



Adding Capacity to Sainte-Marguerite-3 Generating Station

Initial project description
Part F – Summary

March 2025



Adding Capacity to Sainte-Marguerite-3 Generating Station

INITIAL PROJECT DESCRIPTION

PART F – SUMMARY

**Hydro-Québec
March 2025**

This document is a summary of Parts A to E of the initial description of the project submitted to the Impact Assessment Agency of Canada to initiate the preparatory phase of the impact assessment process under the *Impact Assessment Act*.

Section 3 of the *Information and Management of Time Limits Regulations* and section 25 of Schedule 1 of said regulations require that the initial project description include a plain-language summary of the information required under sections 1 to 24 of the Schedule.

TABLE OF CONTENTS

Initialisms and acronyms.....	v
Glossary.....	vi
PART F – Summary.....	1
1 Project name, type and proposed location	1
2 Information about the proponent.....	1
3 Engagement activities with authorities and stakeholders	3
3.1 Steps taken with authorities	3
3.2 Steps taken with stakeholders	3
3.2.1 Preliminary consultation	3
3.2.2 Main opinions and concerns expressed	4
3.2.3 Continued public participation process.....	5
4 Engagement activities with Indigenous groups.....	5
4.1 Indigenous communities likely to be concerned	5
4.2 Participation and consultation process.....	5
4.3 Main concerns expressed	6
4.4 Continued consultation and participation process	7
5 Regional studies or plans	7
6 Strategic assessments under section 95 of the IAA	8
7 Purpose, need for and potential benefits of the project	8
8 Applicable provisions of the <i>Physical Activities Regulations</i>	9
9 Operations, infrastructures and structures.....	9
9.1 Description of the existing facilities	9
9.2 Permanent infrastructures and planned activities.....	11
9.2.1 Addition of a third generating unit.....	11
9.2.2 Operation of the generating station with the added capacity.....	11
9.3 Temporary installations and activities.....	13
9.3.1 Temporary construction site facilities	13
9.3.2 Workcamp.....	15
9.3.3 Operation of the generating station during construction.....	15
10 Maximum generating capacity.....	15
11 Project schedule	16
12 Other options and alternatives to the project	17
12.1 Other options to complete the project to add capacity	17
12.2 Alternatives to the project.....	17
13 Description of the proposed site	17
13.1 Project site	17
13.2 Proximity to the built environment and local communities.....	18
13.3 Proximity to Indigenous lands	18
14 Summary description of the biophysical environment.....	18
14.1 Study area and sources of information.....	18
14.2 Physical environment.....	19
14.3 Biological environment.....	20

15	Brief description of the regional health, social and economic context.....	22
15.1	Study area and sources of information.....	22
15.2	Administrative context and infrastructure	22
15.3	Historical and archaeological context.....	22
15.4	Indigenous human environment	23
15.4.1	Population, health, social and economic context.....	23
15.4.2	Land use	23
15.5	Non-Indigenous human environment	24
15.5.1	Population, health, social and economic context.....	24
15.5.2	Land use	25
16	Federal financial support	25
17	Federal lands.....	26
18	Bodies with powers to assess environmental effects.....	26
19	Potential changes to environmental components under federal jurisdiction	26
19.1	Fish and fish habitats	27
19.2	Aquatic species as defined by the Species at Risk Act (SARA)	27
19.3	Migratory birds	27
20	Environmental changes on federal lands.....	28
21	Potential impact of environmental changes on indigenous communities.....	28
21.1	Natural heritage and current use of land and resources for traditional purposes	28
21.2	Archaeology	29
22	Potential changes to the health, social or economic conditions of indigenous peoples	29
23	Greenhouse gas emissions and climate change	29
24	Waste and other emissions	30
	Appendix A – List of stakeholders	31

Tables

3-1	Main concerns expressed by non-Indigenous stakeholders at the preliminary consultation stage.....	4
4-1	Main concerns expressed by representatives of the Innu communities affected by the project	6
9-1	Technical specifications of Sainte-Marguerite-3 generating station before and after the addition of capacity	13
11-1	Main project phases	16

Photos

9-1	Sainte-Marguerite-3 hydropower development – KP 90.....	10
9-2	Sainte-Marguerite-3 hydropower development – KP 76.....	10

Maps

1-1	Project location.....	2
9-1	Main structures in the vicinity of Sainte-Marguerite-3 generating station	12
9-2	Potential sites under study for temporary construction site facilities and a workcamp	14
A	Biophysical and human environment (pocket insert)	

INITIALISMS AND ACRONYMS

ATSR	Association des trappeurs de Sept-Rivières [Sept-Rivières trappers association]
CAR	Regional administrative conference
CCIB	Canadian Council for Indigenous Business
CCSIUM	Chambre de commerce de Sept-Îles Uashat mak Mani-utenam [Sept-Îles chamber of commerce]
CMHC	Canadian Mortgage and Housing Corporation
CPESI	Corporation de protection de l'environnement de Sept-Îles [Sept-Îles environmental protection corporation]
CRE	Conseil régional de l'environnement [Regional environment council]
DESI	Développement économique Sept-Îles [Sept-Îles economic development organization]
DFO	Fisheries and Oceans Canada
ECCC	Environment and Climate Change Canada
EIA	Environmental impact assessment
EQA	Environment Quality Act
ERCSQ	Équipe de rétablissement des chauves-souris du Québec [Québec bat recovery team]
EROPQ	Équipe de rétablissement des oiseaux de proie du Québec [Québec bird of prey recovery team]
GDP	Gross domestic product
IAA	Impact Assessment Act
IAAC	Impact Assessment Agency of Canada
IBA	Impact and benefit agreements
IOC	Iron Ore Company of Canada
ISQ	Institut de la statistique du Québec [Québec government statistics institute]
ITUM	Innu TakuaiKAN Uashat mak Mani-utenam
KP	Kilometre point on river
MEIE	Ministère de l'Économie, de l'Innovation et de l'Énergie [Québec department of the economy, innovation and energy]
MELCCFP	Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs [Québec department of the environment, the fight against climate change, wildlife and parks]
MRC	Municipalité régionale de comté [regional county municipality]
MRNF	Ministère des Ressources naturelles et des Forêts [Québec department of natural resources and forests]
MSP	Ministère de la Sécurité publique [Québec department of public safety]
MSSS	Ministère de la Santé et des services sociaux [Québec department of health and social services]
MTMD	Ministère des Transports et de la Mobilité durable [Québec department of transportation and sustainable mobility]
MW	Megawatt
OBVD	Organisme de bassins versants Duplessis [Duplessis watershed organization]
PATP	Plan d'affectation du territoire public [public land use plan]
PRDTP	Plan régional de développement du territoire public [regional public land development plan]
RGZCN	Regroupement des gestionnaires de zecs de la Côte-Nord [association of Côte-Nord ZEC managers]
SARA	Species at Risk Act
SEDUM	Société de développement économique Uashat mak Mani-utenam [Uashat mak Mani-utenam economic development corporation]
SÉPAQ	Société des établissements de plein air du Québec [Commission of Québec outdoor establishments]
SRPNI	Secrétariat aux relations avec les Premières Nations et les Inuits [Secretariat of relations with the First Nations and the Inuit]
TLGIRT	Integrated resource and land management working groups
TWh	Terawatthour
UGAF	Unité de gestion des animaux à fourrure [fur-bearing animal management units]
ZEC	Zone d'exploitation contrôlée [controlled harvesting zone]
ZIP	Zone d'intervention prioritaire [area of prime concern]

GLOSSARY

active storage: The volume of water contained between the maximum and minimum operating level. The volume of water that can be stored in a reservoir that can be used to generate energy.

busway: Raceway consisting of metal troughing (including elbows, tees, crosses, in addition to straight runs) containing conductors, the conductors being supported on insulators. These metal reinforcements protect structures from erosion or impacts.

chute: Part of a spillway that channels water downstream of the structure to limit erosion.

design flow: Flow capacity of hydraulic equipment.

draft-design: Initial phase of managing a project during which ideas and concepts are explored and defined before the detailed design phase and project execution. The draft-design phase is used to clarify project goals, establish a list of stakeholders, assess potential risks and determine feasibility.

drawdown: Variation of the level of a reservoir or river (either through a rise or fall). Magnitude of this variation.

fetch: The distance along the surface of a reservoir over which wind can generate waves that strike the dam or the shore. Wave formation is influenced by the distance along the surface of a body of water over which wind blows unhindered by obstacles.

forebay: Part of a river, reservoir or impoundment immediately preceding (upstream from) a hydraulic structure.

