# Nalcor Energy – Lower Churchill Project

# Labrador-Island Transmission Link
# Long's Braya and Fernald's Braya - Shoal Cove
# Impacts Mitigation and Monitoring Plan

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# 1 PURPOSE

The purpose of this Labrador-Island Link Transmission (L-ITL) Long's Braya and Fernald's Braya Impacts Mitigation and Monitoring Plan (IMMP) is to demonstrate how any negative environmental effects on species at risk will be mitigated, and sets out a program for monitoring the effectiveness of the mitigation measures. This Long's Braya and Fernald's Braya IMMP is a requirement for the issuance of a Section 19 Permit under the provincial *Endangered Species Act (ESA).*

Provincially, wildlife species at risk are managed under the Newfoundland and Labrador Endangered Species Act (ESA). The NLESA was developed to meet provincial commitments under the National Accord for the Protection of Species at Risk and the Canadian Biodiversity Strategy. The NLESA protects wildlife species, subspecies or populations within the province that are considered Endangered, Threatened or Vulnerable based on recommendations from COSEWIC or the provincial Species Status Advisory Committee (SSAC) (Government of Newfoundland and Labrador 2004, internet site). Under NLESA it is prohibited to disturb, harass, injure or kill any individual of a listed species, disturb or destroy the residence of listed species, or be in possession of individuals of a listed species (Government of Newfoundland and Labrador 2004, internet site).

To comply with regulatory requirements and commitments made in the Environmental Impact Statement (EIS) (Nalcor 2012), the SAR IMMP includes consideration of:

- Mitigation objectives – performance objectives in respect of each negative environmental effect;
- Mitigation – measures planned to achieve the mitigation objectives;
- Metrics and targets – specific, quantifiable, relevant and time constrained;
- Follow-up or Monitoring Programs – how the project will include follow-up or monitoring surveys to ensure that mitigation strategies are meeting the mitigation objectives; and
- Contingency – plan to be implemented should monitoring reveal that mitigation measures have not been successful.

L-ITL's Long's Braya and Fernald's Braya IMMP builds on existing information and commitments made in the EIS (Nalcor 2009), and conditions of permits and licenses for the Project. The purpose of this plan is to meet requirements for the issuance of a Section 19 permit under the ESA.

# 2 SCOPE

The Long's Braya and Fernald's Braya IMMP addresses the required aspects of listed species impacts mitigation and monitoring for the design, construction and operations and maintenance phases of the L-ITL (described in Section 6.0).

# 3 DEFINITIONS

**Environmental Assessment (EA):** The evaluation of the Project's potential environmental risks and effects before it is carried out and identification of ways to improve project design and implementation to prevent, minimize, mitigate, or compensate for adverse environmental effects and to enhance positive effects. This includes Component Studies, the L-ITL EIS (Nalcor 2012) and subsequent Information Requests.

**Environmental Management**: The management of human interactions with the environment (e.g., air, water and land and all species that occupy these habitats including humans).

**Environmental Management System**: Part of Nalcor's management system used to develop and implement its environmental policy and manage its environmental aspects.

**Environmental Protection Plan (EPP):** Document outlining the specific mitigation measures, contingency plans and emergency response procedures to be implemented during the construction or operations of the Project.

**Environmental Effects Monitoring**: Monitoring of overall Project effects to confirm the predictions of the EIS (Nalcor 2012) and to fulfill commitments.

**Environmental Compliance Monitoring:** Monitoring of Project activities to confirm compliance with regulatory requirements and commitments.

**Local Study Area:** Focuses on the 2 km wide transmission corridor while also considering the general nature and location of other Project components and activities (e.g., shoreline electrode sites, electrode lines, borrow sources, storage areas, temporary camps) and the 500 metre (m) wide Strait of Belle Isle submarine cable crossing corridor.

