

12.0 ASSESSMENT OF ENVIRONMENTAL EFFECTS ON CURRENT USE OF LAND AND RESOURCES FOR TRADITIONAL PURPOSES BY ABORIGINAL PERSONS

Current use of land and resources for traditional purposes by Aboriginal persons was selected as a valued component (VC) in recognition of the potential importance of the lands and resources within the Project development area (PDA) currently used for traditional purposes by Aboriginal persons, as well as the constitutionally protected rights of Aboriginal persons to carry out those activities.

In addition, the requirements of the *Canadian Environmental Assessment Act, 2012* state that the effect of any change that may be caused to the environment on the current use of land and resources for traditional purposes by Aboriginal persons must be taken into account when conducting an environmental assessment for a project. Similarly, as described in the *Guide to Environmental Impact Assessment in New Brunswick*, pursuant to Section 5(2) of the New Brunswick *Environmental Impact Assessment Regulation 87-83*, proponents are required to take into consideration all cultural activities, hunting, fishing, gathering and traditional uses and practices by Aboriginal persons.

For the purposes of this assessment, “current” refers to the last 100 years (i.e., living memory) for use of the land and resources for traditional purposes. Current and past use of the land and resources by Aboriginal persons in carrying out their traditional activities is an integral part of their lives and culture. “Use” refers to these traditional activities and includes the right to hunt, trap, fish, gather, as well as follow Aboriginal customs, practices and traditions on ancestral lands (AAS 2011). “Land” refers to and consists of both the terrestrial and marine footprints of the Project, as defined by the PDA, Section 2.1.

The assessment of environmental effects in this VC has been made based on information available at the time of writing. NB Power is working with Aboriginal leadership and communities to undertake traditional land and resource use (TLRU) and Indigenous Knowledge (IK) studies for this Project from both the Wolastoqey (Maliseet) and Mi’kmaq First Nations, to offer more specific information on traditional activities that may be occurring in the PDA and region. At the time of preparation of this document, only the TLRU study prepared by the Wolastoqey First Nation (Wolastoqey TLRU) was available. Information from this study on existing current use and recommendations from the Wolastoqey First Nation were incorporated into this assessment. Once the Mi’kmaq First Nation IK study is completed, NB Power will also consider the information presented in that study separately in the overall planning and design of the Project.

This VC is closely related to the CRA fisheries VC (Section 11.0) which addresses Aboriginal communal commercial and food, social, and ceremonial (FSC) fishing. It is also closely related to the marine environment VC (Section 7.0) which addresses potential biological effects on fish species which may be targeted in a traditional use fishery.

For the assessment of potential environmental effects of the Project on the use of the PDA by Aboriginal persons prior to 100 years ago, the reader is referred to the heritage resources VC (Section 10.0), where

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REPORT: FUNDY ISLES SUBMARINE CABLES REPLACEMENT PROJECT, NEW BRUNSWICK

Assessment of Environmental Effects on Current Use of Land and Resources for Traditional Purposes by Aboriginal Persons

such use might have resulted in archaeological or spiritual sites of importance that may have been created during earlier timeframes.

12.1 REGULATORY AND POLICY SETTING

As previously described, in a provincial EIA in New Brunswick, all cultural activities, hunting, fishing, gathering and traditional uses by First Nations must be taken into consideration as described in the *Guide to Environmental Impact Assessment in New Brunswick*, pursuant to Section 5(2) of the *New Brunswick Environmental Impact Assessment Regulation 87-83*. As a Crown agency, the New Brunswick Department of Environment and Local Government (NBDELG) has a duty to consult with First Nations prior to carrying out any activity or authorization that might infringe Aboriginal and treaty rights held by Aboriginal people. As a Crown corporation, NB Power is similarly responsible for implementing consultation with First Nations. The New Brunswick Duty to Consult Policy (2011) provides direction to the provincial government on consultation with the Mi'kmaq and Wolastoqey (Maliseet) First Nations of New Brunswick. Similarly, federal regulatory agencies also have a duty to consult prior to exercising any power, duty or function that might infringe Aboriginal and treaty rights.

At the federal level, as previously stated, the *Canadian Environmental Assessment Act, 2012* requires that the effect of any change that may be caused to the environment on the current use of land and resources for traditional purposes by Aboriginal persons must be taken into account when conducting an environmental assessment for a project. This Project may also fall under the jurisdiction of the federal *Fisheries Act* and *Oceans Act*, described in the following sections.

Fisheries Act

Aboriginal fishing activities take place in two distinct fisheries, the communal commercial fishery, and the Food, Social, and Ceremonial (FSC) Fishery. The general provisions that are set out under the federal *Fisheries Act* (refer to CRA fisheries VC, Section 11.0) for the communal commercial fishery apply to the FSC fishery in the Bay of Fundy in terms of general protection of CRA species. Provisions under the *Fisheries Act* protect fish and fish habitat, including fisheries resources, and apply specific regulations governing fisheries.

FSC licenses are issued under the authority of the *Fisheries Act* and of subsection 4(1) of the *Aboriginal Communal Fishing Licenses Regulations*.

Fishery resources are protected from uncontrolled fishing activity through various measures such as area closures, fishing quotas, fishing seasons, and gear and vessel restrictions as described and detailed under the regulations presented above and by Fisheries Management Decisions applied by DFO in accordance with the roles and responsibilities outlined in the *Fisheries Act* (DFO 2012).

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REPORT: FUNDY ISLES SUBMARINE CABLES REPLACEMENT PROJECT, NEW BRUNSWICK

Assessment of Environmental Effects on Current Use of Land and Resources for Traditional Purposes by Aboriginal Persons

Oceans Act

Other broad mechanisms for the protection of marine resources are provided in the federal *Oceans Act* which governs the establishment and alteration of fishing zones and Marine Protected Areas within Canadian waters.

12.2 POTENTIAL ENVIRONMENTAL EFFECTS, PATHWAYS, AND MEASURABLE PARAMETERS

Activities and components of the Project could potentially interact with land and resources to result in adverse environmental effects on current use in the PDA. In consideration of this potential interaction, the assessment of Project-related environmental effects on current use is therefore focused on the following potential environmental effects:

- Change in current use of land and resources for traditional purposes by Aboriginal persons.

