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Basic Impact Analysis
Northwest Beach Renewal Project

Point Pelee National Park of Canada

DRAFT FOR DISCUSSION

Parks Canada Parcs Canada

July 2015
SLR Project No.: 209.40310.00001

Canada

BASIC IMPACT ANALYSIS

NORTHWEST BEACH RENEWAL PROJECT

POINT PELEE NATIONAL PARK OF CANADA

SLR Project No.: 209.40310.00001

Prepared by
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1. PROJECT TITLE AND LOCATION

Northwest Beach Renewal – Point Pelee National Park of Canada

The Northwest Beach day-use facility is located approximately 2 km south of the park entrance. It is currently about 700 m long by 65 m wide (Attachment #3 - Figure 1).

2. PROPONENT INFORMATION

Proponent Name	Parks Canada – Point Pelee National Park
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3. PROPOSED PROJECT DATES

Planned Commencement	October, 2015
Planned Completion	August, 2016

4. INTERNAL PROJECT FILE # PPNP-2015-02

5. PROJECT DESCRIPTION

The Northwest Beach visitor day-use facility is being redesigned and rebuilt as its failing infrastructure no longer meets the needs of visitors and is negatively affecting dune development along Point Pelee National Park's (PPNP) west beach (Attachment #4 – Photo 1). The Northwest Beach visitor day-use facility is located approximately 2km south of the main park gate, west of the Marsh Boardwalk parking lot and approximately 10km south of central Leamington. The Northwest Beach visitor day-use facility area consists of a wooden framed 1,300 sq. ft. north comfort station (Attachment #4 – Photo 2) built in the late 1950's and a 4,050 sq. ft. concrete block central comfort station (Attachment #4 – Photo 2) built in the early 1960's. There are two 920 sq. ft. wooden framed picnic shelters (Attachment #4 – Photo 3) on the Northwest Beach with wooden boardwalk leading up to the shelters and four parking lots for visitors. The number of visitors has decreased since the 1950's and 60's when these facilities were built, and facilities no longer meet public expectations for a quality visitor experience. A concentrated area for visitors and parking would allow for the restoration of the Northwest Beach's natural environment.

All of the existing facilities including underground infrastructure (Attachment #4 – Photo 4) will be removed or decommissioned to make way for upgraded washrooms/change rooms, a rental building, playground, shade structures, and pathways. Roadways entering the site will be re-

routed and repaved (Attachment #4 - Photo 5) and parking lot(s) will be paved (Attachment #4 - Photo 6). Approximately half of the existing 16,000 m^2 (1.6 hectares) day-use area footprint will be restored to coastal savannah habitat. This may include some reshaping of the land prior to planting.

In the Point Pelee National Park Management Plan (Parks Canada 2010), it states that the existing facilities at the Northwest Beach are underused and in some cases past the life of the building. Through research, it was determined that renewal of beach facilities and access was key to the protection and restoration of ecological integrity and in providing an improved visitor experience. The objective of this project is to renew the Northwest Beach day-use area in a way that it provides a premium visitor beaching experience in PPNP while decreasing the environmental impact on the associated coastal dunes. Some excavation and vegetation removal will be required based on the final design plan. Natural habitat restoration for the coastal dunes will be coordinated by the Parks Canada Resource Conservation team. Although there will be temporary disturbance, the outcome of the project includes habitat enhancement for 16 federally-listed SAR found at PNPP.

The work will be completed in two phases:

1. Phase 1 is scheduled to begin on September 14 2015 and to be completed the week of December 7, 2015. It will include the removal and decommissioning of facilities and roads as well as the construction of the new 5,500 m^2 parking lot and bike lane.
2. Phase II is scheduled to occur between early July and August 2016 and will consist of the construction of two new comfort stations (430 m^2 and 260 m^2)and associated facilities, a new rental facility, and a playground (640 m^2) as shown on Figure 1 (Attachment #4). Any remaining construction materials and vehicles will then be removed from the Park.

Visitors will be redirected away from project site to other parts of the park during the construction.

Eventual decommissioning of these constructed facilities are anticipated to have similar effects to those predicted for Phases 1 and 2 of the current project, given that comparable mitigation measures will be implemented.

Table 1: Project Phases and Activities

Work	Phase I	Phase II
Construction and Decommissioning		
Supply and Storage of Materials	• Materials for demolition and construction will be delivered and stored on-site in existing parking lots at the project site. Project Specifications will be followed for best management practices to prevent any spills from the vehicles.	• Materials for demolition and construction will be delivered and stored on-site in existing parking lots at the project site. Project Specifications will be followed for best management practices to prevent any spills from the vehicles.
Demolition and Removals	• Removal of type I asbestos containing materials from structures using industry standard procedures • Removal of other designated substances and hazardous materials from structures • Demolition of two washroom facilities, two picnic shelters, and beach access boardwalks with heavy machinery • Removal of gravel base from existing parking lots north of the project site. • Removal of abandoned portion of south driveway (current exit).. • Decommissioning of north and south septic beds • Removal of vegetation will be required for the re-routing of the entrance and exit road as well as for the new buildings • Project Specifications will be followed for best management practices • Three Environment Canada monitoring wells need to be removed and decommissioned.	• Removal of existing asphalt north entrance road • Removal and decommissioning of remaining elements of infrastructure no longer in use. • Project Specifications will be followed for best management practices

Clearing	• Removal of vegetation will be required for the re-routing of the main driveway as well as for the new buildings. • Removal of vegetation may be required during construction for access purposes.	• Removal of swaths of primary dune to restore natural sand dune dynamics • Removal of vegetation will be required for construction of playground area
Earthworks	• Backfill low-lying areas using heavy machinery • After vegetation has been removed, grading will occur to level the area • Removal of gravel in the decommissioned parking lots and replacement with clean sand from a local quarry. Gravel removed from the parking lots will be used in the park for another phase or project. • Project Specifications will be followed for best management practices	• Burying of utility lines as well as in-fill where the septic bed was removed. • Project Specifications will be followed for best management practices
Use of Machinery and Staging Area	• Use of heavy machinery will be required for the demolition and removal of facilities and vegetation as well as grading. • Machinery will be stored on site in existing parking lots • Project Specifications will be followed for best management practices to prevent spills from oil and gas from the machinery.	• Use of heavy machinery will be required for the construction of facilities. • Machinery will be stored on site in existing parking lots. • Project Specifications will be followed for best management practices to prevent spills of oil and gas from the machinery.
Paving and Surfacing	• Reconstruction and repaving of asphalt roadways (up to 200 m of existing road) as a result of re-routing of the entrance. • Asphalt paving of one parking lot for capacity of up to 110 vehicles	• Construction and paving of 20ft apron into existing Blue Heron parking lot
Construction of Buildings and	• Construction of new paved	• Construction of two

Structures	parking lot and main driveway (replacing existing one) including provisions for subsurface infrastructure. • Construction of bike lane from the old entrance to Northwest Beach to the current beginning of bike trial; and an extension to the Marsh Store.	washroom facilities including septic bed and connection of infrastructure. • Construction of rental facility up to 100 person capacity • Construction of playground and landscaped elements including sidewalks, viewing platforms, information and educational signage •
Use of Chemicals	• Oils, lubricants, and fuels for machinery will be used on-site throughout both phases • Paints, primers, blasting abrasives, rust solvents, degreasers, grout and other chemical used in building may be used on-site throughout both phases • All chemicals will be used, stored and disposed of according to the Project Specifications	• Oils, lubricants, and fuels for machinery will be used on-site • Paints, primers, blasting abrasives, rust solvents, degreasers, grout and other chemical used in building may be used on-site • All chemicals will be used, stored and disposed of according to the Project Specifications
Waste Storage and Disposal	• Waste from construction will be stored and removed from the site to a licenced facility and will be disposed of according to practices stated in the National Master Specifications. • Designated substances and hazardous materials will be disposed of according to provincial regulations	• Waste from construction will be stored and removed from the site to a licenced facility and will be disposed of according to practices stated in the National Master Specifications. • Designated substances and hazardous materials will be disposed of according to provincial regulations
Operation		
Site Restoration	• No site restoration will be occurring in Phase I of the project.	• Approximately half of the existing 16,000m^2 (1.6 hectares) day-use area footprint will be restored to coastal savannah habitat. New design will allow for the restoration of over 8000 m^2 of rare Lake Erie costal dune habitat at the north end of the

		current Northwest Beach
Maintenance of Buildings and Structures	• There will be no maintenance of buildings or structures required in Phase I.	• Regular ongoing maintenance of rental, shade and washroom facilities, as required. • New design will reduce maintenance expenses as the public beach area will be smaller than current footprint.
Snow clearing	• There will be no snow clearing required in Phase I.	• There will be no snow clearing required in Phase II.
Herbicide Use and Weed Control	• There will be no weed control required in Phase I.	• Weed control and herbicides will be used to control invasive and unwanted species and will follow National Master Specifications for best management practices.
Visitor Use	• Visitors will be restricted from the decommissioning area for their safety.	• New design will facilitate a more positive park experience for visitors, increase accessibility and occupational health and safety • The realigned main driveway to the Northwest Beach will help with traffic as it will be a four way stop allowing for easier turns and slowing down traffic. • The new design will focus visitors into one area of PPNP reducing their effect on the landscape.
Decommissioning of New Facilities		• New project facilities will have a life cycle and will eventually need to be decommissioned and replaced. Any effects will be similar to those of phase I and II and mitigation will be fitting with regulations of the day

6. VALUED COMPONENTS LIKELY TO BE AFFECTED

Valued Ecosystem Components (VECs) were assessed based on existing location maps and proposed project activities. These effects were confirmed during a site visit to PPNP on July 8, 2015 attended by Parks Canada (Dan Dufour, Nicole Paleczny, Mark Major), PWGSC (Maria McGibbon, Mei Ling Chen) and SLR Consulting (Dale Leadbeater, Jennifer Owen, Gord Wichert).

Air Quality and Noise

The climate of Southwestern Ontario is one of the most variable in Canada. Point Pelee lies within a climatic zone classified as humid continental. Rapid and non-periodic weather changes are characteristic of the zone that is strongly influenced by seasonal conflict between polar and tropical air masses. Winds in the Park are generally from the northwest and southeast.

Terrain and Topography

Point Pelee is the southernmost point of mainland Canada and is located on a foundation of glacial sand, silt and gravel that bites into Lake Erie. This spit of land is approximately 9 km long by 4.5 km wide at its northern base. Much of the park's interior consists of a southern Great Lakes Marsh (1070 ha). The remainder of the park's dry land (420 ha) is comprised of a number of forest habitat types in a range of successional stages as well as an assemblage of open, dry, sandy habitat types which have been named Lake Erie Sand Spit Savannah (LESSS). These LESSS habitats are the most rare and fragile in the park and they include the active dunes and shorelines along the park's beaches.

The North West Beach has white sandy beaches popular with visitors. East of the parking lots and between the parking lots and the beach, there are sand dunes with LESSS habitat. The parking lot has a long history of use with continual grading and layers of gravel.

