9.0 ASSESSMENT OF ENVIRONMENTAL EFFECTS ON THE SOCIOECONOMIC ENVIRONMENT

The socioeconomic environment is selected as a VC because the Project may affect land and resource use, employment and economy, housing and accommodations, and infrastructure and services. These issues are of concern to regulatory agencies, non-governmental organizations, and the general public because they can have a direct influence on the everyday lives of those living and working near a project.

Land and resource use refers to public and private use of land and resources by humans. It includes uses such as recreation, public and private enjoyment of land and resources, and the interactions between the Project and those uses. It is noted that current use of land are resources for traditional purposes by Aboriginal persons is addressed separately in Section 12.0.

Employment and economy refers to the labour market and availability, employment, employment income, business income, and their aggregate influence on the local, regional, and provincial economies and the provincial gross domestic product (GDP), and interactions between the Project and the local, regional, and provincial economies. It considers interactions that may be positive, such as increased employment and business, as well as interactions that may be negative, such as disruptions to existing economic activity.

Accommodations refers to the capacity and availability of short-term accommodations which may interact with the Project workforce. Though housing is often discussed as part of the socioeconomic environment to consider the potential for a project to use more long-term facilities for lodging project workers, given the relatively short period of construction for the Project, longer term housing is not believed to interact with the Project.

Infrastructure and services refers to public infrastructure and services provided to local populations through public and government funding and programs (e.g., emergency services, police, healthcare), and infrastructure in place to meet societal needs (e.g., ferry service, roads), and the interactions between this infrastructure and these services and the Project.

9.1 REGULATORY AND POLICY SETTING

In accordance with the New Brunswick *Environmental Impact Assessment Regulation–Clean Environment Act*, and the requirements outlined in *A Guide to Environmental Impact Assessment in New Brunswick* (NBDELG 2012), the contents of an EIA report should evaluate, among other things, the potential interactions between the socioeconomic environment and the activities associated with the Project.

Land and resource use in New Brunswick is governed by the *Municipalities Act* within incorporated areas, and the *Community Planning Act* outside of incorporated areas. Planning, zoning, and land management decisions are made by local municipal governments within incorporated areas and rural communities, while such services are provided by Regional Services Commissions outside of incorporated areas.

Planning agencies often use land use plans, rural plans, bylaws, or other legislative tools to govern land management decisions within the province.

The Rural Plan By-Law for the Municipality of Grand Manan manages growth and development within the Municipality of Grand Manan Island. It is intended to protect and optimize the use and availability of the land and resources of the Island (Village of Grand Manan 2017). There are no corresponding by-laws for the rural community of Campobello Island or communities on Deer Island.

The federal *Navigation Protection Act* regulates construction in, on, over, under, through or across any navigable water listed in the Act's schedule, and prohibits unauthorized impediments to navigation in navigable waters.

The provision of public services in New Brunswick including education, healthcare, and emergency services is the responsibility of the Government of New Brunswick via its various departments and agencies mandated to administer and deliver such services. These services are sometimes delegated to municipalities (e.g., fire and policing in some incorporated municipalities), and sometimes are provided by private partners (e.g., ambulance services provided by Ambulance New Brunswick.

In the Fundy Isles, the regional health authority is the Horizon Health Network, which is managed by a board of directors which includes elected members as well as members appointed by the Minister of Health (NBDH 2017, Horizon 2017a). Ambulance services are provided by Ambulance New Brunswick, a private partner which has been granted the license and authority to provide these services by the New Brunswick Department of Health.

Policing services are provided by the Royal Canadian Mounted Police (RCMP), whose mandate is outlined in section 18 of the *Royal Canadian Mounted Police Act*. Fire services in the Fundy Isles are provided by volunteer fire departments, which are managed by individual communities.

9.2 POTENTIAL ENVIRONMENTAL EFFECTS, PATHWAYS, AND MEASURABLE PARAMETERS

Project activities could interact with the socioeconomic environment to result in: access restrictions to recreational land and resource use in the area, including marine navigation; nuisance issues to residents; environmental effects to local employment levels and the economy; environmental effects to the capacity of accommodations in the area; and environmental effects to public infrastructure (including transportation) or the capacity of services in the area. In consideration of these potential interactions, the assessment of Project-related effects on the socioeconomic environment is therefore focused on the following potential environmental effects:

- change in land and resource use;
- change in employment and economy;
- change in accommodations; and
- change in public infrastructure and services.

The environmental effect pathways and measurable parameters for the assessment of the environmental effects presented above are provided in Table 9.1.

Table 9.1 Potential Environmental Effects, Environmental Effects Pathways, and Measurable Parameters for the Socioeconomic Environment

Potential Environmental Effect	Environmental Effect Pathway	Measurable Parameter(s) and Units of Measurement
Change in land and resource use	• Project activities during construction will result in temporary access restrictions to land-based and marine areas for recreational use. • Project activities during construction, including emissions and noise, may result in nuisance concerns to residents.	• Area of land and resource use affected (*e.g.,* recreational use) • Ambient concentrations of air contaminants (µg/m^3) • Sound pressure levels (L_{eq}, dB_A).
Change in employment and economy	• Project associated demand for labour (direct, indirect, and induced) and goods and services will create employment and business within the LAA and will generate revenue for governments. • The Project will contribute to the Gross Domestic Product (GDP) in New Brunswick and Canada.	• Direct employment. • Project expenditures on goods and services.
Change in accommodations	• The non-resident construction workforce will be housed in short-term accommodations in southwestern New Brunswick, potentially affecting the availability of accommodations for other purposes such as tourism. A project camp will not be constructed.	• Availability of accommodations (vacancy rates, inventory levels).
Change in public infrastructure and services	• The Project workforce has the potential to increase demand for public infrastructure and services (emergency and protective services, healthcare, infrastructure and services, and community and municipal services).	• Demand and supply of public infrastructure and services (police, fire, paramedic services, hospitals, ferries, roads).

9.3 BOUNDARIES

9.3.1 Spatial Boundaries

The Project Development Area (PDA) is defined in Section 2.1 and is unchanged for the purposes of this assessment. The PDA includes footprint of two new submarine electrical cables, one from Deer Island to Campobello Island and one from Campobello Island to Grand Manan Island. It also includes the footprint of four land-based overhead-to-underground cable riser stations located on Deer Island (at Chocolate Cove), Campobello Island (at Wilsons Beach and Little Whale Cove), and Grand Manan Island (at Long Eddy Point). The PDA also includes the footprint of the existing marine cables to be eventually decommissioned.

The Local Assessment Area (LAA) includes the PDA and encompasses the communities that will potentially experience socioeconomic effects related to Project requirements. The LAA includes the Village of Grand Manan, the community of Campobello Island, and the parish of West Isles, which includes Deer Island.

The PDA and LAA for the socioeconomic environment VC are illustrated in Figure 9.1.