The effect pathways and measurable parameters for the assessment of the environmental effect presented above are provided in Table 12.1.

Table 12.1 Potential Environmental Effects, Environmental Effects Pathways, and Measurable Parameters for Traditional Land and Resources Use by Aboriginal Persons

Potential Environmental Effect	Environmental Effect Pathway	Measurable Parameter(s) and Units of Measurement
Change in current use of land and resources for traditional purposes by Aboriginal persons	<ul style="list-style-type: none"> • Temporary or permanent loss of access to or use of fishing, hunting, trapping, gathering, or cultural or spiritual areas or opportunities (referred to herein as traditional activities*). • The Project may change the health or habitat of traditionally harvested species. 	<ul style="list-style-type: none"> • Duration of time that traditional activities are not able to be conducted. • Documented current use resources for traditional purposes by Aboriginal persons.
<p>* Traditional activities include the right to hunt, trap, fish, gather, and follow Aboriginal customs, practices, and traditions on ancestral lands (AAS 2011).</p>		

12.3 BOUNDARIES

12.3.1 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 (through Head Harbour Passage) and one from Campobello Island to Grand Manan Island (through the Grand Manan Channel). It also includes the footprint of four land-based overhead-to-underground cable riser stations and associated landfall located at Deer Island (at Chocolate Cove),

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REPORT: FUNDY ISLES SUBMARINE CABLES REPLACEMENT PROJECT, NEW BRUNSWICK

Assessment of Environmental Effects on Current Use of Land and Resources for Traditional Purposes by Aboriginal Persons

Campobello Island (at Wilsons Beach and Little Whale Cove), and Grand Manan Island (at Long Eddy Point), as well as the footprint of the two existing submarine electrical cables, to be decommissioned at some time in the future when they have reached the end of their service life.

In the marine environment, non-Project vessels will be temporarily excluded during the cable installation or maintenance activities from a Project exclusion zone (PEZ) for navigational safety purposes as Project activities progress along the PDA. The PEZ will occupy a radius of one nautical mile (1,852 m) around Project vessels actively engaged in laying or repairing the submarine cable at any given location within the PDA.

The Local Assessment Area (LAA) includes the PDA area and extends one nautical mile (1,852 m) on either side of the PDA to reflect the PEZ during the cable installation. The LAA is the zone of influence where use of, or access to, areas where traditional activities may occur may be restricted or altered during construction and operation and the maximum area where Project-specific environmental effects can be predicted and measured with a reasonable degree of accuracy and confidence.

The PDA and LAA for the current use of land and resources for traditional purposes by Aboriginal persons VC are illustrated in Figure 12.1.

12.3.2 Temporal Boundaries

The temporal boundaries for the assessment of the potential environmental effects on the current use of land and resources for traditional purposes by Aboriginal persons include:

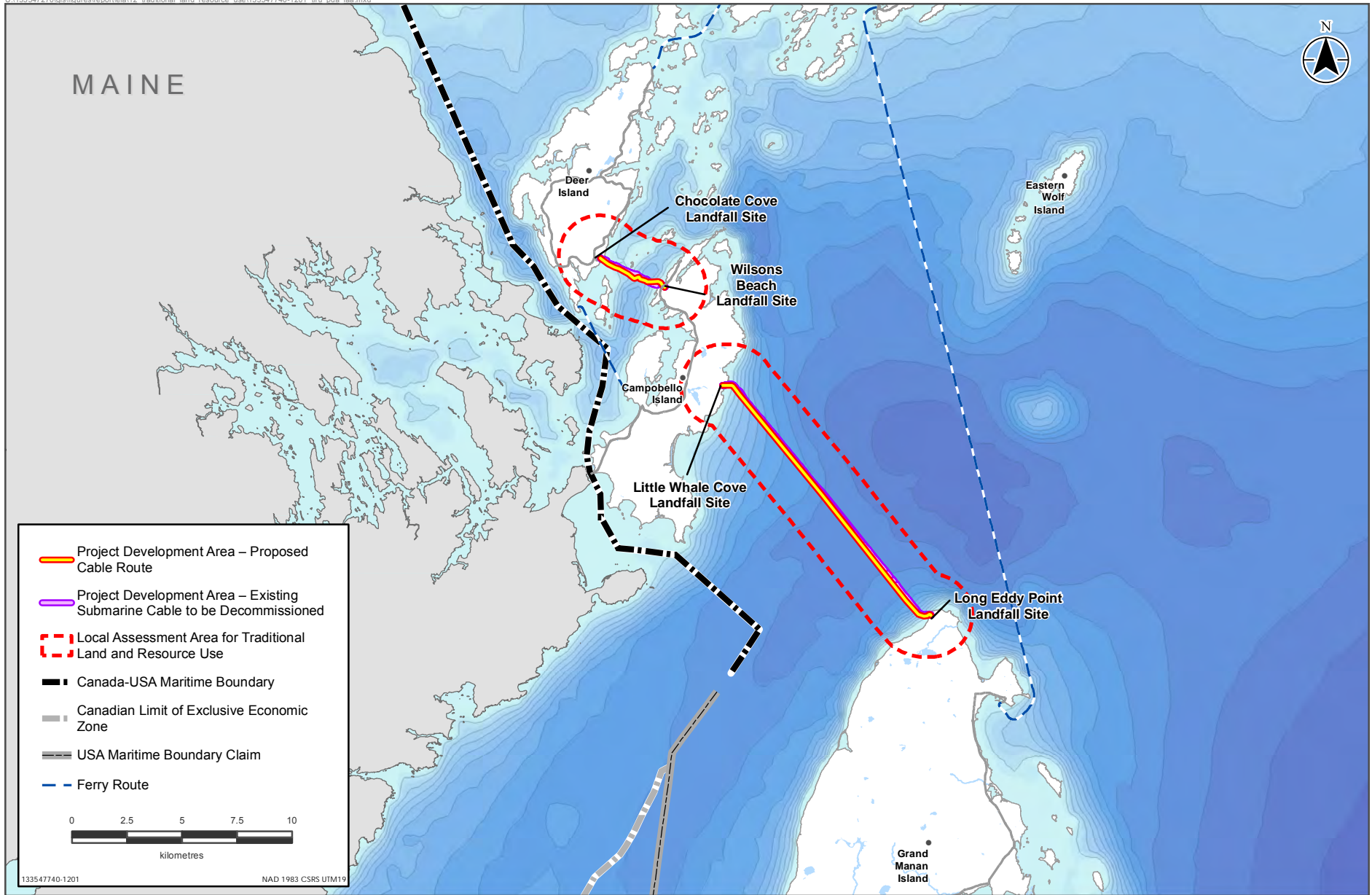
- construction – scheduled to begin in the spring of 2018 and last for approximately 16 months; and
- operation – scheduled to begin in late 2019 and continue for the life of the new submarine cables, currently anticipated to be at least 40 years.

