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**Basic Impact Analysis
Northwest Beach Renewal Project**

Point Pelee National Park of Canada

DRAFT FOR DISCUSSION



**September 2015
SLR Project No.: 209.40310.00001**

BASIC IMPACT ANALYSIS
NORTHWEST BEACH RENEWAL PROJECT
POINT PELEE NATIONAL PARK OF CANADA

SLR Project No.: 209.40310.00001

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September 2015

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1. PROJECT TITLE AND LOCATION

Northwest Beach Renewal – Point Pelee National Park of Canada

Public Works and Government Services Canada retained SLR Consulting (Canada) Ltd. on behalf of Parks Canada to conduct a Basic Impact Assessment for the North Beach Renewal project.

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. The roadway entering the site will be removed and restored to natural habitat along with three of the four existing parking lots at the north end of the beach. The current exit will be re-routed, widened and repaved to serve as the new combined entrance and exit to the Northwest Beach (Attachment #4 - Photo 5). The fourth of the existing parking lots will be redesigned and paved at the southern portion of the site (Attachment #4 - Photo 6). Approximately half of the existing 16,000 m² (1.6 hectares) day-use area footprint will be restored to Lake Erie coastal savannah habitat. This may include some reshaping of the land prior to planting.

The Point Pelee National Park Management Plan (Parks Canada 2010), 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 m² 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 m² and 260 m²) and associated facilities, a new rental facility, and a playground (640 m²) as shown on Figure 1 (Attachment #3).

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



Table 1: Project Phases and Activities

Work	Phase I	Phase II
Construction and Decommissioning		
Supply and Storage of Materials	<ul style="list-style-type: none"> Materials for demolition and construction will be delivered and stored on-site in existing parking lots at the project site. 	<ul style="list-style-type: none"> Materials for demolition and construction will be delivered and stored on-site in existing parking lots at the project site.
Demolition and Removals	<ul style="list-style-type: none"> 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); Removal of existing asphalt from existing entry road; Decommissioning of north and south septic beds; At least 11 Environment Canada monitoring wells will be removed and decommissioned. 	<ul style="list-style-type: none"> Removal and decommissioning of remaining elements of infrastructure no longer in use.
Clearing	<ul style="list-style-type: none"> Removal of vegetation will be required for the re-routing of the main driveway as well as for the new redesigned parking lot and the new buildings; Removal of vegetation may be required during construction for access 	<ul style="list-style-type: none"> Removal of swaths of primary dune to restore natural sand dune dynamics; Removal of vegetation will be required for construction of playground area.



	<p>purposes.</p> <ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • Burying of utility lines as well as in-fill where the septic bed was removed.
<p>Earthworks</p>	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • Use of heavy machinery will be required for the construction of facilities; • Machinery will be stored on site in existing parking lots.
<p>Use of Machinery and Staging Area</p>	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • Construction and paving of 20ft apron into existing Blue Heron parking lot.
<p>Paving and Surfacing</p>	<ul style="list-style-type: none"> • Construction of new paved parking lot and main driveway (replacing existing one) including provisions for subsurface infrastructure; • Construction of bike lane by Parks Canada from the old entrance to Northwest Beach to the current beginning of bike trail; and an extension to the Marsh parking lot. 	<ul style="list-style-type: none"> • Construction of two 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.
<p>Construction of Buildings and Structures</p>		



Use of Chemicals	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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.
Waste Storage and Disposal	<ul style="list-style-type: none"> • 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 Project Specifications. 	<ul style="list-style-type: none"> • 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 Project Specifications.
Operation		
Site Restoration	<ul style="list-style-type: none"> • No site restoration will be occurring in Phase I of the project. 	<ul style="list-style-type: none"> • Approximately half of the existing 16,000m² (1.6 hectares) day-use area footprint will be restored to coastal savannah habitat. New design will allow for the restoration of over 8000 m² of rare Lake Erie costal dune habitat at the north end of the current Northwest Beach.
Maintenance of Buildings and Structures	<ul style="list-style-type: none"> • There will be no maintenance of buildings or structures required in Phase I. 	<ul style="list-style-type: none"> • 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.
Visitor Use	<ul style="list-style-type: none"> • Visitors will be restricted from the decommissioning area for their safety. 	<ul style="list-style-type: none"> • Visitors will be restricted from the decommissioning area for their safety. The new design will focus visitors into one area of PPNP reducing their effect on the landscape.
Decommissioning of New Facilities		<ul style="list-style-type: none"> • New project facilities will have a life cycle and will eventually



		<p>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.</p>
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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. Fish and fish habitat occur in the Park's interior marsh west of Northwest Beach and beyond the main road. This habitat is not located near the project area and will not be affected by the project work.

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 caerulea*), American Goldfinch (*Carduelis tristis*), Bonaparte's Gull (*Chroicocephalus philadelphia*), Ring-billed Gull (*Larus delawarensis*), Killdeer (*Charadrius vociferous*), Yellow-throated Warbler (*Dendroica dominica*), Lark Sparrow (*Chondestes grammacus*) (Wormington 2012), 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, 1994*.

