

Parks Canada Basic Impact Analysis

1. PROJECT TITLE & LOCATION

Saltwater Pool Bathhouse Rehabilitation – Fundy National Park

2. PROPONENT INFORMATION

Parks Canada – Fundy National Park, New Brunswick

3. PROPOSED PROJECT DATES

Planned commencement: 2019-09-23

Planned completion: 2020-05-29

4. INTERNAL PROJECT FILE

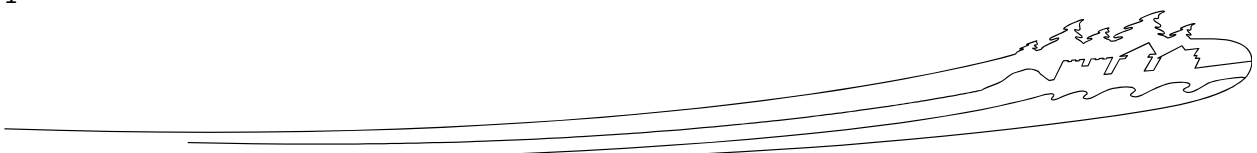
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5. PROJECT DESCRIPTION

The existing Saltwater Pool Bathhouse in Fundy National Park is showing signs of disrepair and requires rehabilitation. The Bathhouse is located adjacent to a saltwater swimming pool located in the Headquarters area of the park just off the Point Wolfe Road near the Bay of Fundy shoreline at Cannon Town Beach (Appendix II & Figure 1). The pool and bathhouse is a major asset and feature for Fundy National Park. The pool was rehabilitated in 2017-2018 and the new design reflects the need for parents with young children to be able to play in a shallow water environment using water and water features in a creative and fun way. The surrounding pool deck allows for both sun and shade lounging. The pool is designed to accommodate lane swimming and meets the Federation Internationale de Natation Amateur (FINA) standards for Provincial short course events. The present project's primary purpose is to renovate and alter the interior layout of the bathhouse as well as to improve the main entrance and adjacent site to provide an improved level of compliance with contemporary barrier-free design standards. In addition, deferred maintenance to structure will be addressed.



Figure 1: Saltwater Pool Bathhouse, Fundy National Park

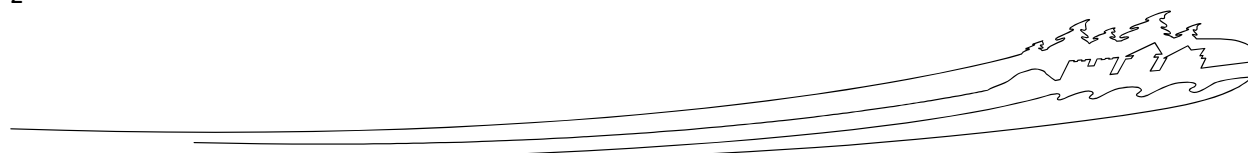


Saltwater Pool Bathhouse Rehabilitation – Fundy National Park

The existing pool and bathhouse was built in 1949-1950 when Fundy National Park was first created (Figure 2). The concrete rectangular pool is filled with saltwater from the Bay of Fundy and is known to be the only saltwater pool in the Parks Canada system. The Bathhouse, a Herbert Stanley Brown design, is a single storey, rectangular building faced on all four sides with rough-cut, irregularly coursed stone and topped by a medium-pitch gable roof clad in cedar shingles. An arched portico with a shed roof is attached to the poolside elevation. In 2005 the Saltwater Pool Bathhouse was designated “Recognized” by the Federal Heritage Buildings Registration Office (FHBRO) because of its historical associations and its architectural and environmental values. The building has not seen significant interior improvements since the 1980’s. It has a simple existing layout and the current project will further simplify the interior and reduce circulation bottlenecks. A study of barrier-free design opportunities for the building was undertaken by Public Works and Government Services of Canada (PWGSC) in 2008 and it is expected that the current project may adopt some of the features that were proposed at that time including door-less entrances to the male and female change rooms within the building.



Figure 2: Pool and Bathhouse under Construction in 1949 & Pool in 2018



Scope of the Work

The proposed scope of work involves the rehabilitation of the Bathhouse. The specific scope of work will consist of, but will not necessarily be limited to, the following:

- Replacement of the cedar shingle roofing (Figure 3)



Figure 3: Bathhouse Roof Requiring Replacement

- Restoration or replacement of deteriorated exterior wood trim, doors and windows (Figure 4)

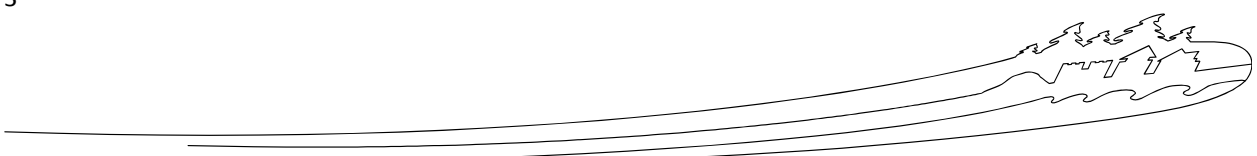


Figure 4: Exterior Wood Trim and Windows Requiring Replacement

- Conservation repair of exterior concrete and repair and repointing of stone masonry (Figure 5)



Figure 5: Areas of Stone Masonry and Concrete Deficiencies



- Universal Accessibility improvements will include:
 - Power-assisted entrance door operators
 - Improved ramps and stairs to the main entrance (Figure 6)
 - Interior renovations to create sightline entrances to change rooms, and assistive care washroom/shower/family change facilities



Figure 6: Existing Access Entrances

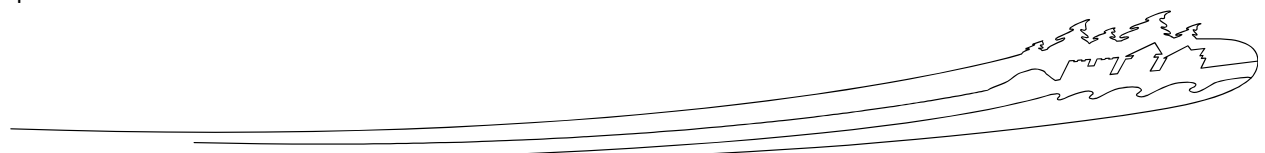
- A general refurbishing of the facility is required to bring it to a higher standard of accommodation (Figure 7)



Figure7: Interior Views of the Bathhouse

Hazardous Material

Identification of potentially hazardous materials is an important step prior to any demolition and renovation activity. Stantec Consulting Ltd. was retained in 2016 by Fundy National Park to conduct a HAZMAT assessment on the Saltwater Pool and Bathhouse. The following information on hazardous materials found in the pool and bathhouse buildings was taken from the HAZMAT assessment provided by Stantec Consulting Ltd. (February 5, 2016).



1. Asbestos

For the purpose of managing worker exposure during building maintenance, renovation and demolition, the New Brunswick Regulation and the Public Works and Government Services Canada (PWGSC Directive (DIR:057) define an asbestos-containing material (ACM) as a material which contains 1% or more by volume of asbestos. The assessment included both friable and non-friable asbestos building materials. The term friable is applied to a material that can be readily reduced to dust or powder by hand or moderate pressure. Asbestos materials that are friable have a much greater potential to release airborne asbestos fibres when disturbed.

The disturbance of ACMs on construction projects is governed by New Brunswick Regulation 92-106, *A Code of Practice for Working with Materials Containing Asbestos in New Brunswick (NB 92-106)*. ACMs must be removed prior to any demolition or renovation that may potentially disturb the asbestos-containing materials.

Asbestos in the Bathhouse:

Friable asbestos-containing building materials were identified to be present in the form of:

- Thermal insulating parging cement over diamond mesh, over fibre glass, (grey and off-white colour), on heat exchange cylinder
- Thermal insulating parging cement (grey colour) on steam pipe fittings

Presumed asbestos-containing materials (PACMs) were observed to be present in the form of:

- One fire rated door
- Roofing materials

Disposal Recommendations

Any work involving the disturbance, repair (*i.e.*, encapsulation) or removal of the above noted confirmed and presumed ACMs should be conducted by a qualified contractor using Asbestos Work Procedures as defined by *A Code of Practice for Working with Materials Containing Asbestos in New Brunswick* (N.B. Regulation 92-106) and Federal Directive 057. Also, should a material suspected to contain asbestos fibres become uncovered or discovered during demolition or renovation activities, all work in that area that may disturb the suspect material should be stopped. Samples of the suspect material should be submitted for laboratory analysis to determine if asbestos fibres are present or the asbestos should be removed by a qualified contractor prior to continuation of demolition activities.

2. Lead Paint

In New Brunswick, building materials covered with lead paint is regulated by the New Brunswick Department of Environment and Local Government (NBDELG) Policy for disposal of building materials containing lead paint. There is no specific construction legislation in Canada that establishes criteria for defining lead-based paint. However, both Canadian federal legislation and guidelines established by the U.S. Department of Housing and Urban Development (HUD) consider paint with lead concentrations greater than 5,000 parts per million (ppm) to be lead-based paint. This criterion is now widely, although not universally, used across Canada.

In Canada, the Surface Coating Materials Regulations (SOR/2005-109) under the federal Hazardous Products Act provides a concentration of lead that must not be exceeded in surface coatings that are presently sold in this country. This value has recently been reduced from 600 ppm to 90 ppm. However,



it is important to note that there is not a direct correlation between the concentrations of lead in a material to the potential occupational exposure if the material is disturbed.

Applicable sections of New Brunswick's *Occupational Health and Safety Act* (NB Reg. 91-191) should be followed whenever a material containing lead is disturbed. Under NB Reg. 91-191, a regulatory limit has been established for occupational exposure to airborne lead that may be present in a workplace. Worker exposures should not exceed the time-weighted average (TWA) occupational exposure limit (OEL) for airborne lead dust or fumes of 0.05 mg/m³. The TWA is the applicable regulated occupational exposure limit in New Brunswick and is based on the time-weighted average concentration for a conventional 8-hour work day and a 40-hour work week, to which it is believed that nearly all workers may be repeatedly exposed, day after day, without adverse health effects.

Lead-Containing Paint in the Bathhouse:

Lead-containing paint concentrations above the Construction & Demolition Site disposal guidelines (1000 mg/kg) was identified in the following materials:

- White paint chips (PS-FBH-03) – First Floor – Area 2 – wood window and door trim – 16,000 mg/kg.
- White paint chips (PS-FBH-05) – Exterior – First Floor – wood door trim – 26,000 mg/kg.

Lead Leachate Toxic Paint in the Bathhouse:

- White paint chips (PS-FBH-03) - interior window and door trim.
- White paint chips (PS-FBH-05) – exterior door and door trim.

Based on visual observations and the historic use of lead in construction, lead containing material may also be present in the following building materials:

- Roof, vent, and pipe flashings;
- Older electrical wiring materials and sheathing;
- Solder used on domestic water lines;
- Solder used in bell fittings for cast iron pipes;
- Solder used in electrical equipment; and
- Ceramic tile glaze.