Soils

Historically, before Point Pelee became a national park, the land was used as farm land for both cash crops as well as animal farming, a naval base, hunting grounds and for recreational uses including many cottages. In the past, sand has been brought in to augment lost sand along the beach and cottagers on the peninsula brought topsoil for gardens. Today, the Park has been restored to its natural vegetation of wetland, forest and sand dunes with little visible evidence of the previous agricultural land use.

Groundwater and Surface Water Hydrology Quantity and Quality

The groundwater quality is approximately similar to Lake Erie water quality however slightly harder with higher concentration of dissolved solids owing to contact with sand. Groundwater elevation in the study area is relatively close to ground surface and slightly elevated relative to Lake Erie water elevation. Groundwater elevation will equilibrate relatively quickly in response to changes in lake water elevation owing to the permeability of the sand in the study area. Water level elevation in the wetland to the east represents an expression of the water elevation in Lake Erie.

Fish and Fish Habitat

Sand and gravel dominate nearshore shallow habitat in Lake Erie adjacent to the study area. The nearshore area of Point Pelee from the High Water Mark to the 2 m depth is considered critical habitat for Channel Darter, a species at risk listed as Threatened.

Wildlife

The wildlife community reflects the dry dune habitat (open, thicket and forested), and the position of PPNP on a major migratory pathway, that attracts not only migratory birds (see Migratory Bird section), but also 4 species of migratory bats and many species of insects. Species other than those "at risk" (see Species at Risk section) include Common Gartersnake (*Thamnophis sirtalis*), Brown Snake (*Storeria dekayi)*, Painted Turtle (*Chrysemys picta*), Eastern Cottontail (*Sylvilagus floridanus),* and Coyote (*Canis latrans)* (Leadbeater 2011). Birds likely to breed in the Northwest Beach vicinity include Barn Swallow, Chipping Sparrow, House Wren, Carolina Wren, Brown Thrasher, Gray Catbird, Yellow Warbler, American Redstart, Common Yellowthroat, Eastern Kingbird, Eastern Wood-pewee, Eastern Phoebe, Great crested Flycatcher, Wood Thrush, Rose-breasted Grosbeak, Killdeer, Common Grackle, Red-winged Blackbird, American Robin, Baltimore Oriole, Orchard Oriole, Indigo Bunting, Song Sparrow, European Starling, Tree Swallow, Brown-headed Cowbird, Great Horned Owl, Yellow-breasted Chat, Eastern Bluebird. It is an important area for insects and grazing shorebirds, scavengers feeding on detritus of the lake.

Other common fauna heavily use this site for various purposes year-round including: many small and large mammals [white-tailed deer (*Odocoileus virginianus*), raccoons (*Procyon lotor*), Virginia opossums (*Didelphis virginiana*), skunks (*Mephitis mephitis*), coyotes (*Canis latrans*), mice (*Peromyscus spp., Mus spp.*), eastern cottontails (*Sylvilagus floridanus*)]; reptiles [eastern gartersnakes (*Thamnophis sirtalis sirtalis*), DeKay's brownsnakes (*Storeria dekayi*)]; amphibians [American toads (*Anaxyrus americanus*)]; and invertebrates [butterflies, beetles, dragonflies].

Migratory Birds

Point Pelee is arguably the best mainland location in Canada for observation of migratory birds crossing the lake in spring and fall. The Northwest Beach has provided migratory and/or breeding habitat for species at risk (see below) and more common species such as: Blue-gray Gnatcatcher (*Polioptila caerula*), American Goldfinch (*Carduelis tristis*), Bonaparte's Gull (*Chrioicocephalus philadelphia*), Ring-billed Gull (*Larus delawarensis*), Killdeer (*Charadrius vociferous*), Yellow-throated Warbler (*Dendroica dominca*), Lark Sparrow (*Chondestes grammacus*) (Wormington2012), American Redstart (*Setophaga ruticilla*), Chipping Sparrow (*Spizella passerina*), Barn Swallow (*Hirundo rustica*), Tree Swallow (*Tachycineta bicolor*), Chestnut-sided Warbler (*Denroica pensylvania*), and Common Yellowthroat (*Geothlypis trichas*) (Leadbeater 2011).

These birds are listed under the Migratory Bird Convention Act.

Species at Risk, Residences, and Critical Habitats, and Provincially Rare Species

Species at Risk are identified by the Committee on the Status of Endangered Wildlife in Canada. They recommend listing of Endangered, Threatened and species of Special Concern for uplisting on to Schedule 1 under SARA. The Species at Risk (qualified by their status by

COSEWIC and/or SARA) and provincially rare species that could occur in the study area include the following:

Special Concern

- Monarch (*Danae plexippus*) – uses milkweed and Common Hop Tree * (COSEWIC Special Concern)
- Blue Ash *(Fraxinus quadrangulatus)** (COSEWIC threatened)
- Climbing Prairie Rose *(Rosa setigera) – may be extirpated (Jalava, 2007)* * (COSEWIC Special Concern)
- Snapping Turtle (*Chelydra serpentina*) * (COSEWIC Special Concern)
- Eastern Mole (*Scalopus aquaticus*)
- Yellow-breasted Chat (*Icteria virens virens*)* (COSEWIC endangered)

Threatened

- Common Hop Tree (*Ptelea trifoliata*)
- Channel Darter (*Percina copelandi*) *– offshore and unlikely to be affected by this project*
- Barn Swallow (*Hirundo rustica*)
- Blanding's Turtle (*Emydoidea blandingii*)
- Eastern Musk Turtle (*Sternotherus odoratus*)
- Golden-winged Warbler (*Vermivora chrysoptera*)
- Hooded Warbler (*Wilsonia catrina*)
- Canada Warbler (*Wilsonia canadensis*)
- Olive-sided Flycatcher (*Contopus cooperi*)
- Common Nighthawk (*Chordeiles minor*)
- Whip-poor-will (*Caprimulgus vociferus*)
- Chimney Swift (*Chaetura pelagica*)
- Red-headed Woodpecker (*Melanerpes erythrocephalus*).

Endangered

- Five-lined Skink (*Eumeces fasciatis*)
- Eastern fox snake (*Elaphe gloydi*)
- Little Brown Myotis (*Myotis lucifuga*)
- Tri-colored Bat (*Perimyotis subflavus*)
- Eastern small-footed Myotis (*Myotis leibii*)
- Northern Myotis (*Myotis septentrionalis*)
- Eastern Prickly Pear Cacti (*Opuntia humifusa*)
- Dwarf Hackberry (*Celtis tenuifolia*)
- Kirtland's Warbler (*Dendroica kirtlandii*)
- Acadian Flycatcher (*Empidonax virescens*)
- Prothonotary Warbler (*Protonotaria citrea*)
- Cerulean Warbler (*Dendroica cerulea*)

- Red Knot (*Calidris canutus rufa*)
- Piping Plover (*Charadrius melodus circumcinctus*)
- Henslow's Sparrow (*Ammodramus henslowii*)
- Loggerhead Shrike (*Lanius ludovicianus migrans*)

Provincially Rare Species

- Giant Swallowtail (*Papilio cresphonte*) – uses milkweed and Common Hop Tree
- Honey Locust (*Gleditsia triacanthos*) (native genotype S2)
- Burning Bush (*Euonymus atropurpureus) (S3)*
- Carolina Whitlow-grass (*Draba reptans*) (S3)
- Golden Puccoon (*Lithospermum caroliniense*) (S3)
- Large Field Chickweed (*Cerastium velutinum*) (S2)
- Tall Green Milkweed (*Asclepias hirtella) (S1)*
- Trailing Wild Bean (*Strophostyles helvula) (S4)*
- Little Bluestem (*Schizachyrium scoparium*) (S2?)
- Marram Grass (*Ammophila breviligulata*) (S4)

The Blue Ash is a forest species, and occurs together with Burning Bush and Common Hop Tree. Honey Locust, Dwarf Hackberry, Common Hop Tree and Eastern Prickly Pear are more likely to occur in the thickets and sand dune vegetation together with the grasses that have been identified as being of restoration value. These areas are used for forage by the *Myotis* species, as well as the butterflies and Barn Swallow. One old Barn Swallow nest was observed inside the comfort station.

Climbing Prairie Rose appears to be extirpated as locations mapped prior to 2007 were examined without locating the plant. The most recent occurrence was in 1991.

The majority of the SAR birds are more likely to migrate through the study area including: the endangered Kirtland's Warbler (*Dendroica kirtlandii*), Acadian Flycatcher (*Empidonax virescens*), Prothonotary Warbler (*Protonotaria citrea*), Cerulean Warbler (*Dendroica cerulea*), Red Knot (*Calidris canutus rufa*), Piping Plover (*Charadrius melodus circumcinctus*), Henslow's Sparrow (*Ammodramus henslowii*), and Loggerhead Shrike (*Lanius ludovicianus migrans*); and the threatened Golden-winged Warbler (*Vermivora chrysoptera*), Hooded Warbler (*Wilsonia catrina*), Canada Warbler (*Wilsonia canadensis*), Olive-sided Flycatcher (*Contopus cooperi*), Common Nighthawk (*Chordeiles minor*), Whip-poor-will (*Caprimulgus vociferus*), Chimney Swift (*Chaetura pelagica*), and Red-headed Woodpecker (*Melanerpes erythrocephalus*).

The turtles will use the sandy substrates for nesting, and will lay eggs in openings in the forest as well as in more exposed areas. Endangered Five-lined Skinks (*Plestidon fasciatus*) and Eastern Foxsnakes (*Pantherophis gloydi*) heavily use this site for feeding, nesting, breeding, and hibernating. They occur randomly throughout the area, but have been known to inhabit the walls and foundation of the comfort station, and will also find refuge under logs and refuse bins. Species of special concern such as Monarch (*Danaus plexippus*) and Snapping Turtle (*Chelydra serpentina*) also inhabit and breed in this site.

The walls and roof of the comfort station were examined for cavities that may be useful for bat roosting, however none were found. Although the bats could well roost within the open building, the frequency of disturbance by humans may preclude that use.

The Eastern Mole prefers soft, moist soils that are well drained. It is a burrowing species and therefore avoids dry, loose, sandy soils (Waldron *et al.* 2000). The beaches and dune habitat ofPPNP are not considered suitable habitat. However, the forest area within the study area does provide suitable habitat.

The following provincially rare species may occur in the study area:

- Narrow-leaved Puccoon (*Lithospermum incisum*) (SRank – S1),
- Large Field Chickweed (*Cerastium velutinum*) (SRank – S2),
- Golden Puccoon (*Lithospermum caroliniense*) (SRank – Vulnerable – S3: ≤80 occurrences),
- Burning Bush (*Euonymus atropurpureus*) (SRank – S3) (Parks Canada 2012a; Parks Canada 2009; Dougan and Associates 2007).