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 SARA status and by COSEWIC if it differs from the SARA status) and provincially rare species that could occur in the study area include the following:

Table 2: Species at Risk Potentially in the Study Area

Taxa	Species Common Name	Species Scientific Name	SARA Status	COSEWIC Status
Arthropods	Monarch	<i>Danaus plexippus</i>	Special Concern	Special Concern
Birds	Cerulean Warbler	<i>Dendroica cerulea</i>	Special Concern	Endangered
	Yellow-breasted Chat	<i>Icteria virens virens</i>	Special Concern	Endangered
	Barn Swallow	<i>Hirundo rustica</i>	No Status	Threatened
	Golden-winged Warbler	<i>Vermivora chrysoptera</i>	Threatened	Threatened
	Hooded Warbler	<i>Wilsonia catrina</i>	Not at Risk	Threatened
	Canada Warbler	<i>Wilsonia canadensis</i>	Threatened	Threatened
	Olive-sided Flycatcher	<i>Contopus cooperi</i>	Threatened	Threatened
	Common Nighthawk	<i>Chordeiles minor</i>	Threatened	Threatened
	Whip-poor-will	<i>Caprimulgus vociferus</i>	Threatened	Threatened
	Chimney Swift	<i>Chaetura pelagica</i>	Threatened	Threatened
	Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	Threatened	Threatened
	Kirtland's Warbler	<i>Dendroica kirtlandii</i>	Endangered	Endangered
	Acadian Flycatcher	<i>Empidonax virescens</i>	Endangered	Endangered
	Prothonotary Warbler	<i>Protonotaria citrea</i>	Endangered	Endangered
	Red Knot	<i>Calidris canutus rufa</i>	Endangered	Endangered
	Piping Plover	<i>Charadrius melodus circumcinctus</i>	Endangered	Endangered
Loggerhead Shrike	<i>Lanius ludovicianus migrans</i>	Endangered	Non-active	
Fishes	Channel Darter	<i>Percina copelandi</i>	Threatened	Threatened
Mammals	Eastern Mole	<i>Scalopus aquaticus</i>	Special Concern	Special Concern
	Little Brown Myotis	<i>Myotis lucifuga</i>	Endangered	Endangered
	Tri-colored Bat	<i>Perimyotis subflavus</i>	Endangered	Endangered
	Eastern small-footed Myotis	<i>Myotis leibii</i>	Not at Risk	Not at Risk
	Northern Myotis	<i>Myotis septentrionalis</i>	Endangered	Endangered
	Henslow's Sparrow	<i>Ammodramus henslowii</i>	Endangered	Endangered



Taxa	Species Common Name	Species Scientific Name	SARA Status	COSEWIC Status
Reptiles	Snapping Turtle	<i>Chelydra serpentina</i>	Special Concern	Special Concern
	Blanding's Turtle	<i>Emydoidea blandingii</i>	Threatened	Threatened
	Eastern Musk Turtle	<i>Sternotherus odoratus</i>	Threatened	Special Concern
	Five-lined Skink	<i>Eumeces fasciatis</i>	Endangered	Endangered
	Eastern foxsnake	<i>Elaphe gloydi</i>	Endangered	Endangered
Vascular Plants	Blue Ash	<i>Fraxinus quadrangulatus</i>	Special Concern	Threatened
	Climbing Prairie Rose	<i>Rosa setigera</i>	Special Concern	Special Concern
	Common Hoptree	<i>Ptelea trifoliata</i>	Threatened	Threatened
	Dwarf Hackberry	<i>Celtis tenuifolia</i>	Threatened	Threatened
	Eastern Prickly Pear Cacti	<i>Opuntia humifusa</i>	Endangered	Endangered

Provincially Rare Species

- Giant Swallowtail (*Papilio cresphonte*)
- Honey Locust (*Gleditsia triacanthos*) (native genotype S2)
- Burning Bush (*Euonymus atropurpureus*) (S3)
- Carolina Whitlow-grass (*Draba reptans*) (S3)
- Golden Puccoon (*Lithospermum caroliniense*) (S3)
- Narrow-leaved Puccoon (*Lithospermum incisum*) (S1)
- 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 Hoptree. Honey Locust, Dwarf Hackberry, Common Hoptree 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 of PPNP are not considered suitable habitat. However, the forest area within the study area does provide suitable habitat.

The project site at Northwest Beach is located within both designated and proposed critical habitat for the following species at risk: Spotted Turtle, Blanding's Turtle, Musk Turtle, Five-lined Skink, Common Hoptree, Eastern Foxsnake, Eastern Mole, Little Brown Myotis, Tri-Colored Bat, and Eastern Small-footed Myotis. Construction and decommissioning activities taking place within critical habitat have been reviewed by PCA and are not expected to affect the overall survival or recovery of these species. The restoration of decommissioned parking lots will result in an overall positive effect as it will restore a total of 1.42 ha within the critical habitats of the above listed species.

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 McKay 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 McKay 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
- Hoptree 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:

- Switchgrass (*Panicum virgatum*)
- Marram Grass (*Ammophila breviligulata*)
- Little Bluestem (*Schizachyrium scoparium*)
- Trailing Wild Bean (*Strophostyles helvula*)
- Hoary Tick-trefoil (*Desmodium canescens*)
- Sand Dropseed (*Sporobolus cryptandrus*)
- Muhlenberg's Sedge (*Carex muhlenbergii*)
- Nodding Wild-rye (*Elymus canadensis*)
- Fragrant Sumac (*Rhus aromatica*)
- Sea Rocket (*Cakile edentula*)
- Seaside Spurge (*Chamaesyce polygonifolia*)
- Wild Four-o'clock (*Mirabilis nyctaginea*)
- Clammy-weed (*Polanisia dodecandra*)
- Common milkweed (*Asclepias syriaca*)
- Sky-blue Aster (*Symphyotrichum oolentangiense*)



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. An archaeological report prepared by Parks Canada (2015) confirms that test pitting has occurred in the Northwest Beach site. The area was found to be extremely disturbed due to the initial construction and subsequent renovations/repairs of park facilities.