**Regional Study Area:** The area extending 1 km out from each side of the Local Study Area.

# 4 ABBREVIATIONS & ACRONYMS

**ACCDC** Atlantic Canada Conservation Data Centre

**CEAA** Canadian Environmental Assessment Act

**COSEWIC** Committee on the Status of Endangered Wildlife in Canada

**C-SEPP** Contract-Specific Environmental Protection Plan

**CWS** Canadian Wildlife Service

**DND** Department of National Defense

**EA** Environmental Assessment

**EIS** Environmental Impact Statement

**ELC** Ecological Land Classification

**EMP** Environmental Management Plan

**EPP** Environmental Protection Plan

**EMS** Environmental Management System

**ERC** Environment and Regulatory Compliance

**ERP** Emergency Response Plan

**FMD** Forestry Management District

**HVdc** High voltage direct current

**IMMP** Impacts Mitigation and Monitoring Plan

**KI** Key Indicator

**LCP** Lower Churchill Project

**L-ITL** Labrador - Island Transmission Link

**LSA** Local Study Area

**LWCRT** Labrador Woodland Caribou Recovery Team

**MMH** Mealy Mountains Herd

**Nalcor** Nalcor Energy

**NLDEC-WD** Newfoundland and Labrador Department of Environment and Conservation, Wildlife Division

**NLESA** Newfoundland and Labrador Endangered Species Act

**OHV** Off-Highway Vehicle

**OSEM** On-Site Environmental Monitor

**PEEMP** Protection and Environmental Effects Monitoring Plan

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|---|---|
| **EPP** | Environmental Protection Plan |
| **RSA** | Regional Study Area |
| **ROW** | Right of Way |
| **RWMH** | Red Wine Mountains Herd |
| **SAR IMMP** | Species at Risk Impacts Mitigation and Monitoring Plan |
| **SSAC** | Species Status Advisory Committee |
| **SOBI** | Strait of Belle Isle |
| **VEC** | Valued Ecosystem Component |

# 5 REFERENCE DOCUMENTS

| | |
|---|---|
| LCP-PT-MD-0000-PM-PL-0001-01 | LCP Project Execution Plan |
| LCP-PT-MD-0000-PM-CH-0001-01 | LCP Project Charter |
| LCP-PT-MD-0000-EA-PL-0001-01 | LCP Environmental Assessment Commitment Management Plan |
| LCP-PT-ED-0000-EA-SY-0002-01 | Environmental Impact Statement and Supporting Documentation for the Labrador-Island Transmission Link |
| LCP-PT-MD-0000-EV-PL-0009-01 | LCP HVdc Overland Transmission and HVdc Specialties Environmental Protection Plan |
| LCP-PT-MD-0000-RT-PL-0001-01 | Regulatory Compliance Plan |
| LCP-PT-MD-0000-HS-PL-0001-01 | Health and Safety Plan |
| LCP-PT-MD-0000-HS-PL-0004-01. | LCP Emergency Response Plan |
| LCP-PT-MD-0000-EV-PY-0001-01 | LCP No Harvesting Policy |

# 6 LABRADOR-ISLAND TRANSMISSION LINK PROJECT DESCRIPTION

As described in the L-ITL (the Project) EIS, the Project consists of the construction and operation of a ± 350 kilovolt (kV) high voltage direct current (HVdc) electricity transmission system from Central Labrador to the Avalon Peninsula on the Island of Newfoundland (the Island). A two kilometre (km) wide study corridor was identified for the purposes of environmental assessment. A 60 metre wide right-of-way (ROW) was then selected within the 2 km study corridor (Figure 6-1).

The proposed transmission system will include the following key components:

- an alternating current (ac) to direct current (dc) converter station at Muskrat Falls;
- approximately 400 km overhead HVdc transmission line from Muskrat Falls to Forteau Point;
- three, approximately 35 km long, submarine cables across the Strait of Belle Isle (SOBI) (i.e., between Forteau Point and Shoal Cove), with associated onshore infrastructure (transition compounds and land cables at both cable landings);
- approximately 700 km of overhead HVdc transmission line from Shoal Cove to the Avalon Peninsula;
- a dc to ac converter station at Soldiers Pond; and
- shoreline electrodes at L'Anse au Diable and Dowden's Point, and overhead, wood pole electrode lines between the shoreline electrode sites and their respective converter stations.