Vegetation

Point Pelee National Park protects a mosaic of ecosystems located in the most biodiverse natural region in Canada, the Carolinian ecozone. One of the smallest, yet most important vegetation complexes found at PPNP and at other similar sand spit formations along the north shore of Lake Erie has been named Lake Erie Sandspit Savannah (LESSS). The Lake Erie Sand Spit Savannah ecosystem is described by "the presence of open to semi-open vegetation situated on well-drained, nutrient poor, sandy substrates, and…often associated with back-dune or inland sand barren environments" (Dougan and M^{c}Kay 2009). These habitats are dependent on periodic disturbances such as fire and shoreline processes, including redistribution of substrate by wind, wave action and ice scour. LESSS is also characterized as having harsh environmental conditions such as low nutrients and temperature extremes that maintain its open character and rich variety of plant species (Dougan and M^{c}Kay 2009). There are two distinct types of Lake Erie Sand Spit Savannah at Point Pelee National Park: the shoreline-associated and the interior sites.

The shoreline LESSS habitat in the park is influenced by the dynamic nature of the ecological processes exerted on the park, the historical cultural effects and concentration of rare species and communities. With hardening of the Lake Erie shoreline, a sand deficit condition has been identified leading to the loss of dune forming processes. The hybrid poplar planted on the primary dunes and other invasive species are likely facilitated by this paucity of shifting sand.

- Existing habitat in the study area consists of the beach, sand barrens, dogwood dominated primary dunes, thickets in the back beach swale largely occupied by the existing parking lot, and in the Hackberry/Hop-tree woodland and forest (Attachment #4 – Photos 6, 7 and 8). The most distinct plant communities (as defined by Ecological Land Classification – Dougan and Associates 2007) in the study area include:

- Dry - Fresh Hackberry Deciduous Woodland and Forest on Secondary Dunes;
- Dry - Fresh Drummond's Dogwood Deciduous Shrub Thicket; and,

- Sea Rocket Sand Open Shoreline.

However, in the numerous openings, smaller representations of the following vegetation types occur within the study area, or to the north and south:

- Red Cedar Treed Sand Dune
- Hop Tree Shrub Sand Dune
- Little Bluestem, Switchgrass, Marram Grass Open Graminoid Sand Dune
- Sea Rocket Sand Open Shoreline
- Sand Dropseed Open Sand Barren; and,
- Willow Mineral Shrub Shoreline

These vegetation communities and types represent targets for restoration.
The following species of conservation concern represent the important components for restoration (as identified by Parks Canada) of the above communities that may occur within the study area in addition to the SAR already listed:

- Beach Wormwood (*Artemisia campestris*)
- Black Walnut (*Juglans nigra*)
- Clammy-weed (*Polanisia dodecandra*)
- Common Clammy-weed (*Polanisia dodecandra*)
- Common milkweed (*Asclepias syriaca*)
- Common Juniper (*Juniperus communis*)
- Downy Arrowwood (*Viburnum rafinesquianum*)
- Eastern Red Cedar (*Juniperus virginiana*)
- Fragrant Sumac (*Rhus aromatica*)
- Green Ash (*Faxinus pennsylvanica*)
- Heller's Witchgrass (*Panicum oligosanthes*)
- Herbaceous Greenbriar (*Smilax lasioneura*)
- Hispid Greenbriar (*Smilax tamnoides*)
- Hoary Tick-trefoil (*Desmodium canescens*)
- Little Bluestem (*Schizachyrium scoparium*)
- Marram Grass (*Ammophila breviligulata*)
- Muhlenberg's Sedge (*Carex muhlenbergii*)
- Nodding Wild-rye (*Elymus canadensis*)
- Red Oak (*Quercus rubra*)
- Sand Dropseed (*Sporobolus cryptandrus*)
- Sandbar Willow (*Salix exigua*)
- Sea Rocket (*Cakile edentula*)
- Seaside Spurge (*Chamaesyce polygonifolia*)
- Sky-blue Aster (*Symphyotrichum oolentangiense*)
- Smooth Rose (*Rosa blanda*)
- Snowberry (*Symphoricarpos albus*)
- Stafflower False Soloman's Seal (*Maianthemum stellatum*)
- Switchgrass (*Panicum virgatum*)

- Tall Goldenrod (*Solidago altissima*)
- Trailing Wild Bean (*Strophostyles helvula*)
- Wild Four-o'clock (*Mirabilis nyctaginea*)
- Woodland Lettuce (*Lactuca saligna*)
- Chinquapin Oak (*Quercus muehlenbergii*)

Heritage Archaeological and Paleontological Features

The park has a rich cultural heritage as a result of a long and varied history of human interaction dating back at least 6000 years. Native peoples encamped, hunted, and inhabited the peninsula. This connection remains strong as the Caldwell First Nation and Walpole Island First Nation embrace responsibilities for the environment and the life forms that inhabit this land as well as maintain spiritual ties, as it is part of their traditional territories. . The Caldwell First Nation use the park for traditional cultural events such as spring ceremonies and are active participants in park deer management activities.

The study area for the Northwest Beach has been a popular beach for the public for decades and had previously included a larger parking area and a boardwalk. Previous archaeological studies (Parks Canada) confirmed that the Northwest Beach location was extremely disturbed due to the initial construction and subsequent renovations/repairs. The potential to create an impact to cultural resources in the study area is low and would most likely occur in areas beyond the existing features (limits of disturbance).

7. EFFECTS ANALYSIS

A. Direct Effects

Table 2: Direct Environmental Effects

VEC	Environmental Effects – Phase I	Environmental Effects – Phase II
Air Quality and Noise	• Decreased ambient air quality as a result of emissions from equipment, dust and other particulate matter (including asbestos during decommissioning), and increased greenhouse gas emissions during construction of roads and parking lots. • Increased ambient noise levels during decommissioning and construction of facilities and roads.	• Decreased ambient air quality as a result of emissions from equipment, dust and other particulate matter and increased greenhouse gas emissions during construction. • Increased ambient noise levels during construction of facilities and during the removal of the north paved entrance.
Terrain and Topography	• Disruption to sand dunes and changes to landscape diversity during decommissioning of facilities, removal of south entrance and reconstruction of the main entrance with cutting into the dunes required for the main road entrance.	• Disruption to sand dunes and changes to landscape diversity during construction. • Passive re-naturalization and re-vegetation of beach and dune after decommissioning parking lots and north access road to Northwest Beach
Soils	• Increased soil exposure resulting in erosion and sedimentation during decommissioning of facilities • Potential to disrupt the soils and roots of vegetation with the construction of parking lots.	• Increased soil exposure resulting in erosion and sedimentation during construction of facilities. • Potential to disrupt the soils and roots of vegetation with the construction of facilities.
Surface Water Hydrology and Quality	• Modifications to physical and surface drainage patterns due to parking facilities and other structures, storm water runoff volumes and rate of runoff, flow conveyance.	• Reduced water quality and clarity along Lake Erie shoreline due to erosion and sedimentation during construction.
Groundwater Quantity and Quality	• Groundwater contamination from point or non-	• Groundwater contamination from point or

VEC	Environmental Effects – Phase I	Environmental Effects – Phase II
	point sources of pollution such as septic tank discharges, accidental spills from construction vehicles or chemicals on-site for decommissioning. • Temporary changes in local groundwater flow patterns recharge and levels in aquifers due to potential dewatering required during the decommissioning of buildings.	non-point sources of pollution such as accidental spills from construction vehicles or chemicals on-site for construction. • Temporary changes in local groundwater flow patterns recharge and levels in aquifers due to potential dewatering required during the construction of buildings.
Fish and Fish Habitat	• There will likely be no direct effects on fish and fish habitat along the Lake Erie shorelines as work will be restricted from the shoreline. Indirect effects on fish and fish habitat are not likely measureable.	• There will likely be no direct effects on fish and fish habitat along the Lake Erie shorelines as work will be restricted from the shoreline. Indirect effects on fish and fish habitat are not likely measureable.
Wildlife	• Loss of roosting potential for bats and birds in buildings and trees • Disruption of wildlife species generally using the area during decommissioning. Some wildlife species may retreat into less optimal habitat, or cross roads and be subject to a higher risk of road fatalities.	• Loss of roosting potential for bats in buildings and trees • Disruption of wildlife species generally using the area during construction. Some wildlife species may retreat into less optimal habitat, or cross roads and be subject to a higher risk of road fatalities. • Re-naturalization of 0.76 ha of beach habitat and 0.66 ha of decommissioned parking lot and access road; a positive residual effect is expected.

VEC	Environmental Effects – Phase I	Environmental Effects – Phase II
Vegetation	• Physical damage and loss of vegetation during construction of the new main driveway and the parking lot (See Attachment #3 - Figure 2). Specifically: o 0.29 ha of Hackberry Deciduous Forest; o 0.35 ha of Drummond's Dogwood Thicket on Primary Dune; and, o 0.09 ha of Sea Rocket Sand Open Shoreline • Loss of the following types of vegetation that are present in patches too small to map. These habitat types are well represented in other areas within the park and not unique to this site, therefore disturbance will not represent a critical loss. o Red Cedar Treed Sand Dune o Hop Tree Shrub Sand Dune o Little Bluestem, Switchgrass, Marram Grass Open Graminoid Sand Dune o Sand Dropseed Open Sand Barren; and, o Willow Mineral Shrub Shoreline • Removal or damage to provincially rare plants and species of restoration value during the decommissioning and removals. • Introduction of non-native species from construction vehicles.	• Introduction of non-native species from construction vehicles. • Re-naturalization of 0.76 ha of beach habitat and 0.66 ha of decommissioned parking lot and access road; a positive residual effect is expected.
Migratory Birds	• Temporary loss of breeding habitat for some bird species and roosting potential for some birds and bats during the decommissioning of the existing facilities which are used as habitat.	• Disruption of species generally using the area during migration at time of construction. Many of the species are mobile and will be temporarily displaced during construction into adjacent natural areas of which there is no

VEC	Environmental Effects – Phase I	Environmental Effects – Phase II
	• Disruption of species generally using the area during migration at time of decommissioning and construction. Many of the species are mobile and will be temporarily displaced during construction into adjacent natural areas of which there is no shortage at PPNP.	shortage at PPNP. • Re-naturalization of 0.76 ha of beach habitat and 0.66 ha of decommissioned parking lot and access road; a positive residual effect for migratory birds is expected.
Species at Risk, Residences, and Critical Habitats, and Provincially Rare Species	• Loss of Species at Risk due to mortality from physical activities during decommissioning of buildings (*i.e.*, road kills, collisions, loss of habitat). Turtles using the area for nesting or dispersal may be crushed or affected by large machinery and equipment used to carry out the work. Emerging young in the fall or early spring are especially vulnerable. • Disruption to Species at Risk migration/movement patterns as a result of noise from the decommissioning of buildings and construction of the parking lot. Some wildlife species may retreat into less optimal habitat, or cross roads and be subject to a higher risk of road incidents. • Channel Darter is unlikely to be affected by the construction as habitat is all offshore. • Removal or damage to SAR trees, shrubs or plants estimated (minimum) as follows (note that this does not include the northern decommissioning and dune cut on the north side of the widened driveway): o Blue Ash – multiple seedlings o Climbing Prairie Rose – not found, possibly extirpated o Common Hop Tree	• Loss of Species at Risk due to mortality from physical activities during construction of buildings (*i.e.*, road kills, collisions, loss of habitat). Turtles using the area for nesting or dispersal may be crushed or affected by large machinery and equipment used to carry out the work. Emerging young in the fall or early spring are especially vulnerable. • Disruption to Species at Risk migration/movement patterns as a result of construction noise. Some wildlife species may retreat into less optimal habitat, or cross roads and be subject to a higher risk of road incidents. • Channel Darter is unlikely to be affected by the construction as habitat is all offshore. • Re-naturalization of 0.76 ha of beach habitat and 0.66 ha of decommissioned parking lot and access road; a positive residual effect for SAR through habitat creation is expected.