Francis turbine generating unit: Reaction turbine equipped with a Francis runner. Invented by James B. Francis, this type of hydraulic turbine is used in hydroelectric generating stations.

generating unit: A generator consisting of an alternator driven by a hydraulic turbine. A generating unit acts like the engine in a generating station. It is divided into two parts: the turbine, which transforms hydraulic energy into mechanical energy, and the alternator, which transforms mechanical energy into electrical energy.

head: Difference in level between two sections of a river or a conduit.

headrace tunnel: Tunnel bored through solid rock, and either lined with concrete or not, that connects the water intake to the penstocks via a dispatcher. This tunnel carries water to the turbines of a hydroelectric generating station.

headrace: Steel conduit that directs water from the water intake to the penstocks via a dispatcher.

installed capacity: Total rated capacity that can be supplied by a facility's generating equipment. Maximum generating capacity of an electric generating station.

peak: Period of high demand for electricity.

penstock: Conduit that connects the water intake or headrace tunnel to a turbine scroll case.

pumped-storage generating station: Type of hydroelectric generating station that stores energy by pumping water into a higher reservoir during periods of low demand, which it will release to generate electricity during periods of high demand.

silt and clay: Type of soil composed of silt and clay that is often found in alluvial zones.

spherical valve: Head gate composed of a spherical body inside which is a rotating spherical packer with a cylindrical hole the size of the scroll case's diameter. This type of gate is used to control water flow in the penstocks.

spillway: Component of a control structure that releases flood waters downstream. The spillway lets excess water flow out of a reservoir to avoid flooding.

surge tank: A storage space located at the juncture between a headrace tunnel or conduit and a dispatcher that leads to the penstocks. The tank stores the volume of water required to achieve hydraulic balancing during sudden variations in the penstock's flow conditions. This vertical structure therefore stabilizes water pressure in the penstocks.

tailbay: Part of a river that receives the water that has been through a hydraulic structure.

thermal erosion: Degradation of materials due to temperature variations.

water reserve: Amount of water available in a reservoir for generating energy.

PART F – Summary

1 Project name, type and proposed location

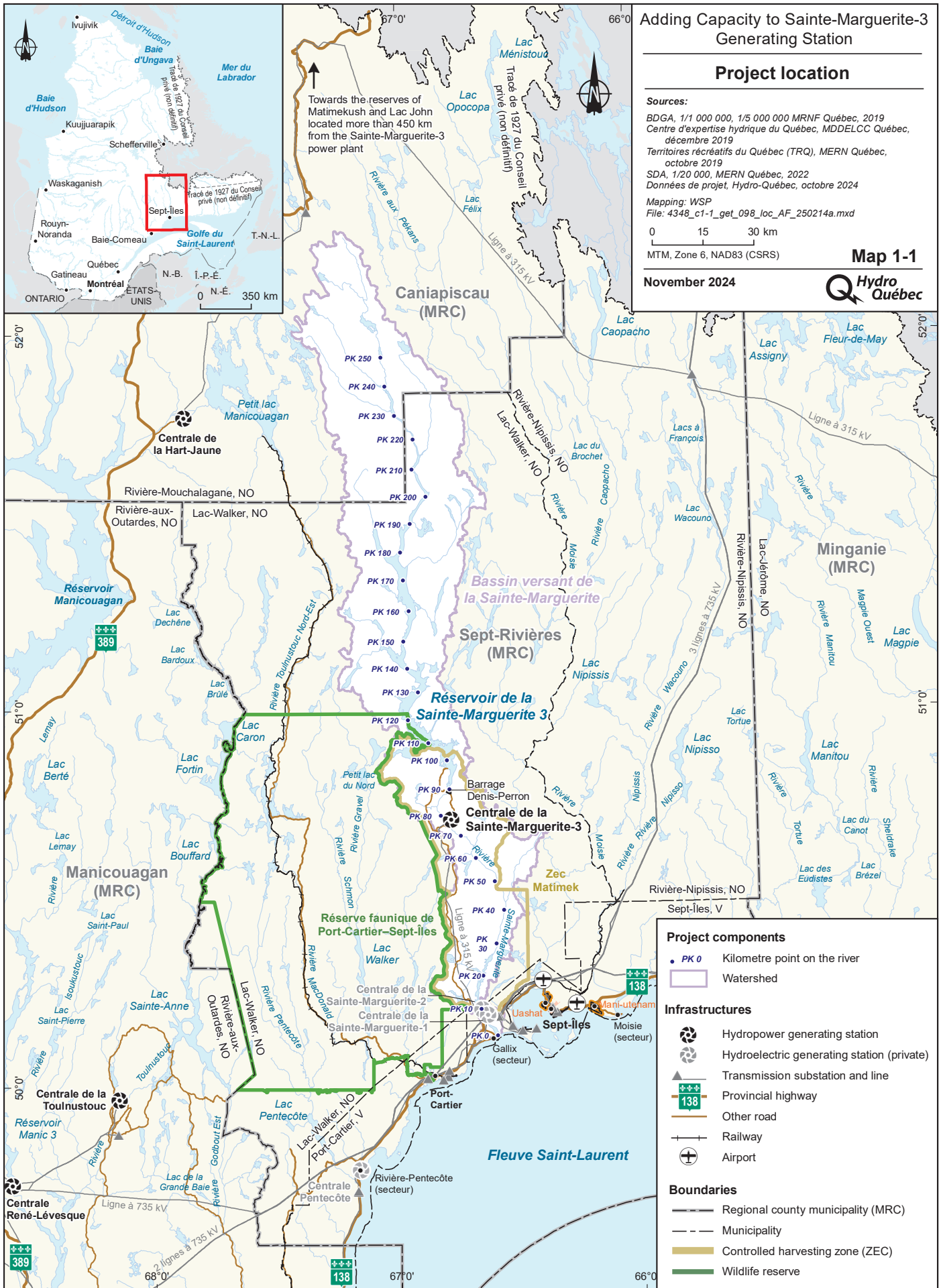
Project title	Adding capacity to Sainte-Marguerite-3 generating station
Type, sector	Hydropower
Proposed location	Sainte-Marguerite-3 generating station is located in Québec's Côte-Nord administrative region (09), within the regional county municipality (MRC) of Sept-Rivières, about 105 km by road from the city of Sept-Îles and the town of Port-Cartier.

Hydro-Québec plans to add a third generating unit with a capacity of at least 440 megawatts (MW) to Sainte-Marguerite-3 generating station to increase its installed capacity. Sainte-Marguerite-3 generating station was built with a view to the possible addition of a third generating unit (see map 1-1).

This project falls under the strategies laid out in Hydro-Québec's *Action Plan 2035 – Towards a decarbonized and prosperous Québec* (see Chapter 7). The project is subject to the environmental and social impact assessment and review procedure under Title I of the Québec *Environment Quality Act* (EQA).

2 Information about the proponent

Hydro-Québec is a government corporation whose sole shareholder is the Québec government. It is responsible for distributing and transmitting the province's electricity and generating most of its electricity supply. Hydro-Québec has a wealth of experience that it applies to generating clean electricity, with respect for the physical, biological and human environment.



Document for information purposes only. For any other use, please contact Géomatique at Hydro-Québec.

3 Engagement activities with authorities and stakeholders

3.1 Steps taken with authorities

Hydro-Québec has held meetings with the Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs (MELCCFP), which manages the province's environmental impact assessment and review procedure. We also held meetings with the Impact Assessment Agency of Canada (IAAC) before filing this initial project description. Meetings will continue to be held throughout the environmental assessment process for the project with the authorities concerned and expert departments that may be called on to intervene as part of the assessment.

3.2 Steps taken with stakeholders

Hydro-Québec has taken the first steps in its public participation process, which will give rise to a host of communication activities throughout the technical and environmental studies to be conducted for the project.

The stakeholders that are known at this stage of the project are listed in Appendix A. All the activities presented in Chapter 3 concern both the non-Indigenous and Indigenous communities. The steps taken specifically with local stakeholders from Indigenous communities, i.e., elected officials, representatives, organizations and residents, are covered in Chapter 4.

3.2.1 Preliminary consultation

The first public participation stage, or the consultation process preliminary to the project's development, began in February 2024. It consists in holding information sessions and consultation activities with the local stakeholders that are the most directly concerned.

Hydro-Québec's presentations at these events included a description of the existing facilities the preliminary version of the project, the environmental assessment process, the contemplated work schedule and the next steps in the project's development. All these activities were held in person with the stakeholders between February and October 2024. Local stakeholders were also given guided tours of Sainte-Marguerite-3 generating station in September 2024. Fourteen stakeholder representatives took part in thematic meetings, eight went on the tour of the facilities and three were given information on the project.

Further to initial discussions with community representatives, Hydro-Québec put in place several other initiatives aimed at informing the general public from May 2024 onwards: We set up a project-specific website, an Info-Project line, a newsletter and an online survey, we gave a webinar, and we held an open house event in Sept-Îles on December 2, 2024.

3.2.2 Main opinions and concerns expressed

At the preliminary consultation stage, some non-Indigenous stakeholders voiced concerns. The main ones are summarized in Table 3-1. The main concerns raised by Indigenous stakeholders are presented in section 4.3. All concerns will be addressed during the provincial impact assessment process.¹

Table 3-1 – Main concerns expressed by non-Indigenous stakeholders at the preliminary consultation stage

Themes	Concerns
Aquatic environment	Stability of the ice cover on Sainte-Marguerite 2 reservoir: loss of access for snowmobiles and winter recreational activities
	Variation of water levels in Sainte-Marguerite 2 reservoir: safe navigation on the reservoir
	Variation in water levels in the stretch of river downstream of the generating station: loss of access to a camp
	Flow variations in Rivière Sainte-Marguerite: increased erosion of banks in the vicinity of the Flèche de Gallix
	Partial diversion of Pékans and Carheil rivers ^a
Biological environment	Increased pressure on wildlife resources in the Matimek ZEC due to the presence of workers
Construction phase	Worker accommodations: workcamp and community housing capacity
	Increased traffic and closures on Highway 138 and Route Denis-Perron due to unusual transportation needs and the movement of workers
Energy development	Partnership opportunities for wind and solar projects
	Availability of blocks of energy for the region
Economic spinoffs	Contract opportunities and regional job creation
	Financial compensation program for the community
Public safety	Increased spray from waves at the Highway 138 bridge

a. There is no need to increase the water supply to complete the project to add capacity to Sainte-Marguerite-3 generating station, and therefore no rivers or other watercourses will need to be diverted.