9.3.2 Temporal Boundaries

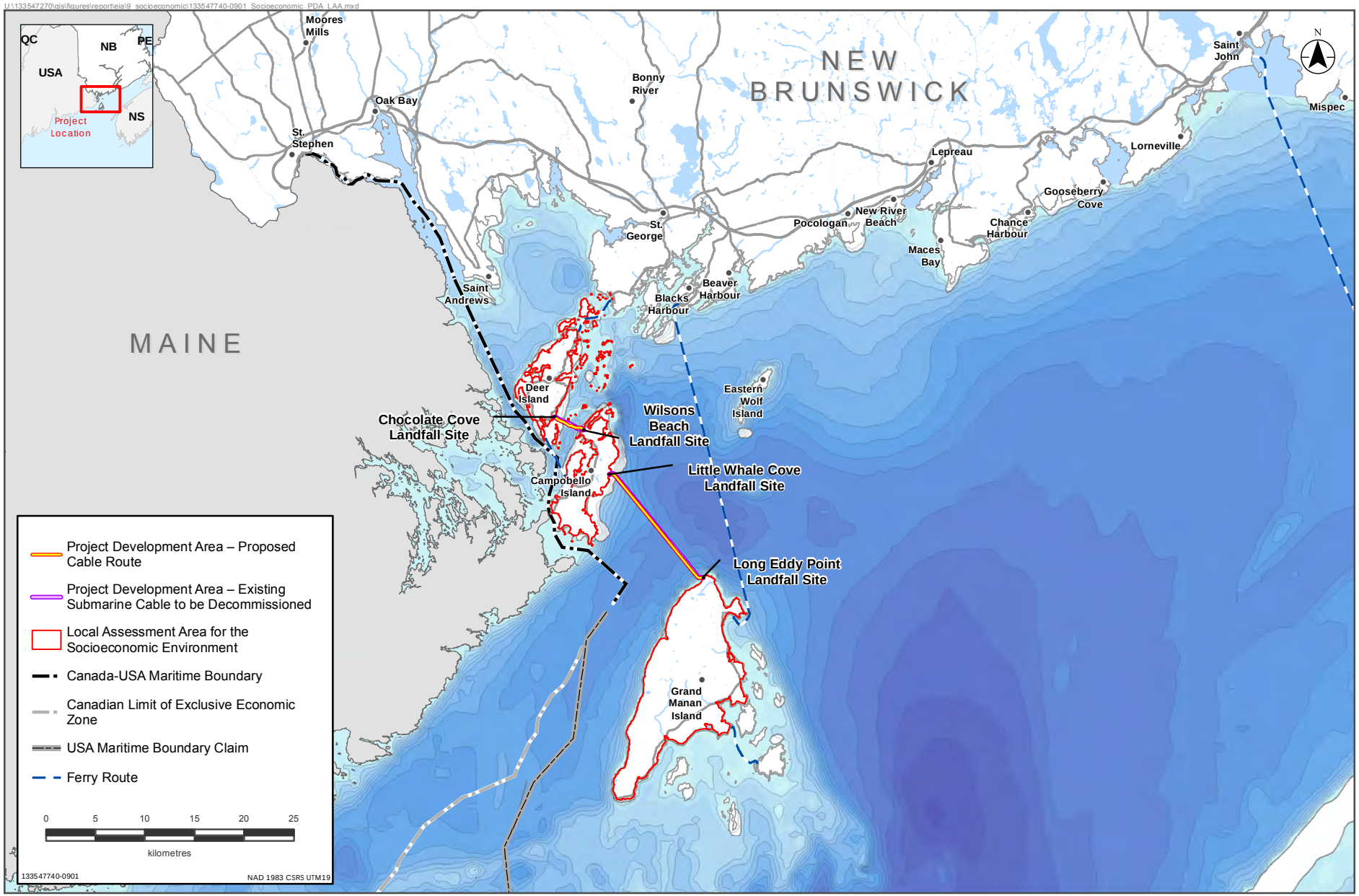
The temporal boundaries for the assessment of the potential environmental effects on the socioeconomic environment include:

- construction – scheduled to begin in the spring of 2018 and last for approximately 16 months; and
- operation – scheduled to begin in late 2019 and continue for the life of the new submarine cables, currently anticipated to be at least 40 years.

Decommissioning pertains to both the existing cables and the proposed cables. Decommissioning of the existing cables will occur at some time following the successful completion of the proposed installation of the new subsea cables as per current regulations and requirements. Decommissioning of the proposed new subsea cables will occur following the useful service life of the submarine cables, and will be carried out in accordance with regulations in place at that time.

9.4 RESIDUAL ENVIRONMENTAL EFFECTS CHARACTERIZATION AND SIGNIFICANCE DEFINITION

A significant adverse residual environmental effect on land and resource use is defined as a Project-related environmental effect that is not compatible with current land and resource use activities as designated through a regulatory process, and/or the Project creates a long-term change or disruption that widely restricts or degrades present uses to a point where the activities cannot continue at current levels.



Source Data: Data provided by the Governments of New Brunswick and Canada.

Project Development Area and Local Assessment Area for the Socioeconomic Environment

Stantec

133547740 - Fundy Isles - NB Power

Figure 9.1

A significant adverse residual environmental effect on a change in employment and economy is defined as a change that is distinguishable from current conditions and trends but cannot be managed or mitigated through adjustments to programs, policies, or plans.

A significant adverse residual environmental effect on a change in accommodations is defined as a Project-related environmental effect that creates an exceedance of available capacity or a substantial decrease in the availability of accommodations on a persistent and ongoing basis, which cannot be mitigated with current or anticipated mitigation measures.

A significant adverse residual environmental effect on a change in public infrastructure and services is defined as a Project-related environmental effect that creates an exceedance of available capacity, a substantial decrease in the quality of a service provided, or availability of infrastructure on a persistent and ongoing basis, which cannot be mitigated with current or anticipated mitigation measures.

Criteria used to characterize and describe residual environmental effects for the assessment of the socioeconomic environment are provided in Table 9.2.

