 45.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) explain how the scaring measures would be implemented in such a way as to be truly effective in preventing nesting in the construction area, and how this would not contravene paragraph 5(1)a of the *Migratory Birds Regulations 2022*;
- B) review specific mitigation, monitoring, and follow-up measures to reduce the risk of violating the MBCA and its regulations to an acceptable level and:
 - i. explain how the approach would focus on avoidance and reduction of effects at the source;
 - ii. specify whether planned activities considered to have high risk of disturbing nests and clearing birds will be carried out outside the nesting period of migratory birds;
 - iii. ensure that measures are specific, achievable, measurable, verifiable, and described in a way that avoids ambiguity of intent, interpretation and implementation; and
 - iv. ensure that measures take into account the information contained in the [Guidelines to avoid harm to migratory birds](#); and
- C) review the description of residual effects on avian fauna based on the responses (provided in B).

Assess the cumulative effects on avian fauna, particularly during the nesting period and in relation to existing and reasonably foreseeable noise disturbance.



Species at Risk

Information requests directed to the proponent

IAAC-1-55 Review of the status of Species at Risk (SARA)

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.1.8 (Species at Risk)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, Table 12.27*

Context

As the status of a species may change over time, such as that of the Peregrine Falcon, it would be appropriate for the proponent to check the status of each species on the [Species at Risk Public Registry](#) following this information request and to update the information.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) check the status of each species at risk under SARA as a result of this information request and update the information as appropriate (e.g. a table of species whose status has changed).

IAAC-1-56 Provincial status – mammals

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.1.8 (Species at Risk)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, Table 12.27*

Context

Table 12.27 of the EIS presents special status mammal species that are potentially present in the project study areas.



The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) specify under which provincial legislation and under which jurisdiction (Quebec or Ontario) the status indicated in the sixth column of the table is attached.

IAAC-1-57 Assessment of the potential presence of Species at Risk

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.1.8 (Species at Risk)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 12.1.8 and 12.1.9*

Context

In Table 12.27 of the EIS, the potential for four bat species to be found is rated as low, including Little Brown Myotis and Northern Myotis, which are threatened under SARA. This assessment is surprising since bat maternity roosts have been recorded within one kilometre of the dam, and bats have also been heard in the crevices of the dam. The same situation can be observed with Common Nighthawk and Barn Swallow, two species listed on Schedule 1 of SARA that were observed during the surveys (Table 12-29). There also appears to be inconsistencies between Tables 12.27 and 12.29 and the information presented in Table 2 of Appendix 12-5.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) review the assessment of the potential for the presence of the following species: Little Brown Myotis, Northern Myotis, Common Nighthawk and Barn Swallow.

IAAC-1-58 Assessment of effects on Species at Risk

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.3 (Species at Risk)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 12.2.6. and 12.2.8*

Context

Potential and residual effects were not assessed for each of the species at risk likely to be present in the study area. ECCC is of the opinion that each of these species should be subject to a separate effects analysis since each one faces its own reality, threats or issues.

According to the proponent, for fish species, only Lake Sturgeon and American Eel have federal status. The information is included in section 12.1.6.7.1 for sturgeon. Although American Eel is absent from the study area, information on this species is included in section 12.1.6.7.2.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) assess, for each phase of the project, the potential effects on each of the terrestrial and avian species at risk listed on Schedule 1 of SARA and those species recommended for listing on Schedule 1 of SARA by COSEWIC.
 - i. quantify temporary and permanent losses of potential habitat
 - ii. for avian species at risk, provide an estimate of the number of breeding pairs that could be affected by habitat losses
- B) demonstrate that lost or degraded habitats can be replaced by other similar and available habitats near the project area for the various species at risk that will be affected by the project;
- C) identify and describe the applicable mitigation, monitoring and follow-up measures for each of the avian and terrestrial species at risk and their potential habitat to avoid or lessen the effects of the project on that component. Describe and assess the residual effects of the project on each of these species and their habitat.

IAAC-1-59 Bats – maternity roosts and roosts

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.1.8 (Species at Risk), 7.3.3 (Species at Risk) and 7.4 (Mitigation measures)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 12.1.8.4, 12.1.8.5, 12.2.5 and 12.2.6 and Appendix 12.5*

Context

According to section 12.1.8.4 of the EIS, a bat survey was conducted in 2021 in an abandoned building on the left bank nearly one kilometre upstream from the dam, near the Timiskaming marina. This building was used as a maternity roosting habitat by several bat species. In section 12.2.5, it is stated that bats were heard in the cracks on the upstream side of the dam and that more detailed data will be included in the EIS when the survey report is available.

It is not clear whether the survey (current dam-bridge site) was part of the same bat survey carried out at the maternity site one kilometre upstream. From maps A12.5-2 and A12.5-3 in Appendix 12.5, it is unclear



whether any surveys have taken place within the 500-metre radius illustrating potential bat habitats. It would be important to understand the survey methods to have a better understanding of the likelihood of other existing maternity roost sites in the area.

Given the current situation of bats in Quebec and Canada and the importance of maternity roosts and roosts for them, the destruction of a structure used by bats (the dam) could have an effect. The installation of structures in the vicinity in order to provide them with alternative sites is an option to consider (<https://batwatch.ca/setting-bat-house>).

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) provide a detailed report on the methodology for the maternity surveys around the project, including:
 - i. the survey method used in the 2021 study for maternity findings;
 - ii. all species observed (specify what is meant by “a number of species”);
 - iii. the identification method;
 - iv. the precise study area as well as the locations where the surveys were carried out and the maternities observed;
- B) identify and describe the mitigation or offsetting measures that will be put in place to minimize the effects of the loss of a structure used by bats as a result of construction.

IAAC-1-60 Bats – roost sites in the cracks of the dam-bridge

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.1.8 (Species at Risk), 7.3.3 (Species at Risk) and 7.4 (Mitigation measures)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 12.1.8.4, 12.2.5 and 12.2.6 and Chapter 19*

*Studies referenced by ECCC:

- [Bats in Bridges – Bat Conservation International](#)
- [Hanging Out With Bats Under Bridges | Blog | Nature | PBS](#)

Context

The EIS mentions in several places that bats have been heard in the cracks on the upstream side of the dam-bridge. Studies show that the use of bridges by bats is more extensive than one might expect. However, the use of these structures by bats seems to be poorly documented in Quebec.



The fact that bats have been heard in the dam-bridge raises several questions. As there is no further information on this subject in the documents provided, additional information is needed on the context in which these bats were heard.

These surveys would determine the type of use (day/night roost site, maternity roost, hibernacula) and help determine the relevant mitigation measures according to the species type present and the use.

Note that a permit under SARA may be required if the removal of the dam would result in the destruction of a maternity colony (considered a residence under SARA) used by the Little Brown Myotis, Northern Myotis or Tri-colored Bat, three threatened species listed on Schedule 1 of SARA. This is the case even if the individuals are absent during construction (e.g. due to the prior installation of a net to prevent access).

Comment by ECCC:

If there have been no specific surveys of dam cracks, it would be important to carry out such surveys prior to the start of construction, in order to determine, among other things:

- which species use the cracks of the dam;
- at what time of year is it used; and
- at what time of day is it used.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) provide additional information on the context of the discovery of these bat individuals in the cracks of the dam-bridge;
- B) if observations have been made opportunistically, conduct a survey to:
 - i. characterize the cracks in the dam-bridge; and
 - ii. determine the potential of this structure to be used as a day/night roost site, maternity roost or hibernacula by bats. This study should be carried out by biologists with expertise in bats;
- C) identify and describe relevant mitigation measures, depending on the use of the dam-bridge by bats, where applicable.

IAAC-1-61 Methodology for bat surveys

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.1.8 (Species at Risk)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 12.1.8.5 and 12.2 and Appendix 12.3*

Context

In section 12.1.8.5 of the EIS, it is stated that in a survey conducted by the Kitchi Sibi Technical Team (2022, Appendix 12.3), eight species of bats were identified in the project area, including several threatened



species. Their presence and habitats are confirmed in Table 12.32. It is not indicated how these surveys were carried out (e.g. if they were acoustic surveys, in which areas and at what time they were carried out).

Section 12.2.5 indicates that more detailed data will be included in the EIS when the survey report is available. This report will be important to better understand the potential effects of the project on bats.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) provide a detailed report on the methodology of the bat survey, including among others:
 - i. the survey method used in the 2021-2022 study for the detection of bats;
 - ii. the listing of all species observed (eight species are mentioned, but only six are mentioned in the different documents);
 - iii. the identification method; and
 - iv. the precise study area as well as the locations of the surveys carried out and the individuals observed.

IAAC-1-62 Bats – installation of nets

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.3.3 (Species at Risk) and 7.4 (Mitigation measures)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 12.2.6*

Context

As a mitigation measure, it is proposed to cover the existing dam with a curtain to prevent bats from using its cracks before it is demolished. The curtain would be in place before the bats emerge from hibernation in the spring. The bat species observed in the study area are not only resident (hibernating) species; some are also migratory.

No information is provided about this net. It will be important to better understand the type of net used and the use of the dam-bridge by bats prior to the installation of this net.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) provide a detailed description of the nets that would be used, including:
 - i. mesh size; and
 - ii. its ability to prevent the entry of bats that can squeeze through very small holes;
- B) describe how these nets are attached to the wall;
- C) propose mitigation measures to prevent the use of the dam by migratory bats during the return migration period; and

- D) specify the periods (dates) when mitigation measures will be implemented to prevent the use of the dam cracks by resident and migratory bats.