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.

12.4 RESIDUAL ENVIRONMENTAL EFFECTS CHARACTERIZATION AND SIGNIFICANCE DEFINITION

For the purposes of this assessment, a significant adverse residual environmental effect on current use of land and resources for traditional purposes by Aboriginal persons is defined as a long-term loss of the availability of, or access to, land and water resources used by Aboriginal persons for traditional purposes within the LAA that cannot be mitigated or compensated.

Criteria used to characterize and describe residual environmental effects for the assessment of current use of land and resources for traditional purposes by Aboriginal persons are provided in Table 12.2.



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

Spatial Boundaries for Traditional Land and Resource Use

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REPORT: FUNDY ISLES SUBMARINE CABLES REPLACEMENT PROJECT, NEW BRUNSWICK

Assessment of Environmental Effects on Current Use of Land and Resources for Traditional Purposes by Aboriginal Persons

Table 12.2 Characterization of Residual Environmental Effects on Current Use of Land and Resources for Traditional Purposes by Aboriginal Peoples

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 current use of land and resources for traditional purposes by Aboriginal persons relative to baseline. Adverse – an environmental effect that moves measurable parameters in a direction detrimental to current use of land and resources for traditional purposes by Aboriginal persons relative to baseline.
Magnitude	The amount of change in measurable parameters or the VC relative to existing conditions.	Negligible – no measurable change from existing (baseline) conditions. Low – a measurable change from existing baseline conditions, but results in no net loss in the availability of or access to water and/or land-based resources currently used for traditional purposes. Moderate – measurable change (but less than high) from existing baseline conditions, in the availability of or access to water and/or land-based resources currently used for traditional purposes. High – measurable change from existing baseline conditions that is a non-compensated, substantive, and permanent loss in the availability of or access to water and/or land-based resources currently used for traditional purposes.
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 – environmental effect occurs only once. Multiple irregular event – occurs at irregular intervals. Multiple regular event – occurs at regular intervals. Continuous – occurs continuously.
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 construction period (effects are measurable for days to a few months). Medium-term – residual environmental effect extends throughout the construction and up to 40 years during operation. Long-term – residual environmental effect extends beyond the life of the Project.
Timing	Considers when the residual environmental effect is expected to occur. Timing considerations should be noted in the evaluation of the residual environmental effect, where applicable or relevant.	Not Applicable (N/A) – seasonal aspects are unlikely to alter the residual environmental effect on current use of land and resources for traditional purposes by Aboriginal persons. Applicable – seasonal aspects may alter the residual environmental effect on current use of land and resources for traditional purposes by Aboriginal persons.

Assessment of Environmental Effects on Current Use of Land and Resources for Traditional Purposes by Aboriginal Persons

Table 12.2 Characterization of Residual Environmental Effects on Current Use of Land and Resources for Traditional Purposes by Aboriginal Peoples

Characterization	Description	Quantitative Measure or Definition of Qualitative Categories
Reversibility	Pertains to whether a measurable parameter can return to its existing condition after the project activity ceases.	Reversible – the environmental effect is likely to be reversed after activity completion and reclamation. Irreversible – the environmental effect is unlikely to be reversed.
Ecological and Socioeconomic Context	Existing condition and trends in the area where environmental effects occur.	Undisturbed – area is relatively undisturbed or not adversely affected by human activity. Disturbed – area has been substantially previously disturbed by human development or human development is still present.

12.5 EXISTING CONDITIONS FOR CURRENT USE OF LAND AND RESOURCES FOR TRADITIONAL PURPOSES BY ABORIGINAL PERSONS

12.5.1 Approach and Methods

For the purposes of this assessment, key information for determining current use within the LAA came from the following sources:

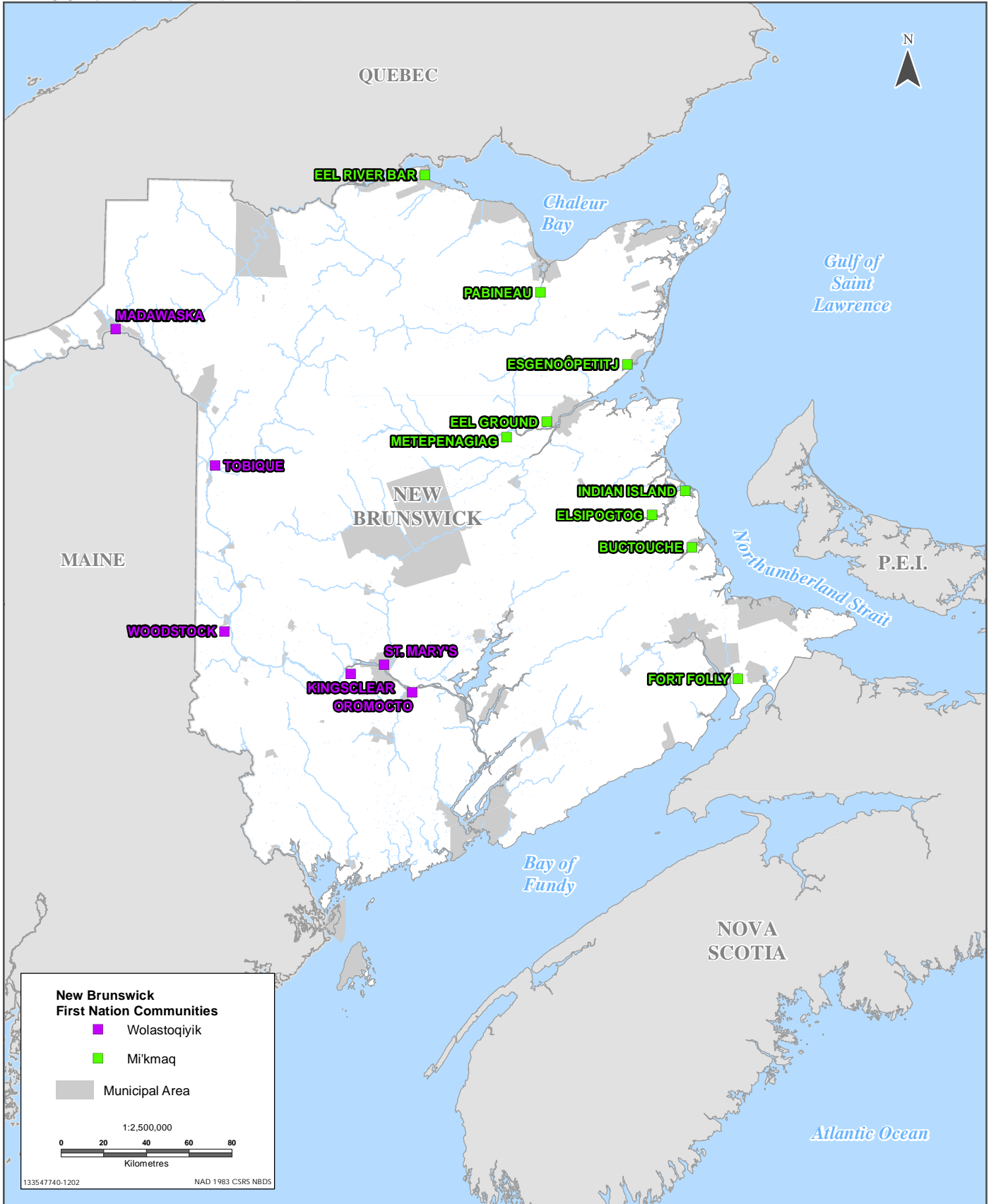
- The Wolastoqey (Maliseet) Nation in New Brunswick Traditional Land and Resource Use Study for NB Power’s Fundy Isles Project (MFC and WNNB 2017), and related comments made during engagement activities conducted by NB Power
- Publicly available documents pertaining to past and present Wolastoqey (Maliseet) lifeways and oral and written histories (often referred to as secondary source information)
- Data collected for other field disciplines (e.g., terrestrial environment, marine environment, CRA fisheries, and heritage resources)

An IK study is currently in progress for this Project by the Mi’kmaq First Nation, and NB Power will separately consider the information from this study in the overall planning and design of the Project, once this study becomes available.

12.5.2 Description of Existing Conditions

First Nations Communities

There are 15 First Nations communities within the province of New Brunswick, consisting of six Wolastoqey (Maliseet) Nation communities and nine Mi’kmaq Nation communities (Figure 12.2). Based on ethno-historical accounts, oral histories, archaeological research, and historical texts, the Wolastoqey



Sources: Mi'kmaq Areas Data - Paul, Daniel: <http://www.danielnpaul.com/Map-Mi'kmaq/territory.html>, Natural Resources (2011). Base data from the government of New Brunswick and Canada.

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REPORT: FUNDY ISLES SUBMARINE CABLES REPLACEMENT PROJECT, NEW BRUNSWICK

Assessment of Environmental Effects on Current Use of Land and Resources for Traditional Purposes by Aboriginal Persons

(Maliseet) and Mi'kmaq Nations and their ancestors have lived and used the land and resources in what is now New Brunswick since shortly following the retreat of the glaciers, with first evidence of Aboriginal occupation of what is now known to be New Brunswick dating back to approximately 11,000 years ago.

Mi'kmaq traditional territory is generally understood to be comprised of all of Nova Scotia, Prince Edward Island, and the eastern portion of New Brunswick. Mi'kmaq territory in New Brunswick extends west, to where it meets the neighboring Wolastoqey (Maliseet) territory, the divide of which is generally seen as the drainage area of the Saint John River (Wolastoq) and its tributaries as far north as the Gulf of St. Lawrence and south to the Bay of Fundy (Paul n.d.; Berneshawi 1997). The traditional territory of the Wolastoqey (Maliseet) people includes a large area of hunting, gathering, and fishing territory centered around the Saint John River, or, Wolastoq, “the beautiful river” in the Wolastoqey (Maliseet) language.

The Project is also in traditional Peskotomuhkati First Nation territory. Although not recognized in Canada under the *Indian Act*, the Peskotomuhkati First Nation historically lived throughout the islands of the West Isles in the Bay of Fundy and mainland of both New Brunswick and Maine. Traditionally, the Peskotomuhkati people lived seasonally on both sides of what is now the international border (Canada/USA) and traveled from place to place along the Fundy coast. The name *Peskotomuhkat* translates into “pollock-spearer”, and reflected the cultural importance of both pollock and spear fishing. The ancestral capitol of their territory was in the modern-day location of St. Andrews, NB and was known as *Qonasqamkuk* (Passamaquoddy-Maliseet Language Portal 2016). The Peskotomuhkati people were continuously moved off the land by European settlers who came to the area until the community was limited to a reservation in Washington County, Maine. Currently the Peskotomuhkati people have no legal status in Canada.

In the Peskotomuhkati language, Deer Island and Grand Manan were known as *Edokemeneek* and *Munasnook* respectively; however, no translation is provided (NBPA 2016; Hamilton 1996; Rayburn 1975). Campobello Island was originally known *Abah'gust*, translating to “parallel to the land” (NBPA 2016).