Table 9.2 Characterization of Residual Environmental Effects on the Socioeconomic Environment

Characterization	Description	Quantitative Measure or Definition of Qualitative Categories
Direction	The long-term trend of the residual environmental effect.	**Positive** – an environmental effect that moves measurable parameters in a direction beneficial to socioeconomic conditions relative to baseline. **Adverse** – an environmental effect that moves measurable parameters in a direction detrimental to socioeconomic conditions relative to baseline.
Magnitude	The amount of change in measurable parameters or the VC relative to existing conditions.	**Negligible** – no detectable environmental effects. **Low** – a measurable change but within the normal range of variability; cannot be distinguished from baseline conditions. **Moderate** – measurable change but unlikely to pose a serious risk or benefit to the VC or to represent a management challenge. **High** – measurable change that is likely to pose a serious risk to the selected VC and, if negative, represents a management challenge.
Geographic Extent	The geographic area in which an environmental, effect occurs.	**PDA** – residual environmental effects are restricted to the PDA. **LAA** – residual environmental effects extend into the LAA.
Frequency	Identifies when the residual environmental effect occurs and how often during the Project or in a specific phase.	**Single event** – occurs once. **Multiple irregular event** – occurs sporadically at irregular intervals throughout construction, operation, or decommissioning and abandonment phases. **Multiple regular event** – occurs on a regular basis and at regular intervals throughout construction, operation, or decommissioning and abandonment phases. **Continuous** – occurs continuously throughout the life of the Project.
Duration	The period of time required until the measurable parameter or the VC returns to its existing condition, or the residual environmental effect can no longer be measured or otherwise perceived.	**Short-term** – residual environmental effect restricted to the duration of the construction period or less. **Medium-term** – residual environmental effect extends through the construction period but less than the life of the Project. **Long-term** – residual environmental effect extends beyond the life of the Project.
Reversibility	Pertains to whether a measurable parameter or the VC can return to its existing condition after the Project activity ceases.	**Reversible** – the residual environmental effect is likely to be reversed after activity completion and reclamation. **Irreversible** – the residual environmental effect is unlikely to be reversed.
Timing	Pertains to the period of time when the likelihood of significant environmental effects on the socioeconomic environment are reduced.	**Applicable** – the residual environmental effect is affected by the month or season in which the environmental effect is occurring. **Not Applicable** – the residual environmental effect is not affected by the month or season in which the environmental effect is occurring.
Ecological and Socioeconomic Context	Existing condition and trends in the area where residual environmental effects occur.	**Low Socioeconomic Resiliency** – Sparsely-populated region with relatively few service centres. **Medium Socioeconomic Resiliency** – A mix of sparsely-populated areas along with more populated, urban centres. **High Socioeconomic Resiliency** – Densely populated area with several urban centres.

9.5 EXISTING CONDITIONS FOR THE SOCIOECONOMIC ENVIRONMENT

9.5.1 Approach and Methods

Key information for characterizing the existing socioeconomic environment was gathered from statistical data sources and published reports. Principal sources of statistical information included Statistics Canada (i.e., the 2017 Census, the 2011 Census, and the 2011 National Household Survey). Additional baseline information was collected from the review of community and regional reports from government agencies, community profiles produced by municipalities, community and regional websites, and socioeconomic community profiles.

9.5.2 Description of Existing Conditions

The Fundy Isles are a collection of islands located at the mouth of the Bay of Fundy. They include several inhabited islands, including Deer Island, Campobello Island, and Grand Manan Island. The socioeconomic environment is described in further detail in the following sections.

9.5.2.1 Land and Resource Use

Historically, the Fundy Isles area has been known for fishing, and in the summer months as a tourist destination with several campgrounds and outdoor tourism related activities (e.g., whale watching).

Deer Island, Campobello Island, and Grand Manan Island are mostly forested, with some small residential areas generally along the coast. The land-based portion of the PDA consists of four cable riser stations and associated infrastructure: one on Deer Island at Chocolate Cove, two on Campobello Island at Wilsons Beach and Little Whale Cove, and one on Grand Manan Island at Long Eddy Point. There are homes and commercial buildings located within 30 to 40 m of the PDA at Wilsons Beach and Long Eddy Point. The highest concentration of residential and commercial properties is at Wilsons Beach where homes are located adjacent to the existing cable riser stations. The closest residence to the PDA at Chocolate Cove is located approximately 50 m away, while the closest residence at Little Whale Cove is located approximately 180 m from the PDA. There are also commercial fishing harbours at Chocolate Cove and Wilsons Beach, as well as a fish processing plant at Wilsons Beach near the PDA. Various small vessels associated with the Grand Manan Harbour Authority were observed moored near the PDA at Long Eddy Point.

At Wilsons Beach, there are tourist accommodations nearby and the beach is used for recreation. Many tourist operations, particularly wildlife and whale watching tours, and recreational fishing charters, are based in the Fundy Isles and the nearby town of St. Andrews, and may make use of Head Harbour Passage (which separates Deer Island from Campobello Island) and the Grand Manan Channel (which separates Campobello Island from Grand Manan Island). These tours highlight the many wildlife species present in the area including whales, seals, and marine birds as well the many lighthouses and natural features present along the coast of the Fundy Isles. Other recreational boating activities are also likely in

the area, and recreational vessels may make use of the harbours at Chocolate Cove and Wilsons Beach. A large component of vessel use in the LAA comes from commercial, recreational, and Aboriginal (CRA) fishing activities. These activities are described in more detail and assessed in the CRA Fisheries VC (Section 11.0).

The Fundy Isles are home to many outdoor recreation opportunities. There are many hiking, cycling, and walking trails throughout the area, as well as many public and private beaches used for recreation, beachcombing, and kayaking. Diving and guided diving tours are also available. The Fundy Isles are also a popular camping destination with a variety of public and private campgrounds available. Anchorage Provincial Park, located on Grand Manan Island, includes many walking and hiking trails, a beach, and is home to the Grand Manan Migratory Bird Sanctuary, a well-known bird watching destination. Bird watching is also a common activity throughout the Fundy Isles as the area serves as a stopping point for migrating birds along their migratory routes. Herring Cove Provincial Park and Roosevelt-Campobello International Park are both located on Campobello Island and are both frequently used recreation destinations.

9.5.2.2 Population

According to the 2016 Census, the LAA had a population of 4,029 in 2016 (Statistics Canada 2017a). Grand Manan Island has the largest population of the three islands, with 2,360 individuals in village of Grand Manan. Campobello Island had a population of 872 in 2016, less than half that of Grand Manan Island. The parish of West Isles, which includes Deer Island, has the smallest population with 797 individuals (Table 9.3).

Table 9.3 Change in Population 2011 to 2016

Location	Population 2016	Population 2011	% change 2011 to 2016
Campobello Island	872	925	-5.7%
Village of Grand Manan	2,360	2,377	-0.7%
West Isles (includes Deer Island)	797	731	9.0%
Total LAA	4,029	4,033	-0.1%
Total Charlotte County	25,428	26,549	-4.2%
Total New Brunswick	747,101	751,171	-0.5%
SOURCE: Statistics Canada 2017a			

The Province of New Brunswick experienced a decline in population from 2011 to 2016, decreasing by 0.5% over that time. A similar population decline occurred in the Village of Grand Manan, with a 0.7% decrease. The largest decrease in population, 5.7%, occurred on Campobello Island. Given the small population of the Island, this represents 53 individuals. Contrary to this trend, the parish of West Isles grew by 9% from 2011 to 2016, which, given the small population, represents an increase of approximately 66 individuals. As a result, the overall population of the LAA experienced only a small decline (0.1%) during the period of 2011 to 2016 (Statistics Canada 2017a).

