

**LA PLAGE
MAVILLETTE**



ABOUT LA PLAGÉ MAVILLETTE

La Plage Mavillette (Mavillette Beach Provincial Park) is located two kilometers from Parc du Phare au Cap Sainte-Marie. The park has a 1.5 kilometre long sandy beach bordered by cliffs and fragile marram grass-covered dunes. Cliffs of both Cap Sainte-Marie and David's Point can be seen in the distance. David's Point is the source of sand and materials for La Plage Mavillette, and Cap Saint-Marie lighthouse offers a gorgeous backdrop for watching the sun go down along the coast. The beach is accessed by John Doucette Road.

Boardwalk staircases provide access to the beach and protect dune integrity; as the site exists currently there is no accessible entrance to the beach. The beach and oceanscape attract surfers, hikers, day-trippers and swimmers (supervised swimming is offered Saturdays and Sundays in the months of July and August). Restroom facilities are located at the start of the boardwalk walkways nearby to the gravel parking lots. The provincial park is crown owned land, provincially controlled and operated by the Nova Scotia Department of Lands and Forestry.

Adjacent to the beach are salt marshes and wetlands hosting diverse habitats for significant migratory bird species. A narrow unmarked trail leads from the road to the salt marshes. Some evidence remains of boardwalks and bird watching structures that occupied the site previously.





LA PLAGE MAVILLETTE
Mavillette Beach Provincial Park

Wetland

Parking

Beach

Upper Cliff
Bushwalk

Cape Cove

LA PLAGE MAVILLETTE



HISTORY

La Plage Mavillette is 'bimodal' with coarse sand fringed by a band of shingle along its southern half. Although it is protected from the open Atlantic, it is affected by a long-shore current deflected towards the northeast through the Gulf of Maine. For millions of years, the bedrock cliffs at Cap Sainte-Marie to the north have interrupted the northeast flow of sediments in the ocean and diverted it into the cove, causing a large sand dune system that includes multiple dune ridges at heights of over 5 meters (16.5 feet) and widths greater than 200 meters (656 feet). Deposits of sediment blocked the creek in this cove, forming at first a spit and later a continuous barrier. The water from the creek accumulated behind this barrier forming a lagoon that over time was populated by marsh vegetation.

La Plage Mavillette and its dunes are one of the largest accumulations of sand in the province of Nova Scotia, creating a series of five dune ridges, covering an area that is 224 meters (735 feet) wide from water line to marsh and approximately 1200 meters (3940 feet) long. The northern end of the beach is actively building and the southern end is retreating.

La Plage Mavillette and neighbouring Bartlett's Beach (approximately 11 kilometers away to the south) are the only dune systems on the Bay of Fundy. The greatest threat to the beach and dunes is erosion, hastened by the effects of human use. In the late 19th and early 20th centuries, local residents mowed the marsh hay and harvested it as fodder for their animals. Sand was routinely hauled away for use in construction projects. In the mid-20th century, the Canadian Armed Forces used the dunes as a training site, leaving breaches in the dune ridges that are still evident today. For decades prior to becoming a provincial park, the dunes were a favourite camping and party spot. At present, pedestrian disturbance of the vegetation on the dunes continues to be an issue there.

There has been an increasing awareness of the significance of the coastal dune environment as an ecological area providing an important habitat for many plants and animals and nesting sites for a variety of birds. The beach became a provincial park in 1983.



Beach bonfire.

Human use is the most serious issue at Mavillette Beach. A bonfire on the beach during Festival Acadien. July 1980. (Yarmouth Vanguard)

EXISTING CONDITIONS

LANDSCAPE

La Plage Mavillette and surrounding wetlands formed from the erosion of a drumlin. The beach exists in a depression with drumlins on either side. It is said that the shore is sinking at a rate of 25 centimetres per century. But generally, the circulation of sand by waves and currents from one location to another maintains overall shore levels. Sand dunes that line the back of the beach are approximately five metres above sea level. Flanking cliffs and bluffs are as high as 20-30 metres, climbing a further 35 metres inland.

The beach area is predominately flat and poorly drained, particularly the wetland areas. Water drains from these upper areas into the ocean or into the wetland catchment basin. In some areas, surficial water flow has caused water channels that outlet to the sea.

The diverse topography of the Mavillette area supports various hydrological systems, microclimates, vegetation and in turn, provides a unique habitat for numerous wildlife species.



The two kilometre sandy **beach** is bordered by dunes, separating the beach from the parking lot and road. The dunes located at the back of the beach are anchored by sensitive marram grasses that protect against erosion. Fibrous root systems provide valuable dune retention and provide habitat. Other dune vegetation includes Common Wild Rose, Bayberry Bush and Beach Pea. Beach and dunes provide hunting and nesting habitats for numerous bird species including herons, hawks, eagles, ospreys, egrets, plovers, sandpipers, geese, ducks, terns and songbirds at various times of the year.