VEC	Environmental Effects – Phase I	Environmental Effects – Phase II
	▪ Mature - 105 ▪ Sapling - 130 ▪ Seedling - 188 o Honey Locust ▪ Mature - 3 ▪ Sapling - 12 ▪ Seedling - 3 o Burning Bush – possible occurrence on dune cut by driveway – to be confirmed o Carolina Whitlow-grass – salvage seed bank in top 6" of sand o Golden Puccoon - 7 o Tall Green Milkweed – 16 (one with 5 stems) Regarding occurrences of SAR fauna: • Eastern Mole – evidence of activity on tile beds and near relocated driveway extension at main road. It is anticipated that the animals will move out of the construction site when disturbed. • Skink logs (5) – to be salvaged and relocated to areas designated by PC Staff	
Heritage Archaeological and Paleontological Features	• Any digging occurring outside of the existing disturbed footprint could uncover or disturb cultural resources as these areas have not yet been tested.	• Cultural resources may be disturbed if southern septic bed, or parking lot expansion are extended into the forested edge of the parking lot • Widening, grading, and gravel/asphalt

VEC	Environmental Effects – Phase I	Environmental Effects – Phase II
		removal on the new exit/entry road may disturb cultural resources. These areas have not been tested in the past.

B. Indirect Effects

Table 3: Indirect Health and Socio-economic Effects

VEC	Health and Socio-economic Effects Phase I	Health and Socio-economic Effects Phase II
Point Pelee Nation Park Neighbours	• There will be no effects on the neighbours of the Park as all the work will be completed in the park.	• There will be no effects on the neighbours of the Park as all the work will be completed in the park.
Aboriginal Peoples	• The Caldwell First Nations take part in the Parks deer cull as part of their traditional activities. Noise from decommissioning and construction may relocate deer beyond the park if work is done during hunting.	• The Caldwell First Nations take part in the Parks deer cull as part of their traditional activities. Noise from decommissioning may relocate deer beyond the park if work is done during hunting.
Park Visitors	• The Northwest Beach renewal project may change Park visitors use and enjoyment during the decommissioning and construction work due to temporary closures, however the purpose of the project is to improve the visitor experience at the PPNP. As such, it is anticipated that a residual positive effect is likely.	• The Northwest Beach renewal project may change Park visitors use and enjoyment during the construction work due to temporary closures, however the purpose of the project is to improve the visitor experience at the PPNP. As such, it is anticipated that a residual positive effect is likely.

C. Effects of Accidents and Malfunctions

Table 4: Effects of Accidents and Malfunctions

Accidents and Malfunctions	Environmental, Health and Socio-economic Effects – Phase I	Environmental, Health and Socio-economic Effects – Phase II
Vehicle and Vessel Collisions	• Increased potential for personal injuries to public and workers • There will likely be no vessels collisions as decommissioning and construction will	• Increased potential for personal injuries to public and workers • There will likely be no vessels collisions as construction will occur onshore.

Accidents and Malfunctions	Environmental, Health and Socio-economic Effects – Phase I	Environmental, Health and Socio-economic Effects – Phase II
	occur onshore.	
Spills and Leaks	• Increased potential for spills and leaks from construction vehicles which may have an effect on surface water, groundwater and/or vegetation.	• Increased potential for spills and leaks from construction vehicles which may have an effect on surface water, groundwater and/or vegetation.
Fires	• Increased potential for fires as a result of the construction of the main driveway and parking lot and loss of vegetation and disruption to wildlife	• Increased potential for fires as a result of construction work and loss of vegetation and disruption to wildlife
Structural Failures	• There will likely be no structural failures under normal operating conditions. Project design will comply with Canada Building Code.	• There will likely be no structural failures under normal operating conditions. Project design will comply with Canada Building Code.

D. Cumulative Effects

This project aims to reduce the overall footprint of the parking areas by concentrating a fewer number of cars into a smaller area with a reduced edge to interior ratio, which also has the effect of reducing residual impacts to wildlife in the habitat surrounding the redesigned parking. In addition the project will focus washrooms and other amenities into a smaller area and reduce the beach management area. The beach access points will be fewer, affect fewer habitats, and allow PPNP to restore substantial areas of beach, dune and sand barren habitat in support of the overall LESSS restoration initiative that has been underway for some years. Any cumulative effects should be positive. It is not expected that there will be any cumulative effects from other projects planned for the Park as it is expected that the Northwest Beach renewal will be completed before work is started on any other projects.

8. MITIGATION MEASURES

A. Direct Effects

Table 5: Mitigation of Direct Environmental Effects

VEC	Mitigation Measures Phase I	Mitigation Measures Phase II
Air Quality and Noise	• Securely contain and remove any asbestos materials off-site to a licensed disposal facility. • Stabilize soil and other material storage piles against wind erosion and restore disturbed areas as soon as possible • Minimize vehicle traffic on exposed soils and stabilize high traffic areas with clean gravel surface layer or other suitable cover material • Avoid work during windy periods and wet site conditions and provide vehicle tracking control measures as necessary (to remove mud from tires) • If necessary, spray water to minimize excessive dust on paved areas or exposed soils. • Use new or well-maintained heavy equipment and machinery, preferably fitted with up-to-date emission control equipment • Use heavy equipment and machinery within operating specifications • Minimize operation and idling of vehicles, and avoid operating and idling vehicles and gas-powered equipment during smog advisories	• Securely contain and remove any asbestos materials off-site to a licensed disposal facility. • Stabilize soil and other material storage piles against wind erosion and restore disturbed areas as soon as possible • Minimize vehicle traffic on exposed soils and stabilize high traffic areas with clean gravel surface layer or other suitable cover material • Avoid work during windy periods and wet site conditions and provide vehicle tracking control measures as necessary (to remove mud from tires) • If necessary, spray water to minimize excessive dust on paved areas or exposed soils. • Use new or well-maintained heavy equipment and machinery, preferably fitted with up-to-date emission control equipment • Use heavy equipment and machinery within operating specifications • Minimize operation and idling of vehicles, and avoid operating and idling vehicles and gas-powered equipment during smog advisories
Terrain and Topography	• Any grading required will need to be completed following the Project Specifications and kept to a minimum in sensitive areas • When grading is required, avoid disturbance to dunes critical to	• Any grading required will need to be completed following the Project Specifications and kept to a minimum in sensitive areas

VEC	Mitigation Measures Phase I	Mitigation Measures Phase II
	the landscape diversity • Phase work to minimize duration of exposure of disturbed areas at risk • Reduce soil compaction by restricting large machinery to the designated staging area. • Direct runoff and overland flow away from working areas and areas of exposed soils by implementing erosion/sediment control measures.	• When grading is required, avoid disturbance to dunes critical to the landscape diversity • Phase work to minimize duration of exposure of disturbed areas at risk • Reduce soil compaction by restricting large machinery to the designated staging area. • Direct runoff and overland flow away from working areas and areas of exposed soils by implementing erosion/sediment control measures.
Soils	• Provide temporary fencing to protect vegetation and dunes • Maintain effective surface drainage, re-establish drainage patterns on completion of project • Excavations will be backfilled to the existing and/or above grade with various types/sizes of clean, inert, non-contaminated concrete/brick/rubble/fill/topsoil/sand materials. Contaminated soil/materials are unacceptable for backfill (e.g. shingles, drywall, insulation, asphalt, metals, and items containing asbestos). • A spill response kit to be on site in the event of a spill. Immediately contain and clean up any spills in accordance with provincial regulatory requirements. Report spill to the Ontario Spills Action Centre (1-800-268-6060) • Ensure that absorbent materials are available on site in the event that a spill of deleterious substances should occur. • Ensure that personnel are trained and fully informed in proper spill prevention and response procedures and for use of spill response kits. • Ensure hazardous substances (including fuel) are handled and applied in a manner to prevent release to the environment. All deleterious substances should be stored, mixed and transferred on impermeable pads within a defined staging area to prevent	• Provide temporary fencing to protect vegetation and dunes • Maintain effective surface drainage, re-establish drainage patterns on completion of project • Excavations will be backfilled to the existing and/or above grade with various types/sizes of clean, inert, non-contaminated concrete/brick/rubble/fill/topsoil/sand materials. Contaminated soil/materials are unacceptable for backfill (e.g. shingles, drywall, insulation, asphalt, metals, items containing asbestos).

VEC	Mitigation Measures Phase I	Mitigation Measures Phase II
	soil contamination at least 30 m from water bodies. • Follow requirements of Ontario Regulation 278/05 (Asbestos on Construction Projects and in Buildings and Repair Operations) when replacing/handling/disposing of asbestos. • Any contaminated soil will be loaded directly onto haulage vehicles. If stockpiling is necessary, the contaminated soils will be stockpiled on polyethylene sheeting and covered with tarps to prevent leaching of contaminates into the groundwater. • Remove and dispose of affected soils in an appropriate manner and following project specifications. • All solids and liquids must be removed from an out-of-service tank by a registered hauler and disposed of at a licensed sewage treatment plant or a licensed wastewater treatment lagoon	
Surface Water Hydrology and Quality	• Minimize use and discharge of chemicals and cleaning agents. • Avoid operating, and prohibit cleaning, of vehicles in waterbodies. • Minimize physical changes to existing drainage patterns outside of immediate project area. Implement best stormwater management practices for surface drainage from project • Avoid work within 30 m of Lake Erie shoreline where possible, and where possible limit decommissioning time in low-lying shoreline areas to 72 hours or less • Suspend physical works during storm events. Implement wet weather restrictions to decommissioning activity • Install and maintain silt curtains and sedimentation ponds, or drainage swales, silt fences around soil storage sites and elsewhere as required • Backfill and compact excavations as soon as possible. Optimize degree of compaction to minimize erosion and allow for revegetation. • Stabilize slopes as appropriate for local site conditions.	• Minimize use and discharge of chemicals and cleaning agents. • Avoid operating, and prohibit cleaning, of vehicles in waterbodies. • Minimize physical changes to existing drainage patterns outside of immediate project area. Implement best stormwater management practices for surface drainage from project • Avoid work within 30 m of Lake Erie shoreline where possible, and where possible limit construction time in low-lying shoreline areas to 72 hours or less • Suspend physical works during storm events. Implement wet weather restrictions to construction activity • Install and maintain silt curtains and sedimentation ponds, or drainage swales, silt fences around soil storage sites and elsewhere