7. EFFECTS ANALYSIS

A. Direct Effects

Table 2: Direct Environmental Effects

VEC	Environmental Effects – Phase I	Environmental Effects – Phase II
Air Quality and Noise	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Modifications to physical and surface drainage patterns due to parking facilities and other structures, storm water runoff volumes and rate of runoff, flow conveyance. 	<ul style="list-style-type: none"> Reduced water quality and clarity along Lake Erie shoreline due to erosion and sedimentation during construction.
Groundwater Quantity and Quality	<ul style="list-style-type: none"> Groundwater contamination from point or non- 	<ul style="list-style-type: none"> Groundwater contamination from point or



VEC	Environmental Effects – Phase I	Environmental Effects – Phase II
	<p>point sources of pollution such as septic tank discharges, accidental spills from construction vehicles or chemicals on-site for decommissioning;</p> <ul style="list-style-type: none"> • Temporary changes in local groundwater flow patterns recharge and levels in aquifers due to potential dewatering required during the decommissioning of buildings. 	<p>non-point sources of pollution such as accidental spills from construction vehicles or chemicals on-site for construction;</p> <ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Physical damage and loss of vegetation during construction of the new main driveway and the parking lot (See Attachment #3 - Figure 2). Specifically: <ul style="list-style-type: none"> ○ 0.29 ha of Hackberry Deciduous Forest; ○ 0.35 ha of Drummond's Dogwood Thicket on Primary Dune; and, ○ 0.09 ha of Sea Rocket Sand Open Shoreline • Loss of the following types of vegetation that is 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. <ul style="list-style-type: none"> ○ Red Cedar Treed Sand Dune ○ Hoptree Shrub Sand Dune ○ Little Bluestem, Switchgrass, Marram Grass Open Graminoid Sand Dune ○ Sand Dropseed Open Sand Barren; and, ○ 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. 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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; 	<ul style="list-style-type: none"> • 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
	<ul style="list-style-type: none"> • 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. 	<p>shortage at PPNP;</p> <ul style="list-style-type: none"> • 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.
<p>Species at Risk, Residences, and Critical Habitats, and Provincially Rare Species</p>	<ul style="list-style-type: none"> • Loss of Species at Risk due to mortality from physical activities during decommissioning of buildings (<i>i.e.</i>, 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; • Decommissioning and clearing activities in the site could lead to loss of habitat within designated and proposed critical habitat for several SAR. This habitat loss is not expected to have an effect on the overall survival and recovery of the species; and any effects will be off-set through restoration of the abandoned parking lots and reconstruction of buildings; • 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. 	<ul style="list-style-type: none"> • Loss of Species at Risk due to mortality from physical activities during construction of buildings (<i>i.e.</i>, 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
	<ul style="list-style-type: none">• 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):<ul style="list-style-type: none">○ Blue Ash – mature - 6○ Common Hoptree<ul style="list-style-type: none">▪ Mature - 105▪ Sapling - 130▪ Seedling - 188○ Honey Locust<ul style="list-style-type: none">▪ Mature - 3▪ Sapling - 12▪ Seedling - 3○ Burning Bush – possible occurrence on dune cut by driveway – to be confirmed○ Carolina Whitlow-grass – salvage seed bank in top 6” of sand○ Golden Puccoon - 7○ Tall Green Milkweed – 16 (one with 5 stems) <p>Regarding occurrences of SAR fauna:</p> <ul style="list-style-type: none">• 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	



VEC	Environmental Effects – Phase I	Environmental Effects – Phase II
Heritage Archaeological and Paleontological Features	<ul style="list-style-type: none">Any digging occurring outside of the existing disturbed footprint could uncover or disturb cultural resources as these areas have not yet been tested.	<ul style="list-style-type: none">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 removal on the new exit/entry road may disturb cultural resources. This area has 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	<ul style="list-style-type: none"> There will be no effects on the neighbours of the Park as all the work will be completed in the park. 	<ul style="list-style-type: none"> There will be no effects on the neighbours of the Park as all the work will be completed in the park.
Aboriginal Peoples	<ul style="list-style-type: none"> The Caldwell First Nations take part in the Parks deer cull as part of their traditional activities. There will be no effects on First Nations in the park. 	<ul style="list-style-type: none"> The Caldwell First Nations take part in the Parks deer cull as part of their traditional activities. There will be no effects on First Nations in the park.
Park Visitors	<ul style="list-style-type: none"> 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. Closure is planned to avoid highest visitor use. As such, it is anticipated that a residual positive effect is likely. 	<ul style="list-style-type: none"> 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. Closure is planned to avoid highest visitor use.

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	<ul style="list-style-type: none"> Increased potential for personal injuries to public and workers There will likely be no vessels collisions as 	<ul style="list-style-type: none"> Increased potential for personal injuries to public and workers There will likely be no vessels collisions as



Accidents and Malfunctions	Environmental, Health and Socio-economic Effects – Phase I	Environmental, Health and Socio-economic Effects – Phase II
	decommissioning and construction will occur onshore.	construction will occur onshore.
Spills and Leaks	<ul style="list-style-type: none"> Increased potential for spills and leaks from construction vehicles which may have an effect on surface water, groundwater and/or vegetation. 	<ul style="list-style-type: none"> Increased potential for spills and leaks from construction vehicles which may have an effect on surface water, groundwater and/or vegetation.
Fires	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Increased potential for fires as a result of construction work and loss of vegetation and disruption to wildlife.
Structural Failures	<ul style="list-style-type: none"> There will likely be no structural failures under normal operating conditions. Project design will comply with Canada Building Code. 	<ul style="list-style-type: none"> 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 during the same time as the Northwest Beach. Any effects from projects on VECs such as noise and air quality or wildlife will be mitigated for each project and therefore cumulative effects are unlikely to occur.