Although ethnohistoric maps (e.g., Ganong's (1899) “Map No. 12”) sharply delimit Wolastoqey, Mi'kmaq, and Peskotomuhkati traditional territories in New Brunswick, these boundaries may be a post-Contact construct, or at the very least more fluid than shown. The Project is located in an area which is currently used by the Wolastoqey (Maliseet) First Nation to conduct traditional activities including fishing, hunting, trapping, and gathering. The Wolastoqey (Maliseet) communities in New Brunswick are: Matawaskiye (Madawaska), Neqotkuk (Tobique), Wotstak (Woodstock), Pilick (Kingsclear), Sitansisk (St. Mary's), and Welamukotuk (Oromocto). There are also Wolastoqey (Maliseet) Communities in Québec, and across the United States border near Houlton, Maine. The closest Wolastoqey (Maliseet) communities to the Project are St. Mary's 24, Devon 30 (St. Mary's), Kingsclear 6, and Oromocto 26, all of which are located near Fredericton, NB, and the Brothers Indian Reserve 18 located near Saint John, although traditional activities are not limited to these locations and occur in a much larger area, including the Project location (MFC and WNNB 2017).

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REPORT: FUNDY ISLES SUBMARINE CABLES REPLACEMENT PROJECT, NEW BRUNSWICK

Assessment of Environmental Effects on Current Use of Land and Resources for Traditional Purposes by Aboriginal Persons

Current Use in the PDA and LAA

The PDA includes four landfall sites and cable riser stations. At each landfall site, the cable route emerges from the marine route to the beach or rocky coast (either through open cut trenching or horizontal directional drilling), and then transitions to a forested or treed area at the cable riser stations for the existing power transmission cables. The new cables will terminate at the proposed expansion of the existing cable riser stations. These areas are located on land owned by NB Power. The marine PDA crosses Head Harbour Passage (which separates Deer Island from Campobello Island) and the Grand Manan Channel (which separates Campobello Island from Grand Manan Island).

The Wolastoqey TLRU identified several traditional activities which may occur along the coast or coastal area of the LAA, including harvesting of seafood, trout, other fish, deer, eggs, berries, ceremonial plants, and medicinal plants and occupancy sites including cabins, tenting and other overnight locations, gathering sites, burial sites, archaeological sites, and sacred sites. The Wolastoqey TLRU also identified Aboriginal fishing activities which have the potential to occur within the marine portion of the LAA (MFC and WNNB 2017). Specific locations were not provided or are considered confidential; however, this assessment conservatively considers current use activities to be occurring in the LAA, regardless of documented use.

Vegetation in the PDA and LAA

Traditional gathering activities may occur within the coastal and land based portions of the LAA. Table 12.3 provides an overview of vascular plant species recorded within the LAA that are potentially of importance to Aboriginal persons for traditional gathering activities. This list is not intended to be comprehensive, and is based on past experience and information gathered from traditional knowledge studies in New Brunswick. The terrestrial environment is described and assessed in more detail as part of Section 6.0, including a complete list of vascular plants recorded within the LAA.

Table 12.3 Selected Vascular Plant Species within the LAA of Potential Importance for Traditional Gathering Activities

Scientific Name	Common Name
<i>Abies balsamea</i>	balsam fir
<i>Amelanchier sp.</i>	a serviceberry
<i>Aralia hispida</i>	bristly sarsaparilla
<i>Aralia nudicaulis</i>	wild sarsaparilla
<i>Betula papyrifera</i>	paper birch
<i>Fragaria virginiana</i>	wild strawberry
<i>Hypericum perforatum</i>	common St. John's-wort
<i>Juniperus communis</i>	common juniper
<i>Leontodon autumnalis</i>	fall dandelion
<i>Lupinus polyphyllus</i>	large-leaved lupine
<i>Malus pumila</i>	common apple

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REPORT: FUNDY ISLES SUBMARINE CABLES REPLACEMENT PROJECT, NEW BRUNSWICK

Assessment of Environmental Effects on Current Use of Land and Resources for Traditional Purposes by Aboriginal Persons

Table 12.3 Selected Vascular Plant Species within the LAA of Potential Importance for Traditional Gathering Activities

Scientific Name	Common Name
<i>Picea glauca</i>	white spruce
<i>Prunus virginiana</i>	chokecherry
<i>Ribes hirtellum</i>	smooth gooseberry
<i>Rubus allegheniensis</i>	Allegheny blackberry
<i>Rubus canadensis</i>	smooth blackberry
<i>Rubus idaeus</i>	red raspberry
<i>Rubus pubescens</i>	dwarf red raspberry
<i>Rumex acetosella</i>	sheep sorrel
<i>Salix bebbiana</i>	Bebb's willow
<i>Salix discolor</i>	pussy willow
<i>Salix humilis</i>	upland willow
<i>Sambucus racemosa</i>	red elderberry
<i>Vaccinium angustifolium</i>	late lowbush blueberry
<i>Vaccinium myrtilloides</i>	velvet-leaved blueberry
<i>Vaccinium vitis-idaea</i>	mountain cranberry
<i>Viburnum nudum</i>	northern wild raisin

Fish and Wildlife in the PDA and LAA

Community members of Mi'kmaq and Wolastoqey (Maliseet) First Nations participate in communal commercial fisheries, and fisheries for food, social, and ceremonial (FSC) purposes under the constitutional protection of Aboriginal and treaty rights. Access to these fisheries is through licences issued by the Government of Canada, community-negotiated agreements under the Aboriginal Fisheries Strategy, or by community assertion of Aboriginal and treaty rights to harvest species for which conservation is not a concern (MGS and UINR 2016). Eleven Aboriginal communities and organizations from New Brunswick and Nova Scotia are known to have recently held FSC fishing licences for areas near the PDA. The Wolastoqey TLRU identified 87 communal commercial licences in the Bay of Fundy (MFC and WNNB 2017).

The majority of the communal commercial fishing licences near the LAA are for groundfish, herring, lobster, sea urchin, and scallop (MFC and WNNB 2017). There is also potential for FSC fishing of a number of other species including American eel, mackerel, quahaug, Jonah and green crab, squid, shrimp, alewife/gaspereau, American shad, and smelt (Stantec 2016). Further information on the FSC and communal commercial fisheries for these species is provided in the Wolastoqey TLRU (MFC and WNNB 2017). Aboriginal fisheries are also described and assessed in more detail as part of Section 11.0.

A review of available information and field surveys conducted by Stantec in 2016 indicate that a total of 198 bird species, some of which are harvested for traditional use, have been recorded within 5 km of the

Assessment of Environmental Effects on Current Use of Land and Resources for Traditional Purposes by Aboriginal Persons

PDA. These species are described and assessed in more detail as part of Section 6.0. Other wildlife that may be hunted for traditional purposes were not identified within 5 km of the PDA.