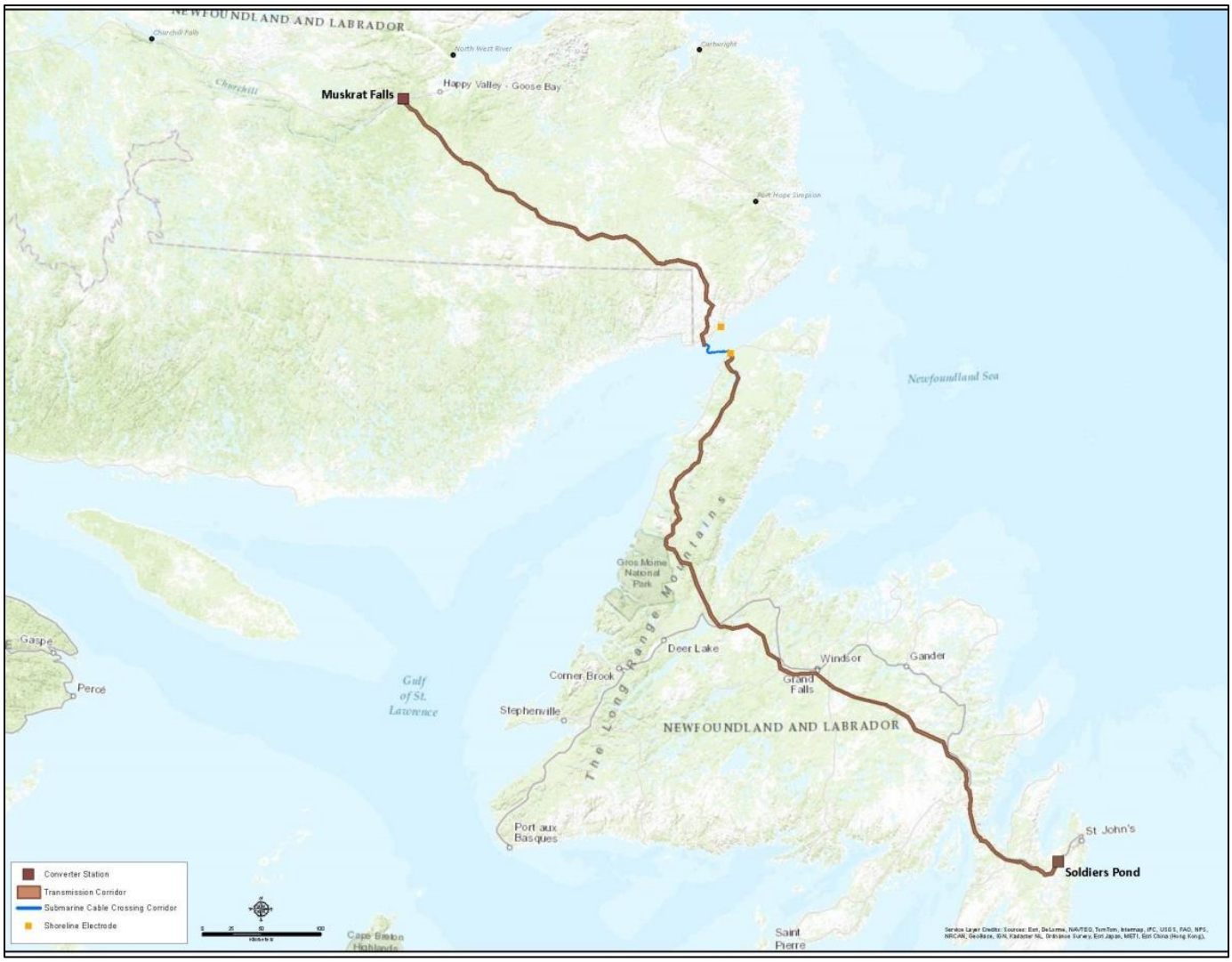


**Figure 6-1** Labrador-Island Transmission Link (Nalcor 2012)

# 7 LISTED PLANTS – LONG'S BRAYA AND FERNALD'S BRAYA

In September, 2013, LCP submitted a Listed Plants IMMP to meet requirements for the issuance of a Section 19 permit. That IMMP focused on the activities specifically associated with the horizontal directional drill pad at Shoal Cove. In addition to the drill pad site, the Project requires a trench be excavated from the drill pad to the transition compound. This trench will be created to lay cable that will transition from the marine cable to an overhead transmission line. The land cable will be installed in the prepared land trench via rollers and cranes. At this point, the detailed site layout has not been determined, however it will require laydown

area(s), an area for the winch base, and other auxillary equipment. Figure 7-1 identifies the proposed work area to complete the trench installation.