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	<ul style="list-style-type: none"> • 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; • Project Specifications will be followed for best management practices. 	<ul style="list-style-type: none"> • 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; • Project Specifications will be followed for best management practices; • Minimize operation and idling of vehicles, and avoid operating and idling vehicles and gas-



VEC	Mitigation Measures Phase I	Mitigation Measures Phase II
Terrain and Topography	<ul style="list-style-type: none"> • 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 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; • Gravel will be removed from decommissioned parking lots and replaced with clean, local sand to act as the substrate for future restoration. This sand will help to restore the natural dune process in this area. 	<p>powered equipment during smog advisories.</p> <ul style="list-style-type: none"> • 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 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	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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
	<p>spill prevention and response procedures and for use of spill response kits;</p> <ul style="list-style-type: none"> • 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; • 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 contaminants 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	<ul style="list-style-type: none"> • 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; 	<ul style="list-style-type: none"> • 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



VEC	Mitigation Measures Phase I	Mitigation Measures Phase II
	<ul style="list-style-type: none"> • 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; • 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. 	<p>construction time in low-lying shoreline areas to 72 hours or less;</p> <ul style="list-style-type: none"> • 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 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; • Project Specifications will be followed for best management practices.
Groundwater Quantity and Quality	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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



VEC	Mitigation Measures Phase I	Mitigation Measures Phase II
	<p>out in such a way as to avoid contamination of soils and water;</p> <ul style="list-style-type: none"> • 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. 	<p>way as to avoid contamination of soils and water;</p> <ul style="list-style-type: none"> • 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.
Wildlife	<ul style="list-style-type: none"> • 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, 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 	<ul style="list-style-type: none"> • 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



VEC	Mitigation Measures Phase I	Mitigation Measures Phase II
	<p>clear the area;</p> <ul style="list-style-type: none"> • 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 them 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 Parks Canada biologist must be present during construction to protect any encountered species at risk. • Project Specifications will be followed for best management practices. 	<p>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 them to remain within their natural home range;</p> <ul style="list-style-type: none"> • 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 Parks Canada biologist must be present during construction to protect any encountered species at risk; • Project Specifications will be followed for best management practices.
Vegetation	<ul style="list-style-type: none"> • 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) will be marked using pink flagging tape; • 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; 	<ul style="list-style-type: none"> • 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) will be marked using pink flagging tape; • 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



VEC	Mitigation Measures Phase I	Mitigation Measures Phase II
	<ul style="list-style-type: none"> • Data will be recorded on the total number of: affected common Hoptrees 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 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 Hoptrees 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 – PCA 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 	<p>reduce overall damage to the surrounding vegetation, trampling and ground compaction;</p> <ul style="list-style-type: none"> • 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
	<p>closures during high risk activities;</p> <ul style="list-style-type: none"> For unavoidable areas where vegetation must be removed, plants that can be successfully transplanted will be salvaged and moved to suitable habitat to be designated by PPNP staff as identified in Section 6, page 15; Collect seeds of identified species for restoration of the parking lots to be decommissioned. 	
Migratory Birds	<ul style="list-style-type: none"> Avoid decommissioning during spring migration and breeding season as per Environment Canada guidelines and Table 5a. 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. 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Decommissioning work for this project will be completed outside of breeding season for birds, snakes, skinks and turtles when 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 	<ul style="list-style-type: none"> 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 accidentally cut or damaged by felled trees and fruit or seeds are



VEC	Mitigation Measures Phase I	Mitigation Measures Phase II
	<p>will not be detrimental to the survival of the population at Point Pelee;</p> <ul style="list-style-type: none"> • All Common Hoptrees able to be transplanted will be removed 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 accidentally 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 Hoptrees 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>i.e.</i> 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 Hoptree 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; • Logs used as Skink habitat, within the proposed 	<p>present on the individual, seeds will be collected or left on-site. For Common Hoptrees 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>i.e.</i> 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;</p> <ul style="list-style-type: none"> • Logs used as skink habitat, 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;



VEC	Mitigation Measures Phase I	Mitigation Measures Phase II
	<p>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;</p> <ul style="list-style-type: none"> • 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; • Prior to, and during project activities, PPNP staff will monitor for wildlife occurrences. If encountered, all work will stop until the individual has escaped beyond the work area; and after consultation with PCA Resource Conservation staff member. • 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 (<i>Emydoidea blandingii</i>) 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 PCA biologist must be present during construction to protect any encountered species at risk; • Hibernacula will be created from decommissioned septic tanks in the two northern parking lots which are slated for restoration. The intention of this is to create habitat for Eastern Foxsnake and other species which may over-winter in these structures. 	<ul style="list-style-type: none"> • Timing of works for Five-lined Skink (<i>Eumeces fasciatis</i>) and Eastern Foxsnake (<i>Elaphe gloydi</i>) should avoid the windows for breeding and 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 individuals 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 (<i>Emydoidea blandingii</i>) 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 PCA biologist must be present during construction to protect any encountered species at risk.
Heritage Archaeological and Paleontological	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • If archaeological resources are uncovered during the project, then Parks Canada Agency staff will be immediately notify for Parks Canada staff for