IAAC-1-63 Bats – effects monitoring

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.3.3 (Species at Risk) and 9 (Follow-up and monitoring programs)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 12.2.5.2.2, 12.2.5.5 and 12.2.6.1, Chapter 19 and section 23.5*

Context

The effects of the dam-bridge demolition (noise generated) on bats are discussed in section 12.2.5.2.2, and daytime monitoring is proposed to measure the effects. Monitoring and follow-up (noise effects on bats) is also proposed in sections 12.2.5.5 and 12.2.6.1.

In section 23.5, it is mentioned that a follow-up is required to ensure that the noise and lighting from the construction site do not harm the bat species present at the maternity site located approximately one kilometre upstream of the dam. Chapter 19 notes that additional studies will be conducted prior to and during construction activities to ensure the effectiveness of mitigation measures.

It is not clear what monitoring would be carried out to verify the effects of construction (including noise and light) on bats in the vicinity of the project. As it is not clear which areas were surveyed and how, it is difficult to assess what monitoring would be required. However, it is clear that bats use the dam-bridge at certain times (bats heard in the cracks of the dam), that a maternity site exists in the vicinity, and therefore that the construction could cause some disturbance.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) provide a monitoring plan for the effects of construction on bats, including the effects of noise and light;
- B) provide a contingency plan in case bats are found during the different phases of the project (e.g. stop construction work, create exclusion zone, build bat shelters to offset the dam repair, etc.); and
- C) provide details of additional studies that would be implemented prior to and during construction activities to ensure that mitigation measures are effective.

IAAC-1-64 Potential turtle habitat

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.1.8 (Species at Risk)*

Tetra Tech, February 2023. Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 12.1.6.5.2.2.2, 12.1.7.1.1, 12.1.7.2.1.3, 12.2.6.1 and 12.6.6, Appendix 12.1 and Appendix 12.5

Context

In sections 12.1.7.1.1, 12.6.6 and 12.1.7.2.1.3 of the EIS, it is explained that, along the portion of the study area on the Ottawa River east of Long Sault Island, there is no favourable habitat for Snapping Turtle.

According to ECCC, the conclusion that the habitat would be unsuitable for turtles is not supported by a detailed description of the habitat. Furthermore, the statements in the above sections are partly inconsistent with Map A-12.5-1 in Appendix 12.5, which maps some turtle habitats that are at potential risk (movement and thermoregulation) throughout the periphery of the island.

Maps 12.2 to 12.6 and following also suggest that there may be shallow, lentic environments in the study area near the existing dam. If so, this environment could be used by turtles, among others, to lay their eggs on Long Sault Island. At first glance, there also appears to be suitable habitat for turtles (including shorelines suitable for nesting), based on the photos in Appendix A of Appendix 12.1.

In fact, the [Management Plan for the Snapping Turtle \(*Chelydra serpentina*\) in Canada 2020](#) (ECCC, 2020) states that Snapping Turtle use a wider variety of habitats than suggested in the proponent's documents. For example, Snapping Turtle individuals can swim in deep water (although generally within five metres of shore lines and at a depth of less than two metres), they can use land routes for several hundred metres as travel corridors, and females not only use sand or gravel banks for nesting, but also a wide variety of other sites (e.g. road shoulders, embankments, cracks in rocky banks, disturbed soils, lawns, cleared land) (ECCC, 2020).

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) review the description for the potential of presence of different types of turtle habitats (including movement, thermoregulation, feeding, nesting and hibernation habitat) in the study area.

IAAC-1-65 Turtle barriers and timing of construction

References

CEAA, August 2018. Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.3 (Species at Risk) and 7.4 (Mitigation measures)

*Environment and Climate Change Canada. 2020. Management Plan for the Snapping Turtle (*Chelydra serpentina*) in Canada. Species at Risk Act Management Plan Series. Environment and Climate Change Canada, Ottawa, iv + 41 p.*

Tetra Tech, February 2023. Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 7.1.1, 12.2.6 and 12.2.6.1

Context

In section 7.1.1 of the EIS, it is explained that the facilities will be fenced for public safety and that geotextile barriers will be installed along the fences to prevent turtles and other small mammals from accessing the construction areas.

As a mitigation measure for Snapping Turtle, it is proposed in section 12.2.6 that sediment barriers be used along the shoreline of Long Sault Island and along the western shoreline to prevent Snapping Turtle from entering the construction site. In general, this is an appropriate mitigation measure. However, there is a lack of information on the characteristics of the fence to judge its suitability and actual effects on turtles (e.g. height, continuity, timing of installation and removal, exact location).

It is also proposed in section 12.2.6.1, for Snapping Turtle, to clear and level the site between early September and early March, outside of the species' breeding season. However, the species management plan (ECCC, 2020) states that "Eggs generally hatch 65 to 95 days after they are laid, that is, between late August and late October; eggs laid at more northerly latitudes take longer to hatch." Thus, this mitigation measure is only adequate if it has not been possible for Snapping Turtle individuals to access the site to lay eggs.

Please note that Painted Turtle and Snapping Turtle hatchlings can spend their first winter in the nest.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) describe in detail how the exclusion fence would be installed to prevent the presence of turtles in the construction area and assess the likelihood of turtle nests being present in the construction area. Fence installation parameters (e.g. height, no gap or bottom space, continuity, timing of installation and removal, exact location) should consider turtle biology (e.g. timing of egg-laying or hibernation, ability to bypass or climb over the fence), as well as the area's potential use as habitat (e.g. not allowing free access to bare soil or granular material during the egg-laying season). The proponent may refer to the following document [Reptile and amphibian exclusion fencing](#); and
- B) specify the areas that would be fenced on a map. If the entire island would be fenced, specify how the potential for turtle access would be managed by way of access routes to the island or encroachment areas (e.g. through roads and boat launch).

IAAC-1-66 Mitigation measure for turtle road mortality

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.3 (Species at Risk) and 7.4 (Mitigation measures)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 12.2.6.1*



Context

In the table in section 12.2.6.1 of the EIS, one of the proposed mitigation measures is to enforce the speed limit on the construction site to minimize the risk of wildlife mortality. However, the speed limit is not specified.

Since turtles do not necessarily flee from vehicles, ECCC is of the opinion that speed reduction alone (without turtle avoidance) is not sufficient to reduce the risk of mortality.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) clarify whether the mitigation measure regarding speed on the construction site is mitigating the effects on turtles or whether it is addressing other animals; and
- B) specify how the risk of road mortality of turtles will be mitigated.

IAAC-1-67 Turtle recovery

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.3 (Species at Risk) and 7.4 (Mitigation measures)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 7.1.2, 7.1.3, 12.2.6.1, 19 and 22.4*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Summary Environmental Impact Statement, section 6.2*

Context

In several sections of the EIS and its Summary, it is explained that fish recovery activities will be carried out in the area between the old dam and the turbidity curtain prior to the installation of the cofferdam, during the dewatering phase (Phase 1) and in the area between the upstream turbidity curtain and the new dam prior to the removal of the existing dam (Phase 4). Turtles may also become confined to the construction areas.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) specify whether turtles are also part of the recovery activities. Where applicable, please:
 - i. specify how the turtles will be managed (e.g. capture and handling process, release site); and
 - ii. specify whether monitoring will be carried out.

**IAAC-1-68 Effects on turtles in the operational phase**

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.3 (Species at Risk)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 12.2.5 and 12.2.6*

Context

There is very little information on the risks to turtles associated with the operation of the dam. For example, there is no mention of whether the vertical gates are designed in such a way that might lead to turtles becoming stuck in them.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) describe the risks (or lack thereof) to turtles associated with the operation of the dam.

IAAC-1-69 Turtles – fence monitoring

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.3.3 (Species at Risk), 7.4 (Mitigation measures) and 9.2 (Monitoring program)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 19*

Context

Fence monitoring (mitigation measure) is not included in the monitoring program, unless it is covered in the measure listed in Table 19.1, which is to conduct a daily visual inspection of the construction site and equipment to confirm the absence of animal species prior to commencing work.

At a minimum, ECCC believes that the integrity of the fence (to avoid animal caused breaches, wear, or tear from construction) or the presence of captive animals should be checked.

It is also not explained what actions would be taken with animals (including turtles) that might end up in the construction area (e.g. stopping the construction, relocation, etc.).

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) describe how monitoring will be carried out in relation to the fence and how any turtles found in the construction area will be handled.



Comments and advice for the proponent

Comment 1-23 Collision with wildlife

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.3 (Species at Risk)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 12.2.5.1*

Comments and advice

The EIC states that if animal collisions cause more than five mortalities during the construction preparation phase, a consultation with a biologist will be carried out to determine whether additional mitigation measures are required. Considering that in the past 50 years, no wildlife mortality caused by traffic has been observed by the operator of the dam who lives on the island, and considering the figures presented in the *Société de l'assurance automobile du Québec* (SAAQ; section 12.2.5.2.1) table, the Government of Quebec's Wildlife and Parks sector considers that a target of two mortalities to establish the need for additional measures seems more appropriate to minimize the project's effects on wildlife.