These materials should be carefully separated from other building materials and re-cycled by a metals recycling depot. Based on the possible presence of lead-containing solder on copper piping, all copper piping removed during demolition/renovation of the building should be cut above and below any soldered joints to avoid direct disturbance of the lead solder.

Disposal Recommendations

All paint with lead concentrations below 1,000 mg/kg (the majority of the paint samples) can be disposed of at a Construction and Demolition site provided the paint is well-adhered to its substrate. Paint samples with a lead-concentration above 1,000 mg/kg and a lead leachate concentration less than 5 mg/L can be disposed of at a Regional Solid Waste Landfill provided permission is obtained from the facility. However, paint with lead concentration above 1,000 mg/kg and a lead leachate concentration above 5 mg/L should be removed by a certified contractor and disposed of at an approved hazardous waste disposal facility capable of handling leachate toxic waste.



3. Mercury

Mercury is regulated in New Brunswick under the Occupational Health and Safety Act. Mercury is commonly found in buildings as mercury vapour lighting, in thermometers, thermostats and some electrical switches. Mercury can also be found in minor amounts in fluorescent lamp tubes and in paints and adhesives.

Mercury or mercury vapour within light fixtures, thermometers, thermostats and electrical switches poses no risk to workers or occupants provided the mercury containers remain intact and undisturbed. Prior to demolition, remove mercury-containing materials and store in a safe location until they are properly disposed of.

Canadian Council of Ministers of the Environment (CCME) have developed Canada-Wide Standards for mercury-containing lights and mercury emissions. The goal of the standards is to reduce release of mercury into the environment.

Mercury in the Bathhouse:

- Mercury is present in four thermostats located in the basement of the Bathhouse connected to the two boiler units.
- Mercury vapour is present in approximately 26 fluorescent light tubes present throughout the basement.
- Mercury-containing equipment may be present in the electrical room of the basement as there are switches and gauges that could not be verified for mercury during the site visit.

Disposal recommendations

Prior to renovation/demolition, fluorescent light tubes should be packaged for recycling to avoid emissions of mercury vapours. The fluorescent light tubes and glass ampoules in the boiler thermostats that contain liquid mercury should be properly stored on site until they can be safely removed and transported from the site by a recycling contractor for disposal at a registered recycling depot. Ensure all mercury waste is handled, stored and disposed of in accordance with the requirements of the federal Transportation of Dangerous Goods Regulation.

4. Polychlorinated-Biphenyls (PCBs)

The past use of PCBs (as coolants and lubricants) in electrical equipment such as transformers, fluorescent light ballasts, and capacitors was common throughout North America. From the 1930s to the 1970s, PCBs were widely used in a number of industrial materials, including sealing and caulking compounds, inks and paint additives. PCBs are an environmental concern as they do not readily degrade and have been identified to bioaccumulate. In 1976, the federal Environment Contaminants Act prohibited the use of PCBs in heat transfer equipment installed after September 1, 1977, and in transformers and capacitors installed after July 1, 1980. For federal sites, the PCB Regulations (2008) applies.

The Environment Canada document “Identification of Lamp Ballasts Containing PCBs” Report EPS 2/CC/2 (revised) August 1991, can be used as a guide to identify PCB capacitors in fluorescent light ballasts and high intensity discharged (HID) light fixtures.



As of September 5, 2008, under Subsection 93(1) of the *Canadian Environmental Protection Act*, (CEPA), Federal PCB regulations have been published by the Canada Gazette Part II (SOR/2008- 273) that impose specific deadlines for the elimination of all PCBs in concentrations at or above 50 mg/kg. The regulation requires the elimination of all PCBs and PCB-containing materials currently in-use and in storage and limits the period of time PCB materials can be stored before being eliminated. Other aspects of the regulation govern the labelling and reporting of stored PCB materials and equipment as well as improved practices for the management of PCBs that remain in use (*i.e.*, those with PCB concentrations less than 50 mg/kg) until their eventual elimination.

Possible PCBs in the Bathhouse:

Based on the age of the building (*i.e.* constructed between 1949 and 1950), PCBs may be present in the fluorescent light ballasts of the approximately thirteen (13) light fixtures observed throughout the Basement of the building. Ten percent (10%) of these fixtures were examined for PCBs and were found to contain no PCBs based on “NO PCBs” label markings or date code and stamps. A Parks Canada representative present during the assessment reported that a number of the fluorescent lights in the building have been all replaced during the last major renovations (1990s).

Disposal Recommendations

PCB containing ballasts removed from the building during renovation or demolition should be handled according to the New Brunswick Policy on the Storage of PCB Light Ballasts. No other suspected PCB-containing equipment was identified within the subject buildings at the time of the assessment.

Project Time Line

This project is expected to go to tender in September 2019 and be awarded shortly thereafter. Following the tender period the successful contractor will provide a more detailed construction schedule. However, the work is anticipated to be conducted throughout the fall and winter months with the project completion date set for May 29, 2020.

6. VALUED COMPONENTS LIKELY TO BE AFFECTED

The Effects Identification Matrix located in Appendix I identifies environmental components likely to be affected by this project. The components most likely to be impacted include air, soil/landforms, water, flora, fauna, cultural resources and visitor experience.

Air

Air quality is influenced by the concentrations of air contaminants in the atmosphere. Air contaminants are emitted by both natural and anthropogenic sources and are transported, dispersed, or concentrated by meteorological and topographical conditions. Air contaminants eventually settle or are washed out of the atmosphere by rain and are deposited on vegetation, wildlife, soil, water surfaces, and other objects. In some cases, contaminants may be redistributed into the atmosphere by wind.

The nearest air quality monitoring stations are located in Saint John and Moncton. Sulfur dioxide (SO₂), total reduced sulphur (TRS), ground level ozone (O₃), nitrogen dioxide (NO₂) and fine particulate matter (FPM) are monitored at both stations. The current Government of Canada air quality health index rate both stations as low risk (https://weather.gc.ca/airquality/pages/provincial_summary/nb_e.html).



Soils/Landforms

Located in the Maritime Acadian Highland Region of Canada, Fundy National Park encompasses seven different biophysical land classifications, a system used to differentiate ecologically significant segments of the land surface with similar patterns of landscape, vegetation and drainage (Hirvonen and Madill, 1978). According to the Resource Description and Analysis, the Saltwater Pool Bathhouse is located within the Outwash Terrace land classification system where soils tend to be the deepest in the park and well drained. Soil series are mainly split between Gagetown gravelly sandy loam and Parleeville gravelly loam. Soils within the existing Bathhouse footprint was placed during the construction of the structure in 1949-1950 and may not be representative of the Outwash Terrace land system.

Most of Fundy National Park is underlain by volcanic sedimentary rock and associated intrusive rocks of late Precambrian age (termed the Eastern Volcanic Belt of the Coldbrook group). The soil material covering these rocks is generally less than 1 m thick and is dominated by sandy or gravelly loam that is augmented with small amounts of organic and disturbed soil components. The soils are coarse in texture and typically well drained (Cook & McKay).

Flora

With new species being identified each year, Fundy National Park is now home to some 800 plus species of vascular plants (fern, clubmosses, flowering plants), 270 plus bryophytes species (mosses and liverworts), and more than 400 species of lichens (Cook & McKay, 2010). Riparian vegetation and ground vegetation adjacent to the Saltwater Pool and Bathhouse could potentially be impacted during this project. A recent search of the Atlantic Canada Conservation Data Centre (ACCDC) yielded 65 species of flora all with S1 to S5M designations within a 5 km radius of the proposed project location (ACCDC 2016); however, no species were observed or reported within the immediate project area. The Bathhouse is bounded by parking lot on 3 sides and the pool on the other side. Small areas of manicured lawn, most likely consisting of non-native species, are located between the building and the parking lot. Ground vegetation, shrubs and trees are located on the north side adjacent to Dickson Brook. The more common ground vegetation include grasses, moss, ferns, clover, buttercup, hawkweed and asters. Tree and shrub species populate and stabilize the riparian area along Dickson Brook, they include but not limited to red spruce (*Picea rubens*), red maple (*Acer rubrum*), mountain maple (*Acer spicatum*), white birch (*Betula papyrifera*), yellow birch (*Betula alleghaniensis*) and speckled alder (*Alnus rugosa*).

Fundy National Park is currently monitoring the abundance, distribution and spread of several invasive plant species including reed canary grass (*Phalaris arundinacea*), woodland angelica (*Angelica sylvestris*), glossy buckthorn (*Frangula alnus*) and Japanese knotweed (*Polygonum cuspidatum*). These non-native species are considered highly invasive within Fundy National Park given their potential to spread quickly and out-compete native vegetation. As identified on Figure 8, woodland angelica was observed in 2018 adjacent to the Saltwater Pool and Bathhouse. In previous years it was observed and removed from the pool driveway and in the parking lot adjacent to the Point Wolfe Road at the entrance to the pool driveway.



Figure 8: Invasive Plant Species Found Adjacent to the Project Site

Fauna

A recent search of the Atlantic Canada Conservation Data Centre (ACCDC) yielded 59 species of fauna all with S1 to S5M designations within a 5 km radius of the proposed project location (ACCDC 2016). However, none of these species were observed or reported within the immediate project area.

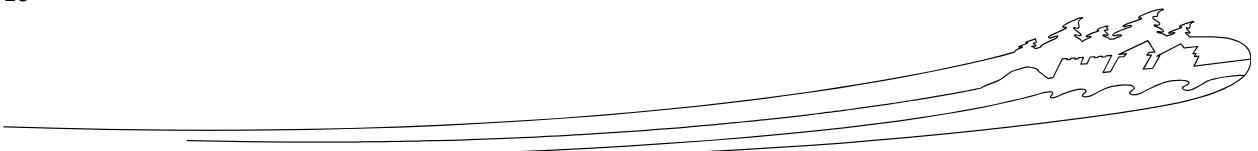
Over 38 species of mammals reside in Fundy National Park. These mammal populations are diverse and are representative of the natural food chain, with animals ranging from top carnivores to lower herbivores and scavengers. The terrestrial animals that are most likely to be encountered at the Bathhouse include moose (*Alces alces*), coyote (*Canis latrans*), white-tailed deer (*Odocoileus virginianus*), black bear (*Ursus americanus*), beaver (*Castor canadensis*), muskrats (*Ondatra zibethicus*), porcupine (*Erethizon dorsatum*), bobcat (*Lynx rufus*), mink (*Mustela vison*), and fishers (*Martes pennanti*). Additionally, Fundy National Park is well positioned on the Atlantic migration route, and over 260 bird species have been identified in the park or on the adjacent bay (Parks Canada, 2007), 95 of these species are known to nest in the park. Common species in the park include many types of warblers, pileated wood-peckers (*Dryocopus pileatus*), juncos (*Junco hyemalis*), and white-winged crossbills (*Loxia leucoptera*). A common resident of Fundy's forests is the ruffed grouse (*Bonasa umbellus*).