VEC	Mitigation Measures Phase I	Mitigation Measures Phase II
Features	<p><i>Archaeological Resources”;</i></p> <ul style="list-style-type: none"> • 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. 	<p>action in accordance with Parks Canada’s “<i>Guidelines for the Management of Archaeological Resources”;</i></p> <ul style="list-style-type: none"> • 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: Sensitive 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
Park Visitors	<ul style="list-style-type: none"> • Make best efforts to complete work outside of the visitor season; • Project area will be closed to visitors during decommissioning for safety reasons; • 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. 	<ul style="list-style-type: none"> • 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 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	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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; • 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 	<ul style="list-style-type: none"> • 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; • A spill response kit to be on site in the event of a spill. Immediately contain and clean up any spills in accordance with



	<p>dispose the identified wastes in accordance with all applicable federal, provincial, and municipal legislation;</p> <ul style="list-style-type: none"> • 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. 	<p>provincial regulatory requirements. Report spill to the Ontario Spills Action Centre (1-800-268-6060);</p> <ul style="list-style-type: none"> • 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.
<p>Fires</p>	<ul style="list-style-type: none"> • 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; 	<ul style="list-style-type: none"> • 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



	<ul style="list-style-type: none">• 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.	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• Appropriate safety precautions and safe work practices will be implemented.	<ul style="list-style-type: none">• 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
 No

No formal consultation has been 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
 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 BIA, 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 a less than regulatory criterion, 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 criterion, 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.



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- **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	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> Increased ambient noise levels during decommissioning and construction 	✓	✓	M	M	L	L	L	Minor Adverse Effect
Terrain and Topography	<ul style="list-style-type: none"> Disruption to sand dunes and landscape diversity 	✓	✓	L	L	H	L	H	Minor Adverse Effect
Soils and Agriculture	<ul style="list-style-type: none"> Increased soil exposure resulting in erosion and sedimentation 	✓	✓	M	L	M	L	L	Minor Adverse Effect
	<ul style="list-style-type: none"> Potential to disrupt the soils and roots of vegetation with the decommissioning of structures and construction. 	✓	✓	L	L	M	L	L	Minor Adverse Effect
Surface Water Hydrology and Water Quality	<ul style="list-style-type: none"> 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
Groundwater Quantity & Quality	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> Temporary 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	<ul style="list-style-type: none"> Physical damage and loss of habitat during decommissioning and construction 	✓	✓	L	L	M	L	L	Minor Adverse Effect
	<ul style="list-style-type: none"> Loss of roosting potential for bats and birds 	✓		L	L	L	L	L	Negligible
	<ul style="list-style-type: none"> Disruption of wildlife species generally using the area during decommissioning and construction 	✓	✓	L	L	L	L	L	Negligible
Vegetation	<ul style="list-style-type: none"> Physical damage and loss of vegetation during decommissioning and construction 	✓	✓	L	L	M	L	L	Minor Adverse Effect
	<ul style="list-style-type: none"> Introduction of non-native species from construction vehicles 	✓	✓	L	L	L	L	L	Negligible
Migratory Birds	<ul style="list-style-type: none"> Temporary 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
	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> Disruption to Species at Risk migration/movement patterns 	✓	✓	L	M	L	L	L	Minor Adverse Effect
Indirect Effects on Park Visitors	<ul style="list-style-type: none"> 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	<i>Applicable to Phase I</i>	<i>Applicable to Phase II</i>	<i>Magnitude</i>	<i>Extent</i>	<i>Duration</i>	<i>Frequency</i>	<i>Permanence</i>	Overall Significance
Heritage Archaeological and Paleontological Features	<ul style="list-style-type: none">Widening, grading, and gravel/asphalt removal occurring outside of the existing disturbed footprint could uncover or disturb cultural resources as these areas have not yet been tested.	✓		L	L	H	L	L	Minor Adverse Effect
Effects of Accidents and Malfunctions	<ul style="list-style-type: none">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

Surveillance is required

A. Surveillance Program Details

As part of the mitigation for wildlife, wildlife habitat, and Species at Risk, a surveillance program will be undertaken to monitor for species presence during construction activities; and adherence to mitigation measures. The aim of this surveillance program is to reduce the potential for adverse effects to wildlife and their habitat. A PCA representative will be on site during decommissioning and clearing activities to undertake surveillance activities. This representative should be consulted in any instance where there is potential for harm to a species and/or its habitat.

12. FOLLOW-UP MONITORING

Follow-up monitoring is not required

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

Surveys of the project site were undertaken by PCA prior to construction to estimate the current population of those Species at Risk in the affected area (see lists in Section 6). All SAR vegetation was flagged with pink flagging tape and marked using a GPS. PCA will undertake transplantation of as many of these individuals as possible to suitable locations throughout the park prior to construction activities. Any remaining individuals will be recorded prior to being destroyed or cleared from the site. The location of transplanted individuals will be recorded, and follow up monitoring will occur to determine their survivorship, and the overall success of transplanting activities.

Immediately following the completion of construction activities at Northwest Beach, follow up monitoring will occur to identify and accidental mortalities or affects to wildlife, SAR, and their habitats.

Longer term monitoring of the restoration site will be detailed in the restoration plan for Northwest Beach. The restoration plan will be added to this EA as an addendum, prior to restoration activities.

13. SARA NOTIFICATION

Notification is not required

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 Hoptrees, etc.) and their habitats. This project is intended to restore and protect LESSS habitat along the shoreline. When possible, the work will take place outside critical timing windows for sensitive species. If work is completed during a critical timing window, a PCA staff member will be on-site at all times.

The restoration of the decommissioned parking lots is intended to create suitable habitat for SAR species in the restored area of the beach including overwintering habitat for Eastern Foxsnake, 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 decommissioned sewage tanks and 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 Foxsnake and other animals.