1. In this document, “provincial impact assessment process” refers to the preparation of the environmental impact statement that will be submitted to the MELCCFP as part of the environmental impact assessment and review procedure set out in Title I of the EQA.

3.2.3 Continued public participation process

Hydro-Québec will continue to hold regular public participation activities throughout the environmental assessment process. The next two steps in the process for Hydro-Québec are:

- Presentation of the project and public consultations from winter to summer 2025
- Presentation of the optimized project in fall 2025

Various local stakeholders will also be consulted as part of a background study on the non-Indigenous human environment to be done as part of the provincial impact assessment process.

4 Engagement activities with Indigenous groups

4.1 Indigenous communities likely to be concerned

The project is located in the Nitassinan of Uashat mak Mani-utenam, the traditional ancestral lands of Québec's Innu communities. The Nitassinan is divided into family lots and community territories. It is shared with the Innu community of Matimekush–Lac John. Innu TakuaiKAN Uashat mak Mani-utenam (ITUM) is the political and administrative organization representing the Innu First Nation of Uashat mak Mani-utenam. The council of the Innu Nation of Matimekush–Lac John is the political and administrative organization representing the Matimekush–Lac John Innu First Nation.

These two Innu communities are the ones identified as likely to be interested in the project. Hydro-Québec has initiated a consultation and participation process with them.

4.2 Participation and consultation process

The Indigenous component is an integral part of Hydro-Québec's public participation process for the project to add capacity to Sainte-Marguerite-3 generating station. As such, the means used and activities held to inform and consult the general public (see section 3.2.1) are also aimed at the Indigenous public. We conduct our consultation and participation process in collaboration with concerned Indigenous communities.

Hydro-Québec and ITUM have signed an administrative agreement governing the project's preliminary consultation process and prefeasibility study. The agreement includes the creation of a technical and environmental working group, participation in environmental studies and the creation of a negotiation team. ITUM will mainly be consulted as part of technical and environmental working group meetings, during which both technical and environmental

aspects will be discussed throughout the project. The technical and environmental working group has met seven times since February 2024. ITUM representatives also took a guided tour of the generating station on September 20, 2024. Representatives of the council of the Innu Nation of Matimekush–Lac John met with Hydro-Québec representatives on July 17, 2024, to discuss the project.

4.3 Main concerns expressed

The main concerns expressed to date by representatives of Innu communities affected by the project are listed in Table 4-1. All concerns will be addressed as part of the provincial impact assessment process.

Table 4-1 – Main concerns expressed by representatives of the Innu communities affected by the project

Themes	Concern
Innu TakuaiKAN Uashat mak Mani-utenam	
Aquatic environment	Partial diversion of Pékans and Carheil rivers ^a
Biological environment	Potential impact of the project on the habitat and health of the caribou population observed in the upstream part of the Rivière Sainte-Marguerite watershed
	Higher mercury content in fish from Rivière Sainte-Marguerite
	Innu participation in environmental inventory activities
	Potential disruption of new natural environments
	Potential propagation of invasive species
Physical environment	Potential environmental consequences of additional electrical capacity (e.g. bank erosion)
Human environment	Innu participation in the Indigenous land use study and in archaeological studies and field work
	Opening of the territory
	Potential impact on social climate within the community
	Potential impact of any new facility on the territory on the interests and affirmed rights of ITUM representatives
	Contract opportunities and regional job creation linked to setting up a workcamp Economic benefits for the community
	Preservation of archaeological heritage
Traditional knowledge	Recognition of community members' knowledge and skills
General	Delimitation of the study area.

Table 4-1 – Main concerns expressed by representatives of the Innu communities affected by the project (continued)

Themes	Concern
Matimekush–Lac John	
Aquatic environment	Flooding of the territory
Biological environment	Potential impact of the project on the habitat and health of the caribou population observed in the upstream part of the Rivière Sainte-Marguerite watershed
	Higher mercury content in fish from Rivière Sainte-Marguerite
Economic spinoffs and business relationships	Opportunities for partnerships as part of the project
	Consultation with members of the council of the Innu Nation of Matimekush–Lac John

a. There is no need to increase the water supply to complete the project to add capacity to Sainte-Marguerite-3 generating station, and therefore no rivers or other watercourses will need to be diverted.

4.4 Continued consultation and participation process

Meetings of the technical and environmental working group will be planned in accordance with the needs of the project as it progresses, but also in accordance with ITUM representatives' needs and their desire to meet. In addition, we will be able to stay abreast of the activities of community members and continue to collaborate with them by telephone and email. During meetings to be held as part of the provincial impact assessment process with the main Innu land users, we will learn about what activities take place in the project area and what concerns they have about the project.

Consultation meetings will be held for representatives of the council of the Innu Nation of Matimekush–Lac John. Meetings will continue to be held throughout the key stages of the project. Hydro-Québec will send the community information on the studies done by email.

5 Regional studies or plans

In the region affected by the project, no regional assessment under sections 92 and 93 of the *Impact Assessment Act* (IAA) has been done or is underway.

In addition, regional land use planning and development in the area where the project is located is primarily governed by the *Plan d'affectation du territoire public* [public land use plan] (PATP), the *Plan régional de développement du territoire public* [regional public land development plan] (PRDTP) and the MRC of Sept-Rivières' land use and development plan.

6 Strategic assessments under section 95 of the IAA

Environment and Climate Change Canada carried out a strategic climate change assessment in July 2020, which it revised in October 2020. It provides guidance on how information relating to greenhouse gas emissions (GHGs) and resilience to climate change should be submitted in the federal impact assessment process.

7 Purpose, need for and potential benefits of the project

Québec has embarked on an ambitious transition toward a low-carbon economy. Over 150 TWh of additional renewable electricity will be required for Québec to attain carbon neutrality by 2050. It was to achieve this goal that Hydro-Québec adopted its *Action Plan 2035 – Towards a Decarbonized and Prosperous Québec* in November 2023. A priority under the plan is to add 60 TWh by 2035, or between 8,000 and 9,000 MW of additional capacity. Hydro-Québec is looking to increase the capacity of existing generating stations to in turn increase the hydropower generating capacity of its existing infrastructures by 2,000 MW by 2035. The project to add capacity to Sainte-Marguerite-3 generating station, which came out of the aforementioned plan, will increase its generating capacity by at least 440 MW, representing more than one-fifth of the target capacity increases at existing generating stations by 2035.

Sainte-Marguerite-3 generating station is a peak-load generating station, meaning that it stabilizes the power grid and ensures a reliable supply of electricity when there are peaks in energy demand, i.e., when demand reaches its maximum levels. In Québec, such peaks generally occur in the morning between 6 and 9 a.m., and in the early evening between 4 and 8 p.m. Electricity demand depends on the season and consumption habits, such as the use of heating or air conditioning. During these periods, Hydro-Québec has to use additional resources to meet demand and avoid power outages.

The generating station, which was commissioned from 2003 to 2007, currently has two generating units with a total installed capacity of 882 MW, but it was built with a view to the possible addition of a third generating unit. As a result, the civil infrastructure required to add a third generating unit, similar to the previous two, is already built. An advantage of this project is that it offers flexibility during the construction phase, because the generating station can remain in operation during most of the work. In addition, with the infrastructure and reservoir already in place, the project's impact on the environment will be limited.

8 Applicable provisions of the *Physical Activities Regulations*

Under the conditions set out in subsection 2(1) of the *Physical Activities Regulations* (SOR/2019-285) and paragraph 43(a) of the schedule to these regulations, the project to add capacity to Sainte-Marguerite-3 generating station is a physical activity designated for the purpose of the definition “designated project” in section 2 of the IAA.

9 Operations, infrastructures and structures

9.1 Description of the existing facilities

Sainte-Marguerite-3 generating station is located at roughly kilometre point (KP) 76 on Rivière Sainte-Marguerite. There are also two privately-owned hydropower generating stations on the river: Sainte-Marguerite-2 at KP 10, owned by Gulf Power (a subsidiary of Iron Ore Company of Canada–Rio Tinto), and Sainte-Marguerite-1 at KP 7, owned by Innergex.

The main components of the Sainte-Marguerite-3 hydropower development are the following (see photos 9-1 and 9-2):

- A 171-m dam (Denis-Perron) that closes the valley 90 km from the mouth of the river
- A 253-km² reservoir with active storage of 3.3 billion m³ of water
- An 8.3-km-long headrace tunnel (with a surge tank), through which water flows from the reservoir to the generating station
- Two lined penstocks linking the headrace tunnel to turbines 1 and 2, plus part of penstock 3 for the possible addition of the third turbine
- An underground generating station designed for three generating units, but only equipped with two Francis generating units, with a total capacity of 882 MW and a head of 330 m
- A spillway

There are also associated facilities in the vicinity. The 86-km Denis-Perron asphalt road links Sainte-Marguerite-3 generating station with Highway 138. A 315-kV power line connects Sainte-Marguerite-3 substation to Arnaud substation.