Comment 1-24 White-tailed Deer

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 2 (Content of the Environmental Impact Statement)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 4.4*

Comments and advice

Section 4.4 of the EIS mentions that the Mattawa White-tailed Deer yard is located on the Ontario side. According to the Government of Quebec's Wildlife and Parks sector, this yard is located on the Quebec side.



Indigenous Peoples

Information requests directed to the proponent

IAAC-1-70 Effects on potential or established Aboriginal and treaty rights

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 6 (Impacts to potential or established Aboriginal or treaty rights)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 13.1*

Context

Section 13.1.3 (Rights Impact Assessment Survey Results) includes excerpts from the Rights Impact Assessment Survey conducted by the communities of Kebaowek, Wolf Lake and Timiskaming as part of the Timiskaming Dam-Bridge of Quebec Replacement Project (TDQRP) 2023 program for the preferred dam location. These excerpts do not provide an understanding of the potential adverse effects of the project components and activities on the rights of these three communities. The Agency also notes the absence of measures to mitigate the potential adverse effects on these rights and the lack of an assessment of the potential residual adverse effects on these rights.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) identify and describe the potential adverse effects of each of the project components and activities for all phases of the project (construction and operation) on the potential or established Aboriginal and treaty rights (including asserted rights) of the Kebaowek First Nation, Wolf Lake First Nation, and Timiskaming First Nation;
- B) identify and describe any measures that the proponent intends to implement to mitigate the potential adverse effects of the project on the potential or established Aboriginal and treaty rights of the Kebaowek First Nation, Wolf Lake First Nation, and Timiskaming First Nation. The proponent must clearly describe how it intends to implement these measures, including the perspectives and suggestions expressed by these three First Nations and their views on the effectiveness of the mitigation measures, if any; and
- C) identify and describe any potential adverse effects on potential or established Aboriginal and treaty rights that have not been fully mitigated and addressed through the environmental assessment and engagement activities with Kebaowek First Nation, Wolf Lake First Nation, and Timiskaming First Nation.

IAAC-1-71 Effects on the health of Indigenous peoples**References**

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.4 (Indigenous peoples –health and socio-economic conditions)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 13.1 and Appendix 13.1*

Context

Section 13.1.2.2 (The SART 2022 Socio-Cultural-Economic Impact Assessment (SCEIA)) and Appendix 13.1 (Socio-Cultural-Economic Impact Assessment (SCEIA)) provide the overall baseline picture of socio-economic and cultural components for the communities of Kebaowek, Wolf Lake and Timiskaming. The interaction of environmental changes caused by project components or activities in all phases (construction and operation) and the health of these three communities is not demonstrated in this appendix or in section 13.1.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) assess the effects of changes to the environment caused by the project on the health of Kebaowek First Nation, Wolf Lake First Nation and Timiskaming First Nation, particularly with respect to health effects or risks related to, but not limited to, potential changes to air quality, exposure to noise and the effects of vibration from blasting, current and future availability of traditional foods, and water quality (drinking water or water used for recreational or cultural purposes);
- B) provide a justification if it determines that a risk assessment of contamination of food from nature (or other routes of exposure, such as inhalation) is not necessary or if certain contaminants are excluded from the assessment;
- C) consider the effects on the mental and social well-being of Indigenous peoples. Where adverse health effects are anticipated, including any associated effects, such as effects on the current use of lands and resources for traditional purposes, should be assessed;
- D) examine and indicate how the effects of environmental changes might be different for a particular Indigenous sub-population (e.g. women, youth, elders, and particular families); and
- E) identify and describe the measures it plans to put in place to mitigate these effects and assess the residual effects.

IAAC-1-72 Concerns about traditional food**References**

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.3.4 (Indigenous peoples) and 7.4 (Mitigation measures)*

Tetra Tech, February 2023. Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections: 11.2.2.1, 13.2.4.3.1.2, 13.2.4.3.5.1, 13.3.4.3.1, 13.5.4.3.2, 13.4.4.7.1 and 22.5

Context

According to Chapter 13 of the EIS, a significant concern for many communities is the potential contamination of traditional food by the recirculation of contaminants in the environment caused by the project. To mitigate these concerns, various mitigation measures are proposed, including the installation of a turbidity curtain and the communication of water quality and fish monitoring results.

There are also plans to sample sediments and manage them for levels of contamination. However, measures on how information related to water quality, fish, sediment and vegetation monitoring will be shared with the communities to address their concerns regarding access to resources and/or potential contamination. In particular, the AOPFN indicated that they have concerns regarding methylmercury in the Timiskaming Reservoir and potential effects on the aquatic ecosystem, fish and communities that consume fish from the area.

Health Canada believes that communication plans jointly developed with interested communities would detail the mechanisms and frequency of communication, information shared, data formats, interpretation, etc. These plans should adequately address community concerns, be developed prior to the commencement of construction, and be culturally appropriate.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) specify how it would involve interested communities in monitoring activities (e.g. water quality, fish, sediment, vegetation) and in communicating the results of such monitoring;
- B) if the project would not result in any significant effects on water/sediment quality that could affect traditional food quality, including methylmercury: detail the mitigation measures (including a communication plan) that would be put in place to ensure that communities do not unnecessarily avoid consuming resources from the land on the basis that the project could affect traditional food quality (e.g. fisheries products, vegetation); and
- C) if the project is likely to result in the resuspension of sediments that could contaminate water and traditional food: detail the mitigation measures (including a communication plan) that would be implemented to minimize environmental contamination.

IAAC-1-73 Effects on the socio-economic conditions of Indigenous peoples

References

CEAA, August 2018. Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.4 (Indigenous peoples – Health and socio-economic conditions)

Tetra Tech, February 2023. Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 13.1 and Appendix 13.1



Context

Section 13.1.2.2 (The SART 2022 Socio-Cultural-Economic Impact Assessment (SCEIA)) and Appendix 13.1 (Socio-Cultural-Economic Impact Assessment (SCEIA)) provide the overall baseline picture of socio-economic and cultural components for the communities of Kebaowek, Wolf Lake and Timiskaming. However, the interactions between environmental changes caused by the project components, including activities for all phases (construction and operation) and the socio-economic components of these three communities, are not demonstrated in this appendix or in section 13.1.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) assess the effects of environmental changes on the socio-economic conditions of Kebaowek First Nation, Wolf Lake First Nation, and Timiskaming First Nation, on elements including, but not limited to, the following:
- the use of navigable waters (including any watercourse used for Indigenous transport);
 - forestry operations;
 - commercial fishing, hunting, trapping and gathering activities;
 - commercial outfitters;
 - recreational uses;
 - food security;
 - income inequality;
 - community-level changes that affect the socio-economic conditions of Indigenous peoples due to population growth, economic activity and cost of living, among other factors; and
 - the non-trade/commercial economy;
- B) identify and describe the measures it plans to put in place to mitigate these effects and assess the residual effects.

IAAC-1-74 Assessment of the effects on the physical and cultural heritage of Indigenous peoples

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.4 (Indigenous peoples – physical and cultural heritage)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 13.1 and Appendix 13.1*

Context

Section 13.1.2.2 (The SART 2022 Socio-Cultural-Economic Impact Assessment (SCEIA)) and Appendix 13.1 (Socio-Cultural-Economic Impact Assessment (SCEIA)) provide the overall baseline picture of socio-

economic and cultural components for the communities of Kebaowek, Wolf Lake and Timiskaming. However, the interactions between environmental changes caused by the project components, including activities for all phases (construction and operation) and the physical and cultural heritage of these three communities, are not demonstrated in this appendix or in section 13.1.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) assess the effects of environmental changes on the physical and cultural heritage, structures, sites, or things of historical, archaeological, paleontological, or architectural significance to Kebaowek First Nation, Wolf Lake First Nation and Timiskaming First Nation, including but not limited to:
- loss or destruction of physical and cultural heritage;
 - changes in access to physical and cultural heritage;
 - changes to sacred, ceremonial or culturally important places, objects or things; and
 - changes to visual aesthetics, including cultural heritage landscapes, during the life of the project; and
- B) identify and describe the measures it plans to put in place to mitigate these effects and assess the residual effects.

IAAC-1-75 Changes in the quantity, quality and availability of resources

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.4 (Indigenous peoples – current use of lands and resources for traditional purposes)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 13.1*

Context

The assessment should characterize the effects of changes to the environment caused by the project, including cumulative effects, on the use or activity. The assessment is missing the overall picture of current use of lands and resources for traditional purposes, along with the interactions between environmental changes caused by the project's components, including activities from all phases (construction and operation), on the current use of Kebaowek First Nation, Wolf Lake First Nation and Timiskaming First Nation.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) assess the effects, including cumulative effects, of changes to the environment caused by the project on a current use or activity of Kebaowek First Nation, Wolf Lake First Nation, and Timiskaming First Nation, considering interactions with:
- resource use, such as changes in the quantity, quality and availability of resources and habitat, as well as to the sufficiency of resources required to conduct an activity or practice, including perception of effects, avoidance and consideration of the seasonal round;

- access to areas and resources without difficulty or additional cost used to conduct an activity or practice, as well as the opening up of areas to non-Indigenous populations for access and use, and consideration of preferred areas, timing of harvest, and options of traveling there in preferred manner;
 - the experiences of these three communities, including changes that affect the spiritual and cultural experiences associated with the activity and practice, as well as the sense of place and well-being, and the applicability and transmission of Indigenous knowledge, laws, customs and traditions;
- B) based on the interactions listed in the previous question, the proponent should also consider the following in its assessment:
- the cultural value or importance associated with traditional uses or areas affected by the project
 - how timing of project activities has the potential to interact with the timing of traditional practices, and any potential effects resulting from overlapping periods
 - how environmental effects to land and resources could affect the use and associated activities
 - consideration of the regional context for traditional use, and the value of the project area in that regional context, including the alienation of lands from traditional use
 - an assessment of the potential to return affected areas to pre-project conditions to support traditional practices (including the identification of end land use goals)
 - other effects of changes to the environment on Indigenous peoples should be reflected as necessary
- C) identify and describe the measures it plans to put in place to mitigate these effects and assess the residual effects.