All Hoptrees and Blue Ash in the study area will be marked with pink flagging tape prior to the start of the project. Any damage to the Hoptrees 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. Immediately following the completion of construction activities at Northwest Beach, follow up monitoring will occur to identify and accidental mortalities or affects to wildlife, SAR, and their habitats.

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: Hiroo 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:

- not likely to cause significant adverse environmental effects.*
- likely to cause significant adverse environmental effects*

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

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*
- 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: Dale Leadbeater	Date: 17 September 2015
Position: Senior Ecologist SLR Consulting (Canada) Inc.	

B. Recommended By:

Name: Dan Dufour	Date:
Position: Northwest Beach Renewal Project Manager, Point Pelee National Park	

C. Approved By:

Name:	Date:
Position:	
Signature:	



17. ATTACHMENTS LIST

- Attachment 1 – Effects Identification Matrix
- Attachment 2 – SARA Compliant Authorization Decision Tool
- Attachment 3 – Figures 1 and 2
- Attachment 4 - Photolog

18. NATIONAL IMPACT ASSESSMENT TRACKING SYSTEM

- Project registered in tracking system*
- Not yet registered*

19. REFERENCES

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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/implementation/decommissioning	Could impacts to <u>air and noise</u> lead to adverse effects on...					✓	✓
	Could impacts to <u>soils, terrain and topography</u> lead to adverse effects on...						
	Could impacts to <u>water</u> (e.g. surface, ground water and water crossings) lead to adverse effects on...						
	Could impacts to <u>flora</u> (including SAR) lead to adverse effects on...						
	Could impacts to <u>fauna</u> (including SAR) lead to adverse effects on...						



ATTACHMENT 2: SARA-Compliant Authorization Decision Tool

Part A – Does a SARA authorization need to be considered for this activity?
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.
<input checked="" type="checkbox"/> Yes. Residual adverse effects of the activity will contravene a SARA prohibition. 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. All of the existing facilities including underground infrastructure will be removed 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 and parking lot(s) will be paved. Approximately half of the existing 16,000 m2 (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. Common Hop Trees and Blue Ash - Individuals Common hop tree seedlings and saplings are found throughout the project area in small numbers. These individuals will be marked with pink flagging tape and, if the construction cannot avoid them, each individual will be transplanted and/or propagated, then will be planted in a designated restoration area. Blue ash will also be encountered along the proposed construction area and the same methods will be used to transplant and/or propagate . The work required to transplant and/or propagate them may include collecting and possessing, harming and killing individuals as prohibited in s.32 (1) and 32(2) of the Species at Risk Act. Therefore a SARA permit is required before this activity can be started. It is unknown how many hop trees or blue ash will be damaged and/or killed but Parks Canada staff will make every effort to minimize effects to the population in PPNP. The number of hop trees and blue ash affected will be recorded and will not exceed 150. The common hop tree population in PPNP is approximately 17,000+ trees while the blue ash population is estimated at 2469 trees. Critical Habitat The proposed decommissioning and construction will potentially remove critical habitat for skinks, snakes, and turtles. The decommissioning and construction work will require transplanting species which may include collecting and possessing, harming and killing individuals as prohibited in s.32 (1) and 32(2) of the Species at Risk Act as well as potentially damaging or destroying residence as prohibited in s. 33 or s. 58 which states s; s.58 which states no part of critical habitat can be destroy. Park staff will screen the proposed project area for habitat used by Five-lined Skinks to include logs, large debris (boards) that may be used for shelter, feeding, nesting, etc. Identified habitat will be identified with labelled pink flagging tape to enable workers to spot and avoid these occurrences. If a nest must be moved, work must halt while a skink expert is consulted as to how



to move the nest.

Skink logs within the proposed decommissioning 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.

Prior to, during project activities, Park 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 Foxsnake (*Elaphe gloydi*) will avoid the windows for breeding and hibernation if at all possible. Eastern Foxsnakes start hibernating as early as September 1st.

The comfort station should be removed between mid-August to beginning of October. The removal must be monitored by Park 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 snakes and/or skinks are found hibernating, work will stop and Park staff will remove and care for over the winter for release in the summer.

1. 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.

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****

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.

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

The effects of the project on individuals are incidental to construction of the parking lot and buildings. The intent of the construction is not to destroy species, and in fact, the goal of the project is to restore approximately half of the existing 16,000m² (1.6 hectares) day-use area footprint to coastal savannah habitat. New design will allow for the restoration of over 8,000 m² of rare Lake Erie costal dune habitat at the north end of the current Northwest Beach.

There are 17,000+ common Hoptrees scattered throughout the park and close to 3,000 Blue Ash in the vicinity of Northwest Beach and no alternatives that would avoid affecting some of these trees. Timing of the project will ensure that skinks, turtles and Foxsnakes will not be breeding, and be less active during project activities. To protect spring and summer microhabitats, felled logs will be moved out of the construction area with heavy equipment and replaced once work is complete. Old boards from the board walks will be removed and stored on site to ensure that any potential skink hibernating in or around old logs will not be disturbed.

Hibernaculum and turtle nests will be identified prior to work starts and will either protected during the construction work or be moved to a safe place by Parks staff

Although there is the potential to affect the habitat of turtles, skinks and snakes as well as the Blue Ash tree with construction activities all efforts are being made to avoid the habitat and with the restoration of the parking lots to the coastal savannah habitat, there will be a net positive effect.

The proposed location is the best option in terms of reducing harm to individuals. The only alternative that would avoid any harm to individuals would be to avoid construction of the new beach facilities and parking lot. This was not the preferred option as it is a planned activity within the Point Pelee National Park Management Plan (2010) and the beach renewal will allow for 8,000m² of restored savannah habitat, attract visitors to the park, and increase revenue and visitor satisfaction.

