

DRAFT

MANAGEMENT PLAN

MARTINIQUE BEACH PROVINCIAL PARK

MUSQUODOBOIT HARBOUR,

HALIFAX COUNTY, NOVA SCOTIA

Nova Scotia Department of Natural Resources

June 6, 2012

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1.0 EXECUTIVE SUMMARY

Martinique Beach Provincial Park is a regionally-significant coastal park located near Musquodoboit Harbour, Halifax County, Nova Scotia. Administered by the Nova Scotia Department of Natural Resources (DNR) through the provincial parks program, it has been in operation since 1971. The 60 hectare property is an important component of the greater Musquodoboit Harbour Estuarine system, sheltering the estuary from ocean storms, providing nesting habitat for endangered Piping Plover, complimenting management objectives for the adjoining Martinique Beach Game Sanctuary (DNR), Nature Conservancy of Canada (NCC) lands, and the Musquodoboit Harbour Outer Estuary (designated as a wetland of international significance under the Ramsar Convention on Wetlands). The park also supports the role of Martinique Beach as an element of the Musquodoboit Important Bird Area (IBA) as identified by Birdlife International and offers opportunities for high-quality coastal recreation.

The purpose of this park management plan is to define a vision and management strategy that will guide decisions affecting Martinique Beach Provincial Park over the next 20 years. In addition, the plan identifies the actions necessary to support that vision and strategy. The final document will be approved by the Minister of Natural Resources pursuant to Section 13 (m) of the Provincial Parks Act and Section 6(b) of the Provincial Parks Regulations.

Four principal management objectives have been adopted for the park.

1. The over-riding objective is to protect the park's important natural and cultural heritage values and to that end, all aspects of park management will support this primary objective.
2. The park will provide opportunities for a variety of high quality, coastal recreation experiences that are consistent with the emphasis placed on protection.
3. The park will provide opportunities for exploration, education and appreciation of the site's heritage values through interpretation, information and outdoor education programs.
4. The park will serve as a regionally significant tourism attraction for Nova Scotians and out-of-province visitors.

Management priorities will be directed toward protecting and enhancing the park's natural and cultural values. In that regard, the park has been classed as a Natural Environment Park under provisions of the *Provincial Park Regulations*. This classification emphasizes the protection and conservation of natural and cultural heritage features. The term heritage, as used in this document, includes both natural environments and cultural features. Outdoor recreational use and infrastructure development will occur within the context of maintaining the natural character and quality of the environment.

To further underscore the commitment to protect and conserve important park values, most of the park is included within either an Environmental Protection Zone or a Resource Conservation Zone. Notwithstanding this commitment to the protection of heritage values, the Department of Natural Resources will provide complementary opportunities for outdoor recreation and nature-based education and tourism.

To better protect significant park values, a major redevelopment of park facilities at Martinique Beach Provincial Park is proposed. The main park road will be re-aligned, a new central parking area with core facility (change rooms, washrooms, an interpretive kiosk and office space for park staff and the N.S. Lifeguard Service) constructed, and a new main beach access developed. Parking area #2 (Map 3) will be incorporated within the new central parking lot. Parking areas # 3-7 (Map 3) and associated boardwalks and beach access points, as well as the boardwalk and beach access point associated with parking lot #8, will be closed and rehabilitated when the new central parking area is completed. Opportunities to provide additional off-site parking and partner with local community initiatives such as alternative transportation to the park (e.g. shuttle buses) will be explored.

The plan is based on the best available information at the time of writing and will be refined on a five-year basis and as improved information, particularly on the impacts of climate change, becomes available. Successful implementation of the park redevelopment plan will depend on the availability of resources.

An emphasis will be placed on interpreting and understanding the diverse natural and cultural heritage values of Martinique Beach Provincial Park, the Ramsar site, adjoining Game Sanctuary and NCC lands. To deliver interpretive and educational initiatives, partnership opportunities will be explored with the Nature Conservancy of Canada and others. Interpretive efforts will focus on self-directed opportunities, including brochures, on-site interpretive panels and publications.

Maintaining ecological integrity is an important goal of the park management plan. To that end, the Department will undertake a variety of measures to minimize visitor impacts including park redevelopment, zoning most of the park for protection and conservation, collecting baseline ecological data, monitoring visitor impacts, implementing appropriate management techniques and, where necessary, undertaking ecological restoration.

The Parks and Recreation Division of the Department of Natural Resources will play a lead role in facilitating implementation of this plan, while other potential partners may play a leadership role in implementing specific projects.

2.0 INTRODUCTION

Martinique Beach Provincial Park is located in East Petpeswick, Halifax County, Nova Scotia, approximately 12 kilometres south of the community of Musquodoboit Harbour and 45

kilometres east of Dartmouth (Map 1). Situated at the mouth of the Musquodoboit Harbour estuarine system, the 60 hectare coastal park opened in 1971 and is popular for its extensive sand beach and the opportunities it provides for coastal recreational activities. The 3.7 kilometre long Martinique Beach protects many of the highly productive estuarine salt-marshes, wetlands and intertidal flats in Musquodoboit Harbour from ocean storm events and also provides nesting habitat to endangered fauna.

Martinique Beach Provincial Park, as well as the Martinique Beach Game Sanctuary and adjoining Nature Conservancy of Canada lands, is part of the Musquodoboit Harbour Outer Estuary which has been designated as a wetland of international importance under the Ramsar Convention on Wetlands. The estuary is also recognized by Birdlife International as an Important Bird Area for waterfowl.

Management Challenges

Martinique Beach Provincial Park has operated for the past 40 years without a management plan to guide park planning, management and operations. Park management currently faces a number of challenges, including issues with parking capacity, beach system integrity and beach access, use of the boat launch, threats to endangered and vulnerable fauna, and increased beach dynamics associated with climate change. The park and adjoining conservation lands also face increasing pressures from residential development, especially on the western side of Musquodoboit Harbour.

Parking Capacity

Martinique Beach Provincial Park currently offers 88 designated parking spaces. For many years this parking capacity has been inadequate throughout July and August, both through the week and on weekends. It is not uncommon on good weather days, especially on weekends, for vehicle counts to grossly exceed parking capacity. For example, in 2009 and 2010, the highest recorded peak vehicle count was 1,311 and 832 cars, respectively, within or adjacent to the park at one time. Problems associated with the lack of parking capacity include congestion of park and public roadways, public safety issues, frustrated park users, park values and experiences being compromised and negative impacts on adjoining property owners.

The lack of adequate parking is further compounded by concerns over the long-term sustainability of several existing parking areas that currently provide the majority of parking spaces. In the 1970s, a number of small parking areas (#2-8) were developed on the back edge of the dune system and boardwalks constructed over the dunes to link the parking lots with beach access stairs. The dunes, along with the entire beach system, are now migrating inland as part of natural coastal processes. As these dunes move, parking areas are being infilled by sand and the boardwalks and stairs are increasingly being damaged or destroyed by storm events.

Beach System Integrity and Beach Access

Martinique Beach is a dynamic system that is constantly changing. The predominant factor driving these changes is natural storm events. In recent years, for example, storms have created two washover channels at separate locations in the dunes. While little can be done to avoid the impacts of these storm events, poorly designed or improperly-sited park infrastructure that may exacerbate those impacts can be modified or removed.