Photo 9-1 – Sainte-Marguerite-3 hydropower development – KP 90

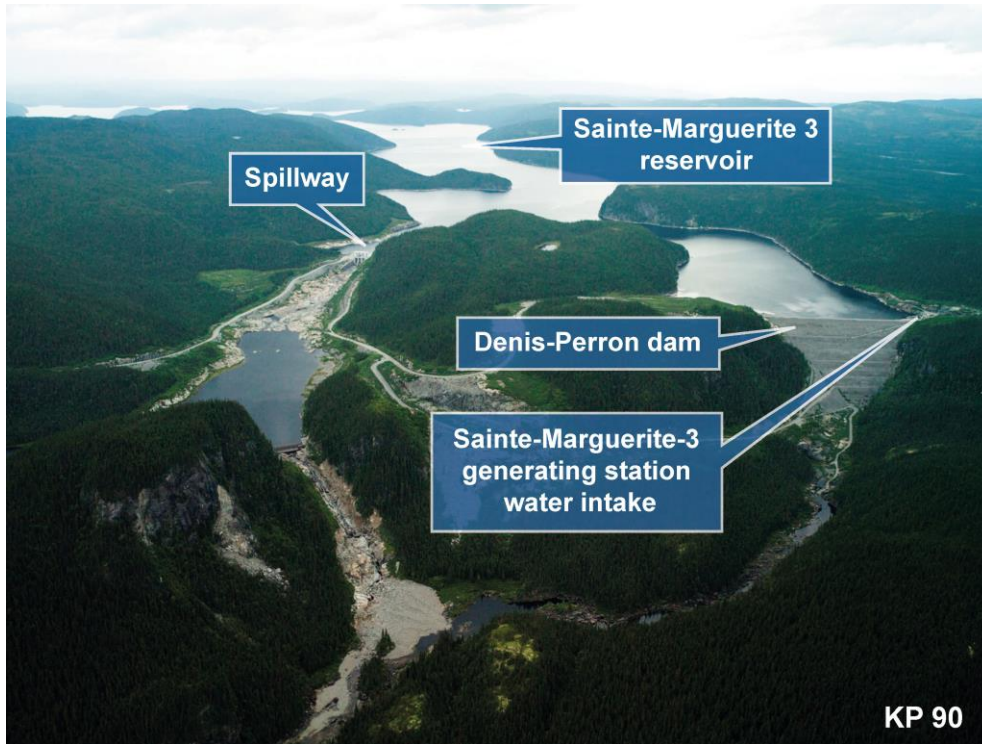
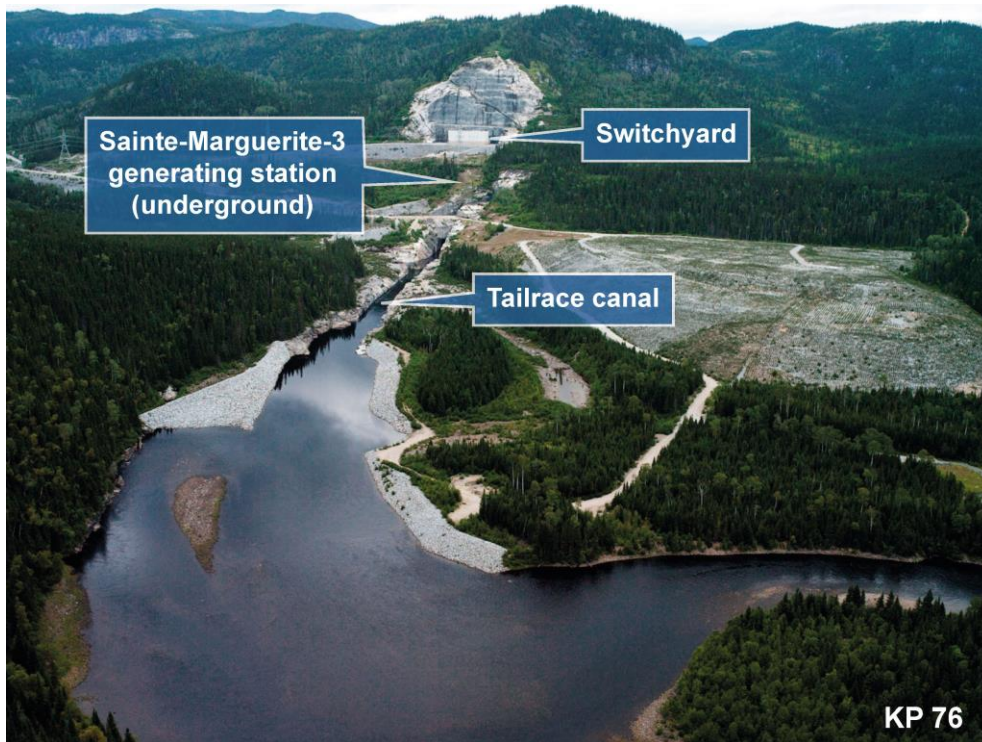


Photo 9-2 – Sainte-Marguerite-3 hydropower development – KP 76



9.2 Permanent infrastructures and planned activities

This section describes the infrastructure and permanent structures that Hydro-Québec intends to build, as well as the activities required to complete the project. Emphasis is placed on the equipment's design, location and main functions (see Map 9-1).

9.2.1 Addition of a third generating unit

The work to add capacity would be done mainly inside the underground generating station and would include:

- The installation of the third generating unit
- The installation of mechanical and electrical equipment in the generating station
- The construction and connection of penstock 3 between the headrace tunnel and the future generating unit 3

Work may also be required on the surge tank, which regulates flow variations and maintains stable pressure during operation. With our draft-design studies, we will be able to confirm whether such work is necessary and what its scope would be, if it were done.

9.2.2 Operation of the generating station with the added capacity

The generating station will only operate at maximum capacity a few hundred hours per year. The rest of the time, it will be in operation at roughly the same rate as it is at present. The commissioning of the third generating unit will alter the generating station's maximum operating flow. The current design flow of 300 m³/s could be increased to 500 m³/s. The additional flow would be used during winter peaks. With our draft-design studies taking into account the addition of the third generating unit, we will be able to determine how water will be managed in the future. The technical specifications of the existing facility and the environmental and social constraints will be taken into account.

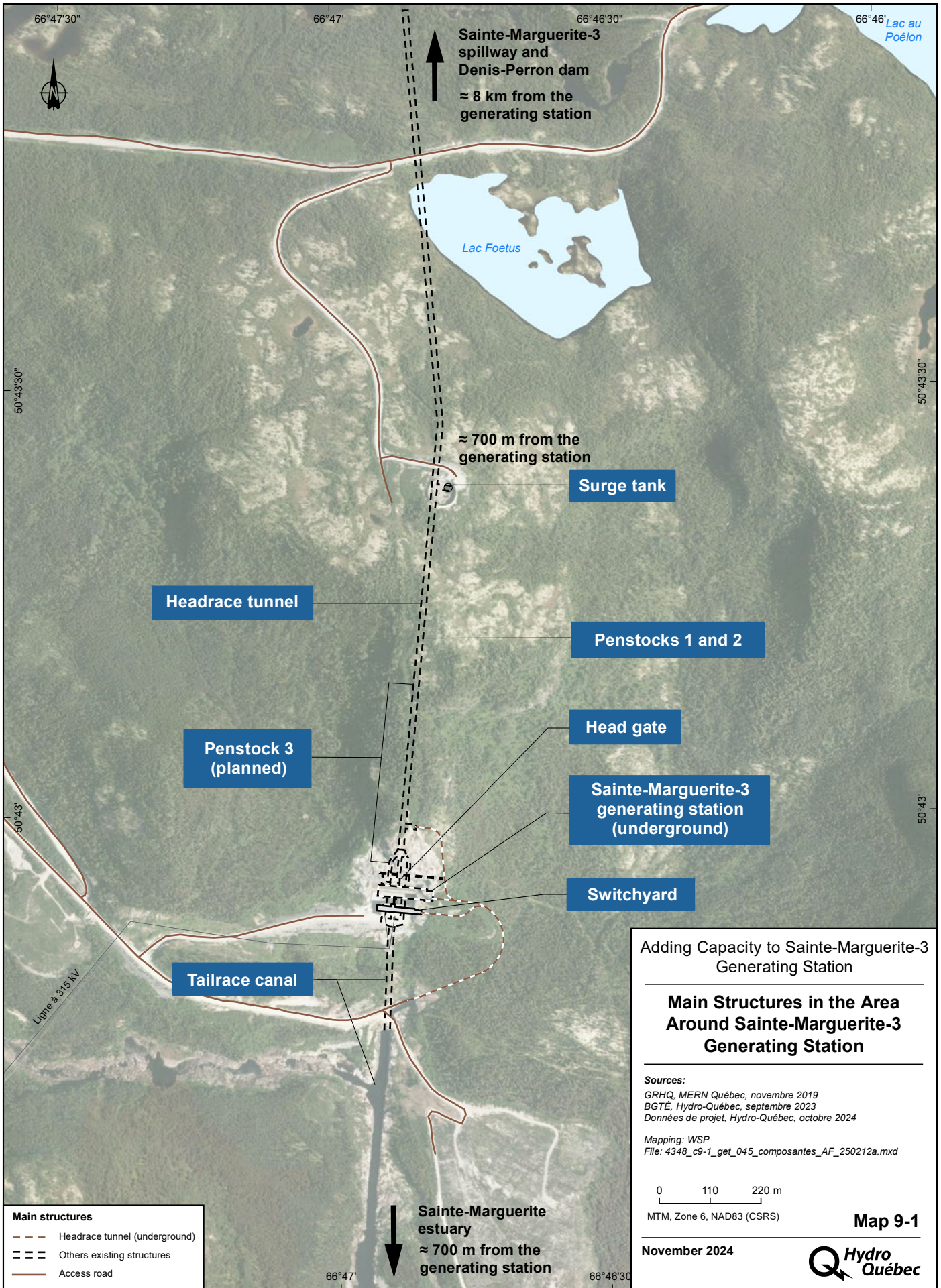


Table 9-1 summarizes the technical specifications of Sainte-Marguerite-3 generating station before and after the addition of capacity.