Dickson Brook contains Inner Bay of Fundy Salmon (*Salmo salar*), a species listed as endangered under the Species at Risk Act. As part of the Atlantic Salmon Recovery program, Fundy National Park uses Dickson Brook as salmon rearing habitat and have released approximately 420 000 fry since 2012. Efforts have been taken to recapture the salmon broodstock but it is likely that some individuals still remain in the brook. Future salmon recovery plans include more fry releases for Dickson Brook. In addition, healthy populations of brook trout (*Salvelinus fontinalis*) and American eel (*Anguilla rostrata*) is found in Dickson Brook. The American eel currently has no SARA status but it is listed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as threatened. Dickson Brook also provides habitat for several aquatic species of insect and invertebrates.

No instream work is proposed for this project, all activities will remain within the existing Bathhouse footprint. Basic and specific mitigation measures must be implemented to reduce potential impact to aquatic species and habitat. It is not expected that the project will have any negative impacts on the identified species at risk.

This project is currently scheduled to be completed within the most critical period of the migratory bird breeding season, which is May 1st through August 31st. For project activities scheduled during this critical period, a breeding bird activity survey must be conducted by a qualified biologist a maximum of 7 days prior to work commencing. Should breeding activity or an active nest be identified during the survey, the area must be left undisturbed with a suitable buffer zone established and maintained until the young have permanently left the vicinity of the nest. In addition, if breeding activity is observed while the work is underway, the Environmental Surveillance Officer assigned to the project will establish setback restrictions that must be followed until it can be proven that the young have permanently fledged the nest.

A survey conducted in 1988 identified 6 species of bats in Fundy National Park (Table 1). Although the Eastern pipistrelle (*Pipistrellus subflavus*) was identified in 1983 as a hypothetical species for occurrence in Fundy National Park, it was not recorded in the 1988 survey (Corbett *et al*, 1983). In addition, Tremblay identified that before 1979 *Myotis keeni* and *Myotis septentrionalis* were considered to be the same species. However, it was later determined that they were two different species. The 1988 survey in Fundy



National Park recorded the name *Myotis septentrionalis* even though the species was considered to be *Myotis keeni* in the mammal survey of Fundy National Park.

Table 1: Bats Species Found in Fundy National Park in 1988

SCIENTIFIC NAME	COMMON NAME	STATUS
<i>Myotis lucifugus</i>	Little Brown Bat	Common
<i>Myotis septentrionalis</i>	Northern Myotis	Rare
<i>Lasiurus borealis</i>	Red bat	Rare
<i>Lasiurus. cinereus</i>	Hoary Bat	Rare
<i>Lasionycteris noctivagans</i>	Silver-Haired Bat	Common
<i>Eptesicus. fuscus</i>	Big Brown Bat	Rare

White-nose syndrome (WNS) is an emerging fungal disease that is severely depleting populations of bats across eastern North America. It was first detected near Albany, New York, in 2006; since then, WNS has quickly spread to 30 U.S. states and 7 Canadian provinces, as of October 2018. Between 2006 and 2011, WNS was responsible for the deaths of well over one million bats across eastern North America (Government of New Brunswick Website).

White-nose syndrome was first detected in New Brunswick in a cave in Albert County near Moncton in March 2011. This cave is the province's most important bat hibernaculum (overwintering site). Approximately 6,000 bats used this site each year to overwinter. Researchers from the New Brunswick Museum discovered dead and dying bats around the entrance and inside the cave in March of 2011, and over the next few months, estimated that 80 to 90 per cent of the bat population in that cave had died. In addition, a bat that tested positive for WNS was found in Fundy National Park in March 2011 and another near Saint John in May 2011 (Government of New Brunswick Website). According to Donald McAlpine, New Brunswick Museum, 99 % of the bats from the 10 hibernacula that were being monitored in New Brunswick were lost by the spring of 2015 (McAlpine, pers. comm. 2016).

Currently, the little brown bat, northern myotis and the tri-colored bat (*Pipistrellus subflavus*) are all listed by the Species at Risk Acts as "Endangered" under Schedule 1. It was believed that all three species existed within Fundy National Park but there was no evidence to support the tri-colored bat in the 1988 survey. Any remaining bats, of these three species, in the Fundy National Park area are likely to be particularly important for the future repopulation as they may be the individuals that have a natural resistance to WNS.

Built assets can offer shelter for bats, especially in areas where suitable natural shelters are limited or absent. Built assets refer to buildings (attics, cellars, eaves, loose siding, walls, chimneys, etc.), picnic shelters, outdoor washrooms, bridges, tunnels, kiosks, signs, and other human-made structures such as culverts (Figure 9). Bats do not create openings but rather use existing entry points (Parks Canada BMP for Management of Bats in Built Assets). A qualified Parks Canada representative must conduct a bat survey prior to the start of construction to ensure that there are no bats present in or around the Bathhouse structure. If bats are found during the survey, the Contractor will be notified and further action will be taken by Parks Canada to protect individual bats.



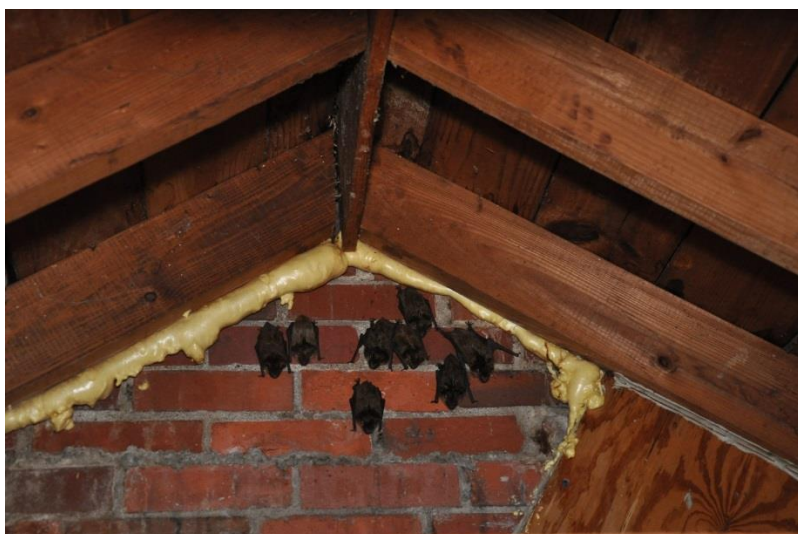


Figure 9: Bats Hanging Inside an Attic

Eighteen species of reptiles and amphibians have been identified in the park. Five of these species are considered rare; these include the leopard frog (*Lithobates pipiens*), the ring-neck snake (*Diadophis punctatus*), the four-toed salamander (*Notophthalmus viridescens*), northern dusky salamander (*Desmognathus fuscus*), and the blue-spotted salamander (*Ambystoma laterale*). This project is not expected to have an impact on these species but it is possible that other species are present in the area.

Water/Hydrology

The Saltwater Pool and Bathhouse is located adjacent to the mouth of Dickson Brook, a watercourse located in the Dickson Brook watershed, one of the few watersheds located entirely within park boundaries (Figure 10). The Dickson Brook watershed has a total drainage area of approximately 8 square

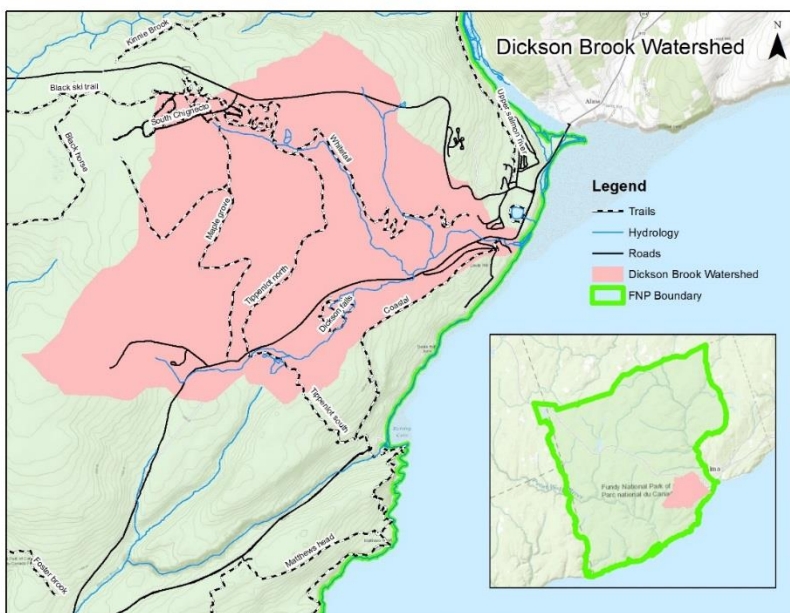


Figure 10: Dickson Brook Watershed

kilometers. While this is not considered large, it is characterized by very steeply sloping topography with tributary streams that are up to 14 times steeper than the lower main stem (Newbury, 2004). Due to the steep terrain, streams and brooks are subject to fast flowing water especially during snow melt or heavy rain fall events when the area is prone to flash flooding. In such cases, evidence of scouring, erosion and movement of soil and vegetation have been apparent and such occurrences have the capability to change the formation and character of waterways.



Dickson Brook empties into the Bay of Fundy just northeast of the swimming pool and parking lot. However, it should be noted that the mouth of Dickson Brook is frequently blocked by a large naturally occurring sediment bar. When this occurs, water seeps underground to reach the Bay of Fundy. On occasion, during times with heavy wave action, shoreline deposits are moved around and the sediment bar is breached.

Cultural Resources

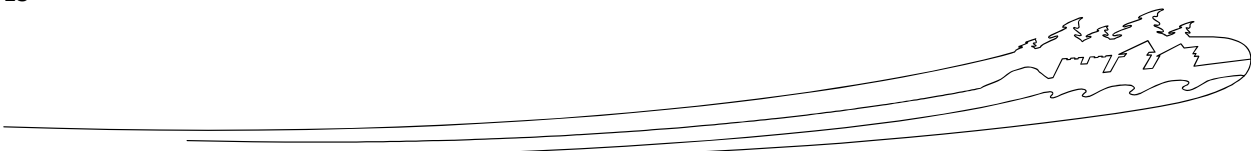
Although Fundy National Park is thought to fall within the traditional territory of both the Mi'kmaq and Wolastoqiyik (Maliseet) people, no physical evidence related to their use or occupation of the park has been found. The Mi'kmaq, Wolastoqiyik (Maliseet), and Peskotomuhkatie Aboriginal Peoples have a long history in Fundy National Park and its greater ecosystem (Fundy Biosphere) region and consider the area as part of their traditional territory, a landscape woven by a labyrinth of water, over which they travelled extensively on its rivers, lakes and coastlines. These people co-occupied the region in permanent villages and semi-permanent, seasonal encampments, for purposes such as salmon fishing. To date, little archaeological evidence of past aboriginal use has been found in the park, perhaps largely due to the fact that the sites preferred for traditional encampments in this rugged landscape were also the same sites appropriated for construction of logging mills and modern communities whose activities have obliterated the archaeological record. In addition, other nearby locations, known to have been used until well within living memory, such as Indian Island near Mary's Point, are slowly being lost to coastal erosion and sea-level rise (Cook and McKay, 2010).