IAAC-1-76 Effects on potential or established Aboriginal and treaty rights

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 6 (Impacts to potential or established Aboriginal or treaty rights)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 13.4*

Context

Section 13.4.4.8 (AOPFN Rights Assessment) provides contextual information on the rights of members of the AOPFN. This contextual information does not provide an understanding of the potential negative effects of project components and activities on the rights of the community. The Agency also notes the absence of measures to mitigate the potential adverse effects on these rights and the absence of an assessment of the potential residual adverse effects on these rights.



The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) identify and describe the potential adverse effects of each of the project components and activities for all phases of the project (construction and operation) on the potential or established Aboriginal or treaty rights (including asserted rights) of the AOPFN;
- B) identify and describe any measures that the proponent plans to implement to mitigate the potential adverse effects of the project on the potential or established Aboriginal and treaty rights of the AOPFN. The proponent must clearly describe how it intends to implement these measures, including the perspectives and suggestions expressed by the AOPFN and its opinion on the effectiveness of the mitigation measures, where applicable; and
- C) identify and describe any potential adverse effects on potential or established Aboriginal and treaty rights that have not been fully mitigated and addressed through the environmental assessment and engagement activities with the AOPFN.

IAAC-1-77 Description of the AOPFN

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 5 (Engagement with Indigenous peoples and concerns raised)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, Summary, section 4.4*

Context

Section 4 indicates that the Algonquins of Ontario (AOO) represent the AOPFN in the consultation. The AOPFN does not agree with being considered an AOO community. The AOPFN should be recognised as a separate community, since the existence of the AOPFN pre-dates that of AOO. It is only since 1992, with the opening of treaty negotiations between AOO, the Government of Canada and the Province of Ontario, that the AOPFN has been associated with the latter. The relationship between the AOPFN and the AOO should be mentioned only in relation to the negotiation of this treaty. The AOPFN is representing itself in this environmental assessment and does not wish to have any misinformation appear in the public record.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) adequately describe the relationship between AOO and the AOPFN.

IAAC-1-78 Land use plans for Indigenous communities

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 1.4 (Regulatory framework and the role of government)*



Tetra Tech, February 2023. Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 5.4

Context

In section 5.4, the proponent lists the land use and development plans of communities adjacent to the project. The AOPFN states that First Nations land use plans are of equal importance to municipal land use plans. The AOPFN recommends that Indigenous community land use plans, including reference to the AOPFN's comprehensive community plan, also be listed in this section, as they are relevant to the general and geographical context.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) provide a description of the Indigenous land use plans that cover the area described in section 5.4 and explain how they fit into the regional geographical context.

IAAC-1-79 Additional Information from the AOPFN

References

CEAA, August 2018. Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 2.2 (Alternative means of carrying out the project), 7.1.9 (Indigenous peoples) and 7.3.4 (Indigenous peoples)

Tetra Tech, February 2023. Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 13.4.4

Context

At the time of submission of the EIS, the AOPFN was not able to complete, propose revisions or add comparative analysis tables for the alternative means assessment, since this required further community engagement to explore this issue.

The AOPFN is undertaking an alternative means assessment and a socio-economic and well-being study. The AOPFN has held a community meeting and meetings with leaders, which have not been considered in the EIS. The AOPFN's factors for determining the significance, need or acceptability of impacts should be considered as part of the impact assessment once the AOPFN studies are completed.

The proponent must support the AOPFN in undertaking an alternative means assessment, which shall be transparent and based on the knowledge of the Algonquins of the AOPFN, and the results of which shall be communicated to the Agency prior to the preparation of the draft Environmental Assessment Report.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) describe how the alternatives proposed by the AOPFN have resulted in changes to the proponent's assessment of the alternatives, including mitigation measures or proposed measures for the preferred



alternative, if applicable; and

- B) describe how the results of the AOPFN studies, including statements of impact significance and acceptability, modifications, or additions to the proposed measures, have led to changes in the EIS.

IAAC-1-80 Baseline information on the health and socio-economic well-being of members the AOPFN

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.4 (Indigenous peoples – health and socio-economic conditions)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 13.4*

Context

The description of baseline data on the AOPFN in section 13.4 of the EIS, particularly with respect to health, well-being and socio-economic conditions, does not use primary data from the AOPFN. There are significant gaps in the assessment of language, employment, education, governance and other conditions. The AOPFN is undertaking an AOPFN-led socio-economic and well-being study to fill these gaps. The results of this work should be part of the assessment process.

Public Services and Procurement Canada should engage with the AOPFN and continue to support, particularly in terms of capacity, the collection and integration of direct primary data on baseline health and socio-economic conditions, including AOPFN definitions, perspectives and criteria for health and well-being, prior to the development of the draft Environmental Assessment Report.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) consider the data from the AOPFN socio-economic and well-being study and make the necessary changes to section 13.4 as appropriate.

IAAC-1-81 Valued components of AOPFN – habitats and habitat abundance

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.4 (Indigenous peoples)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 13.4.2*



Context

The factors to be considered should extend to wildlife, fish and plant habitats. The AOPFN has already indicated to the proponent that it would prefer that the objective be expanded to include habitats and not be replaced by a habitat abundance objective. Note that the objective of the AOPFN is to include the habitats of affected species in the consideration of factors, and not to move from factors related to affected species to habitat abundance.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) extend the consideration of fauna, flora and fish factors to the habitats of affected species.

IAAC-1-82 Mitigation measures for physical and cultural heritage

References

CEAA, August 2018. *Guidelines for the Preparation of and Environmental Impact Statement, Part 2, section 7.3.4 (Indigenous peoples – physical and cultural heritage)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, Summary section 6.15*

Context

Section 6.15 states that the proponent wishes to provide opportunities for Indigenous groups to conduct cultural ceremonies prior to the construction of the new dam to recognize and highlight the importance of Long Sault Island and the Ottawa River.

In this regard, it would be important for the proponent to clarify the considerations that will be considered with respect to Algonquin ceremonial skills and protocols when assigning cultural activities on the project site to different Indigenous groups (e.g. ceremonies, harvesting, plaque placement).

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) describe the considerations leading to the allocation of opportunities for cultural activities on the project site to an Indigenous group.

Comments and advice for the proponent

Comment 1-25 Sediment and risks to human health

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2,*



sections 7.3.4 (*Indigenous peoples*), 7.4. (*Mitigation measures*) and 9.1 (*Follow-up program*)

Tetra Tech, February 2023. Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 11.2.2.1

Comments and advice

If the project is likely to result in the resuspension of sediments that could contaminate water and traditional food, Health Canada recommends that the mitigation measures that would be implemented to limit environmental contamination as much as possible be rigorously applied and that environmental monitoring be adapted according to the concentrations of contaminants measured.

Where appropriate, a human health risk assessment, carried out according to a rigorous scientific methodology, could facilitate the management and communication of risks to communities. Health Canada recommends the following reference:

[HEALTH CANADA, 2019. Guidance for Human Health Impact Assessment in Environmental Assessments: Human Health Risk Assessment.](#)

Comment 1-26 Participation of AOPFN in mortality monitoring activities

References

CEAA, August 2018. Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.4 (Indigenous peoples – current use of lands and resources for traditional purposes)

Tetra Tech, February 2023. Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 13.4

Comments and advice

The AOPFN is interested in participating in mortality monitoring (through the Guardian program) and being consulted on the determination of thresholds for mortality rates and triggers for action.

Comment 1-27 Participation of SART communities in soil management and monitoring

References

CEAA, August 2018. Guidelines for the preparation of an Environmental Impact Statement, Part 2, section 7.3.4 (Indigenous peoples – current use of lands and resources for traditional purposes)

Tetra Tech, February 2023. Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 13.1



Comments and advice

The Kebaowek, Wolf Lake and Timiskaming First Nations wish to be engaged in the soil management plan and monitoring activities.

Comment 1-28 Participation of SART communities in discussions on fishway options

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.4 (Indigenous peoples – current use of lands and resources for traditional purposes)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 13.1*

Comments and advice

The Kebaowek, Wolf Lake and Timiskaming First Nations wish to be involved in discussions on fishway options.

Comment 1-29 Participation of SART communities in discussions on the revegetation plan

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.4 (Indigenous peoples – current use of lands and resources for traditional purposes)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 13.1*

Comments and advice

The Kebaowek, Wolf Lake and Timiskaming First Nations are interested in participating in discussions about the revegetation plan.