Access to Martinique Beach is largely focussed on a series of boardwalks that extend across the dune from each of the eight small parking areas. At the end of each boardwalk are stairs leading to the beach. The boardwalks contribute to storm damage by inhibiting the growth of marram grass underneath. The marram grass is an important feature that helps protect the dunes from wind erosion. The lack of grass allows winds to scour and erode the dune system. Furthermore, scouring of the dune face by wind and wave action, especially during storm events, has been shown to be more intense where beach stairs are located.

Boat Launch

The boat launch has existed at Martinique Beach Provincial Park for many years. Providing sheltered access to the inner harbour, it is frequently used by hunters, fishermen, those who own nearby islands, recreational small-craft boaters, and commercial clammers,

Constructed prior to the adoption of a park management plan, and at a time when protection objectives were not clearly articulated, the boat launch and its access road were located within a sensitive dune system. This plan places a high priority on protection and has included that dune system within an Environmental Protection Zone. As a consequence, the boat launch and access road are now a non-conforming use.

Endangered and Threatened Fauna

Martinique Beach Provincial Park provides critical habitat to the endangered piping plover and is regularly home to one or more breeding pairs. The park is also a winter home for the Savannah (or “Ipswich”) Sparrow, listed federally as “of special concern” and provincially as “vulnerable”. The growing popularity of the beach for recreational use, numerous off-leash dogs, OHVs on the beach, and a series of parking lots and beach access points that disperse people along an approximately 800 metre section of the beach which provides critical nesting habitat for the piping plover, increasingly challenges the viability of these important fauna populations at Martinique Beach.

Climate Change

Climate change will have a significant impact on Martinique Beach and other coastal areas of Nova Scotia. Rising sea level and more frequent and more severe storm events are two consequences of climate change that could drastically alter the beach system and, subsequently,

the inner harbour. Components of extreme water levels at Martinique Beach include: rising mean water level, land subsidence, storm surge and wave run-up. Portions of the beach access road near Whale Point are less than 2 metres elevation and are most vulnerable to present flooding and projected flood waters.

This management plan has been prepared as a means to address these key issues as well as other management concerns in a comprehensive and holistic way. It is based on the Department's legislative mandate under the *Provincial Parks Act and Regulations*, other Provincial and Departmental policies and guidelines, together with the park's heritage and outdoor recreation values. The Province's recently-adopted Natural Resources Strategy provided further incentive to complete this management plan by mandating the protection of natural and cultural heritage values as the over-riding priority of the provincial parks program.

The Department of Natural Resources gratefully acknowledges the invaluable assistance provided by the Martinique Beach Working Group in preparing this park management plan. Led by DNR, this Working Group also included the Canadian Wildlife Service, Bird Studies Canada, Ecology Action Centre, the Musquodoboit Harbour Residents and Ratepayers Association, Halifax Regional Municipality and Geological Survey of Canada. This plan has also benefited from input received during several public meetings, a 2011 survey of park users, and a 2012 web-based comment forum.

3.0 VISION

The foundation of this park management plan rests on the park vision, a brief statement that presents the broad long-term direction for the park. This vision describes the park management philosophy and what the park will be like in the future.

Vision

As a critical element of the greater Musquodoboit Harbour Estuarine system, Martinique Beach Provincial Park will help ensure the long-term protection of provincially and regionally-significant heritage values while providing high-quality day-use opportunities for compatible nature-based outdoor recreation, education and tourism.

4.0 PARK VALUES

Martinique Beach Provincial Park contains a range of exceptional park values that are based on the property's location as a spectacular beach on Nova Scotia's scenic Eastern Shore. These values include the sand barrier beach and associated estuary, the presence of endangered and vulnerable fauna, and outstanding opportunities for nature-based outdoor recreation (e.g. swimming, surfing, sunbathing, walking, bird watching, picnicking), education, and tourism.

The park's physical attributes and the opportunities they provide for outdoor recreation and tourism, generate significant economic value to the local, regional and provincial economies. These economic benefits are further enhanced through provision of access for commercial clamming and fishing, as well as recreational hunting, fishing and boating, in the adjacent Musquodoboit Harbour.

Natural Heritage

Natural heritage values include natural features and processes that create the bio-physical and aesthetic setting that gives Martinique Beach Provincial Park its underlying character and value.

Physical Character and Stability

Martinique Beach is one of the longest sand barriers along the Eastern Shore of Nova Scotia. The 3.7 kilometre long sand beach consists of a single, primary sand dune which varies in elevation from 3 metres to just over 5 metres and is up to 170 metres in width. The sand barrier, anchored by a series of bedrock outcrops, links the Bayers Island gravel beach complex and Flying Point with the mainland. Martinique Beach shelters and protects a vast backshore estuarine and wetland environment from direct wave attack.

In the late 1970s Martinique Beach was selected by the Geological Survey of Canada as a key site to monitor shoreline changes representative of sand barrier beaches along the Eastern Shore of Nova Scotia. Repetitive cross-shore surveys have been completed at eight locations along Martinique Beach since 1981 (Figure 1). Excluding two lines where washover channels developed and the foredune was cut back by more than 20 metres, net change along the top seaward edge of the foredune was less than 6 metres which is fairly stable.

Foredune retreat was greatest along the western beach, least along the central section and it has built slightly seaward along the eastern end. Changes along the base of the foredune were similar but roughly twice as large. More than 30% of total foredune change has taken place since 2005 which may signal a shift in beach stability. At the 1998 washover channel (Figure 1 L6), a new foredune was rebuilding by 2010 roughly 30 metres landward from its pre-1998 location. This illustrates the resilience of Martinique Beach to recover from wave attack; however its rebuilding is usually farther landward.

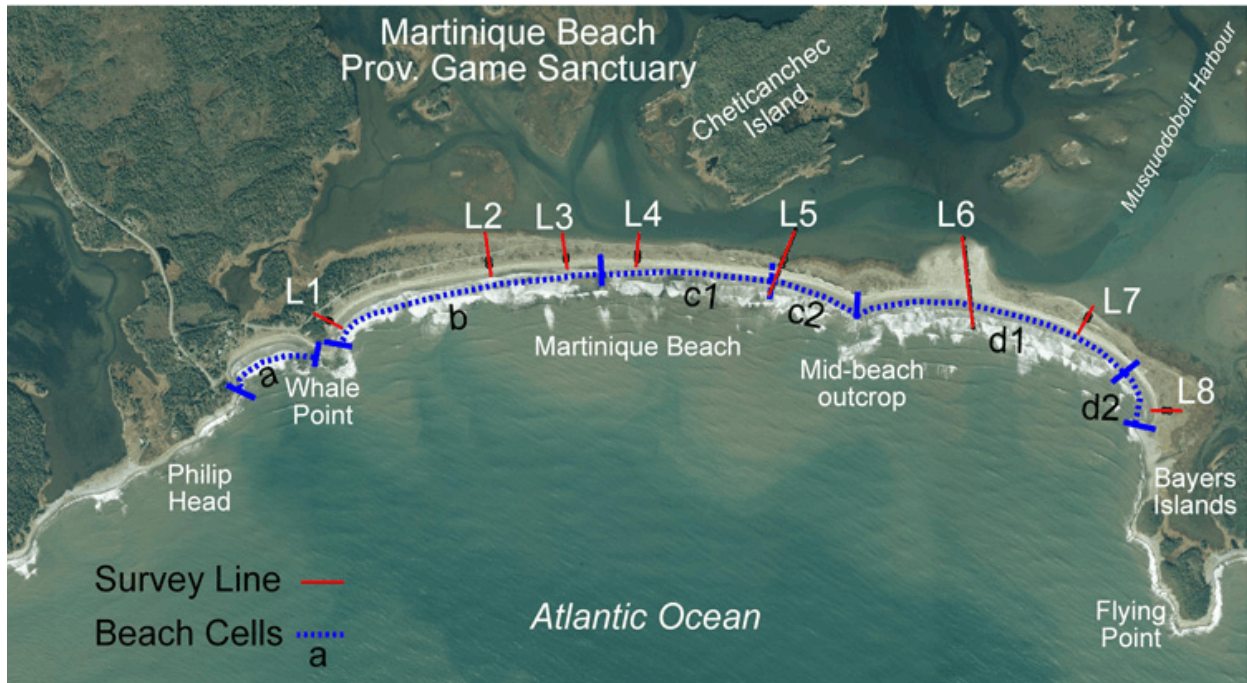


Figure 1 Location of eight cross-shore survey lines and four beach cells along Martinique Beach (base photo is from 2003).