During the early 1800's several areas within the park were settled by those seeking to carve a living from the rugged landscape. Logging operations and other activities such as fishing, farming and hunting became the way of life and brought settlement to locations along the coast and the interior. Records indicate that in 1832 Otis Cannon, a settler from New Horton, built a house, barn and outbuildings where the current pool and bathhouse sits today (Figure 11). Cannon constructed and operated a small sawmill a short distance from the mouth of Dickson Brook. In addition, Cannon erected fish weirs on Cannon Town Beach and operated a regular shad fishery. Around 1876 this property was taken over by Cannon's descendant Hannah Cannon, who married George Dickson from Herring Cove. Gradually the name Dickson came to replace that of Cannon when referring to the homestead and brook.

Park staff compiled an inventory of physical remains for many of the homestead properties that once delineated Fundy National Park. Details on foundations (homesteads, barns and outbuildings), dams, sawmill ruins, and bits and pieces of what once shaped settlements have been georeferenced and sketched. However, with the construction of the swimming pool and bathhouse in 1949, many of the remnants for the Cannon property would have been moved, buried or destroyed during the construction activities.



Figure 11: Otis Cannon Homestead Once Located at the Saltwater Swimming Pool Site



As previously mentioned, the Bathhouse located adjacent to the swimming pool has been designated a “Recognized” Federal Heritage Building since 2005. The Saltwater Pool and Bathhouse is a very late example of the Rustic Style of architecture, favored in North American national parks since the 1880’s and formally implemented in Canadian National Parks between 1902 and the 1930’s. The building competently employs the Rustic Style to speak to the park’s natural environment through its modest form and use of natural materials. An Archaeological Overview Assessment (AOA) was conducted by Parks Canada Archaeologist Andre Miller who reported that there are no archaeological concerns with the design concept and maintenance work identified for the Bathhouse and access ramp (Appendix III). In addition, Miller indicated that the proposed work did not trigger the requirement for an Archaeological Impact Assessment (AOA).

There are no predicted components of the project that would likely result in direct or indirect impacts to health and socio-economic components related to Aboriginal and non-Aboriginal peoples.

Visitor Experience

The Saltwater Pool and Bathhouse (Figure 12) is open seven days a week between the last weekend in June and the Labor Day long weekend in September. In 2010, the pool entrance fee was incorporated into the park entrance fee. With this change a considerable increase in attendance was noted between 2009 and 2010 with 6662 and 12186 occupancy respectively. In 2016, the pool occupancy was recorded at 16512, a significant increase since 2009. The pool is staffed with a number of lifeguards who monitor daily swimming activities in the pool. In addition, the lifeguards organize and conduct group swimming classes and private lesson throughout the season.

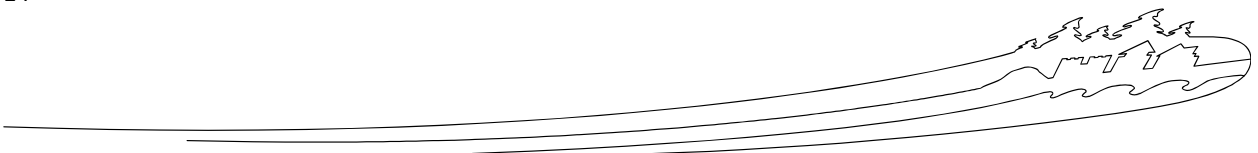


Figure 12: New Saltwater Swimming Pool, 2018

Access to the pool is facilitated by a two lane road intersecting with the Point Wolfe Road. Cannon Town Beach can also be accessed from the pool parking lot. The Coastal Trail (east) trailhead is located at the beginning of the pool driveway adjacent to the Point Wolf Road. Foot and vehicle traffic can be expected during the duration of this project.

7. EFFECTS ANALYSIS

Described below is a list of effects that could potentially impact the identified components at risk.



Air

- Exhaust emissions from vehicles, equipment and small gas operated equipment could potentially have an effect on air quality.
- Dust created from cutting, sanding and cleaning of concrete, rebar, stone, wall board and other wooden features could potentially have an effect on air quality.

Soil/Landforms

- Potential runoff, erosion and sedimentation from soil exposure.
- Soil compaction from foot and equipment traffic.
- Potential loss or damage of native flora during construction activities.
- Potential loss or damage of native fauna and habitat.
- Potential contamination of soil and/or water from potential fluid leaks and sediment release.
- Potential spread or introduction of non-native or invasive species.
- Potential impact to landscape and visual aesthetics
- Potential dust particle pollution.
- Introduction of building materials potentially harmful to the environment.

Flora

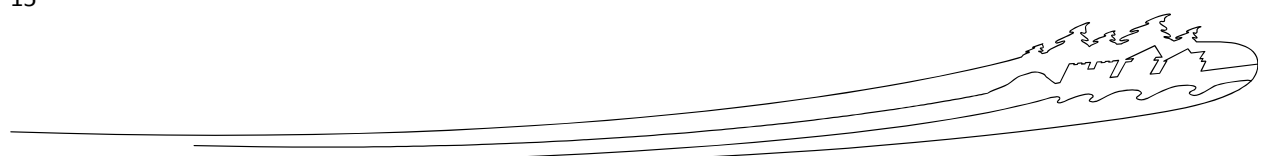
- Potential loss or damage of native flora from stockpiling, vehicle and machinery travel.
- Potential decrease in flora diversity from construction activities and movement of equipment.
- Possible disturbance, destruction or fragmentation to habitat.
- Introduction of non-native or invasive species through the movement of seed from other areas of the park or outside the park.
- Air pollution from exhaust or movement of dust particles.
- Introduction of building materials that could be potentially deleterious to flora habitat.
- Potential contamination of soil from potential machinery fluid leakage.

Fauna

- Possible damage or loss of native fauna or habitat.
- Potential decrease in fauna diversity.
- Possible disturbance, destruction or fragmentation to aquatic and terrestrial habitat.
- Air pollution from exhaust emissions or from the movement of dust particles.
- Potential noise disturbance to wildlife.
- Potential wildlife corridor disruption.
- Introduction of building materials that could be potentially deleterious to fauna and aquatic habitat.
- Potential runoff, erosion and release of sediment into Dickson Brook and the Bay of Fundy.
- Potential contamination of water and soil from potential machinery fluid leakage.

Water/Hydrology

- Potential runoff, erosion and sediment release into Dickson Brook or the Bay of Fundy as a result of exposed soils.



- Potential contamination of water if vehicles and equipment leak fluids.
- Possible disturbance or destruction to aquatic and terrestrial habitat.
- Potential introduction of dust particles and debris into Dickson Brook or the Bay of Fundy.

Cultural/Aboriginal Resources

- Possible damages to a federally designated FEBRO structure.
- Unidentified cultural/aboriginal resources could be directly impacted by construction activities.
- Deviating from the original scope of work could result in negative impact to areas not covered under the existing Archaeological Overview Assessment.

Visitor Experience

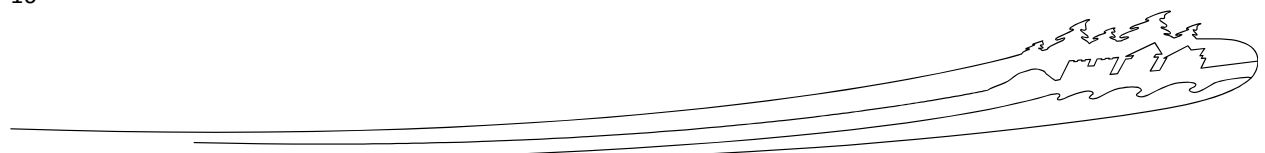
- Negative impacts to the natural resources and the landscape could potentially affect visitor enjoyment and expectation of the park.
- Potential access disruption to the swimming pool parking lot and Cannon Town Beach.
- Potential access disruption to the Coastal Trail trailhead located adjacent to the arch bridge on the swimming pool driveway.
- Increase in construction traffic and activity could result in safety concerns and negative visitor experience.
- Excessive noise in the pool and Headquarters area could reduce the appeal for visitor use.
- If work is delayed and the construction extended beyond May 29, 2020, it could have an impact on the availability of the pool and bathhouse for the 2020 operating season.
- Inadequate signage, alerting visitors of construction activities, can affect visitor experience and create safety concerns. Without barriers, visitors may wander into an active construction site without knowing the dangers and safety concerns.
- Increased construction traffic within the Headquarters area could potentially affect visitor experience and enjoyment.

1. MITIGATION MEASURES

The following mitigation measures are to be followed in order to reduce or eliminate potential negative impacts resulting from the work:

General

1. The Project Manager is responsible to ensure all parties receive a copy of this BIA and have them handy at all times.
2. The conditions presented in this BIA will be considered part of the project. Failure to comply may result in work being suspended pending rectification of problem(s).
3. All activities must conform to relevant Occupational Health and Safety Guidelines and shall be governed by and carried out in accordance with the Canada National Parks Act and Regulations and with all applicable Municipal, Provincial and Federal regulations.
4. Before commencing construction activities or delivery of materials to the site, the Contractor must submit an Environmental Protection Plan (EPP) for review and approval by Parks Canada.

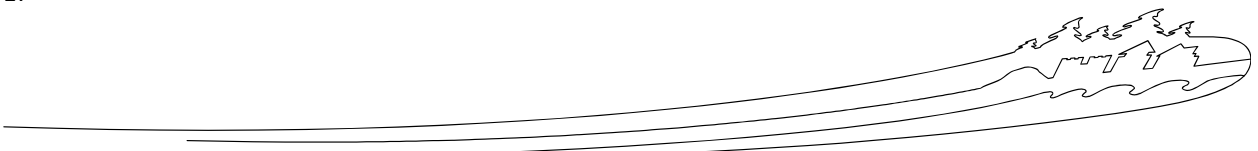


The EPP must include a comprehensive overview of known or potential environmental issues to be addressed during construction.

5. The Contractor is required to notify the Project Manager of the proposed work schedule at least one week in advance of potential start up.
6. A pre-construction meeting will be held on-site and attended by the Contractor, Project Manager, and the Environmental Assessment Officer. The meeting is to ensure construction personnel are aware of the environmental concerns, laws, rules and regulations that are associated with this project.
7. An emergency contact list with phone numbers is to be compiled and posted in a conspicuous location at the construction/project site.
8. Site access and the work area will be defined by the park representative prior to initiating project activities. Work will be confined to the identified disturbance footprint.
9. During construction phases, provide barricades, signs, and/or fencing as required to protect the public. Site access during construction must be restricted to authorized personnel only.
10. A designated Environmental Assessment Officer shall be kept informed of project scheduling and will be notified of changes at all times.
11. The Contractor must be aware that they are working in a National Park where emphasis is on ecological/cultural integrity and resource protection.