Comment 1-30 Interest of SART communities in further bat studies

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.4 (Indigenous peoples – current use of lands and resources for traditional purposes)*



Tetra Tech, February 2023. Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 13.1

Comments and advice

The Kebaowek, Wolf Lake and Timiskaming First Nations have expressed interest in additional studies of bats and bat habitat.

Comment 1-31 Interest of SART communities in a wildlife management protocol

References

CEAA, August 2018. Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.4 (Indigenous peoples – current use of lands and resources for traditional purposes)

Tetra Tech, February 2023. Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 13.1

Comments and advice

The Kebaowek, Wolf Lake and Timiskaming First Nations have expressed interest in creating a wildlife management protocol.

Comment 1-32 Interest of SART communities in a migratory bird inventory

References

CEAA, August 2018. Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.4 (Indigenous peoples – current use of lands and resources for traditional purposes)

Tetra Tech, February 2023. Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 13.1. and 19

Comments and advice

The Kebaowek, Wolf Lake and Timiskaming First Nations are interested in creating a migratory bird inventory.

**Comment 1-33 Consideration of various subgroups that may be affected by the project**

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.3.4 (Indigenous peoples – current use of lands and resources for traditional purposes) and 7.3.5 (Other valued components that may be affected by the project)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 23.7.1 (Socio-Economic Management Plan – Introduction)*

Comments and advice

Keepers of the Circle explicitly instructs measures be taken to ensure that Indigenous women, girls and gender-diverse people are involved in the decision-making and implementation of the project and that their views are thoroughly considered, with tangible and measured mitigation of impacts. This is because Indigenous women are the water keepers and bear sacred knowledge and responsibilities for the waterways.

Specifically, the voices of Indigenous women, girls and gender-diverse peoples must be intentionally considered when assessing the potential impacts of project development and prioritised during project implementation by providing equal access to employment for Indigenous women and ensuring safe and secure employment throughout the project development.

Comment 1-34 Contribution of the project to sustainability – construction

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.3.4 (Indigenous peoples – current use of lands and resources for traditional purposes) and 7.3.5 (Other valued components that may be affected by the project)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 23.7 (Socio-Economic Management Plan)*

Comments and advice

Keepers of the Circle would like materials to be purchased locally and ethically where possible, and Indigenous workers and construction companies to be employed. Jobs should be given in priority to Indigenous people who live in the area and do not need to travel to work.

**Comment 1-35 Interest of SART communities in the fisheries management plan****References**

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.4 (Indigenous peoples – current use of lands and resources for traditional purposes)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 20 (Effect on the human environment)*

Comments and advice

The Kebaowek, Wolf Lake and Timiskaming First Nations have expressed interest in participating in the fisheries management plan at the project site.

Comment 1-36 Compliance with internal Nation-to-Nation protocols**References**

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.3.4 (Indigenous peoples – current use of lands and resources for traditional purposes)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 20 (Effect on the human environment)*

Comments and advice

The proponent must ensure that it respects the protocols between different First Nations with respect to holding ceremonies and taking resources in traditional territory.



Human Environment

Information requests directed to the proponent

IAAC-1-83 Noise Monitoring Plan

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.1.1 (Atmospheric, light and noise environment), 7.1.9 (Indigenous peoples), 7.2.1 (Changes to atmospheric, sound and light environments) and 7.3.4 (Indigenous peoples)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 11.2.1.3.3.2.1*

Context

Section 11.2.1.3.3.2.1 mentions a noise monitoring plan. If the noise level on the project site is found to be higher than expected, solutions would be put in place to achieve the objectives defined in the noise monitoring plan.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) submit a noise management plan for the construction and operational phases or justify the lack of one. This plan should include, but not be limited to, key mitigation measures, details of monitoring and surveillance, the mechanism for handling and resolving complaints and how local communities would be considered and involved in the monitoring; and
- B) clarify whether the guidelines by the MELCC (MELCC 2020) will be used as targets in the noise monitoring plan.

IAAC-1-84 Measures to mitigate the effects on the sound environment

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.2.1 (Changes to atmospheric, sound and light environments), 7.3.4 (Indigenous peoples), 7.3.5 (Other valued components that may be affected by the project) and 7.4 (Mitigation measures)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 8.1.4.6.3, 8.1.6.4.1.4, 11.2.1.1.2 and 11.2.1.3.3.2.4.6*



Context

According to Chapter 8 of the EIS, Indigenous communities are concerned with the potential effects of the project on the sound environment. In the tables in sections 11.2.1.1.2 and 11.2.1.3.3.2.4.6, two mitigation measures are proposed: to implement a system for receiving and managing complaints, and to adopt solutions quickly if the “targets” determined in the noise management plan are not met.

Health Canada stresses that the measures must protect the health of the population and address the noise concerns of Indigenous communities.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) specify whether it will keep noise levels as low as possible. If so, explain how; and
- B) specify what additional mitigation measures it would implement if the population or land users react more strongly than expected to the change in the noise environment (e.g. if many complaints are received).

Comments and advice for the proponent

Comment 1-37 Noise impact indicator

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.1.1 (Atmospheric, light and noise environment) and 7.2.1 (Changes to atmospheric, sound and light environments)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 11.2.1.3.2*

Comments and advice

Table 11.28 of the EIS refers to Health Canada’s “recommended targets” for noise. Health Canada wishes to emphasize that an increase in the percentage of people who are highly annoyed (%HA) of less than 6.5% is not a “recommended target,” nor is it a federal noise limit. It is an indicator for assessing the significance of noise effects. An increase of more than 6.5% of %HA generally corresponds to a significant noise impact.

Comment 1-38 Noise target values

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, Sections 7.1.1 (Atmospheric, Light and Noise Environment) and 7.2.1 (Changes to atmospheric, sound and light environments).*



Tetra Tech, February 2023. Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 11.2.1.3.2.1 and 11.2.1.3.2.

Comments and advice

In sections 11.2.1.3.2.1 and 11.2.1.3.2.2 of the EIS, in assessing noise impacts, the proponent considered municipal regulations as well as two indicators suggested by Health Canada: interference with understanding someone speaking and the calculation of the %HA. The assessment does not appear to have considered the [Lignes directrices relativement aux niveaux sonores provenant d'un chantier de construction industriel](#) (MELCC, 2020) during the construction phase. Health Canada recommends that the proponent consider the most recent version of these guidelines from the MELCC as part of the assessment of noise effects and as objectives in the noise monitoring plan during the construction phase.



Archaeological Resources

Information requests directed to the proponent

IAAC-1-85 Federal lands

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.1.10. (Other changes to the environment caused by the project) and 7.3.5. (Other valued components that may be affected by the project)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, chapter 4*

Context

There are multiple property titles (terrestrial and underwater) within the project footprint, and federal land is not clearly identified.

As the expert federal department on archaeology, Parks Canada advises other federal departments on archaeological matters. Parks Canada can only advise on federal land.

The regulatory practice of archaeology varies depending on whether it is carried out on federal or provincial land. If archaeological work takes place on provincial land, the provincial authorities must be consulted.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) clearly identify the boundaries, both terrestrial and underwater, of federal land as defined in CEAA 2012.

IAAC-1-86 Archaeological collections management

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.3.4 (Indigenous peoples) and 7.3.5 (Other valued components that may be affected by the project)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, different sections of chapter 13*

Context

There are multiple property titles (terrestrial and underwater) within the project footprint, and federal land is not clearly identified.

Federal departments are responsible for managing archaeological collections on their property in accordance with the provisions of the *Treasury Board Directive on Management of Materiel* and the *Guide to the Management of Movable Heritage Assets*. If this responsibility is not part of a department's mandate, or if a department does not have the capacity to maintain an archaeological collection, Treasury Board requires that it find a way to fulfill this responsibility. The federal custodian, in consultation with a specialist, must find an appropriate repository for the collection arising from each project and negotiate an agreement for the care of that collection, preferably before the archaeological work begins.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) describe and demonstrate how the proponent will ensure archaeological documentation, the conservation of collections and their management, whether these resources emanate from provincial or federal land, terrestrial or underwater, considering that the terms and conditions differ.

IAAC-1-87 Underwater archaeological assessment

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.1.9. (Indigenous peoples) and 7.1.11. (Human environment)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, different sections of chapter 13*

Context

The Archaeological Potential Assessment in Appendix 13.2 of the EIS superficially covers the underwater view of the area. There are several elements missing or in need of further investigation.

In its letter to the proponent dated November 3, 2022, the Agency requested that this deficiency be addressed. Chapter 13 of the revised EIS of February 2023 specifies that the proponent will carry out an underwater archaeological assessment in four phases (potential assessment, survey, archaeological impact study and intervention plan). It is indicated that this assessment will be submitted to the Agency when completed, i.e., around September 2023.

Since information on the nature of the archaeological resources and recommendations for mitigation, monitoring and follow-up are lacking at this stage, Parks Canada wishes to make it clear that it is not in a position to provide expert advice because of missing or incomplete data.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) provide the Agency with an underwater archaeological assessment as soon as it is available and attach it to the response document to this information request;
- B) describe how it will ensure the quality of the underwater potential study to effectively assess that potential;



- C) identify and describe the nature of the underwater archaeological remains in the construction area; and
- D) evaluate the predicted effects on underwater archaeological resources, identify and describe the mitigation measures the proponent would implement to minimize the predicted effects on these resources (including in situ documentation, excavation, and enhancement to offset potential destruction), and evaluate the residual effects.