A comparison of shoreline positions using aerial photography flown each decade since the 1940s has further refined our understanding about beach stability (Figure 2). Migration of the foredune vegetation line was used as a proxy for shoreline stability. A seaward migration implied increased beach stability and a landward migration implied beach retreat.

Compared with 1945, the vegetation (marram grass) line by 2003 had shifted slightly seaward; however there were sharp spatial and temporal differences in migration alongshore.



Figure 2 Position of foredune vegetation line and back barrier shoreline plotted from aerial photographs, 1945 - 2003, and field surveys in 2011 of the new back barrier washover deposit.

Along the western beach there was progressive dune and beach building until the early 1990s followed by retreat to its 1960s-1970s position west of Whale Point and its 1980s position east of the point by 2003. Larger fluctuations in beach stability occurred along the eastern beach where the 1992 vegetation position had extended to, or slightly farther seaward, than its 1945 position, but then retreated after 1992. By 2003 the foredune vegetation line only remained seaward of its 1940s position along the central beach where only minor fluctuations in beach stability were observed during the six decades.

Increased beach stability was observed at Martinique from 1945 to 1954, 1960 to 1974 and 1982 to 1992 while landward retreat occurred from 1954 to 1960, 1974 to 1982 and 1992 to 2003. Similar temporal cycles in the erosional and building phases of coastal dunes were observed along the South Shore of Nova Scotia.

Although Martinique Beach is in a phase of landward migration in its evolution, it has had the resilience to recover from wave attack and the ability to rebuild backshore dunes following major storms. However, sediment required to complete the repairs is derived from the recycling of adjoining subtidal, beach and dune reserves and not from the supply of new sediment. As a consequence increased changes in beach and dune morphology are anticipated as this shoreline responds and adjusts to changing environmental conditions. Our present lack of knowledge about nearshore sediment reserves and how the backbarrier estuarine channel will change direction as it becomes increasingly infilled by washover deposits provide challenges in predicting the future evolution of Martinique Beach.

Park Ecosystems and Associated Flora

Martinique Beach Provincial Park encompasses five major ecosystems (Map 2): sand beach, dune system, glacial till, salt marsh, and rocky shore.

Almost the entire southern face of Martinique Beach Provincial Park is comprised of a sand beach, an area of sand exposed between the extreme high tide and extreme low tide marks. Due to the mobility of the substrate, plant life is very limited in both diversity and abundance. There is no significant primary production except by blue-green algae and diatoms that occur on the surface of sandy mud in sheltered conditions.

Immediately behind much of the sand beach is a dune system consisting of sand ridges derived from wind and wave transported material. This ecosystem has low species diversity in the early stages of succession due to low nutrient levels and exposure. There is distinct plant communities associated with the seral stages of dune succession. Much of park's dune system is covered by marram grass, the most important species that dominates the pioneer plant association. Two recent washovers, both being recolonized by marram grass, are included within this ecosystem.

Two small areas of glacial till dominated by white spruce forest are found near the western end of Martinique Beach, adjacent to a bedrock-anchored headland. Whites spruce is typical along Nova Scotia's coastline and abandoned farm fields because of its frequent early and heavy seed crops and as a result of its ability to colonize bare or nearly bare mineral soils. It is also one of the province's most salt-tolerant tree species. The two glacial till ecosystems are separated by a small salt marsh.

The salt marsh is situated in a sheltered area near the western end of Martinique Beach. The salt marsh is a marine intertidal area characteristically underlain by soft substrata and colonized by salt tolerant vegetation, predominantly grasses. They are normally highly productive as the plant life has access to abundant nutrients, but are generally diversity-poor. Plant life is composed almost entirely of salt tolerant angiosperms (e.g. cord grass and glasswort) and algae, although microscopic fungi are important as decomposers.

The rocky shore ecosystem is a small area at the tip of Whale Point. Consisting of bedrock exposed between the extreme high and extreme low tides, this ecosystem forms as the result of marine erosion of the over-burden and bedrock. This ecosystem is complex as it is an interaction between terrestrial and aquatic systems. Plant life typically consists of seaweeds and lichens that are distributed in horizontal zones that relate to the tolerance of the species to either the exposure of air (seaweeds) or submergence of water.

Fauna

From an ecological and wildlife habitat perspective, Martinique Beach adds considerable significance to an internationally-, nationally-, and provincially-recognized coastal area. The Province established the Martinique Beach Game Sanctuary in 1961 to protect 507 hectares of

the outer estuary from development and hunting. In 1987 the Outer Estuary was subsequently recognized as an internationally-important wetland site under the Ramsar Convention on Wetlands. The establishment of Martinique Beach Provincial Park in 1971 further protected the park's fauna but also encouraged increased public access and use along with supporting infrastructure.

Further recognition of the ecological importance of Martinique Beach comes in the form of BirdLife International's Important Bird Areas program. Under this initiative, Martinique Beach is included within the Musquodoboit Important Bird Area, considered "continentally significant" for congregatory bird species. In addition, the Coastal Protected Areas of Nova Scotia Working Group, a joint federal-provincial governmental effort mandated to identify inshore coastal areas of high ecological and biological importance and to determine appropriate measures for their protection, has identified the mid- and lower reaches of Musquodoboit Harbour as an inshore ecologically and biologically significant area (EBSA). Of particular significance is the area's importance for waterfowl and shorebirds, as a spawning and nursery area for marine fish species, and invertebrate abundances, with (at the moment) minor human impact.

The mudflats support eel grass beds and abundant invertebrates, providing food for large numbers of staging and wintering waterbirds. The estuary is an important coastal staging and wintering site for Black Duck (*Anas rubripes*) and Canada Goose (*Branta canadensis*), and until recently the most northern wintering area for the North Atlantic population of Canada Goose. Black Duck and Canada Goose using the Ramsar site are part of a larger group that move between adjacent inlets over a relatively short distance. Peak numbers of Canada Goose reported at the site is 8,500 (1995) and within the area is 13,300 (1997). Peak number of Black Duck reported at the site is 1,200 (2006) and within the area is 4,600 (1999).

There have been notable changes in the abundance of eelgrass, reflected in their use as a feed source by these wintering waterfowl. A reduction in eel grass in Musquodoboit Harbour noted in 2001 was part of a decline reported over a larger area that included a 96% decline in the adjacent Petpeswick Inlet (see Chapman and Smith 2006 *In* DFO 2006). By 2009, eelgrass has increased to 187 hectares (29% of predecline) and numbers of Canada Geese in the larger area have generally fluctuated between 2,100 and 3,500 individuals in mid-winter. The cause of the eel grass decline is unknown but changes in sedimentation and nutrient enrichment have been implicated in other estuaries. Alternatively, the decline in eel grass coincided with a dramatic increase in the population of the invasive European Green Crab (*Carcinus maenas*) which has been shown to shred the shoots and undermine the roots in other inlets of Nova Scotia (Neckles et al. 2009).