Soil, Landforms & Flora

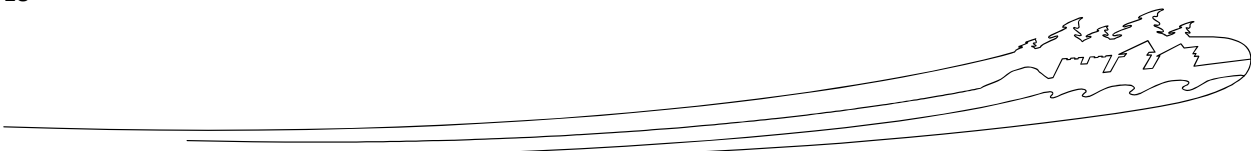
1. The Contractor must set project limits prior to the start of construction. No trees and vegetation will be cut or removed outside these limits. Tree removal will be limited to individuals within the construction site that have been identified by the park representative.
2. Equipment operators shall take extreme caution to avoid striking vegetation, including trees and tree bark that is outside of the construction corridor. Efforts will also be taken to minimize damage to tree roots.
3. Measures shall be taken to protect vegetation remaining on the site and not intended for removal. The park representative must be informed if there is a requirement to remove unmarked vegetation. Removal shall only commence with the approval of the park representative. Root systems shall be left intact whenever possible.
4. Prune limbs close to the tree trunk. For a clean cut, make a shallow undercut first, then follow with the top cut. This prevents the limb from peeling bark off the tree as it falls. Do not use an axe for pruning.
5. Disturbance of soil and vegetation must be kept to an absolute minimum. This will minimize disturbance and disruption to plant and wildlife communities and habitat.
6. Clearing of riparian vegetation should be kept to a minimum: use existing trails, roads or cut lines wherever possible to avoid disturbance to the riparian vegetation and prevent soil compaction. When practical, prune or top the vegetation instead of grubbing/uprooting.
7. Slash generated from vegetation removal shall be disposed of in an appropriate manner. All work will be done with the goal of having a low aesthetic impact on the landscape.
8. If over half of a tree needs pruning, it is recommended to cut it down. Trees should be cut at ground level and do not leave pointed stumps.



9. To minimize the introduction of invasive species, all construction equipment and materials must be clean and free of any contaminants and non-native species (refer to invasive plant section below).
10. Minimize equipment travel outside of the existing disturbance footprint. Equipment shall be stored within the project limits.
11. Cover devegetated areas if heavy rains are expected in erosion prone locations.
12. Keep excavation to a minimum and reduce disturbance to ground surface and vegetation.
13. Keep soils at their current location unless they are placed in an area that will be actively managed.
14. All work must be conducted in the dry. If soil becomes saturated during extreme wet weather, operations shall be suspended until soil conditions are more favourable.
15. All exposed soils must be stabilized as soon as possible in order to control sediment runoff during and after construction.
16. Weather forecasts should be monitored and any de-vegetated areas are to be covered if heavy rains are expected in areas prone to erosion.
17. Ensure fine materials being transported are covered with tarps or equivalent material.
18. Use appropriate sediment control materials including coverings tarps, polyethylene sheeting or vegetative cover to prevent erosion from rain or wind.
19. Excavated soil that is suspected of or known to be contaminated (i.e. fuel, oil) is to be placed in covered bins or stockpiled and covered with plastic until the material can be transported to a provincially approved waste treatment disposal facility.
20. The project will not result in wasteful and inefficient use of non-renewable resources. Where practical, soils from the existing project shall be used in all aspects of construction or restoration.
21. Where restoration is required, reshape the existing area to the original contour.
22. Any required re-planting for landscaping purposes must utilize native species approved by a park representative.

Mammals/Birds/Fish

1. To avoid the risk of nest destruction, the Contractor shall avoid vegetation clearing during the most critical period of the migratory bird breeding season, which is May 1st through August 31st.
2. Try to avoid construction in areas during breeding season. In the event that vegetation clearing is to take place inside the May 1st to August 31st window, a qualified biologist must inspect the area prior to construction activities to ensure there will be no adverse impacts to birds, wildlife and their habitat.
3. Bat maternity roosts may be active until the end of summer and into early fall in Fundy National Park. If possible, construction activities should be scheduled outside of this timeframe.
4. The Bathhouse must be checked for bat activity by Resource Conservation staff prior to the start of construction activity. The inspection must follow the guidelines set out in “Fundy National Park Guidance for Inspecting Built Assets for Bats”.
5. If bat activity is observed during construction, cease work and contact the Project Manager or Environmental Surveillance Officer as soon as possible.
6. Feeding wildlife is not permitted. The work site must be kept free of edible and other garbage that could attract or harm wildlife.
7. Before cutting of trees, knock their trunks repeatedly with a stick (or similar object) to awaken hibernating mammals.



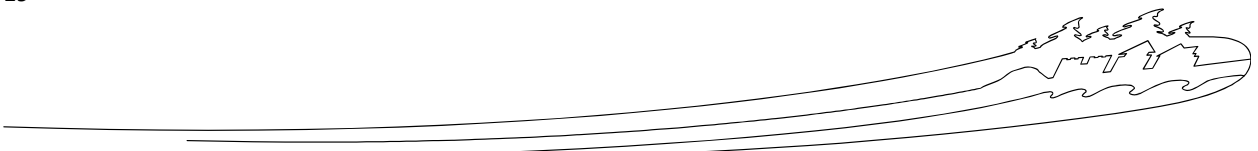
8. Wildlife dispersal or migration may be temporarily altered during construction. Ensure that alternate routes adjacent to the work area, suitable for wildlife movement, remain open during construction activities.
9. All construction activities shall be designed to have minimum effect on fish and fish habitat.

Invasive Plants

1. All invasive plant species found within the project limits shall be immediately reported to the Environmental Assessment Officer. The removal of such invasive plants shall be carried out in accordance to the Fundy National Park Invasive Plant Action Plan.
2. Construction equipment may facilitate the movement and spread of invasive plants by moving invasive plant seeds from infested areas. Contractors/site workers are responsible to pressure wash equipment before entering the park or moving from an infested area within the park.
3. Hand tools and footwear should be cleaned between work sites to prevent cross contamination and reduce the risk of invasive species introduction.
4. Materials to be used on construction projects must be stored in areas free of invasive plant species.
5. Freshly disturbed ground created by equipment during construction activities provide suitable habitat for invasive plants. Ensure that exposed soil is planted with native vegetation species as soon as feasible to reduce the risk of invasive species invasion.
6. Reduce the spread of invasive plants by prohibiting the movement of soil, vegetation and materials from infested areas.

Machinery/Equipment

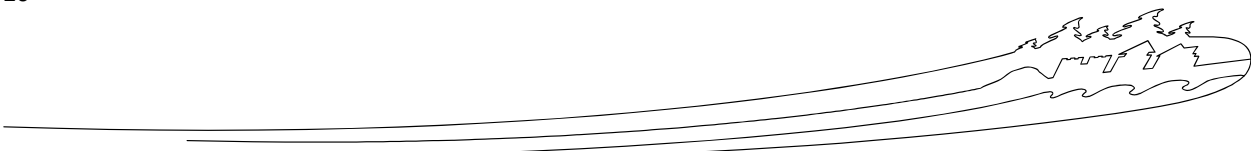
1. Work associated with site preparation and construction will rely on the minimal amount of heavy machinery use and be fairly brief. Consequently, noise pollution will be minimized and will not significantly influence park visitors or wildlife.
2. All mechanical construction equipment shall be properly maintained, in good operating order, and fitted with standard air emission control devices. Detection of leaks or exhaust issues shall be fixed immediately or work is suspended until repairs can be made.
3. Any required cleaning of tools and equipment must be done greater than 30 meters from waterbodies to prevent the release of wash water that may contain deleterious substances.
4. Equipment operators must be fully trained and experienced.
5. Avoid using equipment in sensitive sites. Use hand tools instead or use equipment with low bearing weight, low PSI tires, or rubber tracked vehicles or access matting where feasible to minimize soil compaction and ground disturbance.
6. Daylight operation of all mechanized equipment will be respected.
7. Gas generators must be secured to prevent movement during operation and set up on an impermeable fuel mat with a berm or within a container that can contain 150% of the volume of fuel in the generator.
8. Fueling of vehicles or equipment will not be permitted within 30 m of any watercourse or critical habitat. Increase the 30 m buffer depending on level of risk and site specific conditions.
9. Refueling (e.g., excavators, tracked loaders, chainsaws, generators) must not take place in locations where runoff could carry contaminants into drainage pathways. If not on compacted ground, an absorbent pad, tarp or portable berm must be placed beneath or around the machine to capture small spills.



10. Consider using bio-degradable chain oil/vegetable oils in chainsaws, especially when working within 30 m of waterbodies.
11. Wash, refuel and service machinery in such a way as to prevent any deleterious substances from entering the water.
12. Select equipment appropriate to the nature of work being conducted (e.g., avoid using large scale machinery when hand tools or smaller scale machinery could be used).
13. Minimize idling of gas and diesel operated engines by shutting down if not needed for a period greater than 5 minutes (contingent on operating instructions and temperature consideration) to reduce noise and emissions.
14. Keep dry leaves and twigs cleared from radiators and other hot spots on equipment.
15. All equipment and vehicles should have an appropriately sized fire extinguisher easily accessible and firefighting hand tools should be on-site.

Storage and Handling of Fuels and Hazardous Fluids

1. Develop a Spills Prevention and Response Plan and keep a copy on site at all times.
2. Prevent the release of hazardous substances into the environment, including but not limited to, petroleum products and their derivatives, antifreeze or solvents.
3. All on-site personnel must be briefed on reporting requirements for hazardous materials spills. In the event of a spill, the designated park representative must be notified immediately and action taken to clean the spill in accordance with the Provincial Spill Reporting Regulation. If the park representative is unavailable, contact Jasper Dispatch (1-877-852-3100). In addition, the Contractor is required by law to report all toxic spills and petroleum spills >20 litres to Environmental Emergency / Canadian Coast Guard at 1-800-565-1633.
4. A spill contingency response kit including sorbent material and berms to contain 110% of the largest possible spill (e.g., fuel or other toxic liquids) related to the work must be available on site at all times. On-site personnel must be aware of its location and trained in its use. Any contaminants must be recovered at source and disposed according to applicable laws, policies and regulations.
5. Cleanup, repair and rehabilitation resulting from any spill shall be to the satisfaction of the park representative.
6. Fuel storage shall be located a minimum of 30 m from any watercourse or critical habitat. Depending on level of risk and site specific conditions, the 30 m buffer can be increased if required.
7. Ensure fuels are stored overnight under lock and key in a Parks Canada approved enclosure.
8. Minimize quantity of hazardous materials on site to that absolutely necessary to perform the work.
9. Where possible, use paints and stains that are certified by Environment Choice logo (<http://www.environmentalchoice.com/>) or equivalent, with minimal harmful chemicals/heavy metals and low volatile organic compounds (VOCs).
10. If preserved wood is used, use the appropriate wood preservative that will minimize environmental impacts, particularly by following the guidelines by Western Wood Preservatives Institute for use of wood preservatives in aquatic environments. In addition, The Parks Canada Guidelines for the Use, Handling and Disposal of Treated Wood will be applied where possible to mitigate environmental impacts.
11. Disposal of debris or waste into any drain, and/or waterway, is strictly prohibited.
12. Any hazardous material/waste is to be stored, handled, transported and disposed of in compliance with the Canadian Environment Protection Act, Transportation of Dangerous



Goods Act and Workplace Hazardous Materials Information System (WHMIS). Disposal shall be at an approved provincial waste management site and proof of disposal provided to the Project Manager.