Table 9-1 – Technical specifications of Sainte-Marguerite-3 generating station before and after the addition of capacity

	Existing facility	After addition of capacity
Generating units	2 Francis turbines	3 Francis turbines
Installed capacity	882 MW	> 1,322 MW
Maximum design flow	300 m ³ /s	500 m ³ /s
Average annual output ^a	2.6 TWh	2.6 TWh
Sainte-Marguerite 3 reservoir maximum operating level	407 m	407 m
Sainte-Marguerite 3 reservoir minimum operating level	393 m	393 m

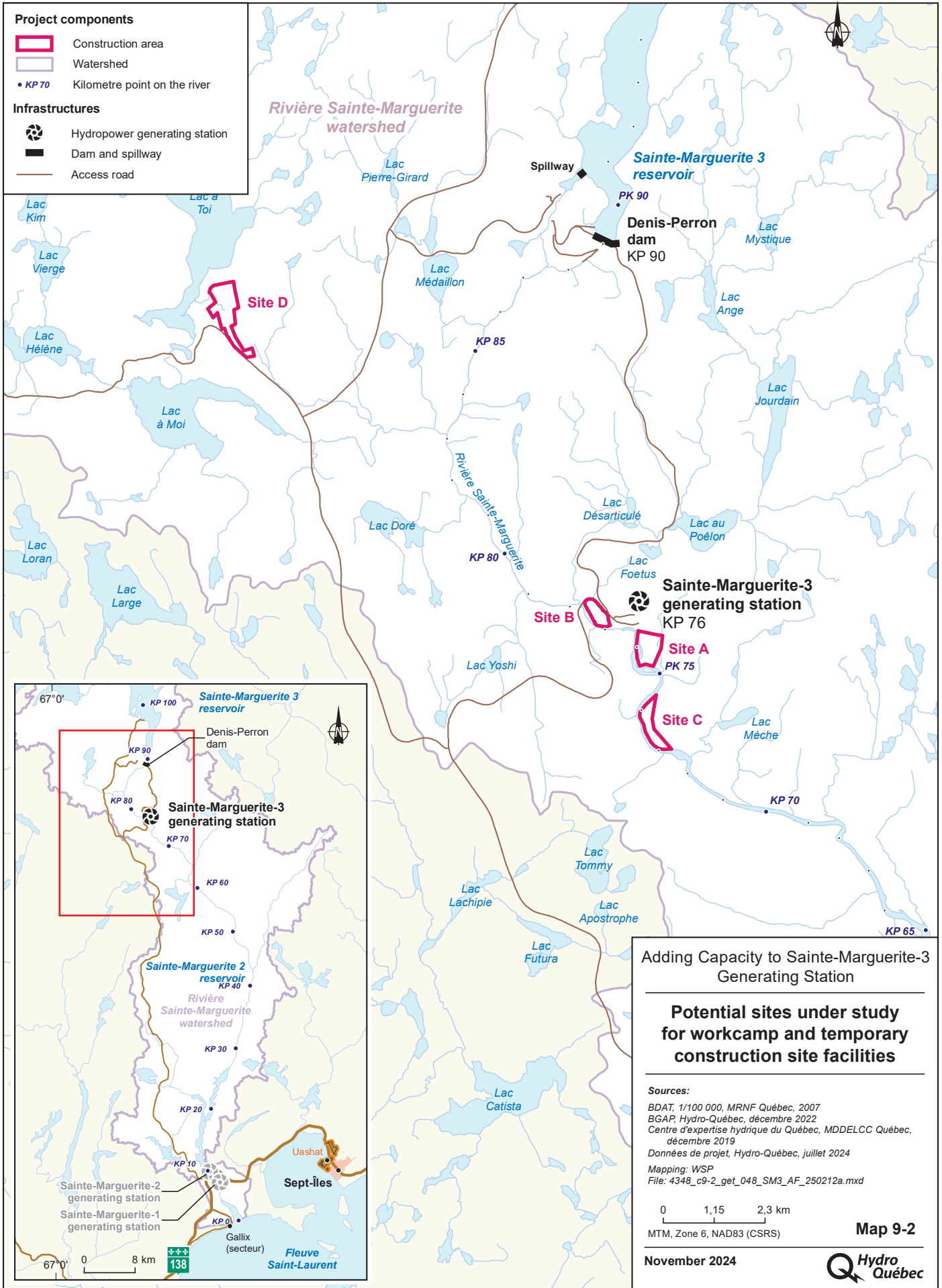
a. Reference period: 2004–2023.

9.3 Temporary installations and activities

The project’s construction phase will require temporary construction site facilities and possibly facilities to house workers. Map 9-2 shows the potential sites under study (A, B, C and D) for the proposed facilities and workcamp. An explanation of the operation of the generating station during construction is also provided.

9.3.1 Temporary construction site facilities

Temporary construction site facilities consist mainly of storage yards for contractors’ materials and equipment, a concrete plant, parking lots and construction site offices for contractors and Hydro-Québec supervisors. The majority of the sites that Hydro-Québec is studying for temporary construction site facilities are sites that were used when the Sainte-Marguerite-3 development was first built in the late 1990s (see Map 9-2). Once our draft-design studies are done, we will be able to confirm which variante (sites) will be selected.



Adding Capacity to Sainte-Marguerite-3 Generating Station

Potential sites under study for workcamp and temporary construction site facilities

Sources:
 BDAT, 1/100 000, MRNF Québec, 2007
 BGAP, Hydro-Québec, décembre 2022
 Centre d'expertise hydrique du Québec, MDDELCC Québec, décembre 2019
 Données de projet, Hydro-Québec, juillet 2024
 Mapping: WSP
 File: 4348_c9-2_get_048_SM3_AF_250212a.mxd

0 1,15 2,3 km
 MTM, Zone 6, NAD83 (CSRS)

November 2024

Document for information purposes only. For any other use, please contact Géomatique at Hydro-Québec.

9.3.2 Workcamp

According to preliminary studies, a workcamp may be needed for those performing the work to add the third generating unit. It would mainly comprise a cafeteria building, housing units and leisure facilities. It will be possible to confirm requirements once draft-design studies are done, and, in so doing, determine the required capacity and the distribution of the workforce over time.

9.3.3 Operation of the generating station during construction

Work to install the third generating unit can be done while the generating station is in operation, except during certain phases that will require a short-term shutdowns. The generating station will only need to be temporarily shut down to hydraulically and electrically connect the third generating unit to existing facilities. The shutdown will be planned so as to minimize the impact on hydropower generation and the environment.

10 Maximum generating capacity

The commissioning of the third generating unit at Sainte-Marguerite-3 generating station will make it possible to generate more power in winter, during periods of extreme cold, as the design flow rate will be increased from 300 m³/s to 500 m³/s. However, the generating station's annual energy output will remain unchanged. The project to add capacity to Sainte-Marguerite-3 generating station will not affect the average annual inflows to the two hydropower developments downstream on Rivière Sainte-Marguerite (Sainte-Marguerite-2 and Sainte-Marguerite-1 generating stations).

11 Project schedule

In fall 2023, Hydro-Québec began the draft-design studies for the project to add capacity to Sainte-Marguerite-3 generating station. Table 11-1 shows the preliminary timeline for the major phases of the project and the main activities each involves.

Table 11-1 – Main project phases

Project phase	Activity
Draft design (Q3–2023 to Q2–2026)	Technical and environmental studies (Q3–2023 to Q2–2026)
	Community information and consultation (Q1–2024 to Q2–2026)
	Preparation of the provincial impact statement (Q4–2024 to Q2–2026)
Permitting (Q3–2026 to Q2–2028)	Filing of the provincial impact statement to the MELCCFP and review of the project by relevant authorities (Q2–2026)
	Continued technical studies and project optimization work (Q2–2026 to Q2–2028)
	Receipt of necessary authorizations and permits (Q2–2028)
Project (Q2–2028 to Q4–2033)	Community information and consultation (Q2–2028 to Q4–2033)
	Engineering (Q2–2028 to Q3–2032)
	Construction of the workcamp, if one is required, and temporary facilities (Q2–2028)
	Construction and addition of equipment for the third generating unit (Q2–2028 to Q4–2031)
	Commissioning of generating unit 3 (Q4–2031)
	Demobilization and restoration of temporarily occupied sites (Q1-2032 to Q4-2033)

Note: “Q” refers to yearly quarters.