IAAC-1-88 Potential cultural value of the existing dam-bridge

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.1.9. (Indigenous peoples) and 7.1.11 (Human environment)*

Context

In April 2023, the Agency held a public consultation session on the EIS where a representative of the Ontario provincial government explained that, during the environmental assessment of the Ontario Timiskaming Dam-Bridge Replacement Project, a heritage impact assessment was conducted. This 2014 study concluded that the Quebec side of the dam-bridge and the buildings associated with the dam had cultural heritage value or interest.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) specify whether a study to establish the cultural heritage value of the existing dam-bridge has been carried out and, if so, provide a summary of the findings of this study.

Comments and advice for the proponent

Comment 1-39 Heritage policy terminologies

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.6.1 (Effects of potential accidents or malfunctions)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, Summary, sections 2 and 6.15*

Comments and advice

In section 2 of the EIS Summary, in Table 2.1, the proponent compares the project location options by issue. The Ontario Ministry of Citizenship and Multiculturalism (MCM) suggests a revision of the terminology in the Societal Issues section. It notes that the archaeology criterion should be described as follows:

- Physical and Cultural Heritage – Archaeological Resources and Areas of Archaeological potential
- Physical and Cultural Heritage – Built Heritage Resources and Cultural and Heritage Landscapes

MCM believes that the terminology and framework in section 6.15 of the Summary should be aligned with the federal environmental assessment process and associated guidance (e.g. [Technical Guidance for Assessing Physical and Cultural Heritage or any Structure, Site or Thing](#)).

MCM recommends that the terminology in section 6.15 be revised to adequately reflect the local policies. The proponent is instructed to:

- replace “follow the protocols outlined by the Ministry of Tourism and Culture of Ontario” with “comply with the *Ontario Heritage Act*”;
- in section 6.15 in the table “Mitigation measures for potential destruction of archaeological resources (on Long Sault Island),” reword numbers 1 and 2as follows:
 - 1. Halt activities if any archaeological resources are discovered, protect the site, notify Indigenous groups and the Ontario Ministry of Citizenship and Multiculturalism.
 - 2. Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out an archaeological assessment, in compliance with Section 48(1) of the *Ontario Heritage Act*. The Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33 requires that any person discovering human remains must cease all activities immediately and notify the police or coroner. If the coroner does not suspect foul play in the disposition of the remains, in accordance with Ontario Regulation 30/11 the coroner shall notify the Registrar, Ontario Ministry of Public and Business Service Delivery, which administers provisions of that Act related to burial sites. In situations where human remains are associated with archaeological resources, the Ministry of Citizenship and Multiculturalism should also be notified (at archaeology@ontario.ca) to ensure that the archaeological site is not subject to unlicensed alterations which would be a contravention of the *Ontario Heritage Act*.
- in section 6.15 in the table “Mitigation measures for potential destruction of marine archaeological artefacts,” reword the terminology in number 2 as follows:
 - 2. Comply with the *Ontario Heritage Act* and/or Quebec Standards and Guidelines for Consultant Archaeologists

Comment 1-40 Adding archaeological studies to the Ontario Register

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.6.1 (Effects of potential accidents or malfunctions)*



Tetra Tech, February 2023. Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, Summary, section 6.15

Comments and advice

In section 6.15 of the EIS Summary, the proponent shares a summary of the archaeological impact assessment. Please note that MCM asks that the archaeological studies be added to the Ontario Public Register of Archaeological Reports when completed. It is requested that the following analyses be added to the Ontario Register:

- Timiskaming Dam Complex: Québec dam replacement. Archeological Potential assessment Submitted to Tetra Tech inc. by Archéotec inc. (2017).
- The forthcoming Marine Archaeological Assessment 2023.



Accidents or Failures

Information requests directed to the proponent

IAAC-1-89 Storage of petroleum products

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.6.1 (Effects of potential accidents or malfunctions)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 15.2*

Context

In section 15.2, the proponent refers to fuel storage systems and containers.

However, no information on the amount and type of petroleum product that would be stored is presented. This information is needed to determine whether an emergency response plan, in line with environmental emergency requirements, would be required.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) provide details of the quantity and type of petroleum products the proponent intends to store on the project site.

IAAC-1-90 Risk scenario – earthquakes

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.6.1 (Effects of potential accidents or malfunctions)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 15.1*

Context

Table 15.1 indicates that, for the operation phase of the proposed dam-bridge, the probability of an earthquake occurring is low. This probability is not presented for the construction phase. Earthquakes that could cause the dam-bridge to fail must be considered in all phases of the project.



The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) define what “low” means, given the estimated 75-year operating period of the proposed dam-bridge and the proximity of potentially damaging earthquakes in the vicinity over the past 90 years; and
- B) although it may be negligible, indicate whether the probability of an earthquake occurring during the construction phase has been assessed. If so, provide details of this assessment.

IAAC-1-91 Valve opening system – risk of failure

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.6.1 (Effects of potential accidents or malfunctions)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 15.1*

Context

In Table 15.1, the EIS presents various risks of accidents and failures, as well as protection and mitigation measures to address these risks. However, the EIS does not address the risks of a mechanical failure in the event of a power outage for the valve opening system.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) specify whether there is a risk of failure of the mechanical valve opening system in the event of a power failure and what measures would be used to prevent such a failure.

Comments and advice for the proponent

Comment 1-41 Project-specific emergency response plan

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.6.1 (Effects of potential accidents or malfunctions)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 11.2.2.2.2, 11.2.3.3.2.3, 15.1, 15.2 and 15.3*

Comments and advice

The project-specific emergency response plan was not presented in the EIS. According to sections 11.2.2.2.2 and 11.2.3.3.2.3, the plan would be developed in cooperation between Public Services and Procurement Canada, Tetra Tech and the contractor responsible for the construction. In Table 15.1 of the EIS, the



emergency response plan is mentioned several times, and in section 15.2, it is specified that the plan would be reviewed annually, and that training would be provided to responders.

The proponent must note that it must develop, prior to each phase of the project and in consultation with the competent authorities, an accident or malfunction response plan applicable to each phase of the project. This plan may be enhanced with consultation activities and must include, but not be limited to:

- consideration for hazardous materials that would be stored on the project site;
- consideration of the impacts of different potential accidents or failure scenarios on the health, traditional food (fish, vegetation, etc.) and safety of the population;
- definition of the communication mechanisms between the stakeholders listed in section 15.3.1 of the EIS (proponent, local emergency responders, communities, etc.) and include an updated list of their contact details.

Comment 1-42 Consequences in the event of a dam-bridge failure

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.6.1 (Effects of potential accidents or malfunctions)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 15.1*

Comments and advice

NRCan is of the opinion that all consequences that could arise from the failure of the dam-bridge due to an earthquake (or other event) should be identified in Table 15.1. It is recommended that the following two additional consequences be considered (but not limited to):

- reduced water storage for hydroelectric dams on the Ottawa River
- loss of access between Timiskaming and North Bay (the alternative land route is 304 kilometres instead of 66 kilometres)



Effects of the Environment on the Project

Information requests directed to the proponent

IAAC-1-92 Seismic events

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.6.2 (Effects of the environment on the project)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, Table 15.1 and section 16.2.6*

Context

According to section 16.2.6 of the EIS, the design values defined in the National Building Code of Canada (NBCC, 2015) for earthquakes have been used to design the dam structures to ensure that the dam is capable of resisting to potential earthquakes in the area. It is also stated in Table 15.1 that the updated 2020 version (or latest version) will be used for the final design.

NRCan notes that the Canadian Dam Association's (CDA) Dam Safety Guidelines (CDA, 2013) require an assessment of the consequence level of the dam. This assessment is not presented in the EIS.

NRCan explains that the 2-per-cent probability of exceedance over 50 years in the NBCC would be equivalent to some level of consequence of the CDA recommendations. In addition, NRCan notes that the 2020 NBCC design values were published in March 2022 and are expected to be adopted by the various jurisdictions over the next few years.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) indicate whether an assessment of the consequence level, in accordance with the CDA Dam Safety Guidelines (2013), has been carried out for the Quebec Timiskaming Dam-Bridge; and
- B) if applicable, indicate the assessed consequence level for the dam-bridge.

IAAC-1-93 Integration of climate change into the design of the dam

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.6.1 (Effects of potential accidents or malfunctions) and 7.6.2 (Effects of the environment on the project)*



Tetra Tech, February 2023. Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 9, 15.1 and 16.2.1

Context

In Table 15.1, the EIS identifies major flooding as a risk to the operation of the new dam and classifies major flooding as having a low probability of occurrence, but indicates that it could impact water quality, aquatic wildlife, and associated uses.

Section 16.2.1 explains that the dam design would follow the CDA Dam Safety Guidelines, which specify that the reference flood used in design calculations must be for a 1000-year flood plus 1/3 of the Probable Maximum Flood (PMF). In addition, it is stated that the design would also take into account climate change, since the flow rate for a 1:1,000-year return period flood is 5,281.8 m³/second, whereas the design flow rate is 6,532.5 m³/second. Also, the use of mechanised gates instead of wooden beams (the system currently used) would allow for better responsiveness to specific events.