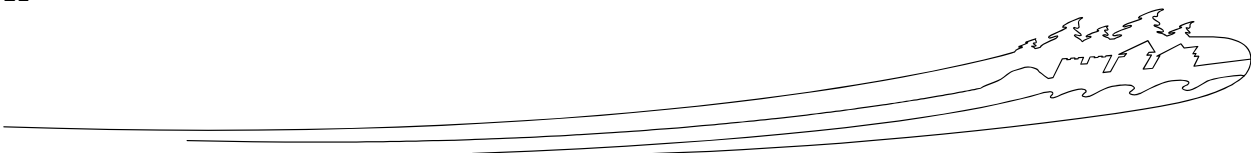
13. Any hazardous waste or contaminated material uncovered during excavation/construction, must be investigated, source identified, removed and disposed of outside the protected heritage place at an approved facility. Disposal documentation must be provided to designated Parks Canada staff.
14. Dispose of all waste materials at an appropriate provincial waste/recycle facility.

Water/Hydrology

1. Do not dump excavated fill, waste material, slash, vegetation or debris in watercourse.
2. Aquatic species and habitats can be greatly affected by runoff sediment. Protect exposed slopes and reduce surface erosion and release of sediment into waterways.
3. Operate machinery on land above the high water mark, in a manner that minimizes disturbance to the banks and vegetation.
4. No rock, silt, cement, grout, asphalt, petroleum product, lumber, vegetation, domestic waste, or any deleterious substance shall be placed or allowed to be dispersed into any stream, river, pond, wetland, lake or other watercourse.
5. Do not use watercourse beds for borrow material below the normal high water mark.
6. Do not dump excavated fill, waste material, slash or debris in watercourse.
7. Cuts and fills near waterways are to be stabilized, and ditch run-outs constructed to prevent entry of silt into waterways. In the vicinity of stream banks, maintain and preserve as much of the existing vegetation as possible.
8. Do not skid logs or construction materials across waterways.
9. Building material or waste material shall be stored at least 10 m above the high water mark.
10. It will be necessary to eliminate the migration of concrete chips, dust and debris into Dickson Brook during construction activities. The Contractor must identify in the project Environmental Protection Plan how chips, debris and dust will be captured at the sites to avoid migration into Dickson Brook and the adjacent landscape.
11. Explosives should not be detonated in or near fish habitat.

Cultural Resources

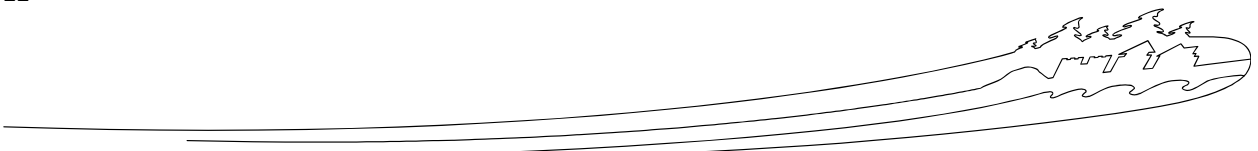
1. Consult with the Project Manager if there is a requirement to deviate from approved construction plans. Any changes to the scope of work must be submitted to Parks Canada's Terrestrial Branch for further review.
2. All works must conform to with the Federal Heritage Buildings Policy and Federal Heritage Buildings Review Office Code of Practice and guidance received.
3. Vehicular access routes and staging areas will be restricted to present-day roadways, parking lots, exposed bedrock areas and significantly disturbed areas. If this is not possible, the use of protective covering such as geotextile protective mats with wood chip lift or granular "A" gravel is required. All protective measures employed must be removed following the construction and the area restored to a pre-construction state. Excavation is not permitted during installation or removal of protective covering.
4. Cultural resources found within the project limits shall be identified in the field and all construction activities are to avoid these areas.



5. Cease work immediately and contact the designated Parks Canada representative if a significant feature (e.g., structural remains and/or artifact concentrations) is encountered during construction activities. Leave encountered features in place and mark the location (e.g., with prominent flagging). The park representative will contact Parks Canada's Terrestrial Archaeology Branch for advice and assessment of significance, which will in turn determine the requirement to mitigate the find.
6. Stockpiled material must not be permitted to damage or bury known cultural resources.

Erosion Control

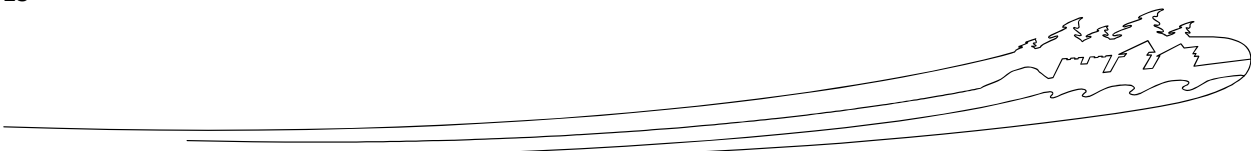
1. Before the project begins, develop and implement an Erosion and Sediment Control Plan, as part of the Environmental Protection Plan for the site. Erosion and sediment control measures will be maintained until all disturbed ground has been permanently stabilized. The plan should, where applicable, include:
 - Installation of effective erosion and sediment control measures before starting work to prevent surface runoff from carrying sediment off-site or into any waterway. (e.g., silt fences, blankets).
 - Manage water flow onto the site as appropriate as well as filter water being pumped/diverted from the site; silt laden water must not be pumped directly into a waterbody (e.g., pump/divert water to a vegetated area 30 m from the waterbody, to a constructed settling basin or other filtration systems).
 - Regular inspection and maintenance of erosion and sediment control measures and structures during the course of construction. The structures should be maintained by repairing structural problems or damages and by removing accumulated sediment at regular intervals and disposing the sediment at an approved location.
 - Removal of temporary erosion and sediment control products, especially non-biodegradable materials, when the site is stabilized and materials are no longer required.
2. The Contractor will maintain a stockpile of appropriate erosion and environmental protection materials (e.g. silt fences, straw bales, wood chips, clean rock fill and aggregate base course) on site and have it readily available at all times for use in the event of a silt release. Workers must be knowledgeable in the function and installation of all materials.
3. On disturbed slopes where soil erosion is a greater concern, spread seeds, plant vegetation, spread mulch or use erosion control mats for stabilization.
4. Maintain effective sediment and control measures until revegetation of disturbed areas is achieved.
5. Minimize the amount of dust created by construction activities on adjacent vegetation and waterbodies and reduce the impact to air quality. Use suppression methods to reduce dust in sensitive areas as required to control off-site migration of dust particles.
6. Divert upland surface runoff away from exposed areas.
7. Construct check dams or similar devices in drainage swales and ditches.
8. Minimize slope length and gradient of disturbed areas. Backslopes must be sloped to a 45 degree angle or less or to match existing side slopes.
9. Cover erodible soils with mulch, vegetation or rip-rap.
10. Select erosion and sediment control products that correspond with the nature and duration of the project.
11. Use erosion and sediment control products made of 100% biodegradable material (e.g., jute, sisal or coir fiber) when possible. Ensure backing materials are also biodegradable.



12. Use sediment and erosion control products that reduce potential for wildlife entanglement when possible. These options include:
 - Net-less erosion control blankets made of excelsior or loose mulch and unreinforced silt fence.
 - Netting with a loose-weave wildlife safe design.
13. Schedule operations to avoid wet, windy and rainy periods or very dry periods that may increase erosion and sedimentation.
14. Cover devegetated areas if heavy rains are expected in erosion prone locations.
15. In areas prone to erosion, install erosion and sediment control measures before starting work, especially within 30 m of a waterbody.
16. Phase activities whenever possible to limit duration of soil exposure.
17. Immediately stabilize disturbed/exposed areas, shoreline or banks, preferably through revegetation, with native species approved by designated Parks Canada staff. If there is insufficient time remaining in the growing season, the site should be stabilized, (e.g., cover exposed areas with erosion control blankets to keep soil in place) and/or vegetate the following spring; maintain effective sediment and erosion control measures until revegetation of disturbed areas is achieved.
18. Temporarily stabilize exposed soil where sediment is currently migrating from the site until permanent restoration can occur.
19. Areas that are not prone to erosion need contouring and can be scarified to prepare the site for planting or natural regeneration.
20. Wood bark or wood chips prepared from on-site debris can be used as a mulch or temporary ground cover to prevent sheet erosion and promote seed germination.
21. Leaf litter collected from the adjacent area can be spread evenly over open soil to aid in soil stabilization.
22. Hay mulch may contain non-native or invasive seed therefore it is not permitted in Fundy National Park. It is recommended to use locally grown straw mulch on exposed soils in the park.
23. Store excavated soils on tarps to limit damage to underlying vegetation and cover with weighted tarps if left for an extended period of time.
24. Do not begin excavations that cannot be closed in within one day as wet weather approaches.
25. Ensure fine materials being transported are covered with tarps or equivalent material.
26. Use appropriate sediment control materials including covering tarps, polyethylene sheeting or vegetative cover to prevent erosion from rain or wind.

Access/Staging/Laydown

1. Access for emergency response, fire suppression and site maintenance must be reflected in the safety plan for the project.
2. Whenever possible, only existing roadways/trails or disturbed areas shall be used for site access and travel within the site to minimize damage to vegetation and reduce soil compaction or erosion. Any new access roads must be preapproved by the park representative prior to start of work.
3. Staging and parking areas for material and equipment must be identified, including duration of use, within an existing disturbed footprint (e.g., roadway, gravel surface, previously disturbed area with high resiliency).
4. Material drop sites must be approved by designated Parks Canada staff.
5. All access roads must be rehabilitated to the satisfaction of the park representative, before the site is vacated after project completion.



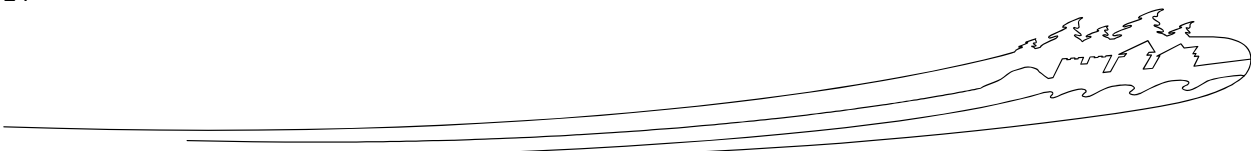
6. Consider transporting materials when the ground is still frozen to minimize compaction and damage to vegetation. If not possible, consider the use of rig mats or other appropriate measures to minimize impacts.
7. Control access to the site before, during and after rehabilitation activities.
8. Post interpretive signage to educate the public of the rehabilitation project and to alert of changes in regular travel corridors.
9. If necessary, place barriers to deter unnecessary traffic until the site stabilizes.