VEC	Mitigation Measures Phase I	Mitigation Measures Phase II
	• Securely contain and remove any contaminated soils or other contaminated materials off-site to a licensed disposal facility • Avoid application of persistent pesticides and control use of bio-degradable herbicides (*e.g.*, glyphosate) • Minimize use of salt and chemicals on access roads	as required • Stabilize slopes as appropriate for local site conditions. • Avoid application of persistent pesticides and control use of bio-degradable herbicides (*e.g.*, glyphosate) • Avoid use of wood containing wood preservatives or other toxic, persistent or bio accumulating materials, where wooden structures are to be place in or within 30 m of a water body • Minimize use of salt and chemicals on access roads
Groundwater Quantity and Quality	• Construct, operate and maintain septic facilities in accordance with construction operating specifications. • Refer to mitigation measures as described in the Soil VC above for the removal of the septic tank. • The operating, refueling and maintenance of machinery/equipment and the handling and storage of toxic materials (*i.e.*, oils, lubricants, fuels, and paints) will be carried out in such a way as to avoid contamination of soils and water. • All compounds used for this project shall be utilized and stored according to the manufacturers' Product Technical Data Sheets • Recyclable materials and all waste debris shall be removed from the work area and disposed of off-site, in accordance with all federal, municipal, and provincial regulations to appropriate disposal facilities licensed to receive them. • Follow Project Specifications for best management practise as it relates to de-watering.	• Construct, operate and maintain septic facilities in accordance with construction operating specifications. • The operating, refueling and maintenance of machinery/equipment and the handling and storage of toxic materials (*i.e.*, oils, lubricants, fuels, and paints) will be carried out in such a way as to avoid contamination of soils and water. • All compounds used for this project shall be utilized and stored according to the manufacturers' Product Technical Data Sheets • Recyclable materials and all waste debris shall be removed from the work area and disposed of off-site, in accordance with all federal, municipal, and provincial regulations to appropriate disposal facilities licensed to receive them.

VEC	Mitigation Measures Phase I	Mitigation Measures Phase II
		• Follow Project Specifications for best management practise as it relates to de-watering.
Wildlife	• All work conducted must be performed in accordance with the ordinances and laws set out in the Canada National Parks Act and Regulations and follow Project Specifications for best management practices • Decommissioning and construction work for this project will be completed outside of breeding season for species listed in Table 5a – Timing of Valued Components. • Minimize traffic along access roads and maintain safe driving speeds • Logs of felled trees should be cut up on-site to specifications provided by the Park Ecologist and placed strategically for skink habitat in restoration areas. • Parks Canada staff and contractors will be diligent in Monitoring for SAR/wildlife prior to, during and after decommissioning activities. Pre-work surveys will check for eastern mole tunnels, monarch roosts, turtle nests, snake activity near potential hibernacula and signs of animals hibernating in hollow trees. • During decommissioning, a biologist should be in attendance to watch for escaping wildlife to ensure they clear the area. • When possible, wildlife will be given the opportunity to escape the work site to the surrounding forest or elsewhere to seek new shelter. If any wildlife is discovered that cannot escape quickly enough, then all work in the immediate areas will cease until Park Canada resource conversation staff is consulted. The animals will be safely moved away a short distance from the construction site to allow then to remain within their natural home range.	• All work conducted must be performed in accordance with the ordinances and laws set out in the Canada National Parks Act and Regulations and follow Project Specifications for best management practices • When possible, construction work for this project will be completed outside of breeding season for species listed in Table 5a – Timing of Valued Components. • Minimize traffic along access roads and maintain safe driving speeds • Parks Canada staff and contractors will be diligent in monitoring for SAR/wildlife prior to, during and after constructions activities. Pre-work surveys will check for eastern mole tunnels, monarch roosts, turtle nests, snake activity near potential hibernacula and signs of animals hibernating in hollow trees. • When possible, wildlife will be given the opportunity to escape the work site to the surrounding forest or elsewhere to seek new shelter. If any wildlife is discovered that cannot escape quickly enough, then all work in the immediate areas will cease until Park Canada resource conversation staff is consulted. The animals will be safely moved away a short distance from the construction

VEC	Mitigation Measures Phase I	Mitigation Measures Phase II
	• Provide a tailgate meeting before work is to start to inform workers about the species that may be found in the area. • Where disturbance or construction must occur within the Timing Windows provided above, a PC biologist must be present during construction to protect any encountered species at risk.	site to allow then to remain within their natural home range. • Provide a tailgate meeting before work is to start to inform workers about the species that may be found in the area. • Where disturbance or construction must occur within the Timing Windows provided above, a PC biologist must be present during construction to protect any encountered species at risk.
Vegetation	• All machinery/equipment will be clean prior to use, in order to avoid the introduction of invasive, alien species into the park • Minimize cutting of vegetation. • Any species targeted for protection (outside of construction area so that it can be avoided), or removal (within area to be destroyed) should be marked using tree paint, flagging tape, flags or stakes. • Use temporary fencing to delimit the proposed project area. • Workers will stay in the work areas as much as possible while conducting the decommissioning and construction to reduce overall damage to the surrounding vegetation, trampling and ground compaction • All White mulberry (*Morus alba*) and poplar (*Populus sp*.) should be removed from the proposed construction site (Attachment #4 - Photo 10). Where removal of these species occurs in areas not subject to paving or building footprint, herbicide should be applied as per PPNP Exotic Species Management Plan (1990, 1997). • Data will be recorded on the total number of: affected common Hop Trees and/or Blue Ash (removed, damaged, or killed), seeds collected and replanted, transplanted trees, and seedlings sprouting in restored sites. The loss of mature individuals with no	• All machinery/equipment will be clean prior to use, in order to avoid the introduction of invasive, alien species into the park • Any species targeted for protection (outside of construction area so that it can be avoided), or removal (within area to be destroyed) should be marked using tree paint, flagging tape, flags or stakes. • Use temporary fencing to delimit the proposed project area. • Workers will stay in the work areas as much as possible while conducting the construction to reduce overall damage to the surrounding vegetation, trampling and ground compaction • Follow Parks Canada's Invasive Plant Management Plan. • Signs should be used to explain the restoration project and area closures during high risk activities.

VEC	Mitigation Measures Phase I	Mitigation Measures Phase II
	natural regeneration, sprouting and/or suckering, or seed collection (with subsequent seedling germination and planting) will define the loss of genetic materials and impacts on the population. Under this definition, if the total number of mature trees lost is greater than 5% of the Point Pelee National Park population, or an overall population decline of greater than 10% is experienced within the park, then projects will be reassessed and stricter mitigation measures will be implemented. [N.B. Cumulative effects thresholds for Common Hop Trees were chosen in consultation with a Parks Canada SAR Specialist based on COSEWIC's assessment of a Small and Declining Number of Mature Individuals for a threatened species – see the following website (Table 2, Section C) for more details: http://www.cosewic.gc.ca/eng/sct0/assessment_process_e.cfm]. • Although not known to occur in or adjacent to the project area, avoidance of accidental uprooting or disturbance to eastern prickly pear cactus should be avoided if encountered. Any prickly pear cactus encountered in the proposed area of disturbance should be salvaged for restoration. • Disposal of slash to closest appropriate location – PC staff will designate. • Prior to Phase II, prepare a restoration plan in the context of the LESSS Restoration Plan aimed at the targeted vegetation communities described above. Use transplants and salvaged material and seeds to the extent possible to maintain local genetic material. • Signs will be used to explain the restoration project and areas closures during high risk activities. • For unavoidable areas where vegetation must be removed, plants that can be successfully transplanted should be salvaged and	

VEC	Mitigation Measures Phase I	Mitigation Measures Phase II
	moved to suitable habitat to be designated by PPNP staff as identified in Section 6, page 14. • Collect seeds of identified species for restoration of the parking lots to be decommissioned.	
Migratory Birds	• Avoid decommissioning during spring migration and breeding season as per Environment Canada guidelines and Table 5a. Alternatively, the area must be screened by PPNP staff to ensure that there are no active nests (nor flying squirrel habitat). If a nest is identified, works must stop until the young have fledged. • Parks Canada staff will monitor for wildlife prior to, during, and after project activities.	• Avoid construction during spring migration and breeding season (end of March to the end of August) as per Environment Canada guidelines (accessed July 2015) and Table 5a. Alternatively, the area must be screened by PPNP staff to ensure that there are no active nests (nor flying squirrel habitat). If a nest is identified, works must stop until the young have fledged. • Parks Canada staff will monitor for wildlife prior to, during, and after project activities.
Species at Risk, Residences, and Critical Habitats, and Provincially Rare Species	• Decommissioning work for this project will be completed outside of breeding season for birds, snakes, Skinks and turtles if possible. • All work conducted must be performed in accordance with the ordinances and laws set out in the Canada National Parks Act and Regulations and follow Project Specifications for best management practices • Parks Canada staff to conduct detailed survey for Species at Risk in areas beyond project footprint where disturbance is anticipated (e.g. tree felling into adjacent lands) • Six Blue Ash trees are found in the area of the north Picnic shelter and may be harmed during decommissioning. Seeds will be collected prior to removal if possible. Damage to these trees will not be detrimental to the survival of the population at Point Pelee • All Common Hop trees able to be transplanted will be removed	• Construction work for this project will be completed outside of breeding season for birds, snakes, Skinks and turtles. • All work conducted must be performed in accordance with the ordinances and laws set out in the Canada National Parks Act and Regulations and follow Project Specifications for best management practices • Follow up monitoring will occur for all SAR/provincially rare species to evaluate their survival rate • In the event that a SAR tree is accidently cut or damaged by felled trees and fruit or seeds are present on the individual, seeds will be collected or left on-site. For Common Hop Trees and Blue Ash, seeds will be collected and