Preliminary surveys of migratory shorebirds at Martinique Beach Provincial Park conducted between August and October, 2011, found mixed flocks of several hundred up to several thousand use the beach for roosting and feeding, particularly during high tide. Semipalmated Plovers, Semipalmated Sandpiper, Sanderling, and Least Sandpiper are the most frequently observed.

Species at Risk

Martinique Beach Provincial Park is one of about two dozen regularly occupied beach breeding sites in Nova Scotia for federally and provincially endangered Piping Plover. Less than 50 pairs of plovers breed in Nova Scotia, well below the population goal of 60 pairs outlined in Environment Canada’s proposed Recovery Strategy for the Piping Plover (*Charadrius melodus melodus*) in Canada

Numbers of breeding pairs and fledged young produced has been variable at Martinique Beach (Figure 3). Productivity (number of young produced per pair) was high between 2000 and 2006, but fell in 2007 when a record number six pairs bred at the beach and nests failed due to egg predation (Bird Studies Canada, unpublished data). In 2011, no breeding pairs were observed at Martinique Beach.

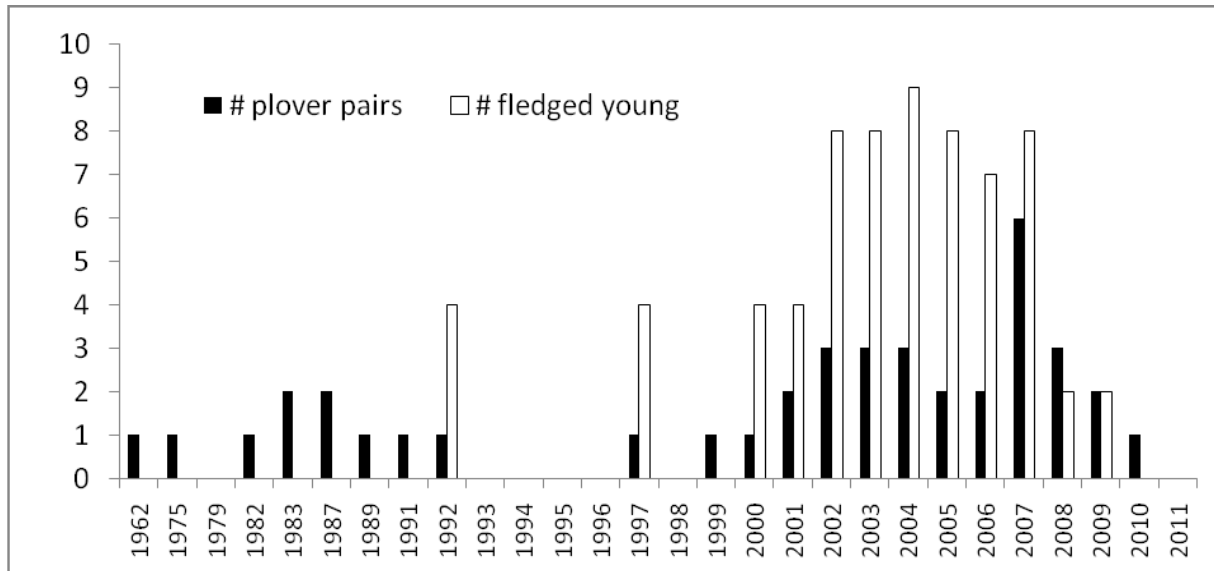


Figure 3. Number of Piping Plover breeding pairs and fledged young at Martinique Beach Provincial Park (Note: Gaps in data for breeding pairs and number fledged young exist until early 1990s). Source: NS Piping Plover Atlas.

The dunes and open sand of Martinique Beach are also winter home to Savannah Sparrow *princeps* subspecies, or “Ipswich Sparrow,” a species listed federally as being of special concern and provincially as vulnerable. Reducing threats on their wintering grounds is one of three key recommendations outlined in Environment Canada’s Management Plan for the Savannah Sparrow, *princeps* subspecies (*Passerculus sandwichensis princeps*), in Canada. Ramsar Wetland of International Importance

The Outer Estuary of Musquodoboit Harbour was designated a wetland of international importance under the Ramsar Convention in May 1987, and incorporates 2,160 hectares of marine and coastal wetlands, scattered islands and intertidal sand and mud flats. The site is internationally recognized as providing important habitat for non-breeding birds, a staging area for migratory birds, and a reproduction area for fish. In addition, the area's designation was based on its representative and relatively pristine examples of Marram Grass (*Ammophila arenaria*) on sand dunes, sand/mud intertidal flats, eel grass (*Zostera marina*) aquatic beds, intertidal salt marsh, and coastal islands. The site is dominated by estuarine waters with high freshwater input

Part of the Ramsar site is regulated as Martinique Beach Provincial Park and part as the Martinique Beach Game Sanctuary. The park and approximately half of the game sanctuary lands are administered by the Department of Natural Resources' Parks Division and Wildlife Division, respectively. Hunting and trapping are prohibited in the Game Sanctuary. The site is surrounded by privately owned lands used for housing, some agriculture, and resource extraction (e.g. forestry, fishing and hunting). Since designation, private ownership within the Ramsar site has been significantly reduced to less than 25% from nearly 75%. Ownership of some intertidal lands remains undetermined due to the lack of historically clear land tenure.

Cultural Heritage

The earliest inhabitants of the Musquodoboit Harbour area were the Mi'kmaq. In the 1600s, Acadian settlers and traders arrived and in a 1671 census, thirteen Acadians were living here. Francis Nose Island, located just north of Martinique Beach and now owned by the Nature Conservancy of Canada, was the reported location of an early French trading post, fortification and cemetery.

In October 1798, King George III of England issued a Proclamation providing for the granting of lands to "reduced officers, soldiers, and seamen". It was under the authority of this Proclamation that Lord William Campbell, Captain-General and Governor-in-Chief, of Nova Scotia and Acadia and its dependencies, issued a land grant of approximately 3,240 hectares on Musquodoboit Harbour to eight men with the condition that each clear and work just over one hectare for every 20 hectares of their respective shares. Only one of the men, George Bayer, lived up to the conditions. Fifty-eight years after the grant was made, Bayer wrote his will and testament leaving eleven separate bequests to his children. The bequests assigned large tracts of land to individual sons and daughters, covering almost all the Petpeswick peninsula at the end of which the beach park is situated. One of the sons, William, received the tract which included in part all of what is now the present Martinique Beach Provincial Park and Game Sanctuary. William later sold Martinique Beach and the narrow strip of land behind it to Dr. William D. Kennedy.

The property has long been a popular destination for recreation outings and in the early to mid-1900s, summer cottages began to appear. By 1970 most of the beach and adjacent lands were

acquired by the Province from various private landowners and in 1971 it became known as Martinique Beach Provincial Park. More recently the Nature Conservancy of Canada has acquired a number of islands at the eastern end of the beach and in the harbour protected by it.

There has been a long tradition of commercial and recreational clam harvesting in waters adjoining the park. Since its construction in the 1980s, the park's boat launch has been the major access point for those harvesters. The boat launch provides the safest and most direct access to the harbour for clambers as well as for those travelling to the harbour's many islands.