As described in Section 9.5.2.1, the Fundy Isles are a popular tourist destination and experience increases in population during the summer tourism season. For example, the population of Grand Manan doubles to 5,000 individuals during the summer months (Horizon Health Network 2017b).

Information on the Aboriginal population in the Fundy Isles was not available due to the small population of the area. However, the total Aboriginal population in Charlotte County (within which the Fundy Isles are located) was 335 individuals in 2011 (Statistics Canada 2017a). Information related to Aboriginal population from the 2016 Census has not been released at the time of preparation of this report (Statistics Canada 2017).

9.5.2.3 Economy

New Brunswick has seen a gradual increase in its provincial GDP in recent years, with less than 1.0 % annual growth from 2011 to 2014 (Table 9.4). From 2011 to 2014, GDP growth on a national level was higher than in New Brunswick, ranging from 3.0% to 4.5%. However, from 2014 to 2015 (the latest year for which data are available), GDP growth was higher in New Brunswick than nationally, with a 2.9% increase in New Brunswick compared to a 0.2% increase nationally (Statistics Canada 2017b). Economic indicators such as GDP are not available specifically for the LAA; however, the major economic drivers in Charlotte County generally consist of the manufacturing industry, agriculture, forestry, and fishing, as well as the health care and social assistance sector (Statistics Canada 2013a; Statistics Canada 2013b; Statistics Canada 2013c). As the Fundy Isles are a popular tourist destination, the tourism industry is expected to contribute substantively to the local economy.

Table 9.4 Gross Domestic Product 2011 to 2015

Region	Gross Domestic Product (GDP) by Year (millions of Canadian dollars)				
	2011	2012	2013	2014	2015
New Brunswick	31,500	31,723	31,809	32,112	33,052
Canada	1,769,921	1,822,808	1,897,531	1,983,117	1,986,193
SOURCE: Statistics Canada 2017b					

9.5.2.4 Labour and Employment

Traditionally, the New Brunswick economy has been based on natural resource development, and it continues to center on its energy, natural resources, and manufacturing industries. Tourism and communication technology industries also make substantial contributions to the provincial economy. The largest industries in the Village of Grand Manan are agriculture, forestry, fishing, or hunting industries, which account for 36% of the total labour force. The health care and social assistance industries are the next largest industries, employing 14% of the labour force. In Charlotte County, the largest industry is manufacturing, which employs 16% of the labour force, followed by health care and social assistance with 14% of the labour force (Statistics Canada 2013a; Statistics Canada 2013b; Statistics Canada 2013c).

Information related to labour and employment from the 2016 Census has not been released at the time of preparation of this report (Statistics Canada 2017c). In 2011, the labour force in New Brunswick consisted

of 622,440 individuals, the participation rate (*i.e.,* the percentage of people employed or actively looking for work) was 63.5%, and the unemployment rate was 11.0% (Table 9.5). Data for the entire LAA were not available; however, in comparison, the Village of Grand Manan had a total labour force of 1,985 in 2011 and a participation rate of 64.5%, higher than the provincial average. The Village of Grand Manan also had a higher unemployment rate than Charlotte County or New Brunswick, at 15.2%. The participation rate in Charlotte County was 59.9% in 2011, and the unemployment rate was 12.3% (Statistics Canada 2013a; Statistics Canada 2013b; Statistics Canada 2013c).

Table 9.5 Total Labour Force (2011)

Location	Population (15+ years)	Labour Force	Participation Rate (%)	Employed	Unemployed	Unemployment Rate (%)
Grand Manan (village)	1,985	1,280	64.5	1,085	195	15.2
Charlotte County	22,055	13,220	59.9	11,595	1620	12.3
New Brunswick	622,440	395,425	63.5	351,935	43,485	11.0

NOTES:

2016 Census labour force information will be released on November 29, 2017.

Numbers are rounded by Statistics Canada and are reported herein exactly as they are reported by Statistics Canada; totals within and between tables may not necessarily add up as a result of rounding.

SOURCE:

Statistics Canada 2013a; Statistics Canada 2013b; Statistics Canada 2013c

9.5.2.5 Accommodations

The overall vacancy rate for New Brunswick's urban centres was 6.6% in 2016 (the latest year for which information is available), down 1.2% from the fall of 2015 (CMHC 2017). Given the small population in the Fundy Isles, rental apartments and properties are relatively scarce.

As described in Section 9.5.2.1, the Fundy Isles are a popular tourist destination and a variety of motels, inns, cottages, bed and breakfasts, and campgrounds operate on each island to accommodate tourists. Grand Manan Island has the highest number of accommodations with several inns and bed and breakfasts, several dozen cottages, and numerous campgrounds. There are also several campgrounds and cottages on Campobello Island as well as a motel and inn, and an inn, motel, and cottages on Deer Island. A review of online accommodation listings advertised on tourism related websites for Grand Manan Island, Deer Island, and Campobello Island indicated there are approximately 250 rooms in temporary roofed accommodations (e.g., cabins, cottages, inns, hotels, and motels) available in total as well as approximately 350 camp sites (150 serviced or partially serviced and 200 unserviced).

The average occupancy rate for temporary roofed accommodations in Campobello, Deer Island, and Grand Manan was 47% in 2016. As can be expected there is a large seasonal variation in occupancy rates, with the highest rates occurring in July and August (68% to 79%) and ranging from 26% to 52% during the rest of the year. The average occupancy rate of the surrounding area, from the Town of St. Andrews to the City of Saint John, was also 47%, with similar seasonal variations in occupancy rate from

84% (August) to 22% (February and March) (New Brunswick Department of Tourism, Heritage, and Culture 2016).

9.5.2.6 Transportation

The Fundy Isles are linked to mainland New Brunswick through a network of ferries. Land access to Campobello Island via Lubec, Maine is also available.

Except for Campobello Island which is accessible by land via an international bridge at Lubec, Maine, access to the Fundy Isles is largely limited by the capacity of the ferry service, which varies seasonally, and is dependent on weather conditions. Five vessels provide access to Deer Island, Campobello Island, and Grand Manan Island, and are summarized in Table 9.6. Coastal Transport Limited operates two vessels between Grand Manan Island and Blacks Harbour on mainland New Brunswick, one year-round and the other during the summer tourist season from late June to early September. Coastal Transport Limited also operates two vessels between L'Etete on mainland New Brunswick and Deer Island, both vessels operate year-round. A single vessel runs between Deer Island and Campobello Island from mid-June to September, operated by East Coast Ferries Ltd.