It should be noted that no closure and dismantling phase is planned for the project since Hydro-Québec intends to operate this plant beyond the life cycle of the new turbine-generator unit, which is over 50 years. At the end of the useful life of the new unit, any necessary refurbishments will be carried out at the facility to ensure its long-term operability.

12 Other options and alternatives to the project

12.1 Other options to complete the project to add capacity

When the Sainte-Marguerite-3 hydropower development was built, the civil infrastructure already allowed for the installation of a third generating unit, similar to those already in use. Using the best available technology (BAT), we will be able to determine which option can best optimize the energy potential of the existing facility. Additional options will also be studied to determine the best location and layout for temporary construction site facilities and a workcamp, if one is required.

12.2 Alternatives to the project

Hydro-Québec has examined the following alternatives to the project, i.e., solutions that may be considered as substitutes to the project to add capacity to Sainte-Marguerite-3 generating station:

- Energy efficiency
- Upgrading existing generating stations (increasing their capacity)
- Wind power
- A new hydropower facility
- Solar power and battery storage
- Nuclear energy
- Other technologies under development elsewhere in the world

All these solutions are avenues that Hydro-Québec is studying. Combined, they will make it possible for Québec to achieve its long-term (2050) net-zero targets. However, none of them can achieve the same results or meet the same needs as the project to add capacity does.

13 Description of the proposed site

13.1 Project site

Sainte-Marguerite-3 generating station is located in the MRC of Sept-Rivières, in Québec's Côte-Nord administrative region. Its geographic coordinates are 50°42'49" N and 66°46'58" W.

Most of the work to add capacity would be done inside the underground Sainte-Marguerite-3 generating station (see Section 9.2). Temporary construction site and potentially housing infrastructure would still be required (see section 9.3 and Map 9-2).

13.2 Proximity to the built environment and local communities

The built environment closest to Sainte-Marguerite-3 generating station is made up of three cottages located 2.5 km to the north-east,² on the northern edge of Lac au Poêlon. The area around Lac à Toi, approximately 8 km west of Denis-Perron dam, is frequented by many users, and there are cottages on the lakeshore. Three cottages are located on the banks of Rivière Sainte-Marguerite, in the project's area of influence, that is, on the stretch of river downstream of Sainte-Marguerite-3 generating station.

The inhabited areas nearest to Sainte-Marguerite-3 generating station are some 65 km away, along the coast of the Golfe du Saint-Laurent [Gulf of St. Lawrence]. The urban core of Sept-Îles is about 105 km from the generating station by road. The town of Port-Cartier is about the same distance from the generating station but to the southwest, some 25 km west of the mouth of Rivière Sainte-Marguerite.

13.3 Proximity to Indigenous lands

The project area lies within the Nitassinan territory claimed by the Innu communities of Uashat mak Mani-utenam and Matimekush–Lac John. Four Innu traplines in the Sept-Îles division of the Saguenay Beaver Reserve cross over or are adjacent to Rivière Sainte-Marguerite downstream of Denis-Perron dam. Most of the traplines in the Sept-Îles division are owned by Innu from Uashat mak Mani-utenam.

No First Nations reserves are located within the project area. The First Nation reserve lands that are closest to Sainte-Marguerite-3 generating station are those of the Uashat and Mani-utenam reserves, near Sept-Îles. They are some 65 km and 70 km to the south-east, respectively. The Matimekush and Lac John reserves are more than 450 km away.

14 Summary description of the biophysical environment

14.1 Study area and sources of information

The study area considered for the description of the biophysical environment corresponds to Rivière Sainte-Marguerite and its banks from Denis-Perron dam to the mouth of the river, a distance of 90 km. It also encompasses the areas contemplated for temporary construction site facilities and a possible workcamp. The description of the biophysical environment is based on available documentation and environmental follow-ups associated to the

2. Unless otherwise indicated, distances are measured in straight lines.

Sainte-Marguerite-3 hydropower development. Complementary background studies are underway as part of the provincial impact assessment process. Map A titled “Biophysical and human environment” (pocket insert) shows most of the elements described in this chapter.

14.2 Physical environment

Hydrography and water quality

The aquatic portion of the study area is entirely contained within the Rivière Sainte-Marguerite watershed. The river drains a watershed of 6,200 km² and empties into the Golfe du Saint-Laurent [Gulf of St. Lawrence]. It flows through an incised valley and only receives water from a few tributaries. Three hydroelectric dams have been built on Rivière Sainte-Marguerite, forming three bodies of water: Sainte-Marguerite 3 reservoir, Sainte-Marguerite 2 reservoir and the forebay in the Sainte-Marguerite-1 development. The quality of the water in Rivière Sainte-Marguerite is typical of rivers in the Côte-Nord region. It meets government quality criteria to support aquatic life.

Thermal and ice regimes

The stretch of the Sainte-Marguerite located directly downstream of Sainte-Marguerite-3 generating station is mainly fed by Sainte-Marguerite 3 reservoir. The water from the reservoir is colder in summer and warmer in winter than the waters in the surrounding environment.

The stretch of river downstream of Sainte-Marguerite-3 generating station is rarely or only briefly covered with ice, mainly because of the high flow rates and positive temperatures (above 0°C) of the water from Sainte-Marguerite 3 reservoir. Ice cover and thickness in Sainte-Marguerite 2 reservoir are unstable and vary greatly depending on the area of the reservoir and winter temperatures. The ice cover generally forms between December and March. In the estuary sector, freeze-up can usually be observed in mid-January, and break-up generally occurs around mid-March or by the end of the month, at the latest.

Banks of Rivière Sainte-Marguerite

Along the stretch of the river between Sainte-Marguerite-3 generating station (KP 76) and upstream of Sainte-Marguerite 2 reservoir (KP 66), the banks of the Sainte-Marguerite are not very susceptible to erosion. For its part, Sainte-Marguerite 2 reservoir (KP 66 to KP 10) has banks susceptible to erosion, in particular because of the wave action induced by the strong fetch. In the Sainte-Marguerite-1 development forebay (KP 10 to KP 7), a very small proportion of the banks are eroding, but the characteristics of the embankments along the river make them sensitive.

In the estuary stretch (KP 7 to KP 0), there have been numerous landslides in different places, but most of them are stable. In the mouth area, the action of tides, waves and currents affects the environment. The banks are composed of sandy embankments, often eroding and unstable, with frequent landslides. The mouth of the river itself is separated from the Golfe du Saint-Laurent [Gulf of St. Lawrence] by a large sandspit, which changes very rapidly under the effect of storms and longshore drifts.

14.3 Biological environment

Land and wetland vegetation

The northwestern portion of the study area is characterized in part by the presence of scrublands, alder groves, several ponds and beaver dams, as well as anthropogenic disturbances. In the stretch of river between Sainte-Marguerite-3 generating station (KP 76) and Sainte-Marguerite 2 reservoir (KP 66), riparian vegetation consists mostly of a strip of mature alders in the upper stretch and a young alder grove on the shore. There is virtually no riparian and aquatic vegetation in and around Sainte-Marguerite 2 reservoir and the forebay in the Sainte-Marguerite-1 development. In the estuary area, the banks are colonized here and there by small emergent grass beds. Riparian and aquatic vegetation (submerged, floating and emergent) is virtually absent.

Existing studies indicate that there are no records of threatened or vulnerable vascular plants or plants likely to be designated as such in the stretch of river between Sainte-Marguerite-3 generating station and Sainte-Marguerite 2 reservoir. An inventory completed in 2024 had similar findings for the areas where the temporary construction site facilities and workcamp would be (locations A to D, see section 9.3).

Fish community

The fish community in Rivière Sainte-Marguerite between Sainte-Marguerite-3 generating station and Sainte-Marguerite 2 reservoir is mainly made up of around ten species. Sucker species are the most abundant and are more abundant than lake whitefish and northern pike. These species can also be found in other stretches of the river. There are brook trout in the river, but even more so in its main tributaries.

Rainbow smelt use the Sainte-Marguerite estuary (immediately downstream of Sainte-Marguerite-1 generating station) to breed. Other species include lake whitefish, longnose sucker, lake chub, American eel, northern pike and burbot, as well as a few marine species.

Mercury

Monitoring of mercury levels in fish determined that maximum mercury levels in the main fish species in Sainte-Marguerite 3 reservoir were reached 7 to 10 years (2005 to 2008) after impoundment began (1998). The follow-up continued until 2024, that is, 26 years after impoundment, to assess long-term trends in fish mercury levels.

Aquatic habitats

Suckers may spawn in Rivière de la Grande Coulée and Rivière Sainte-Marguerite downstream of KP 66, where the sites having the best physical characteristics for spawning are located. Northern pike also reproduce in these sites, which also have good spawning potential for salmonids, such as brook trout. Rainbow smelt may use the Sainte-Marguerite estuary (immediately downstream of Sainte-Marguerite-1 generating station) to breed.