Facilities/Waste

1. Leave No Trace wilderness ethic principles shall be communicated to/observed by all of the construction crew.
2. Temporary washroom facilities must be provided on the construction site unless permission has been granted by the park authority to use existing washroom facilities.
3. Store food, garbage and other smelling products in sealed containers. Pack all garbage out from the site daily, unless permanent garbage facilities exist at the site. Garbage structures must minimize the opportunity for wildlife to feed from the garbage.
4. Daily maintenance of the site shall be done to ensure that it is free from accumulations of waste, debris and garbage.
5. Remove all construction materials from site upon project completion (e.g., refuse material, waste petroleum, construction material).
6. Any refuse such as old culverts, pressure treated lumber, or other garbage uncovered during construction activities must be collected and disposed of at an approved waste facility outside of Parks Canada.
7. The Contractor will be responsible for a complete site cleanup including restoration of exposed and damaged areas (roads, trails, driveways, day use areas, landscaping), to the satisfaction of the park representative, before the site is vacated after project completion.
8. Fires are only permitted in approved structures at designated sites within the park.

Safety & Visitor Experience

1. Before the project commences, a project safety plan must be in place and Occupational Health and Safety (OHS) Attestation forms submitted and approved. Proper safety procedures must be followed throughout the duration of the project as per applicable municipal, provincial, and federal regulations.
2. If possible, schedule construction activities outside peak visitor season.
3. The Project Manager is responsible to take necessary precautions to ensure there is no safety concerns related to visitors of the park.
4. Site access must be restricted to authorized workers only.
5. If closing the area is not possible, maintain a safe working distance between work activities and visitors; consider the use of lookouts or detours to manage traffic through the hazard area.
6. Interpretive signage should be posted to educate the public on the purpose and nature of the project, work to be completed and expected date of completion. Information should be positive and focus on the benefits of the project.
7. If there is a threat to public safety, the area must be declared closed to public access. Public closure notices must be placed at trailheads and other visitor use areas including East and West Gate Victor Reception Centres.
8. As much as possible, schedule noisy activities to minimize impact to visitors, especially around day use areas, campgrounds and other high visitor use areas.



9. Onsite work crews must comply with all applicable health/safety regulations, including use of appropriate protective equipment. In addition, employees must be trained in health and safety protocols (e.g., safe work practices, emergency response).
10. When working in steep terrain conditions use experienced operators who are knowledgeable in the limitations of the equipment.
11. Workers in contact with hazardous materials must be provided with and use appropriate personal protective equipment.
12. The Contractor must determine the exact location of all existing buried utilities before commencing work.
13. The Contractor must provide and maintain signs, flashing warning lights and other devices required to indicate construction activities or other temporary and unusual conditions resulting from the project.
14. Secure and clearly mark unattended safety hazards (e.g., excavations, unsecured decking on bridge, debris piles) with fencing, warning signs, area closures or combination thereof.
15. Immediately contact the Project Manager if non-authorized persons are encountered within the active work site.
16. Every construction vehicle or work crew must have a first aid kit readily available.
17. Blasting is not permitted unless authorized by the park representative.

9. PUBLIC/STAKEHOLDER ENGAGEMENT & ABORIGINAL CONSULTATION

- 9 a)** Indicate whether public/stakeholder engagement was undertaken in relation to potential adverse effects of the proposed project:
- ☒ No
☐ Yes (describe the process to involve relevant parties and indicate how comments were taken into consideration).
- 9 b)** Indicate whether Aboriginal consultation was undertaken in relation to potential adverse effects of the proposed project:
- ☒ No
☐ Yes (describe the process to involve relevant parties and how the results were taken into consideration).

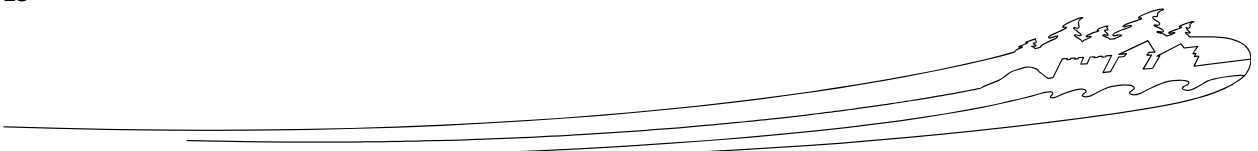
10. SIGNIFICANCE OF RESIDUAL ADVERSE EFFECTS

All effects are likely not significant or are able to be mitigated. If appropriate mitigating measures described in this report are followed and carried out, the environmental effects should be reduced to minor or insignificant levels. Thus, the level of disturbance is considered to be localized and of low magnitude. The project is not likely to cause significant adverse environmental effects in the short or long term. Impact to visitor experience can be expected during the construction period. These impacts are expected to be short term and all efforts will be taken to mitigate the issues.

11. SURVEILLANCE

- ☐ Surveillance is not required
☒ Surveillance is required

An Environmental Surveillance Officer will conduct daily site inspections to determine if construction activities comply with the mitigation measures, set out in this report, to reduce negative impacts to the site. Items to be monitored during the inspection include transportation of materials, fuel management, erosion and sediment control, work adjacent to a waterway, waste management and general condition of the site.



12. FOLLOW-UP MONITORING

Follow-up monitoring is:

- ☒ not required
- ☐ required by legislation or policy (indicate basis of requirement – e.g. required by the *Species at Risk Act*; *Fisheries Act*, or the [Parks Canada Cultural Resource Management Policy](#))
- ☐ required to evaluate effectiveness of mitigation measures and/or assess restoration success

13. SARA NOTIFICATION

Notification is:

- ☒ not required
- ☐ required under the *Species at Risk Act* (outline the nature of and response to any notification).

14. EXPERTS CONSULTED

Include Parks Canada experts. Add as many entries as necessary for the project.

Department/Agency/Institution: Parks Canada	Date of Request: 2019-09-03
Expert's Name & Contact Information: Patrick McKinley	Title: Visitor Experience Coordinator
Department/Agency/Institution: Parks Canada	Date of Request: 2019-09-03
Expert's Name & Contact Information: Shirley Butland	Title: Impact Assessment Officer
Department/Agency/Institution: Parks Canada	Date of Request: 2019-09-04
Expert's Name & Contact Information: Doug Watson	Title: FII Project Manager
Expertise Requested: Visitor Experience, Cultural Resources & Scope of Work	
Response: PM to provide information on visitor experience, SB to provide information on the history and cultural resource management of the Bathhouse area and DW to provide details on the scope of work.	

15. DECISION

Taking into account implementation of mitigation measures outlined in the analysis, the project is:

- ☒ not likely to cause significant adverse environmental effects.
- ☐ likely to cause significant adverse environmental effects.

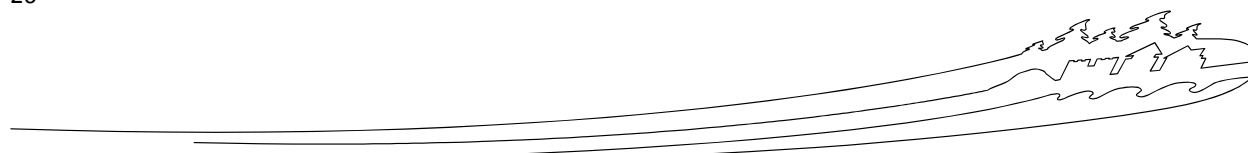
NOTE: If the project is identified as likely to cause significant adverse effects, CEAA 2012 prohibits approval of the project unless the Governor in Council (Cabinet) determines that the effects are justified in the circumstances. A finding of significant effects therefore means the project CANNOT go ahead as proposed.

FOR SARA REQUIREMENTS:

- ☒ There are no residual adverse effects to species at risk and therefore the SARA-Compliant Authorization Decision Tool was not required

OR, the SARA-Compliant Authorization Decision Tool was used and determined:

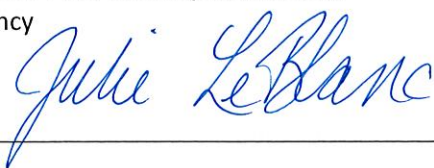

- ☐ There is no contravention of SARA prohibitions



Saltwater Pool Bathhouse Rehabilitation – Fundy National Park

- ☐ Project activities contravene a SARA prohibition and CAN be authorized under SARA
☐ Project activities contravene a SARA prohibition and CANNOT be authorized

16. RECOMMENDATION AND APPROVAL

Prepared by: Shirley Butland Impact Assessment Officer, NBSFU, Parks Canada Agency	Date: 2019-09-10
Recommended by: Doug Watson Project Manager, NBSFU, Parks Canada Agency	Date: 2019-07-30
Approval signature: Julie M. LeBlanc New Brunswick South Field Unit Superintendent Parks Canada Agency 	Date: 

17. ATTACHMENTS

Appendix I: Environmental Impact Analysis Tools: Effects Identification Matrix
Appendix II: Location of Saltwater Swimming Pool Bathhouse, Fundy National Park
Appendix III: Archaeological Overview Assessment / Archaeological Advice

18. NATIONAL IMPACT ASSESSMENT TRACKING SYSTEM

- ☐ Project registered in [tracking system](#)
☒ Not yet registered (*CEAA 2012 requires PCA submit a report to Parliament annually. EIAs must be entered in the tracking system **by the end of April** to enable reporting.*)





19. REFERENCES

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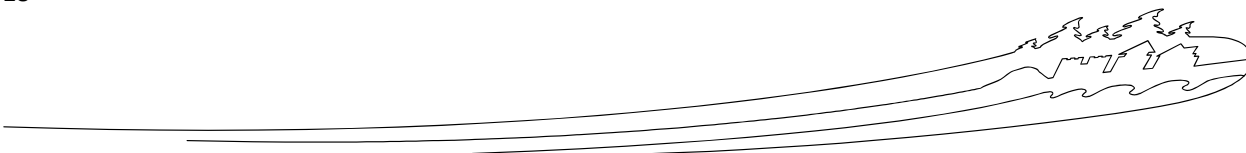
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https://en.wikipedia.org/wiki/Division_of_Migratory_Bird_Management

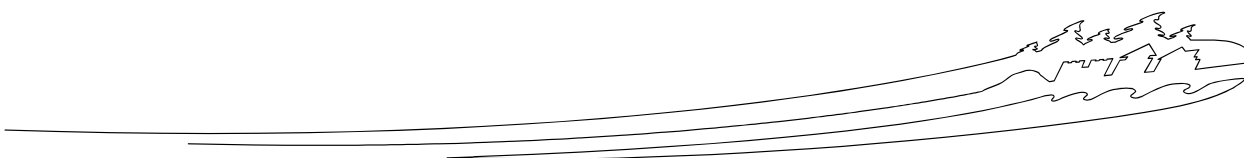




Appendix I: Environmental Impact Analysis Tools: Effects Identification Matrix

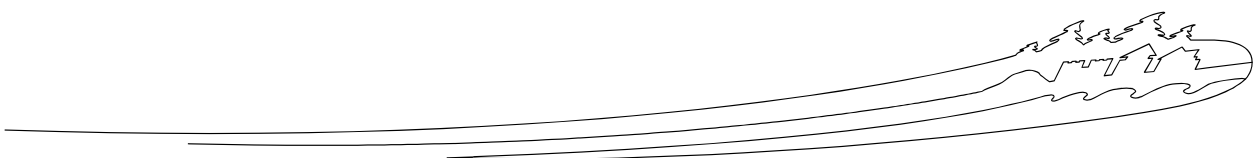
Section A focuses on direct effects of the project and **Section B** on indirect effects that are caused by changes to the environment.