Table 9.6 Summary of Ferry Service to Deer Island, Campobello Island, and Grand Manan Island

Route	Vessel	Capacity	Season
Blacks Harbour (mainland) to Grand Manan Island	Grand Manan Adventure	82 vehicles 360 passengers	year-round (4 round trips/day)
Blacks Harbour (mainland) to Grand Manan Island	MS Grand Manan V	60 vehicles 300 passengers	late June to early September (3 round trips/day)
L'Etete (mainland) to Deer Island	Deer Island Princess II	24 vehicles	year-round (16 round trips/day)
L'Etete (mainland) to Deer Island	John E. Rigby	18 vehicles	year-round (12 round trips/day)
Deer Island to Campobello Island	M.V. Island Hopper	unknown	mid-June to early September (11 round trips/day)
SOURCE: NBDTI (2017a) East Coast Ferries Ltd. 2017 Coastal Transport Limited 2017a Coastal Transport Limited 2017b			

Campobello Island is also accessible via an international bridge from Lubec, Maine. There is no other road access to any of the Fundy Isles, and from October to June, this bridge is the only way to access the Island.

The Fundy Isles are part of the New Brunswick Department of Transportation and Infrastructure (NBDTI) transportation district 4 (NBDTI 2017b). The primary route through each island is a local highway. Deer

Island is serviced by local route 772, Campobello island is serviced by local route 774, and Grand Manan is serviced by local route 776. Each island includes a network of secondary roads, including roads that lead to each of the cable riser station sites.

9.5.2.7 Emergency Services

In 2015, the New Brunswick RCMP, or "J" Division, employed 881 regular members, 108 civilian members, and included approximately 300 public service employee positions, including part-time positions (RCMP 2015). The division operates from 12 district offices, 57 satellite offices, and seven federal offices. Its provincial headquarters are in Fredericton. There are 11 RCMP regional police forces in New Brunswick, each consisting of several detachments located within a specific geographical region. The Fundy Isles are serviced by detachments on Grand Manan, Campobello Island, and Deer Island. There are also detachments in the towns of St. Stephen and St. Andrews (RCMP 2017).

The Village of Grand Manan Fire Department consists of 35 volunteers and provides service to the Grand Manan Island. There are also volunteer fire departments on Campobello Island and Deer Island (Campobello 2017).

There are health centres on Campobello Island and Deer Island and a hospital on the Grand Manan Island. The Campobello Island Health Centre provides primary health care services and community health education services (Horizon Health Network 2017c). The Deer Island Health Centre provides similar services, with a doctor on staff one day per week and a nurse practitioner available three days per week. The Grand Manan Hospital serves residents of Grand Manan Island, as well as the larger population of residents and tourists during the summer months. The Grand Manan hospital provides family medicine as well as palliative care, and has an emergency department. Patients who require complex investigative services, specialized care, or critical care are transferred by ground or air ambulance to a tertiary hospital in Saint John (Horizon Health Network 2017b). Ambulance services are provided by Ambulance New Brunswick and include ground and air ambulances (Ambulance New Brunswick 2017).

9.6 PROJECT INTERACTIONS WITH THE SOCIOECONOMIC ENVIRONMENT

Table 9.7 identifies, for each potential environmental effect, the physical activities that might interact with the socioeconomic environment VC and result in an identified environmental effect. These interactions are indicated by check marks and are discussed in detail in Section 9.7, in the context of environmental effects pathways, standard and Project-specific mitigation/enhancement, and residual environmental effects. A justification for no environmental effect is provided following the table.

Table 9.7 Project-Environment Interactions with the Socioeconomic Environment

Phases and Physical Activities	Potential Environmental Effects			
	Change in land and resource use	Change in employment and economy	Change in accommodations	Change in public infrastructure and services
Construction				
Landfall construction	✓	-	✓	✓
Modification to cable riser stations	✓	-	✓	✓
Cable installation in Head Harbour Passage and Grand Manan Channel	✓	-	✓	✓
Inspection and energizing of the Project	-	-	✓	✓
Clean-up and revegetation	✓	-	✓	✓
Emissions and wastes	✓	-	-	-
Land-based transportation	-	-	-	✓
Marine transportation	✓	-	-	✓
Employment and expenditure	-	✓	-	-
Operation				
Vegetation management	-	-	-	-
Access road maintenance	-	-	-	-
Energy transmission	-	-	-	-
Infrastructure inspection, maintenance, and repair	-	-	-	-
Emissions and wastes	-	-	-	-
Land-based transportation	-	-	-	-
Marine transportation	-	-	-	-
Employment and expenditure	-	-	-	-
Decommissioning				
Decommissioning of existing cables	✓	-	✓	✓
Reclamation	✓	-	✓	✓
Emissions and wastes	✓	-	-	-
Land-based transportation	✓	-	-	✓
Marine transportation	✓	-	-	✓
Employment and expenditure	-	✓	-	-

Notes:
✓ = Potential interaction
– = No interaction

While all the Project activities associated with construction, operation, and decommissioning will have labour requirements that could affect the socioeconomic environment, it is not possible to isolate the effects of individual activities and so these effects are addressed cumulatively as part of an "employment and expenditure" activity. Interactions between employment and expenditure and a change in employment and economy are expected during the construction and decommissioning phases due to Project-related activities generating employment opportunities and Project spending in the local, regional, and provincial economies. Negligible employment and expenditure is expected during the operation phase.

During construction, energizing of the Project, land-based transportation, and employment and expenditure will not interact with land and resource use due to the limited size of the land-based portion of the PDA. Emissions and wastes, land-based transportation, and marine transportation will not interact with a change in accommodations as they are not expected to require substantive additional personnel requiring accommodations. Emissions and wastes will also not interact with a change in public infrastructure and services due to the nature of the activity.

During operation, the Project is expected to employ few additional personnel to those already working at existing facilities and is therefore not expected to have a substantive effect on a change in employment and economy. Given the relatively passive nature of Project activities during the operation phase, interactions between Project activities and a change in land and resource use, change in accommodations, and change in public infrastructure and services are not expected.

During Project decommissioning, the scale of employment and related Project activities will be smaller than and of a shorter duration compared to those during Project construction. As with construction, emissions and wastes, land-based transportation, and marine transportation will not interact with accommodations during decommissioning as these activities are not expected to require substantive additional personnel needing accommodations. Emissions and wastes will also not interact with a change in public infrastructure and services due to the nature of the activity.

9.7 ASSESSMENT OF RESIDUAL ENVIRONMENTAL EFFECTS ON THE SOCIOECONOMIC ENVIRONMENT

9.7.1 Analytical Assessment Techniques

The assessment of potential environmental effects on the socioeconomic environment was conducted using information collected through desktop research of existing conditions and professional analysis of Project environmental effects on these conditions. Information on existing conditions includes current land use, employment levels, and the existing capacity of accommodations and public infrastructure and services. Preliminary engineering information, including potential Project-related demand, mitigation measures, and associated assessment of environmental effects in other VCs (e.g., Section 5.0 atmospheric environment) were also considered in the analysis of this section.