VEC	Mitigation Measures Phase I	Mitigation Measures Phase II
	prior to construction and relocated to appropriate restoration areas designated by PCA Staff. • For individuals too large to transplant, or that don't occur in the immediate construction zone, collect seeds for restoration of the decommissioned parking lots and other LESSS restoration projects within the park. • Follow up monitoring will occur for all SAR/provincially rare species to evaluate their survival rate • In the event that a SAR tree is accidently cut or damaged by felled trees and fruit or seeds are present on the individual, seeds will be collected or left on-site. For Common Hop Trees and Blue Ash, seeds will be collected and stored according to methods set out in the RCPS #PPNP-2011-10254 to be used in restoration. For all other species, individuals and/or seeds will be salvaged for restoration (*i.e.* not chipped or placed in slash piles).All SAR plants identified for transplanting will be installed according to vegetation communities in a location identified by PPNP staff. • SAR will be identified with pink flagging tape prior to construction. Milkweed and Common Hop Tree that cannot be transplanted should be screened for occurrence of Monarch/Giant Swallowtail caterpillars and/or chrysalis' and appropriately removed to safe harbour. • PPNP staff will screen the proposed project area for Five-lined Skink habitat, to be marked with pink flagging tape. If a nest is found, all work will stop until it can be properly relocated by PCA staff. . • Skink logs within the proposed decommissioning area will be moved prior to works to ensure any remaining skinks can escape and establish away from the work area. These logs will be temporarily placed outside of work area. • All trees felled during construction will remain on site to be cut up	stored according to methods set out in the RCPS #PPNP-2011-10254 to be used in restoration. For all other species, individuals and/or seeds will be salvaged for restoration (*i.e.* not chipped or placed in slash piles).All SAR plants identified for transplanting will be installed according to vegetation communities in a location identified by PPNP staff. Collected seed will be used as appropriate to the vegetation type to re-establish native plant communities. • Skink logs within the proposed construction area will be moved prior to works to ensure any remaining skinks can escape the area and establish away from the work area. These logs will be temporarily placed outside of work area. • All trees felled during construction will remain on site to be cut up and used as new skink habitat, as directed by the park ecologist. • During and after project activities, PPNP staff will monitor for wildlife occurrences. When encountered, all work will stop to enable escape beyond the work area. If the wildlife does not attempt escape or chooses refuge within the work area, then work may not resume until PPNP staff are consulted and a safe removal strategy identified to move them to a safe area within their natural home range. • Timing of works for Five-lined Skink (*Eumeces fasciatis*) and Eastern fox snake (*Elaphe gloydi*) should avoid the windows for breeding and

VEC	Mitigation Measures Phase I	Mitigation Measures Phase II
	and used as new skink habitat as directed by the park ecologist. • Prior to, and during project activities, PPNP staff will monitor for wildlife occurrences. When encountered, all work will stop to enable escape beyond the work area. If the wildlife does not attempt escape or chooses refuge within the work area, the work may not resume until PPNP staff have removed wildlife to a safe area within their natural home range. • Timing of works for Five-lined Skink (*Eumeces fasciatis*) and Eastern fox snake (*Elaphe gloydi*) should avoid the windows for breeding and hibernation (Table 5a) as much as possible. Eastern Fox snakes start hibernating as early as September 1st. • The comfort station should be removed between mid-August to beginning of October (Table 5a). The removal must be monitored by PPNP staff to remove any animals that may be harbouring in refugia, and especially in the walls of the comfort station, and below the floor. • If hibernating snake/skink are disturbed by construction or decommissioning activities, work will stop and Park staff will remove from harm and if necessary, care for over the winter for release as soon as weather is appropriate. • Consult the turtle nesting database and park staff for knowledge of nests. Avoid critical nesting, dispersal and emergence timing windows if possible (Table 5a). PPNP staff should monitor for turtles before, during and after decommissioning. If individuals and/or nests of Eastern Musk Turtle, Snapping Turtle, or Blanding's Turtle (*Emydoidea blandingii*) are encountered, work must halt while a turtle expert is consulted as to how to move the nest. • Where disturbance or construction must occur within the Timing Windows provided above, a PC biologist must be present during	hibernation (Table 5a) as much as possible. • If snake/skink are encountered in the proposed areas of disturbance during construction or decommissioning activities, work will stop and Park staff will remove specimen from harm. • Consult the turtle nesting database and park staff for knowledge of nests. Avoid critical nesting, dispersal and emergence timing windows if possible (Table 5a). PPNP staff should monitor for turtles before, during and after construction. If individuals and/or nests of Eastern Musk Turtle, Snapping Turtle, or Blanding's Turtle (*Emydoidea blandingii*) are encountered, work must halt while a turtle expert is consulted as to how to move the nest and a Species at Risk Act (SARA) Authorization will be drafted to enable the activity to occur if necessary. • Where disturbance or construction must occur within the Timing Windows provided above, a PC biologist must be present during construction to protect any encountered species at risk.

VEC	Mitigation Measures Phase I	Mitigation Measures Phase II
	construction to protect any encountered species at risk.	

Heritage Archaeological and Paleontological Features	• If archaeological resources are uncovered during the project, then Parks Canada Agency staff will be immediately notify for Parks Canada staff for action in accordance with Parks Canada's *"Guidelines for the Management of Archaeological Resources"*
	• If digging is to occur outside of disturbed area testing will be required.
	• Heavy equipment should be restricted to the roadways and not infringe into the forested areas.
	• Depth of material removals should not exceed existing depth of road fill material.
	• Should disturbance or excavation of native soils or incursion into the adjacent forest areas be required, further archaeological testing of these areas will be required.
		• If archaeological resources are uncovered during the project, then Parks Canada Agency staff will be immediately notify for Parks Canada staff for action in accordance with Parks Canada's *"Guidelines for the Management of Archaeological Resources"*
		  • Should disturbance or excavation of native soils or incursion into the adjacent forest areas be required, further archaeological testing of these areas will be required.
		  • Expansion of the parking lot into the forested area is discouraged as this is an archaeologically untested area
		  • The entire length of the two-lane roadway expansion should be archaeological tested and Parks Canada terrestrial archaeology representatives consulted for additional archaeological mitigation measures to address any additional potential impacts identified.

Table 5a: Timing of Valued Components

Valued Component	Avoid Disturbance or Construction During the Following Periods:	
	Phase I (September 14 – December 7, 2015)	**Phase II (early July to August, 2016)**

Turtles - Nesting	Late May to early September*	Late May to early September
Turtles - Hibernating	Late September to May	Not Applicable during proposed construction period
Skinks and Snakes - Nesting	Not Applicable during proposed construction period	May and mid-August
Skinks and Snakes - Hibernating	Early September to early April	Not Applicable during proposed construction period
Migratory Birds - Nesting	Not Applicable during proposed construction period	Late April to late August
Migratory Birds - Migration	Late August to early October	Not Applicable during proposed construction period

*Overwintering nest with live young potentially exist into proposed Construction Period. PC biologist to be present during construction to protect any encountered species at risk.

Where disturbance or construction must occur within the Timing Windows provided above, a PC biologist must be present during construction to protect any encountered species at risk.

B. Indirect Effects

Table 6: Mitigation of Indirect Effects

Effects on…	Mitigation Measures Phase I	Mitigation Measures Phase II
Aboriginal Peoples	• No effects anticipated	• No effects anticipated
Park Visitors	• Make best efforts to complete work outside of the visitor season. • Project area will be closed to visitors during decommissioning for safety reasons.	• Make best efforts to complete work outside of the Parks peak time for visitors. • Project area will be closed to visitors during construction for safety reasons. • Maintain proper signage and access controls

	• Maintain proper signage and access controls during construction • All activities associated to the project shall be governed by and constructed in accordance with all laws of Canada and the Province of Ontario	during construction • All activities associated to the project shall be governed by and constructed in accordance with all laws of Canada and the Province of Ontario

C. Effects of Accidents and Malfunctions

Table 7: Mitigation of Effects of Accidents and Malfunctions

Effects of…	Mitigation Measures Phase I	Mitigation Measures Phase II
Vehicle and Vessel Collisions	• Project area will be closed to visitors during decommissioning • Keep within speed limits • Minimize number of vehicles on-site • Trucks and heavy equipment should be equipped with back-up signals or indicators • Use a flag person during heavy traffic periods	• Project area will be closed to visitors during construction • Keep within speed limits • Minimize number of vehicles on-site • Trucks and heavy equipment should be equipped with back-up signals or indicators • Use a flag person during heavy traffic periods
Spills / Leaks	• Store all oils, lubricants, fuels and chemicals in secure areas on impermeable pads, provide berms if necessary • Refuel machinery on impermeable pads or buried liners designed to allow full containment of spills. Do not refuel within 100 m of the Lake Erie shoreline • Maintain spills response capability • All work conducted must be performed in accordance with the ordinances and laws set out in the Canada National Parks Act and Regulations and follow Project Specifications for best management practices • Any hazardous waste identified through the designated substances survey (asbestos, mercury, mould, PCBs, silica, lead, CFC, HCFCs) must be removed by employees who are properly trained to handle and	• Store all oils, lubricants, fuels and chemicals in secure areas on impermeable pads, provide berms if necessary • Refuel machinery on impermeable pads or buried liners designed to allow full containment of spills. Do not refuel within 100 m of the Lake Erie shoreline • Maintain spills response capability • All work conducted must be performed in accordance with the ordinances and laws set out in the Canada National Parks Act and Regulations and follow National Masters Specifications for best management practices • A spill response kit to be on site in the event of a spill. Immediately contain and clean up any spills in accordance with provincial regulatory requirements. Report

	dispose the identified wastes in accordance with all applicable federal, provincial, and municipal legislation. • A spill response kit to be on site in the event of a spill. Immediately contain and clean up any spills in accordance with provincial regulatory requirements. Report spill to the Ontario Spills Action Centre (1-800-268-6060) • Ensure that absorbent materials are available on site in the event that a spill of deleterious substances should occur. • Ensure that personnel are trained and fully informed in proper spill prevention and response procedures and for use of spill response kits. • Ensure hazardous substances (including fuel) are handled and applied in a manner to prevent release to the environment. All deleterious substances should be stored, mixed and transferred on impermeable pads within a defined staging area to prevent soil contamination at least 30 m from water bodies.	spill to the Ontario Spills Action Centre (1-800-268-6060) • Ensure that absorbent materials are available on site in the event that a spill of deleterious substances should occur. • Ensure that personnel are trained and fully informed in proper spill prevention and response procedures and for use of spill response kits. • Ensure hazardous substances (including fuel) are handled and applied in a manner to prevent release to the environment. All deleterious substances should be stored, mixed and transferred on impermeable pads within a defined staging area to prevent soil contamination at least 30 m from water bodies.
Fires	• Maintain trained work force and compliance with all occupational health and safety requirements • Ensure that all stationary metallic equipment is properly grounded • Eliminate sparking equipment near explosives, refueling or fuel storage areas	• Maintain trained work force and compliance with all occupational health and safety requirements • Ensure that all stationary metallic equipment is properly grounded • Eliminate sparking equipment near explosives, refueling or fuel storage areas

	• Provide adequate firefighting equipment on-site • Maintain contact with fire departments during construction • Maximize use of all trees/brush cleared and avoid slash burning • In the event of fires, notify fire departments immediately • In the event of fires, clean-up affected areas by removing burnt materials	• Provide adequate firefighting equipment on-site • Maintain contact with fire departments during construction • Maximize use of all trees/brush cleared and avoid slash burning • In the event of fires, notify fire departments immediately • In the event of fires, clean-up affected areas by removing burnt materials
Structural Failures	• Appropriate safety precautions and safe work practices will be implemented.	• Appropriate safety precautions and safe work practices will be implemented.