A. Direct Effects									
<p><i>You may wish to change the components listed under the headings to specify the natural or cultural resources that are priority considerations for your PCA site or for the specific project being reviewed.</i></p>		Valued components potentially directly affected by the proposed project							
		Natural Resources					Cultural Resources		
		Air	Soil & landforms	Water (surface, ground, crossings, etc.)	Flora (specify, including SAR)	Fauna (specify, including SAR)	Cultural Resources	Visitor Experience	
Phase	Examples of Associated Activities								
Project Components	Preparation / Construction / Operation / Decommissioning	Supply and storage of materials	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Burning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Clearing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Demolition	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Disposal of waste	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Blasting/ Drilling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Dredging	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Drainage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Excavation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Grading	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Backfilling	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Use of machinery	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Transport of materials/ equipment	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		Building of fire breaks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Set up of temporary facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		





A. Direct effects continued									
<p><i>You may wish to change the components listed under the headings to specify the natural or cultural resources that are priority considerations for your PCA site or for the specific project being reviewed.</i></p>		Valued components potentially affected by the proposed project							
		Natural Resources					Cultural Resources		
		Air	Soil & landforms	Water (surface, ground, crossings, etc.)	Flora (specify, including SAR)	Fauna (specify, including SAR)	Cultural Resources	Visitor Experience	
Phase	Examples of Associated Activities								
Project Components	Preparation / Construction / Operation / Decommissioning	Waste disposal	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		Wastewater disposal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Use	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		Use/Removal of temporary facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Use of Chemicals	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Active fire stage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Prescribed burn cleanup	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Planting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Culling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Vehicle Traffic	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		Other...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

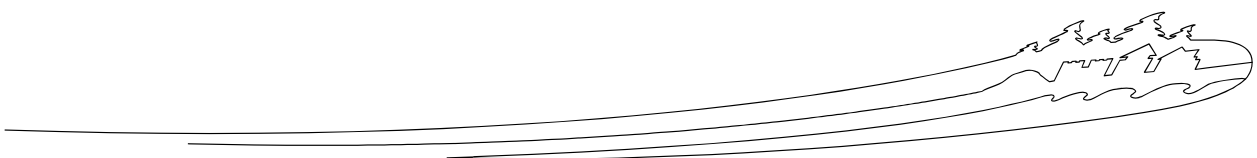




Section B of the matrix should be used to identify potential indirect effects that may result from impacts of the project to components of the environment you have identified on the preceding pages (see Section A - direct effects to natural resources). Consideration of indirect effects is required under CEAA 2012 Sections 5(1)(c) and 5(2)(b), and by the PCA mandate. For example:

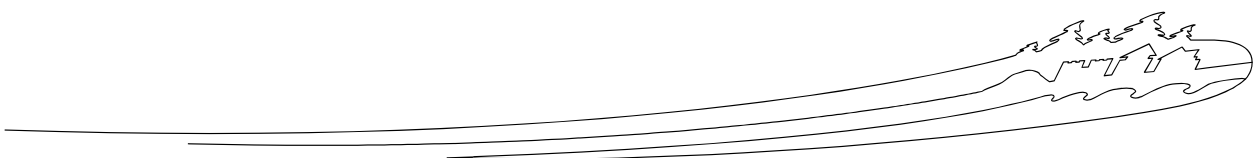
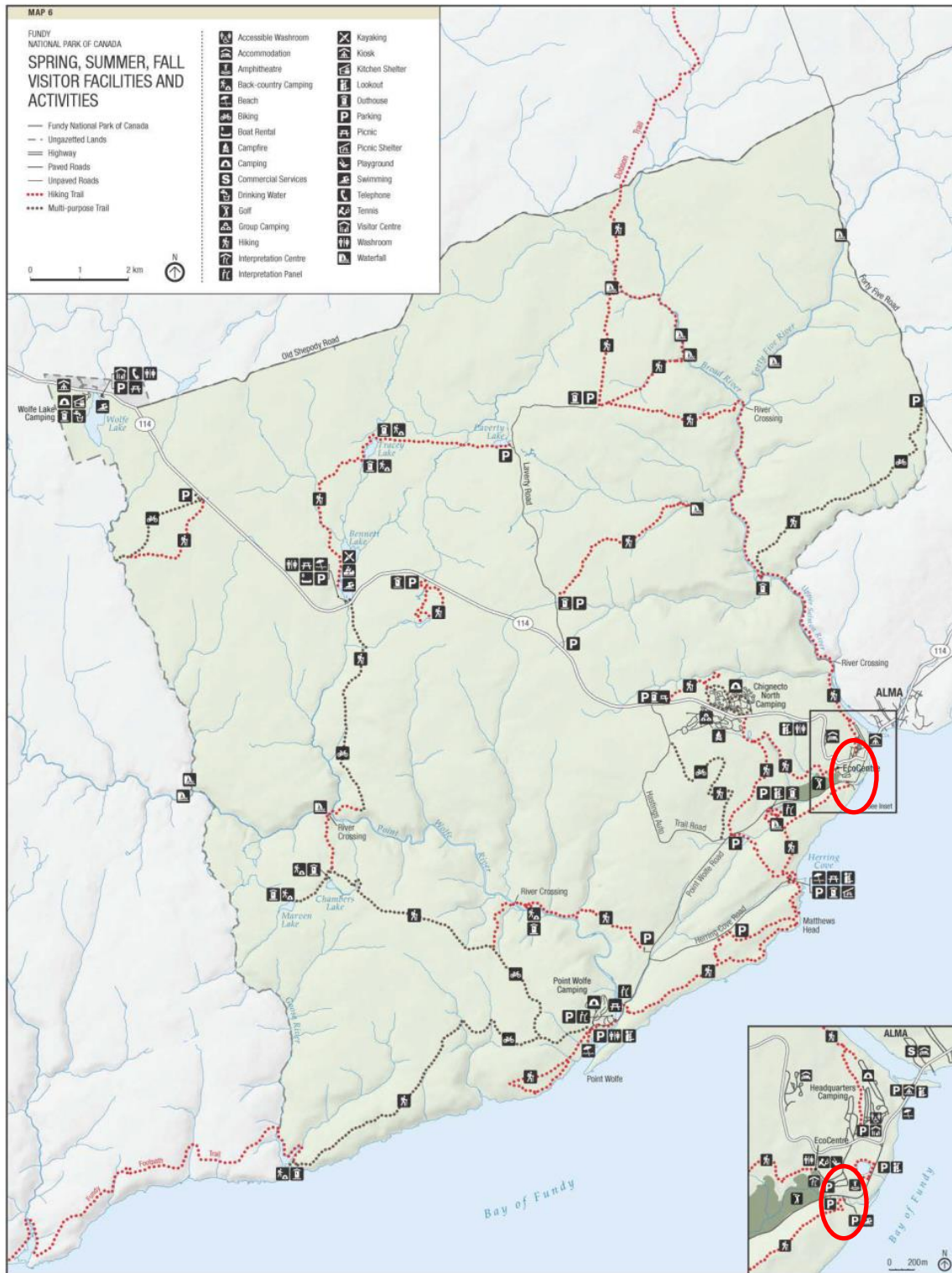
- if the proposed project could lead to adverse effects to water quality and quantity, could this then effect the quantity and quality of water resources (e.g. potable water) used by an Aboriginal community?
- could there also be adverse socio-economic effects to a community that relies on recreational fishing tourism?
- could changes to the environment (e.g. digging, clearing) affect visitor access, opportunities, or safety?

B. Indirect Effects (all phases)							
<p>You may wish to change the components listed under the headings to specify the natural or resources that are priority considerations for your PCA site or for the specific project being reviewed.</p>		Impacts as a result of changes to the environment					
		With respect to non-Aboriginal peoples:	With respect to Aboriginal peoples:		With respect to visitor experience		
		Health and socio-economic conditions	Health & socio-economic conditions	Current use of lands and resources for traditional purposes	Access & services	Recreation & accommod'n opportunities	Safety
Phase	Natural resource components affected by the project						
Preparation /construction operation /implementation/decommissioning	Could impacts to <u>air</u> lead to adverse effects on...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Could impacts to <u>soils and landforms</u> lead to adverse effects on...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Could impacts to <u>water</u> (e.g. surface, ground water and water crossings) lead to adverse effects on...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Could impacts to <u>flora</u> (including SAR) lead to adverse effects on...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Could impacts to <u>fauna</u> (including SAR) lead to adverse effects on...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Other...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>





Appendix II: Location of Saltwater Swimming Pool & Bathhouse, Fundy National Park



October 2015



Appendix III: Archaeological Overview Assessment / Archaeological Advice

AOA / Archaeological Advice - Project 1320 - FNP Pool Bathhouse -
Landscaping & Parking (DD)

André Miller to: Lisa Forbes, Doug Watson 09/08/2018 11:17 AM

Cc: Barbara Leskovec

Good morning Doug,

The present Archaeological Advice is based on a review of drawings, documents provided by Fundy NP; and an *in situ* visit by me to assessed the site area on Tuesday 07 August 2018. There is no archaeological concern with the design concept and redesigning/landscaping the parking area nearby the Bathhouse. An Archaeological Impact Assessment (AIA) is not recommended/required for this project.

1. If there are any changes to the plans, all additional information and construction drawings must be submitted to Parks Canada's Terrestrial Branch for further review;
2. Vehicular access routes and staging areas will be restricted to present-day roadways, parking lots, exposed bedrock areas and significantly disturbed areas;
3. If significant features (i.e., structural remains and/or high artifact concentrations) are encountered during construction activities, work should cease in the immediate area, and the Parks Canada project manager will be informed. The project manager should then contact Parks Canada's Terrestrial Archaeology section for advice and assessment of significance, which will in turn determine the requirements to mitigate the find.

Cordialement / Regards

André Miller

Archéologue - Investissement pour les infrastructures fédérales
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Un bon temps pour se rapprocher / Time to connect