Outdoor Recreation

Martinique Beach was a popular recreation destination long before a provincial park was established there. In addition to local users, visitors came from the Halifax area and as far away as Truro. Over 80 years ago some began to build cottages on lands adjoining the beach.

In response to the growing recreational use of Martinique Beach, in 1971 the Province established the current provincial park. Today, Martinique Beach Provincial Park provides opportunities for a range of outdoor recreation activities as well as the infrastructure necessary to support such uses. Walking and hiking are popular activities along its shores and the excellent surf conditions draw a variety of board surfers from near and far. Swimming is popular as well, with the Nova Scotia Lifeguard Service supervising a portion of the beach during the summer months. Wildlife enthusiasts enjoy a variety of birdlife throughout the year.

The boat launch at Martinique Beach Provincial Park has long played an important role in facilitating public access to Musquodoboit Harbour, both for recreational and commercial uses. As one of the few public boat launches on the Harbour, it provides recreational boaters, hunters, fishermen and commercial clam fishers safe, convenient access to the harbour, clam flats and coastal islands.

Outdoor Education

Martinique Beach Provincial Park includes a variety of heritage values that could form the basis of an outdoor education program. The property's dramatic setting as a dynamic 3.7 kilometre-long beach on Nova Scotia's Eastern Shore, proximity to the Game Sanctuary and NCC lands, and inclusion in the Ramsar site, all provide opportunities to develop educational programs on geology, the marine environment, flora and fauna, and conservation efforts being undertaken to protect those values.

Outdoor education is also a key tool in enhancing long-term protection of important park values. Educating park visitors and the general public about those values, and the critical role the park plays in the broader Musquodoboit Harbour ecosystem, should reduce conflicts between park users and park values.

Although the Department of Natural Resources currently provides limited opportunities for outdoor education at Martinique Beach Provincial Park, there is a tradition of local schools, youth organizations and tour groups using the park for outdoor education programs.

Tourism

The dramatic coastal setting of Martinique Beach along Nova Scotia's Eastern Shore region serves as a significant attraction for both Nova Scotians and out-of-province visitors. The property also provides opportunities to better understand and appreciate Nova Scotia's rich natural and cultural heritage. One of the challenges at Martinique Beach is to balance promotion and public use with the park's limited capacity for parking and the management emphasis on protecting important heritage values.

In its role as a major tourism attraction along the Eastern Shore, Martinique Beach Provincial Park provides both direct and indirect economic benefits to local and regional communities. Direct benefits include seasonal employment for park staff, DNR's purchase of good and services, and purchases (e.g. gas, meals) made by park visitors. Indirect economic benefits include increased property values (and hence municipal property taxes) due to the community benefits provided by Martinique Beach Provincial Park.

Martinique Beach Provincial Park is one of several provincial parks along the Eastern Shore that offer high-quality coastal experiences. In close proximity to the Halifax - Dartmouth urban core is the Cole Harbour - Lawrencetown Coastal Heritage Provincial Park System which includes beaches at Rainbow Haven and Lawrencetown. East of Martinique Beach is Clam Harbour and Taylor Head provincial parks.

5.0 PARK OBJECTIVES

The primary management objective for Martinique Beach Provincial is to protect the site's important heritage values and maintain or restore biodiversity. Heritage values include the physical attributes that are the foundation of the park (e.g. beach and sand dunes). These attributes, in turn, support unique flora and fauna (biodiversity) and provide opportunities for a range of complementary recreational, educational and tourism activities. Protecting those heritage values will help ensure the long-term integrity of the park land base, the ecological health of flora and fauna it supports, and the quality of visitor experiences, not only for the park itself, but for the greater Musquodoboit Harbour ecosystem.

Secondary objectives include the provision of opportunities for nature-based outdoor recreation and tourism and the development of interpretive and outdoor education opportunities, all of which are compatible with the emphasis on protection.

The following are the key management objectives and associated goals for Martinique Beach Provincial Park:

Protection

To protect and, where necessary, restore the ecological integrity of Martinique Beach Provincial Park and the greater Musquodoboit Harbour Estuarine system.

This management plan places particular importance on the protection of park values for several reasons. The Province has certain legal (i.e. Parks Act, Wildlife Act, Endangered Species Act, International (Ramsar) Convention on Wetlands) and policy (e.g. Natural Resources Strategy) obligations to safeguard important park values and designated wildlife species. Secondly, the fundamental character of Martinique Beach Provincial Park is defined by its physical attributes, the flora and fauna it supports, and the opportunities for outdoor recreation, education and tourism that it offers. Compromising park values might contravene both the Province's legal obligations and have a detrimental effect on park visitor experiences. The consequence of not protecting important park values may also have direct consequences for the adjoining Game Sanctuary, Ramsar site, Nature Conservancy of Canada lands and public use and enjoyment of Musquodoboit Harbour.

Goals

- protect both representative, rare and sensitive ecosystems and flora and fauna
- maintain or restore ecological integrity by monitoring the park's natural values and the impacts natural events and processes, park visitation levels, visitor use patterns and park infrastructure, have on those values
- implement education programs, in concert with increased enforcement of Park regulations, to support park protection objectives
- employ a holistic approach to habitat management to ensure adequate quality habitat is available over the long-term for park flora and fauna, with a priority on endangered and vulnerable species
- focus park management on those activities over which it has the most control – the provision of appropriate facilities and services and the activities of park visitors.

Outdoor Recreation

To provide nature-based, day-use experiences which emphasize coastal activities as well as other passive outdoor recreation opportunities, including bird watching, photography and nature appreciation.

The park will be managed to provide quality coastal recreation activities such as swimming, surfing, beach walking, hiking, viewing, nature appreciation, photography, and small craft access to Musquodoboit Harbour where those activities do not compromise the ecological integrity of the park's natural values.

Goals

- provide park facilities and services that support a range of opportunities for nature-based outdoor recreation activities
- ensure park facilities and services, and the recreational activities they support, are consistent with the management emphasis on protection

Heritage Appreciation

To provide opportunities for exploration, education, and appreciation of the park's heritage values through interpretive, information, and education programs.

Heritage appreciation programs (e.g. outdoor education, interpretation) will emphasize significant natural and cultural heritage features and themes relating to conservation, geology and landscape development, flora, fauna and human settlement and use. Greater public awareness of the park's significant heritage values will help support park management objectives.

Two broad interpretive themes - Coastal Processes and Wildlife - have been identified for Martinique Beach Provincial Park. In turn, these can be further divided into sub-themes - geology, flora, fauna, and marine environments. These themes help celebrate the park's underlying characteristic as a relatively natural area that protects important heritage features and values while providing opportunities for outdoor recreation, interpretation and outdoor education.

Goals

- implement interpretive and educational programs that foster a greater understanding of, and appreciation for, the park's important heritage values
- utilize interpretive and educational programs to increase compliance with park management objectives

Tourism

To serve as a regionally significant tourism attraction for both Nova Scotians and out-of-province visitors emphasizing outstanding opportunities to discover, experience, and enjoy a spectacular coastal setting.

With its spectacular beach, scenic coastal setting and variety of recreational opportunities, Martinique Beach Provincial Park has long been an important tourism destination. The challenge in trying to realize the park's tourism potential is to reconcile public access and use with the park's limited land base and management philosophy that emphasizes the protection of park values as the over-riding priority.

Goals

- In cooperation with the N.S. Department of Economic and Rural Development and Tourism, as well as local tourism interests, manage and promote the park as a high quality coastal destination serving both Nova Scotians and out-of-province visitors
- complement and enhance regional tourism infrastructure, opportunities and strategies, in particular those that emphasize Nova Scotia's coastal heritage
- promote the park in a way that is consistent with the over-riding emphasis on protection
- work with local communities and interest groups to enhance the park's economic benefits, where proposed initiatives are consistent with this management plan.