9. PUBLIC / STAKEHOLDER ENGAGEMENT AND ABORIGINAL CONSULTATION

A. Indicate whether public / stakeholder engagement was undertaken in relation to potential adverse effects of the proposed project:

	Yes
X	*No*

No formal consultation has be done for the Northwest Beach renewal but as part of the consultation for the 2010 Park Management Plan, “right-sizing" the infrastructure at Northwest Beach to ensure it matched current visitors needs and patterns of use was included with the plan. Open houses have also been held with staff, stakeholders and in the community in 2014 to seek feedback on the proposed redevelopment of Northwest Beach with the facilities and amenities as the focus of the public. In general, the public is supportive of the Renewal and the desire to restore natural habitat while also improving the visitor experience. In November 2013, a formal presentation to the Point Pelee National Park Advisory Committee of Local Citizens was held and the feedback received was positive. If requested, the final EA will be provided to the public.

B. Indicate whether Aboriginal consultation was undertaken in relation to potential adverse effects of the proposed project:

	Yes
X	*No*

The Northwest Beach Project has been reviewed at the First Nations Advisory Circle which includes representatives from Caldwell First Nation and Walpole Island First Nation. The Project status will continue to be discussed throughout the process and input sought from the First Nation Advisory Circle and where possible, opportunities will be found for collaboration. A copy of the final EA will be provided to First Nations communities upon request.

10. SIGNIFICANCE OF RESIDUAL ADVERSE EFFECTS

Taking into account the physical works and activities, accidents and malfunctions, the following table identifies the adverse environmental effects that are likely to occur. The significance of each likely environmental effect is also assessed and an overall conclusion regarding the significance of each effect is provided.

The significance of each of these likely environmental effects is assessed, taking into consideration applicable mitigation measures identified from the long list of likely effects and mitigation measures identified above The assessment of significance is undertaken according to the following criteria: magnitude, geographic extent, duration, frequency of occurrence, and permanence, and summarized on the table below. For the purposes of this MCSR, the significance criteria were defined and applied according to the following definitions.

Table 8: Significance Criteria Definitions

Criterion	Low	Moderate	High
Magnitude (of the effect)	Effect is evident only at or nominally above baseline conditions	Effect is likely to be measurable over baseline conditions however is less than regulatory criteria, a published guideline value, or a level that might measurably affect the quality, quantity, value or use of a Valued Ecosystem Component	Effect may exceed a regulatory criteria, a published guideline value, or a level that might measurably affect the quality, quantity, value or use of a Valued Ecosystem Component
Geographic Extent (of the effect)	Effect is most likely to be limited to the project site or footprint.	Effect is likely to extend into areas adjacent to the project site/footprint boundary.	Effect is likely to extend into areas beyond those adjacent to the project site or footprint boundary.
Duration (of the effect)	Effect is most likely to be evident only during one of the following phases of the project: site preparation, construction or decommissioning.	Effect is likely to be evident during two or more of the construction, decommissioning and operations phase of the project.	Effect is likely to be evident beyond the life of the project.
Frequency (of conditions causing the effect)	Conditions or phenomena causing the effect occur only once.	Conditions or phenomena causing the effect occur may occur more than once, but infrequently.	Conditions or phenomena causing the effect are likely to occur at regular or frequent intervals
Permanence (of effect)	Effect is likely to be reversible over a short period of time (*e.g.*, within several days or months) after the completion of the activity causing the effect.	Effect is likely to be reversible over an extended period of time (*e.g.*, a growing season, following a freshet)	Effect is likely to be permanent

After the application of these definitions, an environmental effect is assessed to be a negligible effect, a minor adverse effect or a significant adverse effect, according to the following definitions:

- **Negligible Effect (Not Significant)** are those environmental effects which, after taking into consideration applicable mitigation measures have been assessed to have a “low” level of significance for the majority of the criteria described above. That is, the effects are not likely to be measurable or noticeable beyond the project site or footprint boundary, are only evident during the site preparation, construction or decommissioning phases of the project or occur only once, and completely reversible within a short period of time.

- **Minor Adverse or Mitigable Effects (Not Significant)** are those environmental effects which, after taking into consideration mitigation measures, have been assessed to have a “low” or “moderate” level of significance for the majority of the criteria described above.

- **Significant Adverse Effects** are those environmental effects which, after taking into consideration mitigation measures, have a magnitude that is approaching a legal regulatory limit and/or exhibit all of the following:

    a) effect extends into areas beyond those adjacent to the project site/footprint boundary;

    b) effect is evident beyond the life of the project;

    c) conditions or phenomena causing the effect occur at regular or frequent intervals; and

    d) effect is permanent.

Table 9: Significance of Residual Adverse Effects

Environmental Component	Likely Environmental Effects	*Applicable to Phase I*	*Applicable to Phase II*	*Magnitude*	*Extent*	*Duration*	*Frequency*	*Permanence*	Overall Significance
Air Quality and Noise	• Decreased ambient air quality as a result of emissions from equipment, dust and other particulate matter (including asbestos during decommissioning), including increased greenhouse gas emissions during decommissioning and construction.	✓	✓	M	M	L	L	L	**Minor Adverse Effect**
	• Increased ambient noise levels during decommissioning and construction	✓	✓	M	M	L	L	L	**Minor Adverse Effect**
Terrain and Topography	• Disruption to sand dunes and landscape diversity	✓	✓	L	L	H	L	H	**Minor Adverse Effect**
Soils and Agriculture	• Increased soil exposure resulting in erosion and sedimentation	✓	✓	M	L	M	L	L	**Minor Adverse Effect**
Surface Water Hydrology and Water Quality	• Modifications to physical and surface drainage patterns due to parking facilities and other structures, stormwater runoff volumes and rate of runoff, flow conveyance	✓		L	L	M	L	M	**Minor Adverse Effect**
	• Reduced water quality and clarity along Lake Erie shoreline due to erosion and sedimentation during construction.	✓	✓	L	L	L	L	L	**Negligible**
Groundwater Quantity & Quality	• Groundwater contamination from point or non-point sources of pollution such as septic tank discharges, accidental spills from construction vehicles or chemicals on-site for decommissioning and construction.	✓		L	L	M	L	L	**Minor Adverse Effect**
	• Changes in local groundwater flow patterns, recharge and levels in aquifers due to potential dewatering required during the decommissioning and construction of buildings	✓	✓	L	L	L	L	L	**Negligible**
Wildlife	• Physical damage and loss of habitat during decommissioning and construction	✓	✓	L	L	M	L	L	**Minor Adverse Effect**
	• Loss of roosting potential for bats	✓		L	L	L	L	L	**Negligible**
	• Disruption of wildlife species generally using the area during decommissioning and construction	✓	✓	L	L	L	L	L	**Negligible**
Vegetation	• Physical damage and loss of vegetation during decommissioning and construction	✓	✓	L	L	M	L	**L**	**Minor Adverse Effect**
	• Introduction of non-native species from construction vehicles	✓	✓	L	L	L	L	L	**Negligible**
Migratory Birds	• Loss of habitat (shelter, loafing and foraging) for migratory bird species and roosting potential for some birds. • Loss of breeding bird habitat	✓		L	L	L	L	L	**Negligible**
	• Disruption of species generally using the area during construction.	✓	✓	L	L	L	L	L	**Negligible**
Species at Risk, Residences, and Critical Habitats, and Provincially Rare Species	• Loss of Species at Risk due to mortality from physical activities during decommissioning and construction of buildings (*e.g.*, road kills, collisions, loss of habitat)	✓	✓	L	L	M	L	L	**Minor Adverse Effect**
	• Disruption to Species at Risk migration/movement patterns	✓	✓	L	M	L	L	L	**Minor Adverse Effect**
Indirect Effects on Park Visitors	• Changes to Park visitors use and enjoyment during the decommissioning and construction work	✓	✓	M	M	L	L	L	**Minor Adverse Effect**

Environmental Component	Likely Environmental Effects	*Applicable to Phase I*	*Applicable to Phase II*	*Magnitude*	*Extent*	*Duration*	*Frequency*	*Permanence*	Overall Significance
Effects of Accidents and Malfunctions	• Potential effects of vehicle collisions, spills and leaks, fires and structural failures on the environment, public and worker safety	✓	✓	M	M	L	L	L	**Minor Adverse Effect**

11. SURVEILLANCE

	Surveillance is not required
x	*Surveillance is required*

A. Surveillance Program Details

As part of the mitigation for wildlife and wildlife habitat as well as Species at Risk, a surveillance program is recommended to determine species presence prior, during and after construction to reduce the potential for adverse effects.

12. FOLLOW-UP MONITORING

	Follow-up monitoring is not required
x	*Follow-up monitoring is legally required (e.g., under Species at Risk Act or Fisheries Act)*
	Follow-up monitoring is required in accordance with Parks Canada Cultural Resource Management Policy

A. Follow-up Monitoring Program Details

Prior to the start of construction, monitoring of the study area will help estimate the current population of those species at risk with in the study area (see lists in Section 6). Any species found will be recorded including the date and location. Follow-up monitoring will occur during and after construction and relocation of any species will only be done if required.

13. SARA NOTIFICATION

	Notification is not required
x	*Notification is required under the Species at Risk Act*

A. Species at Risk Monitoring

Park staff will conduct surveillance to ensure mitigation measures are followed, including the protection of SAR (i.e. five-lined skinks, eastern foxsnakes, the turtle nests, common hop trees, etc.) and their habitats. This project is intended to restore and protect LESSS habitat along the shoreline. The work will primarily take place outside critical timing windows for sensitive species and if work is completed during a critical timing window, a PCA staff member will be on-site at all times work is being completed.

This project is intended to create suitable habitat for SAR species in the restored area of the beach including overwintering habitat for eastern foxsnakes, which is believed to have declined over the past several decades with the loss of man-made structures that snakes tend to

hibernate in/under. Portions of the new hibernaculum structure created from left over building material may be suitable for other herpetofauna (e.g. skinks, frogs, toads, overwintering turtle nests, other snake species) to utilize as well. Follow-up monitoring will be conducted by Resource Conservation staff to assess the level of use of this structure by Eastern fox snakes and other animals.

All hop trees and blue ash trees in the study area will be marked with pink flagging tape prior to the start of the project. Any damage to the hop trees and blue ash or removal or relocation required will be documented. Follow-up monitoring will occur for all transplanted SAR trees to evaluate their survival rate after one year.