12.6 PROJECT INTERACTIONS WITH CURRENT USE OF LAND AND RESOURCES FOR TRADITIONAL PURPOSES BY ABORIGINAL PERSONS

Table 12.4 identifies the physical activities that may interact with the current use of land and resources for traditional purposes by Aboriginal persons and result in the identified environmental effect. These interactions are discussed in detail in Section 12.7, in the context of effects pathways, standard and project-specific mitigation/enhancement, and residual environmental effects. A justification for activities where no interaction or potential environmental effect has been identified is provided following the table.

The Project is not anticipated to interact with a land-based change in current use of land and resources for traditional purposes by Aboriginal persons during any Project phase. This includes modifications to cable riser stations, clean-up and revegetation during construction, vegetation management and access road maintenance during operation, reclamation during decommissioning, and land-based transportation during all Project phases. The land based portion of the PDA houses the current cable riser stations and is owned by NB Power. Access to this area is already restricted and has been for a number of decades such that traditional activities cannot be practiced at these locations. Construction activities associated with the landfall locations and cable riser stations will thus not result in a substantive change in access or availability of land and resources for traditional use by Aboriginal persons. In addition, the features of the land based portion of the PDA are relatively small compared to the overall coastal areas of each of the islands, and are not unique, and access and availability of land and resources is not limited within the LAA.

In the marine portion of the PDA, inspection and energizing the Project during construction is not expected to interact with marine-based current use of land and resources for traditional purposes by Aboriginal persons, other than through the potential use of marine vessels to support this work which is assessed in the context of marine transportation.

During operation, energy transmission through the cables is not expected to interact with the current use of land and resources for traditional purposes by Aboriginal persons other than through the potential emission of EMF which is assessed below in the context of Project emissions and wastes.

During operation, emissions and wastes, in particular electromagnetic fields generated during operation) will not interact with marine-based current use of land and resources for traditional purposes by Aboriginal persons and is discussed in Section 7.0 (marine environment). Emissions and wastes generated during construction from vessels and equipment used in the marine PDA are expected to be similar to that of fishing boats and other vessels currently operating within the LAA and are not anticipated to substantively interact with marine-based current use of land and resources for traditional purposes by Aboriginal persons.

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REPORT: FUNDY ISLES SUBMARINE CABLES REPLACEMENT PROJECT, NEW BRUNSWICK

Assessment of Environmental Effects on Current Use of Land and Resources for Traditional Purposes by Aboriginal Persons

Table 12.4 Project-Environment Interactions with Current Use of Land and Resources for Traditional Purposes by Aboriginal persons

Phases and Physical Activities	Potential Environmental Effects
	Change in current use of land and resources for traditional purposes by Aboriginal persons
Construction	
Landfall construction	✓
Modifications to cable riser stations	-
Cable installation in Head Harbour Passage and Grand Manan Channel	✓
Inspection and energizing 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	

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REPORT: FUNDY ISLES SUBMARINE CABLES REPLACEMENT PROJECT, NEW BRUNSWICK

Assessment of Environmental Effects on Current Use of Land and Resources for Traditional Purposes by Aboriginal Persons

During all phases of the Project, employment and expenditure, including the procurement of Project-related goods and services, and employment will not affect the ability of Aboriginal persons to use land and resources for traditional purposes.

12.7 ASSESSMENT OF RESIDUAL ENVIRONMENTAL EFFECTS ON CURRENT USE OF LAND AND RESOURCES FOR TRADITIONAL PURPOSES BY ABORIGINAL PERSONS

12.7.1 Analytical Assessment Techniques

The assessment of potential environmental effects on current use of land and resources for traditional purposes by Aboriginal persons was conducted using a combination of field-collected data from other disciplines (e.g. terrestrial environment, marine environment, CRA fisheries, heritage resources), information from publicly available literature and desktop sources, and the Wolastoqey (Maliseet) Nation in New Brunswick Traditional Land and Resource Use Study for NB Power's Fundy Isles Project (MFC and WNNB 2017).

12.7.2 Project-Environmental Effects Pathways

The Project has potential to result in environmental effects to current use through potential restrictions in access and ease of use of the LAA to conduct traditional activities. As discussed in the Wolastoqey TLRU, changes to access of the LAA for communal commercial and FSC fishing, as well as harvesting activities, may have social implications since in addition to their subsistence and/or commercial value, these activities are opportunities for experiential intergenerational cultural knowledge transfer. There is also the potential that access to resources used for feasts, construction of cultural regalia and artwork, ceremony, or medicines may be restricted (MFC and WNNB 2017). With the establishment of a temporary Project exclusion zone (PEZ) within a one nautical mile radius around Project vessels during construction (and to a lesser extent during operation), access to areas currently fished in the Bay of Fundy may be restricted for some periods of time, thereby potentially limiting current use. There may also be some limited and temporary loss of access to land or resources on land, particularly at the landfall locations (if open cut trenching is used), during construction activities, but such access would be restored during operation. There is no loss of access expected at the cable riser stations, as access to these areas is currently limited and current use is not believed to be taking place there. Both these mechanisms are discussed further below.

During marine-based construction, non-Project vessels will be temporarily excluded from a PEZ in the marine environment, for navigational safety purposes. The PEZ will consist of a one nautical mile radius around Project vessels actively engaged in laying the submarine cable at any given location within the PDA and will move along the cable route. This will result in a temporary loss of access to the area within the PEZ for current use activities including communal commercial and FSC fishing while construction activities are taking place in a particular area.

During construction at the landfall sites, horizontal directional drilling (HDD) has been identified as the preferred method of cable burial, and is not anticipated to interact with the current use of land and

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REPORT: FUNDY ISLES SUBMARINE CABLES REPLACEMENT PROJECT, NEW BRUNSWICK

Assessment of Environmental Effects on Current Use of Land and Resources for Traditional Purposes by Aboriginal Persons

resources for traditional purposes. If HDD construction is not feasible, the landfall sites will be constructed using open cut trenching (OCT). Should OCT methods be used, access to the PDA will be temporarily restricted, preventing current use of this area for traditional purposes. Construction using OCT methods will also result in a physical disturbance to the shoreline in the PDA. This has the potential to displace resources used for traditional purposes for a short period during construction, but access would be restored during operation.