9.7.2 Change in Land and Resource Use

9.7.2.1 Project-Environmental Effects Pathways

There are many recreational activities which take place near both the land based PDA at Wilsons Beach and the marine portions of the PDA. Several of these activities are related particularly to recreational boating and marine tourism activities (*e.g.,* whale watching tours). During construction, the access to the PDA and immediate surrounding area will be restricted. This may result in a temporary loss of use of the beaches at the cable riser station sites, and disruptions to navigation for recreational boat traffic including whale watching, on a localized and short-term basis.

Construction on the land-based portion of the PDA could result in nuisance effects on nearby residences and businesses. Levels of dust, emissions, sound, and vibration during construction could cause a nuisance for local receptors and are discussed further in Section 5.0 (atmospheric environment).

There will be limited to no interaction with a change in land and resource use during operation, given the nature of the activities to be carried out during operation.

The activities required to decommission the existing submarine cables will be similar in scope to the activities conducted during construction. Nuisance effects similar to those occurring during construction could result from decommissioning activities.

9.7.2.2 Mitigation

Project-related environmental effects on a change in land and resource use are anticipated to consist mainly of disruptions to tourism and recreation. The following initiatives will be used to mitigate potential adverse environmental effects on a change in land and resource use as a result of the Project:

- Mitigation described in the atmospheric environment VC (Section 5.0) will be used to reduce nuisance effects associated with dust, emissions, noise and vibration. These include limiting noise emitting construction activities to daytime hours (i.e., between the hours of 7:00 am and 7:00 pm), where possible.
- Use of water sprays during dry periods will be considered to minimize undue dust at land-based sites.
- Access restrictions will be defined in advance and access restrictions will be limited in size to reduce the interactions with a change in land and resource use.
- Information on the location of the cables will be provided to the Canadian Hydrographic Service to update navigation charts.

9.7.2.3 Characterization of Project Residual Environmental Effects

There are no features of the Project that would affect existing land use of areas to be developed as it exists today, since the cable riser station sites already exist and while modifications are required, the footprints will not change from currently. While landfall locations may require some level of disturbance during construction, depending on the construction method, the disturbance will be short term while construction activity is taking place and the area will be rehabilitated following the completion of construction activities, thereby allowing land and resource use activities to continue as presently. The

presence of the Project will thus continue to result in compatible land uses with current and future land and resource use activities.

Land-based construction activities could have a nuisance effect on nearby residences and businesses due to dust, emissions, noise, and vibration. As described in Section 9.7.2.2, these activities will be limited to daytime hours (i.e., between the hours of 7:00 am and 7:00 pm), where possible, and be completed at noise levels below Health Canada noise guidelines, meaning that although annoyance may occur, noise is not expected to create a pervasive health and safety concern. Use of water sprays during dry periods will be considered to minimize undue dust at land-based sites.

Land-based and marine construction activities could also result in short-term and localized restrictions in access to nearby beaches, and within Head Harbour Passage and the Grand Manan Channel, while construction is taking place. Navigation may also be affected while construction activities are taking place. Restrictions will only be put in place in the immediate area where Project-related vessels may be present, and will be limited in duration to the extent possible as a result of Project scheduling. Communication with users regarding access restrictions will allow users to plan activities in advance and reduce the magnitude of lost opportunities. Recreation and tourism in the LAA is not limited to these areas and alternative locations for these activities are available. Environmental effects of these restrictions on commercial fishing activities are discussed in Section 11.0.

As identified in Table 9.7, there are no features of the operation of the Project that would result in negative interactions with land and resource use.

The activities required to decommission the existing submarine cables will be similar in scope to the activities conducted during construction. Similar nuisance effects to nearby residences and businesses and localized restrictions in access could result from decommissioning activities; however, the exact method of decommissioning has not yet been determined. Should the existing cables be decommissioned in place, any environmental effects on the socioeconomic environment would be shorter in duration than those during construction.

The residual environmental effects of the Project on a change in land and resource use are predicted to be adverse, since they will result in restricted access to recreation and tourist areas, however they are not predicted to be significant given the limited extent of development and short-term duration of construction and decommissioning activities.

9.7.3 Change in Employment and Economy

9.7.3.1 Project-Environmental Effects Pathways

Project-associated demand for labour (direct, indirect, and induced) and goods and services will create employment and business opportunities within the LAA and will generate income tax revenue for governments. Project expenditures on goods and services could generate positive economic effects through contracts with local companies in the LAA.

A variety of management, accounting and payroll, engineering, and construction personnel will be required during construction. It is expected that the Project will generate direct employment for up to approximately 75 to 100 workers at the peak of construction activity. These workers may be employed by New Brunswick-based construction or engineering firms. Additionally, specialists from within Canada or abroad may be employed to advise or construct unique aspects of the Project.

There will be limited to no interaction with a change in employment and economy during operation.

Interactions with a change in employment and economy during eventual decommissioning of the existing marine cables will be similar to, but on a smaller scale than, those during construction.

9.7.3.2 Mitigation

Project-related environmental effects on a change in employment and economy are anticipated to be largely beneficial because employment and business opportunities will be created within the LAA, and the purchase of Project-related goods and services will result in economic activity during construction, as well as increased revenue from income and sales taxes. The following initiatives will be used to mitigate potential adverse environmental effects, and enhance potential positive environmental effects, caused to employment and the economy as a result of the Project:

- NB Power will follow its existing practice of encouraging local and Aboriginal content and will, where possible and relevant, work toward a hire-local-first practice;
- Workers will be paid wages consistent with the Eastern Canadian labour market; and
- Where available, NB Power will procure goods and services from local and Aboriginal businesses in accordance with its existing purchasing policies and procedures.

9.7.3.3 Characterization of Project Residual Environmental Effects

The total capital expenditure for the Project is estimated at $35 million. Expenditures for the Project will include construction materials, equipment, consumables (e.g., fuel, food), and accommodations. Purchases of labour, goods, and services needed for construction would beneficially affect other sectors of the New Brunswick economy.

At the peak of construction activity, approximately 75 to 100 workers are anticipated to be employed by the Project including construction workers, and administrative, engineering, and support personnel. To the extent possible, NB Power will hire local personnel from the Fundy Isles or elsewhere in New Brunswick (except for the laying of the submarine cable, which requires expertise not available in New Brunswick), and procurement will consider New Brunswick first opportunities. The unemployment rate in Charlotte County was higher than the provincial rate at 12.3%. Due to the relatively small number of jobs and the relatively high rate of unemployment in the LAA, it is expected that there is a skilled labour force available locally and within New Brunswick such that competition for labour is not likely, and thus the Project is not anticipated to result in labour shortages or affect the supply of goods and services such that wage or price inflation occurs.

The Project is not expected to interact with a change in employment and economy during operation.

Decommissioning of the existing submarine cables will result in similar environmental effects to the socioeconomic environment as during construction. However, should the existing cables be decommissioned in place, the scale of the environmental effects would be smaller.

The residual environmental effects of the Project on employment and economy are predicted to be generally positive because they will result in increased employment opportunities and direct, indirect, and induced revenues from Project-related goods and services as well as generating income and sales tax revenue for governments. Because labour appears to be abundant and the Project will increase employment and business opportunities during construction, significant adverse environmental effects on employment and economy are not expected.