Birds and wildlife

Because riparian and aquatic vegetation along Rivière Sainte-Marguerite is scarce, large wildlife and fur-bearing animals do not visit the area very much. Waterbirds are also generally scarce in this environment.

Waterfowl make little use of Rivière Sainte-Marguerite between Sainte-Marguerite-3 generating station and Sainte-Marguerite-2 dam, and there is hardly any breeding activity. The estuary is a migratory stopover for a number of waterfowl species (ring-necked duck, common eider, common goldeneye, etc.). The area is also frequented by other waterbirds, but abundance is always low.

At-risk species

No at-risk aquatic species are present in the study area, and based on a potential presence analysis, no at-risk plant species are found there.

The presence of Barrow's goldeneye has been confirmed in the study area. Along the Golfe du Saint-Laurent, bank swallows have been recorded as occupying coastal sandy cliff habitats. The little brown myotis and the northern myotis, both endangered species under the *Species at Risk Act* (SARA), are also likely to frequent the study area, which falls within their geographical distribution. Lastly, a joint study by ITUM and WSP has shown that a population of boreal caribou has been observed in the Rivière Sainte-Marguerite watershed.

15 Brief description of the regional health, social and economic context

15.1 Study area and sources of information

The study area considered for the description of the regional health, social and economic context is the same as that described in section 14.1. The description is based mainly on documentation available from government agencies and on environmental follow-ups done after the Sainte-Marguerite-3 hydropower development was built. Complementary background studies are underway as part of the provincial impact assessment process. Map A titled “Biophysical and human environment” (pocket insert) shows most of the elements described in this chapter.

15.2 Administrative context and infrastructure

The entire study area falls within the MRC of Sept-Rivières. In its southern part, it crosses the territory of the city of Sept-Îles and is adjacent to the town of Port-Cartier. At their closest point to the eastern boundary of the study area, the Uashat and Mani-utenam reserves are approximately 15 km and 30 km away, respectively. The study area consists mainly of public land under MRNF management, but also includes private properties, which are mainly located south of the Sainte-Marguerite-2 hydropower developments.

The three hydropower generating stations named above (see section 9.1) harness Rivière Sainte-Marguerite, and four power transmission lines cross it around KP 5. The study area’s road network connects to Provincial Highway 138, which crosses Rivière Sainte-Marguerite at Sainte-Marguerite-2 dam. Route Denis-Perron, which is on the west side of the river, is the access road to the Sainte-Marguerite-3 hydropower development.

15.3 Historical and archaeological context

An archaeological potential study was done as part of the environmental impact assessment for the Sainte-Marguerite-3 generating station construction project. The study identified 67 archaeological sites along Rivière Sainte-Marguerite, 13 of which were excavated. This led to the discovery of a number of remains, some of which confirmed that the area was occupied in prehistoric times, prior to when contact was made with Europeans in the 16th century. An update on the archaeological potential of the study area is currently underway as part of the provincial environmental assessment process.

15.4 Indigenous human environment

The following is essentially a description of the community of Uashat mak Mani-utenam, as the members of this community are the ones who use the land. Discussions that have taken place with representatives of Matimekush–Lac John to date suggest that members of this community do not currently use the study area.

15.4.1 Population, health, social and economic context

In July 2024, the Uashat mak Mani-utenam Innu First Nation had 5,068 registered members, 72% of whom lived on the Uashat or Mani-utenam reserves. This population is made up of relatively equal proportions of men and women, and the population is young, with an average age of 32. More than a third of the population aged 15 and up has at least a high school diploma or equivalency certificate.

Three-quarters of jobs in Uashat and Mani-utenam are in the service sector, mainly in public administration and healthcare. However, mean personal incomes are lower than in the rest of Québec and in the Côte-Nord region, and unemployment rates are much higher.

Housing is a major issue for this community, with the need for new apartment buildings and adapted housing. Other social issues include the use and addiction to hard drugs, and the resulting debt, health and crime problems.

From an economic standpoint, there is a convergence between Innu and non-Indigenous entrepreneurship. As a result, the Chambre de commerce de Sept-Îles has become the Chambre de commerce de Sept-Îles Uashat mak Mani-utenam. In addition, ITUM has created the Société de développement économique Uashat mak Mani-utenam (SDEUM). It has been mandated to manage community partnerships, develop business opportunities arising from impact and benefit agreements (IBA) with mining companies, and support tourism, the social economy and support entrepreneurs from the community.

15.4.2 Land use

The study area covers traplines in the Sept-Îles division of the Saguenay Beaver Reserve, and touches Innu traplines 286, 298, 299 and 302. The activities that take place on Nitassinan in the study area will be documented during meetings planned with users for this purpose. A brief overview of land use can be drawn from data from the follow-up relating to the Sainte-Marguerite-3 hydropower development done in 2004.

Trapline 286 touches the study area at its northern end. In 2004, roughly 100 people, adults and children, concentrated their use around Lac à Toi and Lac à Moi, where there were nearly a dozen Indigenous camps, including a community camp.

Trapline 298 lies on the west side of Rivière Sainte-Marguerite. In 2004, 15 adults and as many children from the tallyman's family used the area around Lac Brûlé, which lies outside the study area.

Trapline 302 is located in the southern part of the study area, mainly on the west side of Rivière Sainte-Marguerite. In 2004, the portion of the trapline used by the Innu was located within the Matimek ZEC. The tallyman's family and several members of the community used this trapline year-round, as it is easily accessible. The area around Lac Cousin, also known as Lac Sainte-Anne (outside the study area), was the most frequented site in 2004.

Finally, trapline 299, located on the east bank of Rivière Sainte-Marguerite, was not used at the time of the 2004 study.

15.5 Non-Indigenous human environment

15.5.1 Population, health, social and economic context

In 2021, the Côte-Nord administrative region had a population of 88,525, with the MRCs of Sept-Rivières and Caniapiscau³ accounting for 38,240. The populations of Sept-Îles and Port-Cartier were 27,729 and 6,516, respectively. These populations are made up of relatively equal proportions of men and women, with a slightly younger average age in the Sept-Rivières and Caniapiscau MRCs than in Sept-Îles and Port-Cartier. More than a quarter of these populations had no certificate, diploma or degree, indicating lower education levels than elsewhere in Québec.

Unemployment rates in these areas were lower than elsewhere in Québec and the Côte-Nord region as a whole. The primary sector, in particular the harvesting and primary processing of natural resources, plays a crucial role in the local economy. Sept-Îles, with its deepwater port, the largest mineral port in Canada, has strategic influence on the economy. The tourism industry is also booming.

The region faces challenges such as housing scarcity, with a very low vacancy rate, and the results of precarity, such as income security and literacy issues. Nearly 1,400 individuals in Sept-Îles are in highly vulnerable situations, and homelessness is on the rise in the city. Excessive alcohol consumption is also an issue in the region.

3. Statistics Canada combines data from the Sept-Rivières and Caniapiscau MRCs.

15.5.2 Land use

There are 86 vacation leases for cottages on public lands in the study area. Most sites where there are cottages have either floating or fixed docks. The Matimek ZEC occupies the entire study area upstream of Sainte-Marguerite-2 dam. People can engage in many activities there, such as rock climbing, ATViing, snowmobiling, hunting, fishing and boating.

The provincial Trans-Québec snowmobile trail No. 3 crosses the study area. Snowmobilers use Rivière Sainte-Marguerite itself, in particular Sainte-Marguerite 2 reservoir, to access cottages on either side of the river in winter. Provincial ATV trail No. 50 also passes through the study area. A number of local trails connect to these federated snowmobile and ATV trails, which cross the Sainte-Marguerite on the crest of Sainte-Marguerite-2 dam.

Sainte-Marguerite 2 reservoir is the most heavily used stretch of Rivière Sainte-Marguerite for navigation, mainly by vacation leaseholders living along its banks and members of the Matimek ZEC. The estuary area is also frequented, but on a very small scale. The main channel is the only navigable portion, and navigation conditions depend more on the tide and the presence of shoals than the flow of water passing through it.

Recreational fishing is relatively uncommon on Rivière Sainte-Marguerite, on Sainte-Marguerite 2 reservoir and the forebay in the Sainte-Marguerite-1 development, as well as in the estuary. The estuary is also part of a shellfish harvesting zone, but shellfish harvesting is not currently authorized, and there are no plans to open this area to harvesting for now. The mouth of the river is also a commercial fishing zone for several species. According to DFO, eight of these species may have been caught in the study area in the last five years. Available data indicates that between 2019 and 2023, nine (or less than 9) crab fishing licences were active for the area.

Hunting is a popular activity in the study area, which partially overlaps hunting zones in the Matimek ZEC. The species most sought after by hunters are moose, as well as partridge and hare. Non-Indigenous individuals do not engage in the trapping of fur-bearing animals to a great extent. The study area partially covers six traplines that are registered with the MELCCFP.

16 Federal financial support

No federal authority will be granting financial support to this project.

17 Federal lands

No federal lands will be affected by the project. All work will be done outside federal lands.