14. EXPERTS CONSULTED

Department/Agency/Institution: Parks Canada	***Date of Request:*** 8 July 2015
Expert's Name: Dan Dufour	***Title*** Project Coordinator, VE Renewal
Contact Information: Dan.Dufour@pc.gc.ca	
Expertise Requested: Project description, proposed construction activities and footprint	
Response: provided descriptions and plan	
Department/Agency/Institution: Parks Canada	***Date of Request:*** 26 June 2015
Expert's Name: Hiro Sawada	***Title:*** GIS technician
Contact Information: hiroo.sawada@pc.gc.ca	
Expertise Requested: data for NW Beach	
Response: provided figures, drawings, biological information	
Department/Agency/Institution: Parks Canada	***Date of Request:*** 15 July 2015
Expert's Name: Tammy Dobbie	***Title:*** Park Ecologist
Contact Information: Tammy.Dobbie@pc.gc.ca	
Expertise Requested: list of species at risk in PPNP	
Response: provided list as requested	
Department/Agency/Institution: Parks Canada	***Date of Request:*** 9 July 2015
Expert's Name: Nicole Paleczny	***Title:*** Resource Management Officer
Contact Information: nicole.paleczny@pc.gc.ca	
Expertise Requested: NW Beach EA and other subject matter reports	
Response: provided documents as requested	

15. DECISION

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

[x] *not likely to cause significant adverse environmental effects.*

	likely to cause significant adverse environmental effects

If significant changes are made to the proposed timing or activities involved in this project, specifically for Phase II, an amendment will be required to be made this BIA.

A. For SARA Requirements

	There are no residual adverse effects to species at risk and therefore the SARA-Compliant Authorization Decision Tool was not required
	There is no contravention of SARA prohibitions
x	*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

A. Prepared By:

Name:	Date:
Position:	

B. Recommended By:

Name:	Date:
Position:	

C. Approved By:

Name:	Date:
Position:	
Signature:	

17. ATTACHMENTS LIST

Attachment 1 – Effects Identification Matrix
Attachment 2 – SARA Compliant Authorization Tool

Attachment 3 – Figures 1 and 2
Attachment 4 - Photolog

18. NATIONAL IMPACT ASSESSMENT TRACKING SYSTEM

	Project registered in tracking system
x	*Not yet registered*

19. REFERENCES

BaMasoud, A. and M.L.Byrne, 2011. Analysis of Shoreline Changes (1959-2004) in Point Pelee National Park, Canada. Journal of Coastal Research. Volume 27, Issue 5: 839-846

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ATTACHMENT 1 – EFFECTS IDENTIFICATION MATRIX

A.	B. Direct Effects												
				Valued components potentially affected by the proposed project									
				Natural Resources									Cultural Resources
			Air Quality and Noise	Terrain and Topography	Soils and Agriculture	Surface Water Hydrology and Quality	Groundwater Quantity and Quality	Fish and Fish Habitat (Fisheries Act)	Wildlife	Vegetation	Migratory Birds (MBCA)	Species at Risk (SARA). Residences and Critical Habitats	Heritage Archaeological and Paleontological Features
	Phase	**Physical Works and Activities**											
Project Components	Preparation / Construction / Decommissioning	Supply and Storage of Materials		✓	✓	✓	✓						
		Demolition / Removals	✓	✓	✓	✓			✓	✓	✓	✓	
		Clearing	✓	✓	✓	✓			✓	✓	✓	✓	✓
		Earthworks		✓	✓	✓	✓		✓	✓		✓	✓
		Drainage Alteration						✓					
		Use of Machinery	✓	✓					✓	✓	✓	✓	
		Paving and Surfacing	✓	✓	✓	✓	✓	✓	✓	✓		✓	
		Construction of Buildings and Structures	✓		✓				✓	✓	✓	✓	
		In-Water Works											
		Withdrawal or Discharge of Surface Water											
		Withdrawal or Discharge of Groundwater											
		Use of Chemicals		✓	✓	✓	✓	✓	✓	✓	✓	✓	
		Waste Storage and Disposal			✓	✓	✓	✓					
		Temporary Facilities		✓									
	Operation / Implementation	Site Restoration		✓					✓	✓	✓	✓	
		Waste Storage and Disposal											
		Wastewater Disposal											
		Maintenance of Buildings and Structures											
		Snow clearing	✓			✓	✓	✓					
		Herbicide Use / Weed Control	✓		✓	✓	✓	✓		✓	✓	✓	
		Visitor Use		✓					✓	✓	✓	✓	

B. Indirect Effects (all phases)							
		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 & Accommodation Opportunities	Safety
Phase	**Natural resource components affected by the project**						
Preparation /construction operation/implementation/decommissioning	Could impacts to air and noise lead to adverse effects on…					✓	✓
	Could impacts to soils, terrain and topography lead to adverse effects on…						
	Could impacts to water (e.g. surface, ground water and water crossings) lead to adverse effects on…						
	Could impacts to flora (including SAR) lead to adverse effects on…						
	Could impacts to fauna (including SAR) lead to adverse effects on…						

Attachment 2: SARA-Compliant Authorization Decision Tool

- **This tool is for use when the BIA has determined that project activities will lead to residual adverse effects to THR, EN, or EX species at risk** (i.e. even after mitigation measures are applied, there are effects to individuals, residences or critical habitat of THR, EN or EX species at risk).
- This tool provides a structured process to determine if a SARA authorization is required, if it can be issued, and how to issue it.
- **Guidance for each question is provided within the form and should be deleted from the final version.**
- Consultation with a representative of the Species Conservation and Management (SCM) team is encouraged to help ensure consistent application of this tool.

Part A – Does a SARA authorization need to be considered for this activity?
1. Will the activity lead to residual adverse effects that contravene a SARA prohibition for a listed endangered (En), threatened (Th) or extirpated (Ex) species at risk, its residence or its critical habitat? (Clearly indicate if the activity will affect one/or more listed species).
SARA prohibitions: s.32 - Cannot: kill, harm, harass, capture, or take individuals; possess, collect, buy, sell or trade individuals or parts of individuals; s.33 – Cannot damage or destroy residences; s.58 – Cannot destroy any part of critical habitat; s.80 - Cannot carry out an activity that is prohibited under a protection order.
☒ **Yes. Residual adverse effects of the activity will contravene a SARA prohibition**. Document how activities will contravene a SARA prohibition. Then **continue to Question 2**.
2. Is the activity authorized under S. 83 of SARA?
☐ **Yes. A SARA authorization is NOT required.** The activity is authorized in a recovery strategy or action plan; **OR** ☐ **Yes. A SARA authorization is NOT required.** The activity is required for public safety, health or national security **AND** authorized by or under another Act of Parliament**.** Document below: • The specific section of the published recovery strategy or action plan that makes reference to section 83 of SARA **OR** • Why the activity is needed for public safety, health or national security and reference the Act of Parliament under which the activity is authorized (*you **MUST** consult a member of the SCM team if you plan to use the section 83 exception)*. If all activities that would contravene a SARA prohibition are already authorized under SARA s.83, **check the first box in Part D and submit for approval**.
☒ **No. A SARA authorization is required. Continue to Part B.**

Part B – Is the activity eligible for authorization under SARA?

******Complete ONLY if you have answered NO to Question 2, above******

3. Does the activity fall into one of the following three categories?

Select the appropriate box (check only one) and **continue to Question 4** OR, If the proposed activity DOES NOT fit in any of the three categories below the activity CANNOT be authorized, and you can check the second box in **Part D and submit for approval.**

☐ The activity is scientific research related to the conservation of the species and conducted by qualified persons; **OR**

☐ The activity benefits the species or is required to enhance its chance of survival in the wild ; OR

☒ Affecting the species is incidental to the activity (i.e. the purpose of the activity is not to engage in an activity that is prohibited under SARA (e.g., kill, harm, harass…an individual; destroy a residence or critical habitat). For example, fishing for a listed species cannot be permitted, but accidental by-catch *may* be.

4. **Alternatives that would reduce the impact(s) on the species have been considered and the best solution adopted**

Document below and **continue to Question 5**. *This question is an additional requirement to the questions in the BIA template.*

- Identify and explain all reasonable alternatives considered to reduce the impact(s) on the species (alternatives to the project and alternative means of carrying out the project, including a "no action" alternative).
- This explanation must demonstrate that the best solution has been adopted.

5. **All feasible measures must be taken to minimize the impact of the activity**

Ensure that the mitigations identified in Section 8 of the BIA template to address effects to species at risk are as comprehensive as possible, and continue to **Question 6.**

6. **Will the activity jeopardize the survival or recovery of the species?**

Document here your analysis of whether the activity will jeopardize survival or recovery of the species. The analysis must consider and refer to relevant SARA recovery documents (e.g. COSEWIC status reports, recovery strategies, action plans), and/or Parks Canada Detailed Assessments for the species, if available. In particular, refer to the population and distribution objectives, the threats to the species, and the identification of critical habitat (including the location, amount - if available, biophysical attributes, and the activities likely to destroy).

*NOTE: If the BIA determines there are no alternatives or mitigation measures that can prevent destruction of critical habitat or non-compliance with a protection order, you **MUST** consult a member of the SCM team for further advice.*

☐ **Yes. The activity CANNOT be authorized.**

Check analysis with the SCM team. **Then check the second box in Part D and submit for approval.**
ENSURE THIS CONCLUSION IS TAKEN INTO CONSIDERATION IN SECTION 10 OF THE BIA TEMPLATE (SIGNIFICANCE OF RESIDUAL ADVERSE EFFECTS) AND DOCUMENTED IN THE BIA TEMPLATE, SECTION 15 – DECISION.

☐ **No. The activity CAN be authorized.** Complete explanation and continue to **Part C**.

Clearly document how you considered potential jeopardy to the survival or recovery of the species. Check analysis with the SCM team.

Part C - Prepare the SARA authorization and posting explanation

7. Prepare the authorization

The authorization will be issued using the EIA process and SARA s.74

Issue the SARA authorization using the **template on the intranet** and complete Question 8 to prepare the posting for the SAR Public Registry.

8. Provide description for posting

SARA requires that an explanation of why a SARA authorization is issued be posted in the SARA Public Registry in both official languages within 30 days of the authorization being issued. Prepare the explanation, using the information you entered in the BIA and previous sections of this Appendix. Your regional SCM representative will have the explanation translated and will publish it on the SARA registry.

Regional or Local Number:
Provide the authorization number issued by Parks Canada (in this instance, the file number of the EIA)

Purpose – *select the answer indicated in Section 3 of this Appendix:*

- Affecting the species is incidental to the activity; OR
- The activity is necessary of beneficial to the species, OR
- The activity is scientific research related to the conservation of the species and conducted by qualified persons

Description of the Activity
Provide a one-paragraph summary of the activity and how it will affect the listed species (using the information in sections 5 & 10 of the BIA template)

- Start Date of Authorization: XXX End Date of Authorization: XXX
- Issuing Authority: Parks Canada Agency
- Authority Used: *(see section 7 of this Appendix)*
- Location of Activity *(province, territory or ocean): XXX*
- Affected Species: *Limit your list to potentially affected species that are listed under SARA as Extirpated, Endangered or Threatened*

Pre-Conditions - *limit your explanation to species for which the authorization will be issued:*
Provide a half-page summary of proposed mitigation measures and the significance of residual effects (from the BIA) and provide summary of sections 4, 5 and 6 of this Appendix.

Contact Person(s)
Provide name and coordinates of a PCA contact.

ATTACHMENT 3 – Figures 1 and 2

ATTACHMENT 4 – Photolog