9.7.4 Change in Accommodations

9.7.4.1 Project-Environmental Effects Pathways

Construction will involve the employment of skilled laborers over the two-year construction period, with a peak workforce estimated to reach 75 to 100 individuals requiring short term accommodations while they are working on construction of the Project. While the hiring of local workers is expected to be emphasized, it is unlikely that all jobs will be filled by residents of the LAA. Due to the relatively short construction period, it is expected that most of these workers will be temporary residents of the LAA requiring temporary accommodations, and most or all will not permanently relocate to the area.

As a result, there is potential for an increase in demand for temporary accommodations during construction of the Project, and to a lesser extent during future decommissioning. The increase in demand for accommodations could place increased pressure on the existing accommodations in the LAA, which are generally very limited on the Fundy Isles, particularly during the peak tourist season in summer. As most of the available accommodations are linked to local tourism, there is also the potential for tourists to be displaced from these accommodations during peak times if there is insufficient capacity.

There will be limited to no interaction with a change in accommodations during operation.

9.7.4.2 Mitigation

Project-related environmental effects on a change in accommodations could result from an increased number of people working and living within the LAA during construction and to a lesser extent during decommissioning. NB Power commits to the following mitigation measures related to accommodations of non-local workers:

- Consider a phased construction sequence that minimizes the number of workers required during peak tourism season.
- Evaluate the potential for providing accommodations for construction workers on mainland New Brunswick rather than on the Fundy Isles, particularly during peak tourism periods. A transportation strategy for transporting workers from mainland accommodations to the jobsite would need to be developed.
- Workers on the marine vessel laying the marine cable will generally live on the ship rather than in land-based accommodations.

- Communicate with community officials where workers are accommodated, as a means of responding to potential community grievances.

9.7.4.3 Characterization of Project Residual Environmental Effects

With the exception of those construction workers laying the submarine cables on the seafloor (which are generally housed on the ship), the construction workforce will be accommodated in nearby lodgings within the Fundy Isles or on mainland New Brunswick; a project camp will not be constructed for the Project. It is expected that the Project will generate direct employment for up to approximately 75 to 100 workers at the peak of construction activity. These workers may be a part of the existing local workforce, or may relocate to the Project location temporarily. Workers who are not part of the local workforce will require short-term accommodations while engaged in construction activities. Other mitigation to be explored to minimize competition for on-island accommodations during peak tourism season include scheduling construction activities outside of this period to the extent possible, phasing construction activities outside of this period to minimize labour requirements and accommodations, and providing accommodations on mainland New Brunswick combined with a transportation strategy to transport workers to the jobsite.

The LAA experiences seasonal changes in population because of tourism activities, and most of the existing accommodations serve the tourist industry. Vacancy rates in the LAA range from 26% to 52% and increase to 68% to 79% during the peak tourist season in July and August. Without mitigation, competition for accommodations on the Fundy Isles might result in adverse environmental effects to tourism, but with the above mitigation considered and implemented, environmental effects should be lessened.

Should the timing of peak construction activities coincide with the peak tourist season, it is possible that the increase in demand for accommodations will displace tourists. However, with mitigation and scheduling, adequate accommodations may be arranged. During the rest of the year, given the vacancy rates at local accommodations, the potential demand for accommodations related to employment during construction is not expected to exceed the current availability of accommodations.

The Project is not expected to interact with a change in accommodations during operation.

Decommissioning of the existing submarine cables will result in similar environmental effects to the socioeconomic environment as those occurring during construction, as the activities are similar. However, should the existing cables be decommissioned in place, the scale of the environmental effects would be smaller as a smaller workforce would be required.

Based on the size of the construction workforce requiring temporary accommodation, the availability of temporary accommodations, and mitigation measures aimed at reducing competition for accommodations during peak activity (including particularly during the summer tourist season), the availability of existing temporary accommodations is considered to be sufficient to meet increased Project-related demand during construction. NB Power will monitor the demand for accommodations throughout construction as a follow-up measure, and an alternative accommodation strategy will be developed as an adaptive management measure should negative environmental effects to tourism arise from a shortage of accommodations. With these mitigation and adaptive management measures implemented, the residual

environmental effects of the Project on a change in accommodations are predicted to be adverse, since they will increase demand for accommodations for which there is limited capacity, however they are not predicted to be significant.

9.7.5 Change in Public Infrastructure and Services

9.7.5.1 Project-Environmental Effects Pathways

Other than for local workers who will reside in their current residences, much of the construction workforce will live in nearby temporary accommodations, potentially increasing demand for local public infrastructure and services including health care and emergency services. The nature of construction activities could also result in increased demand for emergency services. Given the relatively short duration of construction, interactions with other public services like education are unlikely. Demands on some local public infrastructure like municipal wastewater treatment would not likely be adversely affected by the construction of the Project, since presumably these systems are sized to accommodate a larger population than currently in the event of community growth.

Construction and decommissioning activities will result in an increase in the number of passenger vehicles and heavy trucks transporting workers, materials, and equipment to and from the sites, placing additional demands on public infrastructure like roadways, bridges, and ferries. Construction and trucking activities will vary during the Project, depending on what components are being installed at a particular time and the stage of construction. Road traffic generated during construction will be comprised of:

- trucks (transportation of construction equipment and materials, and various services); and
- passenger vehicles (construction workers' automobiles, SUVs, vans, and pick-ups).

Because the LAA is only accessible by ferry or by road through an international border, the capacity to transport workers, materials, and equipment to and from the LAA is limited. The increase in traffic volume may affect local traffic patterns in the transportation network leading to and from the PDA and surrounding area, and could lead to delays or disruptions to the use of ferry services by residents and tourists, at peak times. The increase in traffic volume, in particular, trucks transporting materials and heavy equipment, may also result in damage to existing road infrastructure.

There will be limited to no interaction with a change in public infrastructure and services during operation.

9.7.5.2 Mitigation

The following initiatives will be used to mitigate potential adverse environmental effects to a change in public infrastructure and services:

- All large-sized vehicles will obtain appropriate weight and size permits and the moving of large equipment involved in road closures will be conducted at low traffic times.
- The public will be notified about long delays and disruptions to the transportation network.
- Construction traffic will be avoided where feasible during daily peak traffic periods.
- Ongoing dialogue will take place with government agencies to ensure that the Project does not adversely affect service levels.

- Weight restrictions will be followed on all roads, any applicable permits related to transportation will be obtained.

9.7.5.3 Characterization of Project Residual Environmental Effects

During peak construction activities, the Project is anticipated to employ approximately 75 to 100 workers, most whom will likely be housed in nearby temporary accommodations. A temporary increase in population as a result of the Project could lead to increases in demand for public infrastructure such as roads, bridges and ferries as well as increases in demand for public services such as healthcare and emergency services.