Section 16.2.1 mentions that details of the design flow can be found in section 9, but these details are not included.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) provide details of how the effects of climate change have been incorporated into the design of the dam, including changes in seasonal and annual rainfall totals, and changes in the magnitude and/or frequency of extreme events;
- B) consider how these potential changes will influence design values such as PMP (Probable Maximum Precipitation) and PMF (Probable Maximum Flood), in addition to other possible climate-related effects; and
- C) explain how climate change has been taken into account – for example, does the proponent consider that the CDA Dam Safety Guidelines it cites are sufficient to take into account the effects of climate change? If so, provide justification for this approach.



Cumulative Effects

Information requests directed to the proponent

IAAC-1-94 General – cumulative effects assessment

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.6.3 (Cumulative effects assessment)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 17*

Context

Section 17.4.1.1 of the EIS states that a cumulative effects assessment is not required for each valued component (VC) discussed in Chapters 11 to 14 for which the assessment resulted in a non-significant effect.

It is important to note that a non-significant effect does not constitute the absence of a residual effect on a VC. Moreover, regardless of the predicted significance of those effects, an assessment of cumulative effects caused by the project and/or other past, present, and reasonably foreseeable future physical activities must be conducted on all VCs for which residual environmental effects of the project remain after the implementation of mitigation measures.

Furthermore, as noted in section 17.4.1 of the EIS and in the Agency's technical guidance (*Technical Guidance for Assessing Cumulative Environmental Effects under the Canadian Environmental Assessment Act (2012)*), in order to determine the scope of the cumulative effects assessment, four elements need to be identified: VCs, spatial boundaries, temporal boundaries and the interaction between the residual effects of the designated project and those of other physical activities. The four scoping elements are complementary.

Some VCs were excluded from the cumulative effects assessment based on the assumption that there will be no cumulative effects for these components because of the absence of other reasonably foreseeable activities occurring in the same area at the same time. The Agency considers this to be an error in the interpretation of its technical guidance on scoping.

Physical activities are generally not the primary consideration in determining spatial boundaries for cumulative effects assessment. Spatial boundaries should be based on the geographic extent of the VC (which may be mobile), the area of influence of the project (effects), and the area of influence of other physical activities. Physical activities outside the spatial boundary may also affect a VC within the spatial boundary. The pathways of effects help to capture the causal relationship between the project, the chosen VC and other physical activities. The technical guidance provides more details on the elements of this paragraph.



A VC cannot be rejected on the basis that there are no other activities taking place at the same time. A VC that is already affected by past activities can be retained even if no non-project activities are planned in the future.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) review the list of VCs retained and excluded from the cumulative effects assessment, taking into account the context of this question and including any additional VCs whose effects were reassessed in the previous sections of the Information Request and for which residual environmental effects are predicted;
- B) review the “Rationale” justifications in Table 17.1 of the EIS to understand why a VC is or is not selected; and
- C) carry out the cumulative effects assessment of the newly selected VCs.

IAAC-1-95 Cumulative effects assessment – AOPFN

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.6.3 (Cumulative effects assessment)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 17*

Context

The AOPFN has identified a number of concerns regarding the cumulative effects assessment (Chapter 17). In particular, the AOPFN is concerned about the overlap of foreseeable activities with the project and access to travel on Algonquin lands and waters. The AOPFN does not agree that the original dam does not impede access, as the report notes historic portage routes that have been overloaded on Long Sault Island. The AOPFN mentions that any changes to the river or shoreline has impeded travel. The AOPFN also refers to the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) and the cumulative effects of foreseeable future projects.

With respect to mitigation measures, the AOPFN states that the section does not appear to provide specific mitigation measures for cumulative effects, but rather relies on project-specific mitigation in place prior to residual effects.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) specify whether and how projects outside the physical project area have been taken into account;
- B) demonstrate, to the extent possible, that foreseeable future projects would not impact on culture and heritage or traditional use and that measures are taken to avoid, minimize or offset potential impacts;
- C) confirm whether and how, to the extent possible, the shoreline of Long Sault Island has been physically altered over time; and
- D) specify how mitigation measures for cumulative effects have been identified.

IAAC-1-96 Cumulative effects assessment – SART

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.6.3 (Cumulative effects assessment)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 21*

Context

The Kebaowek, Wolf Lake and Timiskaming First Nations (SART) disagree with the reasoning in Chapter 21 of the EIS regarding the cumulative effects of the project: “[...] the Project is a replacement of infrastructure that has been present in the Ottawa River for over a century, it is a perpetuation of an historic effect on the Ottawa River. Therefore, the effects of the Project remain the same when taken on balance with the effects of other past, present or future projects.”

The dam-bridge replacement proposal favoured in the EIS creates a new footprint and additional loss of fish habitat (spawning). The proposed activities add additional stress to Lake Sturgeon and other populations of aquatic species in the watershed.

Lake Sturgeon, the largest freshwater species in the Ottawa River, have important spiritual and cultural ties to SART First Nations. When First Nations see that spawning numbers are declining from one study to the next, it indicates to them that the species is suffering from the cumulative effects caused by the dam replacement, its operations, and their effects on their life cycle and the overall aquatic ecosystem.

It is necessary to recognise the cumulative effects of fragmentation, flooding and hydrological alterations induced by dams. These are cumulative effects specific to this project that, adding to the historical cumulative effects.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) review the selection of indicators for the components valued by the Kebaowek, Wolf Lake and Timiskaming First Nations on:
 - i. Lake Sturgeon spawning habitats;
 - ii. Indigenous fishing; and
 - iii. the ability to exercise rights;
- B) review the rationale for why these VCs were or were not retained; and
- C) where appropriate, carry out the cumulative effects assessment of the selected components.

IAAC-1-97 Assessment of cumulative effects on Species at Risk

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2,*



sections 7.3.3 (Species at Risk) and 7.6.3 (Cumulative effects assessment)

Tetra Tech, February 2023. Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 17

Context

ECCC believes that each of the Species at Risk for which a residual effect is predicted (even if it is small) should be subject to a separate cumulative effects analysis, because each faces its own unique reality, threats and/or issues.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) provide a specific cumulative effects assessment for each Species at Risk that is present or likely to be present and for which the project is likely to cause a residual effect. The analysis should:
 - i. take into account information contained in relevant species recovery documents, including known threats to these species;
 - ii. provide an understanding of the residual effects of the project and predict how they are likely to combine with those of past, present and reasonably foreseeable physical activities, as well as the foreseeable effects of this combination; and
 - iii. consider the additional information provided in response to questions IAAC-1-58.

IAAC-1-98 Mercury levels in water – cumulative effects

References

CEAA, August 2018. Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.1.5 (Surface water), 7.3.1 (Fish and fish habitat) and 7.6.3 (Cumulative effects assessment)

Tetra Tech, February 2023. Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 17.5.1

Context

According to section 17.5.1.3 of the EIS, “Dam installation likely contributed to the increased water mercury levels and affected fish flesh in the past, but mercury levels have returned to pre-disturbance levels and the effect on fish flesh has faded.”

Although section 17.5.1.1 presents the analysis that led to this conclusion, the EIS does not provide any documentation or data to support the claim that mercury concentrations in water have returned to pre-dam-bridge levels.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) provide documentation or data to support the claim that mercury concentrations in the water have returned to pre-dam-bridge levels.



Comments and advice for the proponent

Comment 1-43 Table 17.1 – recommendation for changes

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.6.3 (Cumulative effects assessment)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 17.4.1*

Comments and advice

Table 17.1 of the EIS, under the section “Soil and water (erosion and sediments in water - SS)” states: “Suspended solids from other sources are considered in the fish habitat assessment.” The Kebaowek, Wolf Lake and Timiskaming First Nations (SART) recommend that this section should mention the worst-case possibility of sediment release in excess of the DFO threshold during the removal of the project cofferdam or of the contaminated soils identified by the Kitchi Sibi Technical Team in the vicinity of the project replacement site.

Regarding the “Water contaminants” section of Table 17.1 of the EIS, the proponent includes mercury as a contaminant. SART recommends that analysis should be conducted for all contaminants listed in the Camille Arbour report.

Comment 1-44 Cumulative effects – larval drift

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, section 7.6.3 (Cumulative effects assessment)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 17.2*

Comments and advice

The proponent indicates in Table 17.2 of the EIS, under the section “Species at risk (sturgeon, eel)”: “Lake Temiscaming upstream (up the Notre-Dame-du-Nord dam – centrale de la Première-Chute) to Ottawa River downstream up to Otto Holden Dam. For the migration barriers, the spatial boundary extends up to Carillon dam since it is the first dam in the downstream part of the Ottawa River that blocks the eel migration (main course of the river).” The Kebaowek, Wolf Lake and Timiskaming First Nations (SART) states that the project has a direct effect on larval drift. The SART communities demand that the proponent be responsible for the operational effects of the dam, as it is the dam operator. Multiple Lake Sturgeon spawning beds appear to be present, although little information is available on their success rates. Further discussion about larval drift



occurring outside the study area or the possibility that something else is impacting this life stage would be beneficial.