Mitigation measures for the trenching activity on the north side of Route 430 (i.e., within the critical habitat polygon identified in Figure 7-1) were developed in consultation with NLDEC-WD and include:

- A systematic plant survey will be conducted within the areas designated by NLDEC-WD as having a potential for the presence of listed plants prior to trenching activities commencing. The survey will also include an inspection for the presence of alien plant species at the same time as the Braya (i.e., Long Braya and Fernald's Braya) surveys to take advantage of the botanical expertise on site. If any are found, these should be removed prior to using the material to rehabilitate the surface of the trenched area.
- Materials extracted from the cable trench, north of Route 430, will be used for site rehabilitation of the trench.
- Approximately 0.3 m of matted material near the top of the trench will be stored separately for rehabilitation of the trench preserving seed banks and soil quality. Overburden will be stored in close proximity to the trench to minimize disturbance. The overburden piles will be kept as low as possible (e.g., approximately 1 m), while also trying to minimize the footprint disturbance.
- To reduce the likelihood of invasive species occurring in the stockpile, a biomat will be overlain on the stockpile (and elsewhere if appropriate) between the excavacation of the trench and rehabilitation. The biomat will be secured, semi-permeable to allow for soil moisture exchange but limit the amount of water penetrating into the pile to minimize bulk density changes, and coloured to minimize solarization.
- Care will be taken to not contaminate any "grey" areas with organic matter from vegetated areas.
- The stored matted material will be used for the 0.15 m native backfill layer along the trench north of Route 430. The remaining material removed from the trench will be used as backfill for the trench and will be stored separately from the upper layers. Excess vegetation cover will not be redistributed once the piles are spread back into the trench.
- To the extent practical, activities associated with trenching will be conducted from the north side of the trench (i.e., locate equipment as far away from the "no-go zone" as possible). Where possible, a 10 m wide buffer around the "no-go" zone will be applied to prevent the spread of Long's Braya and/or Fernald's Braya into disturbed areas.

- Laydown areas will be minimized and located in "grey" areas (i.e., non vegetated) to the extent possible.
- Materials grubbed and excavated to prepare the Shoal Cove drill site shall be used to rehabilitate the area outside of the cable trench north of Route 430.
- Area within 100 m of the stream visible in Figure 7-1, will be left undisturbed as possible. However, if areas are disturbed within 100 m of the stream stabilization and grading to minimize erosion and sedimentation of the stream may be required.
- No foreign soils or plants will be introduced to this area.
- If invasives appear in the stockpiled material, LCP will contact NLDEC-WD for advice on how to remove invasives.
- All equipment will be thoroughly inspected of foreign plants and soil material prior to mobilization on-site.
- All equipment operators will be notified of the environmental sensitivity of the area, and will receive environmental awareness training.
- An LCP representative will be present during the trenching activities on the north side of Route 430, and an on-site environmental monitor will conduct inspections at the site.


**Figure 7-1 Proposed Work Area for Land Cable Installation**

# 8 REPORTING

### 8.1.1 Listed Plants

The results of all surveys conducted in the Shoal Cove area will be submitted to NLDEC-WD.

In addition, in the growing season following construction, known locations of listed plant species identified within, or adjacent to the Project components will be revisited to evaluate the health and extent of the population. This will include evaluating the success of mitigation efforts undertaken. The report will also include consideration of any increase in OHV use in the vicinity of the plants.

As a part of the monitoring program, potential weed colonization will be monitored and weeds removed as required for at least three years along the north side of Route 430.

### 8.1.2 Contingency Plan

At this time, contingency plans are not anticipated for the listed species, and any changes to LCP's procedures or mitigation plans would be addressed through the adaptive management approach, if and as appropriate. Any changes proposed by the LCP would be based on the findings of the follow-up and monitoring programs.

# 9 EXTERNAL REFERENCES

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