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

- The following measures will be taken to minimize the impact of the construction activity:
- Minimize cutting of vegetation;
 - Any plant species to be protected will be marked using flagging tape, flags or stakes;
 - Use temporary fencing to delimit the proposed project area;



- Parks staff will be on site to deal with SAR encounters (i.e. relocation, handling);
- 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;
- Data will be recorded for all park projects on the total number of: affected common hop trees, blue ash trees (removed, damaged, or killed), seeds collected and replanted, transplanted trees, and seedlings sprouting in restored sites;
- Prior to the restoration, prepare a restoration plan in the context of the LESSS Restoration Plan aimed at the targeted vegetation habitat communities described above. Use transplants and salvaged material and seeds to the extent possible to maintain local genetic material;
- Signs should be used to explain the restoration project and areas closures during high risk activities;
- For unavoidable removals of vegetation, plants that can be successfully transplanted should be salvaged and moved to suitable habitat to be designated by Park staff;
- For individuals too large to transplant or that don't occur in the immediate area of proposed construction, collect seeds for restoration of the parking lots to be decommissioned.

3. Will the activity jeopardize the survival or recovery of the species?

Yes. The activity CANNOT be authorized.

No. The activity CAN be authorized. Complete explanation and continue to **Part C**.
The number of individuals affected in this project will be minimized to the extent possible and will not jeopardize the survival or recovery of the species and may in fact after restoration, aid in the recovery of the species. As well, any trees that are dug up will be planted elsewhere or propagated and planted elsewhere. This will enable the park to avoid a loss of individuals as a result of the Northwest Beach renewal.

Part C - Prepare the SARA authorization and posting explanation

4. 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](#).

5. Provide description for posting

Regional or Local Number:

PPNP-2015-02

Purpose –Affecting the species is incidental to the activity

Description of the Activity

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. All of the existing facilities including underground infrastructure will be removed 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 and parking lot(s) will be paved. Approximately half of the existing 16,000



m2 (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. SAR plant species and SAR species habitat are found adjacent to and within the area where buildings will be removed and either where a new building or parking lot will be built or where the original parking lots will be restored. Construction may result in incidental destruction of an individual species or the noise may scare species away from their traditional habitat. All efforts will be made to minimize the number of SAR species affected.

- Start Date of Authorization: October, 2015 End Date of Authorization: December 2016
- Issuing Authority: Parks Canada Agency
- Authority Used: authorization will be issued using the EIA process and SARA s.74
- Location of Activity (province, territory or ocean): Point Pelee National Park, Ontario

Affected Species:

- **Endangered**
- Five-lined Skink (*Eumeces fasciatis*)
- Eastern Foxsnake (*Elaphe gloydi*)
- **Threatened**
- Common Hop Tree (*Ptelea trifoliata*)
- Blue Ash (*Fraxinus quadrangulatus*) (COSEWIC)

Pre-Conditions :

Species relevant to the authorization include: Common Hoptree, Blue Ash, Eastern Foxsnake, and Five-lined Skink. The proposed mitigation measures to reduce significant impacts to local populations of the above noted species include but are not limited to the following measures. Parks staff will have an active role on site prior to, during and after construction (*i.e.* monitoring, wildlife encounters, and contractor training). Works have been scoped to minimize vegetation removal, and disturbance of adjacent areas. Habitats within the project site that will be removed are to be replaced, with additional areas enhanced or restored. Seed salvage and transplanting of viable specimens of Common Hoptree and Blue Ash will occur prior to any site works. Decommissioning of buildings and initial site works (earth works, initial vegetation clearing) are scheduled to occur outside of core periods for these species (*i.e.* breeding, nesting, and seed production). While some works may occur in the late fall /early winter (Phase I, September 14 – December 7, 2015), hibernaculum sites for Foxsnake and Five-lined Skink will be (to the best extent possible) identified prior to construction and these areas either protected during construction or moved under the direction of Parks staff.

Residual effects are anticipated to have a minor adverse effect on the five species of relevance, with low magnitude, frequency and permanency to local populations. The duration and extent of these effects are anticipated to be moderate due to potential disruptions in migration/movement patterns, and possible loss of species due to mortality during decommissioning and construction of buildings (potential road kills /collisions, and loss of habitat).

The intent of the project is reduce the existing foot print and to restore approximately half of the existing day-use area to coastal savannah habitat. The effects on the species for which the authorization will be issued will be incidental (*i.e.* during construction), as the site is currently developed. Reducing site disturbances, protecting as many species as possible, developing restoration plans for targeted vegetation habitat communities, using seed salvaged and



transplanted material, and education (contractor and public awareness) are all feasible measures to minimize the impact of the activity.

Overall, the project is not anticipated to jeopardize the survival or recovery of Common Hoptree, Blue Ash, Eastern Foxsnake, or Five-lined Skink. After restoration, habitat will be either further enhanced and or restored with additional areas protected aiding in their recovery.