Monitoring and Follow-up Programs

Information requests directed to the proponent

IAAC-1-99 Monitoring and follow-up of pumped water upstream of the cofferdam (Phase 1)

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.2.2 (Changes to surface water), 7.4 (Mitigation measures) and 9 (Follow-up and monitoring programs)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 11.2.3.4.8*

Context

Section 11.2.3.4.8 of the EIS presents a measure that would avoid the discharge of turbid water during the construction phase by treating the pumped water before it is discharged to an aquatic environment. More information is needed on this measure to determine the effect of pumped water on the water quality of the receiving environment.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) indicate which applicable criteria, standard or guideline would be used as a threshold for managing pumped water to determine whether the water should be treated and explain what treatment would take place if it were exceeded; and
- B) if applicable, specify any management alternative of pumped water.

IAAC-1-100 Monitoring and tracking of SS, temperature, pH, metals and mercury

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.2.2 (Changes to surface water), 7.4 (Mitigation measures) and 9 (Follow-up and monitoring programs)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 7.1.2, 11.2.3.4 and 22.4*

Context

Section 22.4 of the EIS states that the project would use the same SS monitoring criteria suggested by DFO for the Champlain Bridge deconstruction project. ECCC is of the opinion that SS monitoring for the



Timiskaming Dam-Bridge project should be based on concrete recommendations or criteria rather than on an application example. ECCC recommends that the proponent consult the [Recommendations for the management of suspended solids \(SS\) during dredging activities](#).

The same section states that the monitored contaminants would include metals and mercury, and that mercury would be sampled weekly. It is not specified which other metals would be included in the monitoring and how often they would be analyzed.

It is also indicated that SS monitoring would be continuously maintained during installation and removal of the cofferdam as well as at the beginning of Phase 2, when half of the gates on the east side (Quebec) would be in operation. On the one hand, according to Figure 7.2, half of the gates on the west side would be open at the start of Phase 2. On the other hand, given the lack of information on whether some of the construction described at the start of Phase 1 would be undertaken in water (see question IAAC-1-18), it seems important that the monitoring period for SS include all construction that would be undertaken in water.

The duration of the monitoring program for temperature, pH, metals and mercury is not indicated. ECCC believes that this monitoring, particularly for mercury, should make it possible to verify whether, following the demolition of the existing dam-bridge, contaminants would be resuspended when the gates are reopened (Phase 4). ECCC believes that the demolition of the existing structure could expose sediments upstream of the old dam-bridge whose level of contamination is unknown and that these sediments could be resuspended when the gates are opened, particularly if explosives were to be used for the demolition.

Section 22.4 states that, when the SS exceed the targeted concentration levels at 100 metres downstream of the construction for more than six consecutive hours, construction would be suspended and measures to limit the suspension of sediments would be applied when construction resumes. On the one hand, there is no mention of alert thresholds that would be used in order to avoid reaching concentrations that could cause an effect on water quality (e.g. at 80% of the threshold value). On the other hand, the mitigation measures planned to limit the resuspension of sediments are not shared.

Finally, in section 11.2.3.4, it is stated that all water quality monitoring results would be compared to the CCME guidelines and Quebec's surface water quality criteria and that, in the event of non-compliance, mitigation measures would be implemented. However, in sections 11.2.3.4.1 and 22.4 the proponent does not present measures in the event that criteria or guidelines for metals or mercury are exceeded.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) for SS monitoring, specify the criteria or guidelines that will be used and give the reference;
- B) identify the metals that will be included in this monitoring and their frequency of analysis;
- C) specify which gates of the existing dam-bridge would be open at the start of Phase 2;
- D) describe the duration of the SS monitoring program to ensure that it covers the period of in-water construction and beyond (including the return to normal SS concentrations);
- E) characterize the sediments likely to be resuspended when the gates upstream of the structure due to be demolished are reopened in Phase 4. Specify the density and distribution of samples (including the number of surface and depth samples), the volume of sediment to be removed and the parameters to be analyzed;

- F) describe the duration of the monitoring program for temperature, pH, metals and mercury, particularly when the gates are reopened following the demolition of the existing dam-bridge;
- G) determine whether threshold values (alert thresholds) for SS would be used in order to avoid reaching concentrations that could cause an effect on the surrounding environment, and present these threshold values, if applicable;
- H) present the mitigation measures that would be implemented to limit sediment suspension during construction when alert thresholds are exceeded or when management criteria are imminent, as well as when construction resumes; and
- I) present the mitigation measures for water quality monitoring of metals or mercury that would be implemented in case of criteria or guidelines being exceeded.

IAAC-1-101 PH monitoring during demolition – upstream part

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.2.2 (Changes to surface water), 7.4 (Mitigation measures) and 9 (Follow-up and monitoring programs)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, section 22.4*

Context

Section 22.4 of the EIS states that the water between the new dam-bridge and the turbidity curtain during the demolition of the existing structure could be treated to lower its pH if the pH were to exceed 9, and that the product and the methodology used would be discussed with Indigenous peoples.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) specify the product and describe the methodology that would be used to lower the pH of the water between the new dam-bridge and the turbidity curtain during the demolition of the existing structure, should the pH exceed 9.

IAAC-1-102 Soil monitoring and follow-up program

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, sections 7.1.3 (Topography, terrestrial environments and soil) and 9 (Follow-up and monitoring programs)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, sections 11.1.9.3, 22 and 23*



Context

Section 11.1.9.3 of the EIS states that , if a contaminated site or contaminated soils are found on Long Sault Island, environmental monitoring during construction will identify any new contamination and the actions to take at the appropriate time. However, sections 22 and 23 of the EIS do not describe any monitoring or follow-up in relation to soils during construction.

The Agency instructs the proponent (Public Services and Procurement Canada) to:

- A) detail the soil monitoring and follow-up program referred to in section 11.1.9.3 and when and how it will be implemented to identify any new contaminations. This should include, but not be limited to, the number and location of sampling sites, the methodology (frequency, duration, etc.), the contaminants analyzed, the applicable quality criteria and the soil management plan in the event of criteria being exceeded.

Comments and advice for the proponent

Comment 1-45 Monitoring and follow-up programs

References

CEAA, August 2018. *Guidelines for the Preparation of an Environmental Impact Statement, Part 2, Sections 9.1 (Follow-up program) and 9.2 (Monitoring program)*

Tetra Tech, February 2023. *Timiskaming Dam-Bridge of Quebec Replacement Project (Quebec) Environmental Impact Statement, Summary*

Comments and advice

Upon reading the EIS Summary submitted by the project proponent, the TCO is of the opinion that the environmental effects during the replacement of the Timiskaming Dam-Bridge appear to be well controlled by the mitigation measures described in the document. However, it is undeniable that the monitoring and follow-up of the measures put in place will be an important aspect in ensuring their effectiveness, since the consequences on the environment may be quite different if failures occur in the deployment and application of the mitigation measures.

Annexes

Annex I: Periods for conducting freshwater mussel surveys and relocation efforts

Inventaires

Les niveaux d'eau élevés pourraient retarder le début des inventaires ou obliger la suspension des activités dans le cours d'eau. Les inventaires sont inefficaces lors des crues ou immédiatement après. De plus, les conditions peuvent être non sécuritaires. Les basses eaux constituent le meilleur moment pour la collecte des moules, lorsque la vitesse de courant et la turbidité sont faibles. Lors des inventaires, il faut également tenir compte du seuil de température minimum lors des activités d'enfouissement. Les moules ne sont pas des espèces capables de thermorégulation. Elles ne doivent pas être perturbées lors des périodes où les tissus risquent le gel en étant exposés à de basses températures puisque cela pourrait accroître la vulnérabilité des moules à la prédation ou le risque qu'elles soient emportées en aval en raison de leurs capacités d'ancrage plus lentes. Certaines espèces de moules indigènes s'enfouissent plus profondément pendant les périodes de froid, ce qui réduit la probabilité de la détection.

L'échantillonnage de moules indigènes vivantes peut être effectué entre le 1er juin et le 30 septembre et seulement lorsque la température de l'eau est supérieure à 16° C. En deçà de cette température, la manipulation des moules est interdite. Les propositions d'activités en dehors de cette période, ou toute restriction liée à la température de l'eau, doivent être approuvées par le MFFP. Il faut être conscients que la période d'échantillonnage doit prévoir un délai pour que les moules puissent s'enfouir de nouveau.

Travaux de relocalisation et suivi

L'activité d'enfouissement des moules diminue grandement sous les 16°C et l'effort de relocalisation doit être déployé au moins un mois avant la baisse de la température de l'eau sous les 16°C. Le moment auquel chute la température de l'eau sous les 16°C varie selon le cours d'eau ainsi que d'une année à l'autre. Il faut tenir compte d'une période pour l'enfouissement des moules. En général, la température de l'eau en surface atteint les 16°C entre la mi-septembre et la fin septembre. Ainsi, la relocalisation doit être achevée entre la mi-août et la fin d'août, ce qui signifie que l'activité de suivi peut être réalisée entre la mi-septembre et la fin septembre.

Tiré et adapté de :

Mackie, G., Morris, T.J., et Ming, D. (2008). Protocole pour la détection et détournement des espèces de moules d'eau douce en péril en Ontario et des Grands Lacs. Rapport manuscrit canadien des Sciences halieutiques et aquatiques. 2790 : vi +50 p.

Le 6 mai 2019

Direction de l'expertise sur la faune aquatique
Ministère des Forêts, de la Faune et des Parcs

Annex II: Barn and White-fronted Swallows (individuals and typical nests)

Hirondelles rustique et à front blanc



Mesure de protection



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