18 Bodies with powers to assess environmental effects

The project to add capacity to Sainte-Marguerite-3 generating station is a designated project within the meaning of the IAA (see Chapter 8). This project is subject to the environmental and social impact assessment and review procedure under Title I of the EQA. Hydro-Québec plans to submit its environmental impact statement to the MELCCFP in March 2026. In addition to the Québec government authorization that will be issued at the end of this process, other provincial authorizations, approvals or permits will have to be obtained for the project to proceed.

Discussions will be held with federal authorities to determine whether the project will require authorizations, approvals or permits, in particular under the *Fisheries Act*.

19 Potential changes to environmental components under federal jurisdiction

The provincial impact assessment will provide a detailed assessment of the project's effects on the environment. An overall preliminary assessment of the project's potential effects on all environmental components was done in order to determine which background environmental studies will need to be done as part of the impact assessment process.

As part of the preliminary assessment, we examined the interactions between sources of potential change and valued environmental components. For the construction phase of the project, the analysis took into account the following potential sources of change: the presence of temporary construction site facilities and a workcamp (if one is required); machinery traffic and use; transportation and road traffic; water management; labour; and the purchase of goods and services. Water management was also considered for the operational phase. The analysis revealed significant interactions⁴ on the following valued environmental components:

- Hydrology and hydraulics
- Thermal regime and ice conditions
- Fish communities and aquatic habitats

4. A significant interaction corresponds to a potential impact on a component that is deemed not to be negligible and requires a more precise and detailed assessment in order to determine its actual degree of significance.

- Special-status terrestrial and semi-aquatic wildlife species
- Health, social and economic conditions of Indigenous peoples
- Health, social and economic conditions of non-Indigenous peoples
- Natural heritage and current use of land and resources for traditional purposes
- Use of non-Indigenous land (recreation, leisure and tourism)
- Historical and archaeological heritage
- Road infrastructure

Potential changes to environmental components under federal jurisdiction are described in chapters 19 to 22.

19.1 Fish and fish habitats

The addition of a third generating unit could lead to changes in the fish habitat. The use of this generating unit could lead to an increase in water levels and flows in certain stretches of Rivière Sainte-Marguerite at certain times of the year. However, these changes should only take place in the river section, between KP 76 and KP 66. The project will have no impact on mercury levels in fish.

19.2 Aquatic species as defined by the Species at Risk Act (SARA)

No aquatic species on the official list set out in Schedule 1 of the SARA are present in Rivière Sainte-Marguerite.

Furthermore, the project is unlikely to have an impact on marine plant species since the flow variations will be more noticeable in the river section of the Sainte-Marguerite and not in the marine ecosystems.

19.3 Migratory birds

Once the new equipment is commissioned, the flow of Rivière Sainte-Marguerite will only be increased in winter, during periods of extreme cold. Consequently, no significant impact is anticipated on the nesting of the waterbirds that frequent the river. As concerns temporary construction site facilities and the workcamp, most of the sites identified for these were disturbed during the initial construction of Sainte-Marguerite-3 generating station. Reusing these sites could limit the extent of land needing to be cleared, reducing the risk of temporary impacts on migratory forest birds.

20 Environmental changes on federal lands

No federal lands will be affected by the project.

21 Potential impact of environmental changes on indigenous communities

21.1 Natural heritage and current use of land and resources for traditional purposes

The increase in road traffic during the project's construction phase may cause minor inconveniences to the Innu travelling to and from the area where they practise their activities. The presence of temporary construction site facilities and a possible workcamp may also limit how successful hunting, fishing and trapping activities will be in the vicinity of these sites. Pressure on fish resources around the workcamp may be increased if workers engage in fishing. No significant impact is expected on land use by the Innu once the third generating unit at Sainte-Marguerite-3 generating station is commissioned.

Also, with the presence of vacationers and anthropogenic infrastructures, caribou generally avoid the study area. It is therefore unlikely that the project to add capacity will affect these animals. Consequently, we believe that the project will have little impact on potential caribou hunting activities in the study area, during both the construction and operation phases.

Moreover, with the presence of vacationers and anthropogenic infrastructures, caribou generally avoid the southern part of the study area. Regarding the northern part, along the river section and near the sites under study (A, B, C, and D) for temporary activities, some individuals may be disturbed during the construction phase of the project. Required clearing will be kept to a minimum, and certain mitigation measures could be implemented to reduce the impact on this species. Although the project may temporarily affect the movement patterns of caribou in the area, Hydro-Québec does not foresee any permanent impact on the caribou population in the Sainte-Marguerite watershed.

21.2 Archaeology

Available archaeological and historical data indicate that the work to build temporary construction site facilities and a workcamp, if one is required, may affect areas with archaeological potential. It will be possible to implement avoidance and mitigation measures during construction where necessary, and, as such, the impact on archaeological heritage will be deemed to be limited.

22 Potential changes to the health, social or economic conditions of indigenous peoples

The construction phase of the project to add capacity to Sainte-Marguerite-3 generating station could offer Innu communities direct or indirect job and contract opportunities. Spinoffs from the construction phase would thus contribute to maintaining or improving health, social and economic conditions in Innu communities.

Hydro-Québec does not anticipate any impact from the project on mercury levels in fish flesh that would lead to changes in fish consumption recommendations. Since the project does not involve flooding new areas, there will be no changes to the key parameters influencing mercury dynamics in the aquatic ecosystem.

ITUM is concerned about potential social tensions that could arise from the project. However, Hydro-Québec's consultation and collaboration activities with community representatives aim to improve the project's acceptability and reduce the risk of social tensions.

23 Greenhouse gas emissions and climate change

We have made a preliminary estimate of net GHG emissions for all stages of the project, namely construction, operation and decommissioning of the third generating unit at the end of its service life. They are estimated at 8,009 tonnes CO₂ eq. No direct GHG emissions are expected during the generating station's operation phase, and very little are expected during the decommissioning phase, that is, 0.16 tonnes CO₂ eq.

A study of resilience to climate change will be prepared as part of the draft design and the provincial impact assessment process. Increased precipitation and temperatures may have an impact on Rivière Sainte-Marguerite's ice cover. In addition, it can be assumed that these hazards could accentuate the existing erosion of some of the river's banks.

24 Waste and other emissions

The main sources of waste generation and other contaminant emissions would essentially relate to the project's construction phase and the presence of temporary construction site facilities and a potential workcamp.

During construction, Hydro-Québec and its suppliers will recover and sort all residual materials into containers designed to meet the requirements of the receiving disposal site. In the absence of on-site sorting facilities, residual materials will be sent to the nearest sorting facility, salvage yard or recycler. The practices that we use to manage residual hazardous materials are stringent and comply with provincial regulations. As for the organic material generated by the project, we will determine which disposal method is best to avoid sending such material to a landfill (as is normally done) during the provincial impact assessment process.

Regarding atmospheric emissions, Hydro-Québec will apply the standard environmental clauses it has adopted to protect air quality, which prescribe specific measures for any work likely to result in the dispersion of dust or fine particles in the air.

Hydro-Québec will conduct environmental monitoring during construction. Should an accidental contaminant spill occur, we have various mechanisms in place, that apply to both internal employees and suppliers, to ensure an immediate, coordinated and appropriate response in such emergency situations.

Appendix A

List of stakeholders

Community stakeholders	
1.	Association des trappeurs de Sept-Rivières (ATSR)
2.	Chambre de commerce de Port-Cartier
3.	Chambre de commerce de Sept-Îles Uashat mak Mani-utenam (CCSIUM) ^a
4.	City of Sept-Îles
5.	Comité ZIP Côte-Nord du Golfe [north gulf coast area of prime concern (ZIP) committee]
6.	Conférence administrative régionale de la Côte-Nord (CAR)
7.	Conseil régional de l'environnement Côte-Nord (CRE)
8.	Corporation de protection de l'environnement de Sept-Îles (CPESI)
9.	Développement économique Port-Cartier
10.	Développement économique Sept-Îles (DESI)
11.	Environnement Côte-Nord [Côte-Nord region environmental NGO]
12.	Eau Secours
13.	Federal Member of Parliament
14.	Fondation Rivières
15.	Gulf Power (subsidiary of the IOC–Rio Tinto mining company)
16.	Holders of exclusive trapping right leases within the project area
17.	Innergex
18.	Innu Takuaihan Uashat mak Mani-utenam (ITUM)
19.	Institut de développement durable Premières Nations du Québec et du Labrador (IDDPNQL)
20.	Integrated resource and land management working groups (TLGIRT Côte-Nord)
21.	Interested residents
22.	Local and regional media organizations
23.	Matimek ZEC
24.	Matimekush–Lac-John Nation Council
25.	Members of Indigenous communities and guardians of Nitassinan
26.	MRC of Sept-Rivières
27.	Organisme de bassins versants Duplessis (OBVD)
28.	Private owners of land within the project area
29.	Provincial Member of Parliament and Ministry responsible for the Côte-Nord region
30.	Regroupement des gestionnaires de zecs de la Côte-Nord (RGZCN)
31.	Réserve faunique de Port-Cartier–Sept-Îles (Sépaq) [Port-Cartier wildlife preserve]
32.	Town of Port-Cartier
33.	Vacationers and those having vacation leases within the project area
34.	Working group of Côte-Nord region prefects

a. The CCSIUM is made up of Indigenous and non-Indigenous partners.

Map A

Biophysical and Human Environment

[2025E0474-RES-A]