During operation, there is the potential for fishing gear to become tangled in or around the newly laid cables. For this reason, Aboriginal fishers may choose to avoid use of the PDA for fishing activities, which may represent a permanent restriction in access even though a formal exclusion zone will not be established during operation. Submarine cable maintenance activities during operation will also result in temporary restrictions in access to the PDA and surrounding area, for short periods of time while maintenance is being conducted.

During decommissioning, there will be no interaction between Project activities and current use if the existing submarine cables are abandoned in place. If the marine portion of the cables are removed there will be a temporary restriction in access to the PDA and PEZ similar to that during construction while Project vessels carry out the work. It is possible that Aboriginal fishers may be currently avoiding the area along the existing cable route to prevent fishing gear from becoming tangled in the existing cables. If these cables are removed, then access to this area would be improved, however the improvement would be minimal as the currently proposed cables will be placed in close proximity to the existing cables.

The Wolastoqey TLRU study identified several other potential pathways through which the Project has the potential to result in an environmental effect on current use. During construction, the Project will result in a disturbance to the ocean floor which has the potential to result in changes to the quality and quantity of marine resources within the LAA, including the potential for direct mortality or injury to fish and the disturbance of fish habitat. Project-related vessels equipment may also have the potential to result in mortality or injury to fish or marine mammals through collisions. Underwater noise generated from construction activities may also cause changes in the behaviour of fish and marine mammals in the LAA. The potential for the introduction of marine invasive species from Project-related vessels was also identified. These potential environmental effects are discussed in more detail in Section 7.0 (marine environment).

The Wolastoqey TLRU also identified the potential for an accidental event to result in environmental effects to the current use of land and resources for traditional purposes, in particular the potential for hydrocarbon spills in the marine environment. The potential environmental effects of accidents, malfunctions, and unplanned events are assessed in Section 14.0. In particular, the risk of a hazardous material spill is discussed in Section 14.3.3.

12.7.3 Mitigation

Mitigation for environmental effects related to a change in current use of land and resources for traditional purposes by Aboriginal Persons is closely linked to mitigation measures for CRA fisheries (Section 11.0) and the marine environment (Section 7.0), as follows.

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REPORT: FUNDY ISLES SUBMARINE CABLES REPLACEMENT PROJECT, NEW BRUNSWICK

Assessment of Environmental Effects on Current Use of Land and Resources for Traditional Purposes by Aboriginal Persons

- If construction activities must be scheduled during peak or commercial fishing seasons, or during lobster spawning seasons liaison, and communication will continue to manage and reduce conflicts with Aboriginal fishers in the LAA, including communication with Wolastoqey Fisheries Directors.
- Liaison and communications will continue with Aboriginal fishery licensees to keep fishers informed of planned Project activities, the Project schedule, and potential Project-fishing interactions.
- The associations representing potentially affected fisheries, including communal commercial and FSC fishers, will be directly contacted and notified of the timing of planned route clearance and cable installation before these Project activities begin. Initial notification of scheduled Project activities will be given at least one month in advance so that the fishing associations have adequate time to contact their membership and confirm that all fixed fishing gear within one nautical mile of the marine PDA can be retrieved and/or relocated for the brief period (i.e., in the order of one to three days) that Project vessels are operating in an area. Follow-up reminders will be communicated to the fishing associations as the Project work start-date approaches. Other communications outreach to CRA fishers will include issuance of Notices to Shipping and communication with individual fish harvesters if necessary for small-scale fisheries.
- To the extent feasible, efforts will be made to schedule marine-based construction activities so as to avoid overlap with commercial fishing seasons in the LAA.
- The Canadian Coast Guard will be informed of submarine cable associated work and a Notices to Mariners and/or a Notice to Shipping may be issued to alert vessel traffic of any changes within the region such as exclusion zones around Project vessels to allow for safe navigation of vessel traffic.
- The final as-built cable route will be included on official navigational charts and in Notices to Mariners.
- If requested, Aboriginal communities or individuals will be provided with the opportunity to harvest and gather species of importance to traditional activities on land that will otherwise be lost or removed as a result of the Project prior to construction. It is recommended that these opportunities to conduct harvesting and gathering activities be timed to coincide with the seasonality of the species of interest.
- Upon receiving the IK study for the Project conducted by the Mi'kmaq First Nation, any potential additional interactions will be reviewed and, as warranted, additional mitigation measures will be developed and implemented.

12.7.4 Characterization of Project Residual Environmental Effects

During construction, access to parts of the PDA and LAA will be restricted to Project related vessels only. This will result in a temporary, short term restriction of use of the area for traditional purposes, including Aboriginal fishing activities as a PEZ is established around Project related vessels. The amount of time that any given area will be subject to fishing restrictions is expected to be minimal (i.e., in the order of one to three days), after which it would be expected that the cable laying vessel would have moved along the route to deploy other parts of the cables. A temporary PEZ will be in place at some location along the marine cable routes during the entire period of laying the marine cable; however, as the cable laying vessel is mobile and progressively laying cable along the routes, the PEZ will be transient such that a specific location would only be restricted on a temporary basis until the vessel moves along. In addition, the location of the new cables is in close proximity to the existing cables, so it is likely that fishing activities in this area are already limited. To the extent feasible, efforts will be made to schedule marine-

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REPORT: FUNDY ISLES SUBMARINE CABLES REPLACEMENT PROJECT, NEW BRUNSWICK

Assessment of Environmental Effects on Current Use of Land and Resources for Traditional Purposes by Aboriginal Persons

based construction activities so as to avoid overlap with commercial fishing seasons in the LAA, of which Aboriginal fishers may participate. The location of the PEZ and associated restrictions will be communicated to fishers, including aboriginal fishers in advance to allow the fishers to plan their activities accordingly.

If construction of the landfall sites is conducted using OCT methods, access to the PDA in this area will also be temporarily restricted to construction personnel only. In addition, ground disturbance during OCT construction will result in a temporary localized loss of vegetation and potential displacement of species used for traditional purposes due to altered habitats or sensory disturbance. Where practicable, Aboriginal communities and individuals will be provided with the opportunity to harvest and gather species before OCT construction commences at the landfall sites.