6.0 PARK DESIGNATION

In 1971, Martinique Beach Provincial Park was designated under the *Provincial Parks Act*. As such, provisions of the *Act* and associated *Regulations* apply. The legislation and regulations provide the authority and means to achieve the park vision and management objectives.

7.0 PARK CLASSIFICATION

Martinique Beach Provincial Park, by virtue of its outstanding natural values and the complimentary nature-based recreational opportunities they offer, will be managed as a "Natural Environment Park" as defined by the *Provincial Parks Regulations*. A natural environment park incorporate representative natural landscapes with outstanding recreational opportunities. This classification emphasizes the protection and conservation of natural and cultural heritage features. Outdoor recreational use and infrastructure development will occur within the context of maintaining the natural character and quality of the environment.

In keeping with its classification as a Natural Environment Park, Martinique Beach Provincial Park will also be assigned a World Conservation Union / IUCN classification of *Category III*: a protected area managed mainly for conservation of specific natural features. *Category III* properties contain one or more features of outstanding significance along with unique or representative fauna and flora and should be large enough to protect the integrity of the feature(s) and its immediately related surroundings. Recreational activities are permitted if they do not compromise the protection objectives.

8.0 PARK ZONING

Park zoning allocates park lands and waters on the basis of the importance attached to their protection as heritage resources and to their capability and suitability for recreational use and associated facility and service development. Zoning defines the degree of protection,

conservation, and development that may occur within respective park areas. The *Provincial Parks Regulations* establishes three park zones: Environmental Protection, Resource Conservation, and Recreation Development. The first two are protection oriented, while the third allows for more intensive development and use.

All three zones will be used at Martinique Beach Provincial Park (Map 2).

Environmental Protection Zone

The Environmental Protection Zone includes those areas of the park that are highly sensitive or contain significant natural or historic resources that require protection. Permitted uses include interpretive, educational and scientific activities where these activities do not conflict with the underlying protection objective.

The Environmental Protection Zone encompasses three sensitive ecosystems, the park's dune system, a salt marsh and a white spruce forest. Approximately 70 percent of the park is included within this zone. Several parking lots, beach access boardwalks, a park road and boat launch area are currently located within the Environmental Protection Zone. This park infrastructure and associated park use are inconsistent with the intent of the Zone. A majority of these assets will continue as non-conforming uses within the Environmental Protection Zone. If destroyed or significantly damaged, they will not be replaced or repaired. Ongoing environmental monitoring of these assets will be undertaken to ensure no additional adverse impacts occur. Where identified, remediation of adverse impacts will be undertaken.

Resource Conservation Zone

The Resource Conservation Zone includes those areas of the park containing significant natural, cultural, and recreational features and landscapes that require a high standard of conservation. This zone permits activities and land uses that do not conflict with or compromise the inherent natural character and aesthetic qualities of the park.

The Resource Conservation Zone may also incorporate and protect small, scattered sites with highly sensitive or significant natural or historic sites and features. These sites and features may otherwise warrant inclusion within an Environmental Protection Zone but due to the limited landbase involved, have been incorporated into the Resource Conservation Zone. Planning for any activities or land uses within the Resource Conservation Zone must consider the full range of protection options as the priority.

One ecosystem, a sand beach, is included within the Resource Conservation Zone. This ecosystem provides critical habitat to the endangered Piping Plover and is also the focus of the park's recreational activities. Within this Zone, a Special Management Area (or Areas) will be established by policy to provide clear direction for protecting nesting plover sites and other species at risk. This zone encompasses about 20 percent of the park.

Recreational Development Zone

A Recreational Development Zone includes an area of a park that is capable of supporting the development of facilities and services associated with outdoor recreation activities and more intensive visitor use. This zone is used to focus park facilities and services, as well as public use, within the most appropriate park areas without compromising protection-oriented values of the park.

The Recreation Development Zone will be limited to the park entry road and portions of the existing development area, including the present washrooms, changerooms, park maintenance area, park office and picnic area. This Zone also includes some existing parking areas and the proposed new parking area and interpretive kiosk. Much of this Zone encompasses the White Spruce Forest ecosystem and includes approximately 10 percent of the park.

9.0 MANAGING FOR ECOLOGICAL INTEGRITY

Martinique Beach Provincial Park will be managed as a Natural Environment Park, so protection of the property's ecological integrity is of paramount importance. Ecological integrity is a measure of the condition of biodiversity in a given area and means that native species are present at viable levels and ecological processes are present to support the continued viability of those species. Biodiversity is a fundamental indicator of ecological integrity. Retaining or enhancing the integrity of both terrestrial and aquatic ecosystems will be an important consideration in all park management decisions.

In a more practical manner, an ecological system will be considered to have integrity if:

- its structure and function are intact;
- its native components and processes are likely to persist;
- human use and facilities are compatible with the park ecosystem's finite capacity to sustain use in type, amount and timing.

Ecological integrity must be maintained to ensure the sustainability of both the natural environment and human use of the park. Science-based monitoring will be used to identify threats to ecological integrity. Actions to mitigate threats to ecological integrity will be implemented as necessary.

The park will also be managed to complement ecological integrity objectives of the adjoining Game Sanctuary, NCC lands and the Ramsar site. To that end, DNR's Parks Division (responsible for parks program) will work closely with the Department's Wildlife Division (responsible for Game Sanctuary and Ramsar site) and the NCC to ensure park objectives support those organizations' objectives and, similarly, that management objectives for the Game Sanctuary and NCC lands support park objectives.

10.0 PARK DEVELOPMENT CONCEPT

The park development concept provides a framework for the provision of park facilities and services that is consistent with management objectives for the protection and preservation of significant and sensitive park features, conservation of other important park values, and the provision of opportunities for compatible, nature-based, recreational and educational activities.

Prepared by a broad-based stakeholder working group, the park concept incorporates a review of background materials, field work and information received during public engagement sessions. As the park has been operational for over 40 years, there is significant existing infrastructure, including access roads, parking lots, numerous beach access points, boat launch, toilets, and picnic area. During preparation of this park management plan it became apparent that some of the existing infrastructure either contributed to, or did not adequately address, important management issues. Furthermore, some infrastructure was having a detrimental effect on certain of the park's natural values and was inconsistent with this plan's renewed emphasis on protecting and enhancing ecological integrity. Consequently, to address these management issues, this park concept proposes a major redevelopment of park infrastructure.

Park Re-development

In keeping with the property's classification as a Natural Environment Park, and the consequent emphasis on the protection of park values, this management plan proposes a major redevelopment of existing park facilities (Map 3). The main park entry road will be realigned from the first pocket beach eastward, a new parking area will be developed immediately east of the existing picnic area, changerooms, washrooms, the park office and an interpretive kiosk will be incorporated into a new core facility located in proximity to the new parking area, and a new main beach access point will connect the core facility with the beach. This work will provide additional parking, improved visitor services, better interpretive and educational information, and a much-needed administrative centre for park staff.

Following completion of the new parking area parking lots (#3-7) and their associated boardwalks and beach access stairs, along with the boardwalk and beach access stairs associated with parking area #8, will be closed. Natural restoration of the dune system and native vegetation will be promoted.