Contact Person(s)

Nicole Paleczny, Resource Management Officer II



ATTACHMENT 3 – Figures 1 and 2



ATTACHMENT 4 – Photolog



ATTACHMENT 3 – Figures 1 and 2



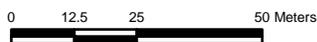


LEGEND

- Proposed Site Plan
- Existing Changerooms/Restrooms
- Existing Parking Lot
- Existing Roads and Pathways
- Existing Septictank

NOTES

This map is for conceptual purposes only and should not be used for navigational purposes.
 Site Plan from: crozierbaird, Leamington, Ontario, July 6, 2015



SCALE: 1:1,500
 WHEN PLOTTED CORRECTLY AT 11 x 17
 NAD 1983 UTM Zone 17N

PARKS CANADA

POINT PELEE NATIONAL PARK
 NATURAL FEATURES

SITE PLAN

August 31, 2015	Rev 0.0	Figure No.
Project No. 209.40310.00000		1





LEGEND

- Disturbance Area
- Vegetation within Disturbance Area
- Restoration Area**
- Beach Area
- Parking Lots and Buildings

VEGETATION CODE	VEGETATION TYPE	AREA (Ha)
THDM2-?	Dry - Fresh Drummond's Dogwood Deciduous Shrub Thicket	0.29
CVI	Transportation and Utilities	0.57
FODM4-3	Dry - Fresh Hackberry Deciduous Forest	0.25
WODM4-?	Dry - Fresh Hackberry Deciduous Woodland	0.02
FODM4-3	Dry - Fresh Hackberry Deciduous Forest	0.08
SHOM1-2	Sea Rocket Sand Open Shoreline	0.08

NOTES

This map is for conceptual purposes only and should not be used for navigational purposes.

Basedata:



SCALE: 1:2,000
WHEN PLOTTED CORRECTLY AT 11 x 17
NAD 1983 UTM Zone 17N

DRAFT

PARKS CANADA

**POINT PEELEE NATIONAL PARK
NATURAL FEATURES**

**DISTURBANCE AND
RESTORATION AREAS**

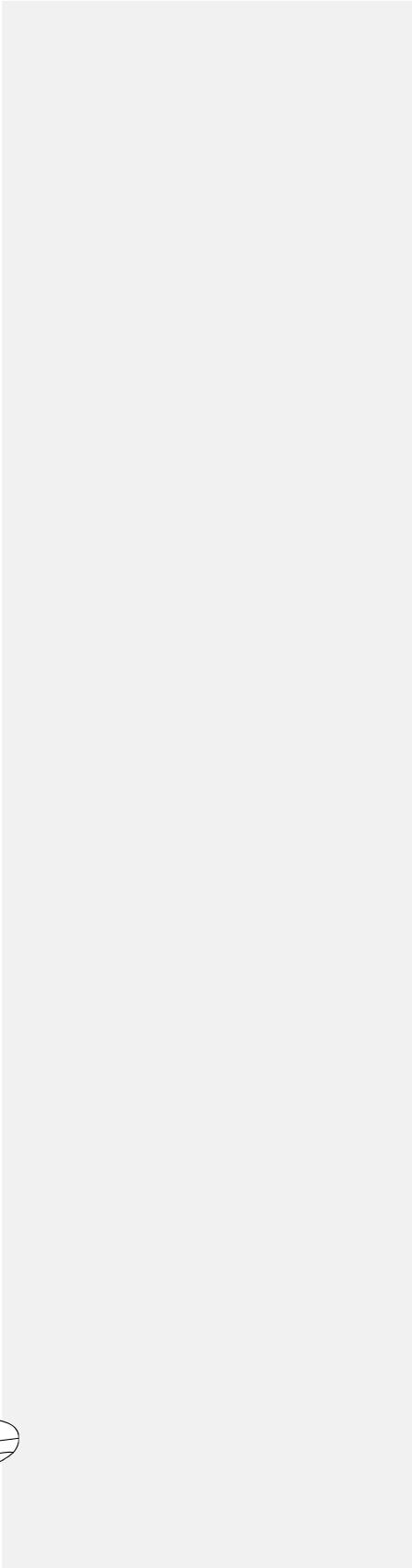
August 31, 2015	Rev 0.0	Figure No.
Project No. 209.40310.00000		2



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ATTACHMENT 4 – Photolog



ATTACHMENT 4 – PHOTO LOG



Photo 1: Lake Erie Shoreline, Beach and Primary Dunes



Photo 2: North and Centre Comfort Stations to be Demolished

	Basic Impact Analysis Northwest Beach Renewal Project Point Pelee National Park of Canada
SITE PHOTOGRAPHS	Project No: 209.40310.00000



Photo 3: North and South Shelters to be Demolished



Photo 4: Comfort Station Underground Infrastructure to be Decommissioned



SITE PHOTOGRAPHS

Basic Impact Analysis
Northwest Beach Renewal Project
Point Pelee National Park of Canada

Project No: 209.40310.00000



Photo 5: Northwest Beach Entrance Road to be Reconstructed



Photo 6: Parking Area to be Reconstructed



SITE PHOTOGRAPHS

Basic Impact Analysis
Northwest Beach Renewal Project
Point Pelee National Park of Canada

Project No: 209.40310.00000



Photo 7: Hackberry Woodland at Northwest Beach Entrance Road Intersection with Main Road



Photo 8: Poplars and Dogwood on Primary Dune



SITE PHOTOGRAPHS

Basic Impact Analysis
Northwest Beach Renewal Project
Point Pelee National Park of Canada

Project No: 209.40310.00000



Photo 9: Common Hop Tree on Sand Dune North of Comfort Station



Photo 10: Common Hop Tree in Seed



SITE PHOTOGRAPHS

Basic Impact Analysis
Northwest Beach Renewal Project
Point Pelee National Park of Canada

Project No: 209.40310.00000



Photo 11: White Mulberry - Invasive Species to be Removed



SITE PHOTOGRAPHS

Basic Impact Analysis
Northwest Beach Renewal Project
Point Pelee National Park of Canada

Project No: 209.40310.00000