The availability of land and resources for traditional use is not limited in the region and the area of Project related restrictions in access is small by comparison. Further, the PDA for the cable installation at the shoreline areas is relatively small area, with lands immediately adjacent to the cable route remaining accessible, to the extent that they currently are. It is anticipated that current levels of use of land and resources can be accommodated in adjacent areas and elsewhere in the region.

During operation, there is a risk that fishing gear may become entangled in the submarine cables and Aboriginal fishers may avoid the PDA to prevent this, resulting in a restriction in access. Navigational charts will be updated to include the location of the submarine cables so it can be easily identified by Aboriginal fishers. As previously mentioned, there are many areas in the region where access to land and resources for traditional use is not restricted. The area of Project-related restrictions to access during operation is small by comparison, and restrictions to access will be very limited in duration and anticipated only when maintenance activities are taking place a few times over the life of the cable. It is anticipated that current levels of use of land and resources can be accommodated elsewhere either adjacent to the PDA and/or in the region during operation.

During decommissioning, if the existing submarine cables are abandoned in place, there will be no substantive interaction between the Project and the current use of land and resources for traditional purposes by Aboriginal persons. If the existing submarine cables are removed, a short term and temporary restriction in access to land and resources within the LAA would result. The existing cables represent an entanglement hazard to fishing gear. Once decommissioning is complete, if the existing cables are removed, this hazard will be eliminated resulting in improved access to the PDA of the existing cables for use for Aboriginal fishing and other traditional purposes. However, access to this area may continue to be limited by the presence of the new cables, which will be placed in close proximity to the existing cables.

12.8 SUMMARY OF PROJECT RESIDUAL ENVIRONMENTAL EFFECTS

There will be interactions between the Project and the current use of land and resources for traditional purposes by Aboriginal persons during the construction, operation, and decommissioning phases of the project. Table 12.5 summarizes the environmental effects assessment and prediction of residual environmental effects resulting from those interactions.

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REPORT: FUNDY ISLES SUBMARINE CABLES REPLACEMENT PROJECT, NEW BRUNSWICK

Assessment of Environmental Effects on Current Use of Land and Resources for Traditional Purposes by Aboriginal Persons

Table 12.5 Summary of Project Residual Environmental Effects on Current Use of Land and Resources for Traditional Purposes by Aboriginal Persons

Residual Environmental Effect	Residual Environmental Effects Characterization								
	Project Phase	Direction	Magnitude	Geographic Extent	Duration	Frequency	Timing	Reversibility	Ecological and Socioeconomic Context
Change in current use of land and resources for traditional purposes by Aboriginal persons	C	A	L	LAA	ST	S	A	R	D
	O	A	L	PDA	LT	C	A	R	D
	D	P	L	PDA	LT	C	A	R	D
KEY See Table 12.2 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: Irregular event R: Regular event C: Continuous Timing: A: Applicable N/A: Not applicable Reversibility: R: Reversible I: Irreversible Ecological/Socioeconomic Context: U: Undisturbed D: Disturbed			

During construction, the environmental effect of the Project on current use of land and resources for traditional purposes by Aboriginal persons is predicted to be adverse, however the magnitude of the environmental effect is anticipated to be low as land and resources are widely available throughout the region and there is comparatively little current use activity expected to be affected on land and exclusion zones in the marine environment will be limited. The environmental effect will be short term, occurring during the construction phase only, and limited to a single event during the installation of the submarine cables. The environmental effect is considered reversible as access restrictions will be lifted following construction and the geographic extent will be limited to the LAA in the marine environment and PDA at the landfall sites. Timing is applicable since the scheduling of Project activities will influence the magnitude of the environmental effect due to the seasonality of fishing, hunting, gathering, and harvesting activities, in particular commercial fishing seasons.

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REPORT: FUNDY ISLES SUBMARINE CABLES REPLACEMENT PROJECT, NEW BRUNSWICK

Assessment of Environmental Effects on Current Use of Land and Resources for Traditional Purposes by Aboriginal Persons

During operation, the environmental effect of the Project on current use of land and resources for traditional purposes by Aboriginal persons will be adverse. The environmental effect will be reversible, long-term, and continuous for the life of the submarine cables. However, the environmental effect will be restricted to the PDA and low in magnitude given the availability of land and resources in the region. As with the construction phase of the Project, timing is applicable due to the seasonality of resources used for traditional purposes.

Overall, the environmental effects of decommissioning of the existing submarine cables on the current use of land and resources for traditional purposes by Aboriginal persons is expected to be positive. The environmental effect will be low in magnitude, given the availability of land and resources in the region, however it will be long term, continuous, and permanent. As with the construction and operation phases of the Project, timing is applicable due to the seasonality of resources used for traditional purposes.

12.9 DETERMINATION OF SIGNIFICANCE

As discussed in the previous sections, the PDA and LAA are small compared to the available fishing/hunting/gathering grounds within the region, and the timeframe and duration of restrictions in access to the PDA and LAA due to Project activities are anticipated to be short and limited to a one nautical mile radius around project vessels while they are carrying out Project activities prior to moving along. A long-term loss of the availability of, or access to, land and water resources used by Aboriginal persons within the PDA or LAA are not predicted.

With mitigation and environmental protection measures, the residual environmental effects on the current use of land and resources for traditional purposes by Aboriginal persons are rated not significant. This prediction is made with a moderate level of confidence given that only the Wolastoqey TLRU study was available for this assessment and that other First Nations (e.g., Mi'kmaq) may also carry out such a study, and also because of the limited engagement with Aboriginal persons conducted for the Project to date. In addition to the Mi'kmaq IK study expected for the Project, information gained from ongoing engagement with Aboriginal communities that practice current use activities in the area of the Project as well as Aboriginal fishers in the area, will confirm the environmental effects predictions and effectiveness of mitigation outlined in this VC, and adaptive measures will be implemented as appropriate.

There is no follow up or monitoring proposed for this VC. NB Power will continue to consult with Aboriginal communities to reasonably address Project-specific issues related to residual environmental effects and additional work and/or monitoring may be required pending the results of the engagement process.