As the long-term impacts of climate change and sea level rise on Martinique Beach Provincial Park have not been precisely determined, this park management plan uses a precautionary approach based on best available science to arrive at a development concept that recognizes the dynamic nature of coastal lands and the consequent need to minimize the risk of damage or destruction to park facilities. This concept also recognizes the detrimental role some existing park facilities are having on park values.

Parking

Consistent with user densities associated with a Natural Environment park, it is estimated that Martinique Beach could accommodate approximately 800 people at one time. Based on an average of three people per vehicle, a maximum of 267 parking spaces would be required

To provide this parking, this plan proposes a new central parking area containing approximately 120 spaces (Map 3). The new parking area would include dedicated disabled parking and a drop-off / pick-up area located next to the proposed core facility and main beach access.

The new central parking area would have a footprint similar in size to the combined areas of parking lots #2-7, which it will replace. The *ecological* footprint of the new parking area, however, is significantly smaller than that of parking lots #2-7 because it is not located in a sensitive dune system and will not provide multiple access points to an area containing important habitat for endangered and vulnerable species.

The remaining 147 parking spaces would be located outside of the existing park boundary subject to additional lands being acquired or agreements being reached with private landowners. These parking changes will improve ecological integrity, particularly through enhanced protection of nesting habitat for endangered wildlife and dune restoration. Parking capacity will be limited to an amount that does not result in the number of park visitors exceeding beach capacity.

Despite the proposed expansion of parking capacity within Martinique Beach Provincial Park and on adjoining lands, it is unlikely that there will ever be sufficient capacity to meet peak demand. Consequently, the Department of Natural Resources will examine other options for reducing demand for parking. Promoting alternate beach locations and carpooling, instituting public advisories when the park is nearing capacity, partnering with public and private transportation providers, and enforcement of parking restrictions are some of the tools that should be considered.

Boat Launch and Access Road

The boat launch has existed at Martinique Beach Provincial Park for many years. Providing sheltered access to the inner harbour, the boat launch is frequently used by hunters, fishermen, those who own nearby islands, recreational small-craft boaters, and commercial clammers,

Following extensive discussion and research by the Working Group, and in consideration of comments received during a meeting with commercial clammers, island owners, and hunters, a March 14, 2012 public meeting, and a subsequent web-based comment sheet, this management plan acknowledges the unique status of the boat launch and access road as long-standing park facilities that provide small boats with safe and convenient access to Musquodoboit Harbour and for which no suitable alternative site has yet been identified. To that end, the boat launch and access road will remain as a non-conforming use.

If, through natural processes, the boat launch, associated access road, and/or the inner harbour channel are significantly damaged or impaired to the point that the boat launch is no longer usable without substantial investment, the Department of Natural Resources may determine that the repair or further use of the boat launch is no longer viable. Prior to making any decision to close the boat launch DNR will first consult with affected stakeholders.

Parking area # 8 (Map 3) will be maintained and reconfigured, if necessary, to provide improved parking for boat launch users. The boardwalk and beach access stairs associated with this parking area will be removed when the new central parking area is completed.

Public Access

Martinique Beach Provincial Park offers park visitors access to a spectacular coastal setting. In addition, the park's boat launch also provides one of the few public accesses to Musquodoboit Harbour for boating, fishing, hunting or clamming. During the park operating season from May to October, the park is staffed and facilities and services are offered. In the off-season, although the park is not staffed and no facilities or services are provided, the park will be left ungated and public use will be welcomed.

During periods when visitation levels exceed parking capacity, or during severe storm events, the park entry road may be gated. During such times, signage and other means of communication will be used to provide notification to potential visitors prior to their arrival at the park.

Accessibility

Wherever practical and feasible, park facilities and opportunities will be designed to accommodate mobility-challenged visitors. An accessible viewing deck overlooking Martinique Beach and a ramp to the beach will be provided. Due to the challenges presented by the beach environment, no special provisions for water access will be provided. Dedicated disabled parking spaces and a drop-off / pick up area next to the main beach access will be included within the proposed central parking area.

Interpretation

The proposed interpretive kiosk is intended to provide park visitors with an understanding and appreciation of the park's significant natural history values. Partnership agreements between the Department and other stakeholders could also ensure that the interpretive kiosk and associated educational materials would serve as the focal point to understanding the significance of the greater Musquodoboit Harbour Estuarine system, including the Martinique Beach Game Sanctuary, the Ramsar site and NCC lands, as well as the extensive conservation work being done in the area.

11.0 OPERATIONAL POLICIES

DNR will prepare a park operating plan that will provide the necessary information required to operate the park on a day-to-day basis and to ensure that park operations meet or exceed provincial park standards. The park operating plan will address budget, staffing, public health and safety, maintenance schedules, and enforcement requirements.

Enforcement

DNR has developed a Park Compliance Plan for Martinique Beach Provincial Park. This Plan helps determine a general level of resources necessary to ensure park visitors comply with park regulations. The Compliance Plan will be reviewed to ensure consistency with the park management plan and, in particular, recommendations made with respect to off-leash dogs and parking infractions.

Park Visitation Levels

On many days during the park operating season, the demand for parking exceeds available capacity. As a result, there can be significant traffic issues that, among other things, raise public safety concerns. Recognizing that the park land base is unable to accommodate peak demand for parking, the Department of Natural Resources will develop a strategy to address parking issues. This strategy will emphasize the protection of both park values and public safety.

Off Highway Vehicles

The use of Off-highway Vehicles (OHVs) within Martinique Beach Provincial Park is inconsistent with the Provincial Parks Act and park management objectives, especially the emphasis on protection and non-motorized travel. Consequently, except for park management and emergency purposes, off highway vehicles will not be permitted in the park.

With respect to DNR's use of OHVs for park management purposes, the Department will undertake a review of park operating procedures to ensure that any such use is limited to the provision of essential services and wherever possible avoids the use of OHVs on the beach and dune system.

Garbage Receptacles on Beach

Currently, a number of garbage receptacles are located along the beach area where most of the public use occurs. These receptacles present several management challenges – staff and resources are required to empty and dispose of the waste; servicing the receptacles usually requires taking the DNR OHV on the beach; and, the presence of garbage may attract nuisance wildlife that not only feeds on garbage but possibly on endangered wildlife. This plan recommends those receptacles be removed from the beach and that the Department adopt and

promote a “pack it in; pack it out” strategy whereby park visitors are encouraged to take their garbage home.

12.0 SPECIAL MANAGEMENT ISSUES

Piping Plover

The Piping Plover is an endangered species which has historically nested, with varying degrees of success, at Martinique Beach. Key factors that limit population recovery are disturbances to plovers by people, dogs off-leash and vehicles; loss and degradation of habitat due to coastal development and recreational use; predation pressures; and intensification of storms due to climate change.

Under the Endangered Species Act, the Province of Nova Scotia has a legal obligation to protect the Piping Plover. There is an inherent challenge in attempting to protect plover nesting habitat while also providing opportunities for outdoor recreation, education and tourism.

With respect to the Piping Plover, DNR will:

- work closely with the Canadian Wildlife Service and Bird Studies Canada to protect Plover habitat and nest sites.
- ensure protection of nesting Piping Plover takes precedence over public access and use.
- develop partnerships with CWS and BSC to develop and implement a Piping Plover educational plan aimed at park users.

Off-Leash Dogs

Off-leash dogs can have a significant, detrimental impact on nesting birds and other wildlife and they also intimidate some park visitors. Although the *Provincial Parks Act and Regulations* requires all dogs to be leashed, many dog owners choose not to comply. In view of this plan's emphasis on protecting the park's important natural values, and given the negative consequences that off-leash dogs may have on wildlife, especially during nesting times, as well as park users, the Department of Natural Resources will enforce the requirement that all dogs remain on leash.