The Project's environmental effects on a change in public infrastructure and services will be reduced by the hiring of local workers where possible, which will reduce the potential increase in population. Local workers living on the islands will already be making use of local public infrastructure and services and will not represent additional demand on these services or require increased capacity compared to currently. In general, workers employed by the Project are anticipated to be in good health (given the labour intensive nature of some activities) and are not likely to require substantive health or emergency services. Though not all accidents can be prevented all the time, the likelihood of accidents that require emergency services will be reduced through the use of personal protective equipment and standard safety procedures. Therefore, the Project related increase in demand for public infrastructure and services beyond current demands is anticipated to be generally low.

The LAA experiences seasonal changes in population because of tourism activities. In comparison, the peak Project-related workforce of 75 to 100 individuals makes up only a small percentage of this seasonal increase. As such, it is expected that there is sufficient capacity in the available services and infrastructure to support the temporary increase in population, most of the time.

Without crossing an international border, requiring a valid passport, and travelling an estimated additional 135 km to access the international bridge at Lubec, Maine, the LAA is only accessible via car ferry, some seasonally restricted. Furthermore, only one ferry to Grand Manan operates year-round and only one ferry operates between Deer Island and Campobello Island (on a seasonal basis during late spring to late summer), thereby further limiting public access to those islands. This means that the capacity for vehicles and personnel to travel into and out of the LAA is limited. In addition, the Project will result in an increased amount of traffic on local roads; however, the increased traffic is anticipated to occur in regular intervals (i.e., increased number of vehicles travelling to and from a specific site and specific times of day). Disruptions in transportation will be reduced using carpooling and buses to transport workers, and strategic scheduling of transport of workers, materials, and equipment in and out of the LAA. The public will be notified of extended disruptions and potential delays, allowing them to plan around these occurrences. When large numbers of vehicles are anticipated to enter or leave the LAA, these trips will be planned to reduce the potential disruptions to other users.

The transportation of personnel, equipment, and materials to and from the PDA during land-based construction could damage existing road infrastructure because of increased traffic volume or transport of heavy, oversized loads. These environmental effects are expected to be low in magnitude, provided that the proper permits are obtained and weight restrictions are complied with.

The Project is not expected to interact with a change in public infrastructure and services during operation.

Decommissioning of the existing submarine cables will result in similar environmental effects to the socioeconomic environment as during construction. However, should the existing cables be decommissioned in place, the scale of the environmental effects would be smaller.

The residual environmental effects of the Project on a change in public infrastructure and services are predicted to be adverse, since they will increase demand for public infrastructure and services including transportation on and off the islands, for which there is limited capacity, however with mitigation they are not predicted to be significant.

9.8 SUMMARY OF PROJECT RESIDUAL ENVIRONMENTAL EFFECTS

Table 9.8 summarizes the environmental effects assessment and prediction of residual environmental effects resulting from those interactions between the Project and the socioeconomic environment rated as having a potential interaction in Table 9.7.

Table 9.8 Summary of Project Residual Environmental Effects on the Socioeconomic Environment

Residual Environmental Effect	Residual Environmental Effects Characterization								
	Project Phase	Direction	Magnitude	Geographic Extent	Duration	Frequency	Timing	Reversibility	Ecological and Socioeconomic Context
Change in land and resource use	C	A	M	PDA	ST	C	A	R	L
	D	A	L	PDA	ST	C	A	R	L
Change in employment and economy	C	P	M	LAA	ST	C	N/A	R	L
	D	P	L	LAA	ST	C	N/A	R	L
Change in accommodations	C	A	M	LAA	ST	C	A	R	L
	D	A	L	LAA	ST	C	A	R	L
Change in public infrastructure and services	C	A	L	LAA	ST	C	A	R	L
	D	A	L	LAA	ST	C	A	R	L

KEY
See Table 9.2 for detailed definitions

Project Phase
C: Construction
O: Operation
D: Decommissioning

Direction:
P: Positive
A: Adverse

Magnitude:
N: Negligible
L: Low
M: Moderate
H: High

Geographic Extent:
PDA: Project Development Area
LAA: Local Assessment Area

Duration:
ST: Short-term
MT: Medium-term
LT: Long-term

N/A: Not applicable

Frequency:
S: Single event
IR: Multiple irregular event
R: Multiple regular event
C: Continuous

Timing:
A: Applicable
N/A: Not applicable

Reversibility:
R: Reversible
I: Irreversible

Ecological/Socioeconomic Context:
L: Low socioeconomic resiliency
M: Medium socioeconomic resiliency
H: High socioeconomic resiliency

Based on the above, the residual environmental effects of the Project on a change in land and resource use, change in accommodations, and change in public infrastructure and services during both construction of the Project and the eventual decommissioning of the existing cables are predicted to be adverse, since they will result in increased demand for existing accommodations, infrastructure, and services, and cause a disruption to land and resource use. The magnitude is predicted to be low or moderate, because these environmental effects are generally expected to be relatively small and short-lived and it is anticipated that there is sufficient capacity to accommodate the additional demand for

accommodations, public infrastructure and services, or for recreational land use posed by the Project. The geographic extent is generally limited to the LAA, and the duration and frequency are predicted to be short-term and continuous through the construction and decommissioning phases of the Project, but will be reversible after those phases are complete. The timing for these environmental effects is applicable, given the changes in local population related to tourism, the residual environmental effects of the Project on a change in land and resource use, change in accommodations, and change in public infrastructure and services have the potential to be greater in magnitude during the summer tourist season, but specific mitigation measures will be developed and implemented during these peak seasons. The ecological and socioeconomic context is low socioeconomic resiliency because the region is sparsely populated with relatively few service centres.

The residual environmental effects of the Project on a change in employment and economy are predicted to be positive within the LAA during construction. The Project will result in increased employment opportunities and direct and indirect revenues from Project-related goods and services.

9.9 DETERMINATION OF SIGNIFICANCE

In consideration of the Project planning, design, and mitigation and adaptive management measures described herein, the residual environmental effects of the Project on a change in land and resource use, change in accommodations, and change in public infrastructure and services as part of the socioeconomic environment during all phases of the Project are predicted to be not significant. Likewise, significant adverse environmental effects to a change in employment and economy as part of the socioeconomic environment are not expected to occur during any phase of the Project.

These predictions are made at a high level confidence, based on a good understanding of the general effects of construction activities on the socioeconomic environment and the effectiveness of mitigation measures. Activities associated with construction, operation, and decommissioning of the Project components can be mitigated using the proposed known mitigation and environmental protection measures, as described in Section 9.7. The only exception is for a change in accommodations, for which the prediction confidence is moderate. A follow-up program to assess peak demands on accommodations during peak tourism seasons and an adaptive management approach to lessen environmental effects if capacity appears to be adversely affected, will be implemented to verify this environmental effects prediction and the effectiveness of mitigation.