Climate Change

Climate change will have a significant impact on Martinique Beach and other coastal areas of Nova Scotia. Rising sea level and more frequent and more severe storm events are two consequences of climate change that could drastically alter the beach system and, subsequently, the inner harbour. Components of extreme water levels at Martinique Beach include: rising mean water level, land subsidence, storm surge and wave run-up. Three high water-level scenarios were developed for Halifax Harbour and combined with return periods of maximum annual water levels. Scenario 1 used historic sea level rise of 0.32 metres per century; Scenario 2 used the Intergovernmental Panel on Climate Change (IPCC) Fourth assessment report (AR4) upper

limit projection for sea level rise of 0.57 metres per century; and Scenario 3 presented an upper - limit by superimposing the record storm surge on the highest tide with a sea level rise of 1.3 metres per century. Projected water levels using scenario 1 and 2 varied from 2.26 metres to 2.67 metres and scenario 3 was much higher. These scenarios did not include wave run-up which at Martinique Beach can add nearly 3 metres to the projected water levels depending on the slope and condition of the backshore dunes. Portions of the beach access road near Whale Point are less than 2 meters elevation and are most vulnerable to present flooding and projected flood waters.

With regard to increased storm intensity and frequency occurring within the time framework of the park management plan there is more scientific debate. Higher sea-surface temperatures on the Scotian Shelf would favour maintenance of hurricane conditions for tropical storms and there is some evidence that more intense winter cyclones are possible but for now no adjustments in sea level were made for changing storm conditions.

Wherever possible, this park management plan recognizes and incorporates the impacts of climate change. Extreme water levels expected in a 100- year planning horizon were recently compiled for Halifax Harbour and results from that study are used as a guide in this discussion. Estimates of future sea level rise and modelling of storms at a local scale will improve with time and scheduled updates in the park management plan will incorporate new information as it becomes available.

Park Boundary

Additional lands may be required to support park management objectives, including protection of significant heritage values, provision of recreation or education opportunities, or for the development of park infrastructure. DNR staff will examine options for leasing or acquiring additional lands where necessary to further park management objectives.

Private Land Development

While this plan focuses on the management of Crown lands at Martinique Beach that are designated under the Parks Act, it is recognized that land use activities outside the park (both on adjoining lands and within the broader Musquodoboit Harbour estuary) can have an impact on park values (e.g. increased park use, degraded water quality, increased traffic, aesthetics, visitor experiences). DNR will therefore work closely with HRM, other provincial Departments and other levels of government to help ensure that future development considers potential impacts on Martinique Beach Provincial Park and the greater Musquodoboit Harbour estuary.

Education

Martinique Beach Provincial Park offers many opportunities for interpretation and education of the region's diverse heritage values. Situated in the midst of an internationally, nationally and provincially significant natural area, surrounded by complimentary conservation efforts (e.g.

Game Sanctuary, Ramsar site, NCC lands), and offering public access and associated facilities and services, the park is an ideal location in which to provide interpretive and educational materials.

The Department will encourage a cooperative approach to providing interpretive and educational experience based on partnerships with complimentary program interests.

13.0 IMPLEMENTATION STRATEGY

This park management plan will be implemented in two phases. The pace of implementation will depend on available resources. The Parks and Recreation Division of the Department of Natural Resources will play a lead role in implementing this plan, while other potential partners may play a leadership role in implementing specific projects.

Before commencing park development, mechanisms will be put in place to monitor visitor impacts on the park's heritage values. This monitoring will be used to help in designing visitor management strategies.

Although the plan has a 20-year time frame, it will be reviewed every 5 years or as otherwise required. In this way, adjustments can be made should conditions change substantially, or if significant new information becomes available.

Implementation - Phase I

Phase I of park development is intended to address key public safety issues, ensure protection of park values, and acquire the resources necessary to implement park development.

Completion of Phase 1 action items is critical to ensure park values and associated opportunities are managed in accordance with the objectives of this park management plan. These action items are relatively inexpensive to implement and are intended to be completed **within three years of plan adoption.**

1. Complete a detailed ecological inventory of the park, with priority placed on those areas where park development work is proposed.
2. Establish ecological benchmarks and implement a monitoring program to determine impacts of park visitors and infrastructure.
3. Implement appropriate measures to protect and/or restore ecological integrity.

4. Partner with Bird Studies Canada, the Canadian Wildlife Service, and others to develop an action plan for Piping Plover and Savannah Sparrow management at Martinique Beach Provincial Park.
5. Develop an interpretation / outdoor education plan that highlights important elements of the park's natural and cultural heritage and key management messages.
6. Identify levels of support (funding, staffing, etc.) adequate to address ongoing issues, including park asset, visitor management and service delivery, in each of the Implementation phases.
7. Eliminate on-road parking within the park through increased education and enforcement efforts.
8. Implement a public notification system to advise potential park visitors when parking areas are nearing capacity. Measures may include signage in proximity to Musquodoboit Harbour, public service radio announcements, and web-based information.
9. Encourage and support DNR's Wildlife Division in its efforts to develop a management plan for the broader Musquodoboit Harbour Outer Estuary (Ramsar site) in partnership with other key stakeholders (e.g. Canadian Wildlife Service, Bird Studies Canada, Nature Conservancy of Canada, local communities).
10. Work with the Geological Survey of Canada to ensure their long-term study of shoreline changes at Martinique Beach continues.
11. Incorporate new information about climate change and results from repetitive assessments of the beach and dune conditions into regular revisions to management plans.
12. In partnership with traditional users of the park boat launch, identify opportunities to develop an alternative boat launch outside of the park.
13. Prepared detailed designs for proposed park redevelopment.

Implementation - Phase II

Phase II is intended to initiate redevelopment of park infrastructure (roads, parking) and provide a new core facility to house washrooms and changerooms, a park office and interpretive kiosk. Before implementation, all development proposals will be reviewed to ensure that they are consistent with the intent of the park management plan. **Implementation will depend on availability of resources.**

1. Redevelop the park entry road and construct a new 120 vehicle central parking area and associated core facility (changerooms/washrooms, office space, interpretive kiosk).
2. On completion of the proposed 120 vehicle parking area, close parking lots #3-7 and their associated boardwalks and beach access, as well as the boardwalk and beach access associated with parking lot #8. Parking lot #2 will be incorporated into the new central parking area.
3. Monitor former parking lots 3-7 and their associated boardwalks and beach access points, as well as those associated with parking lot #8, to determine if natural processes alone will restore ecological integrity. Where it is decided that natural processes are not sufficient, park management efforts will be used.
4. Redesign, within the existing footprint so far as possible, parking lot #8 to better accommodate the parking of vehicles towing boat trailers.
5. Develop and install interpretive and orientation panels for the interpretive kiosk as well as other educational materials that would increase the public's understanding of, and appreciation for, the region's significant heritage values.

14.0 PLAN REVIEW

The vision and objectives of this plan are intended to guide the management of Martinique Beach Provincial Park for the next 20 years. In recognition that Martinique Beach is part of a dynamic natural system which changes constantly, the Department of Natural Resources will undertake a review of the park management plan every five years or sooner if required. In considering any significant deviation from this plan, the Department will provide opportunity for public review and comment.

MAP 1 REGIONAL SETTING

MAP 2 ECOSYSTEMS AND ZONING

MAP 3 DEVELOPMENT CONCEPT