Wetlands cover an area of approximately 160 hectares. The majority of the wetlands are categorized as **salt marshes**, with some swamp and marsh areas surrounding the central salt marsh. Wetlands offer critical ecological landscape functions and provide habitat for aquatic species. Salt marshes and wetlands in the Mavillette region play a crucial role within the broader watershed providing services including water filtration, pollutant removal, and oxidation, among others.

Rich waterscape ecologies host diverse species of shellfish, fresh and saltwater fish and birds.

Species commonly found nesting in the spring include Common Snipe, Nelson's Sharp Tailed Swallow, Tree Swallow, Savannah Sparrow, Great Blue Heron, Willet, and more. In the fall, migratory shorebird species and waterfowl find refuge in the marsh. Species include Caspian Terns, Snowy Egrets, and even Blue-gray Gnatcatchers, among others.

Highland areas surrounding the beach are dotted with stands of **softwood forests** containing white spruce, eastern larch and red maple. Differing from other areas in the region, patches of balsam fir, red spruce and black spruce are scattered throughout. Vegetation such as bayberry, crowberry and coastal brush cover the hillocked landscape and provide ideal habitats for birds and a variety of mammals.

On both sides of the wetland area are **pine oak hills and hummocks**, dominated by white spruce. These areas also include scattered plots of forests with 75% or more alder covering.

Swaths of **brush meadow** occupy upland plateaus and contain vegetation such as bayberry, roses and other low-lying shrubs.



STRUCTURES AND AMENITIES

La Plage Mavillette is well equipped to support outdoor adventurers and water-based activities. The site has a formal parking lot in close proximity to the beach that can be reached by a wood staircase and boardwalk. The area is equipped with changing huts, restrooms and non-potable running water.

Parking Area

The Provincial park has three gravel parking lots accessed off John Doucette Road.

Changing Facilities

Within each parking area, there are three buildings with restrooms and changing facilities for public use. The main structures are constructed of wood, with either wood or composite cladding. The roof structure is clad in corrugated polycarbonate material, and appear to be of standard Provincial park

designs. These facilities are not weathertight or insulated but provide shelter from precipitation and wind, and appear to be level for accessibility. The interiors were not investigated but the buildings are in good condition overall.

Boardwalk & Staircase

A wood staircase and boardwalk runs between the changing huts to access the beach from the parking area. Materials appear to be pressure-treated pine. There is currently no accessible access to the beach for people with disabilities.

Wetland Walking Trail

On the other side of John Doucette Road, remnants of a trail exist that led to an demolished bird watching tower. The surrounding area hosts migratory bird nesting grounds and connect with the unique salt marsh landscapes that host sensitive habitats for native aquatic species and vegetation.



Restrooms and Changing Huts



Boardwalk and Stair Access to the Beach

Staircases provide access to the beach without disturbing the sensitive marram-grass dune habitats.



Former Lookout

Parking

Changing Buildings & Restrooms

Boardwalk & Stairs

Parking

Changing Buildings & Restrooms

Parking
Changing Buildings & Restrooms

LA PLAGE MAVILLETTE

THINGS TO DO

As one of Nova Scotia's best and most beautiful sandy beaches, most activities that are possible at Mavillette are outdoor oriented, such as:

Surfing and Kite-surfing

Mavillette is a popular surfing destination for locals and visitors alike. Visitors can rent surfboards and wetsuits from Las Playas Surf Shop. Kitesurfing is also an increasingly popular activity to do.

Kite Flying

The large amount of space at the beach and constant winds make Mavillette a perfect place to fly kites.

Stargazing

Southwestern Nova Scotia is the first destination in North America to receive a Starlight certification by the Starlight Foundation, an organization supported by UNESCO. La Plage Mavillette is noted amongst several other locations in the region as one of "the best places to view the night sky".

Running

In recent years, non-profit groups have coordinated running events on the beach at low tide (Mavillette Mile, in August), and on the roads that cross the park (The Fog Run, mid-July; The Cape to Cliff Run, August)





Birdwatching

Mavillette welcomes many migratory species throughout the year, including Willets, Sharp-Tailed Sparrows and Great Blue Heron. Bird habitat includes the beach and dunes, as well as the mudflats and a tidal marsh.

REVIEWS

La Plage Mavillette is the most reviewed public space in the municipality, with 60 reviews on tripadvisor.com (as of May 2020). All reviews are very positive.



Comments:

“One of Nova Scotia’s Most Beautiful Beaches”

“With miles of sand flats at low tide and soft sand with great swimming this beach has something for everyone at any time of day.”

“Very sandy and at low tide a lovely spot to wander.”

“It feels like a Florida beach but the water was colder”

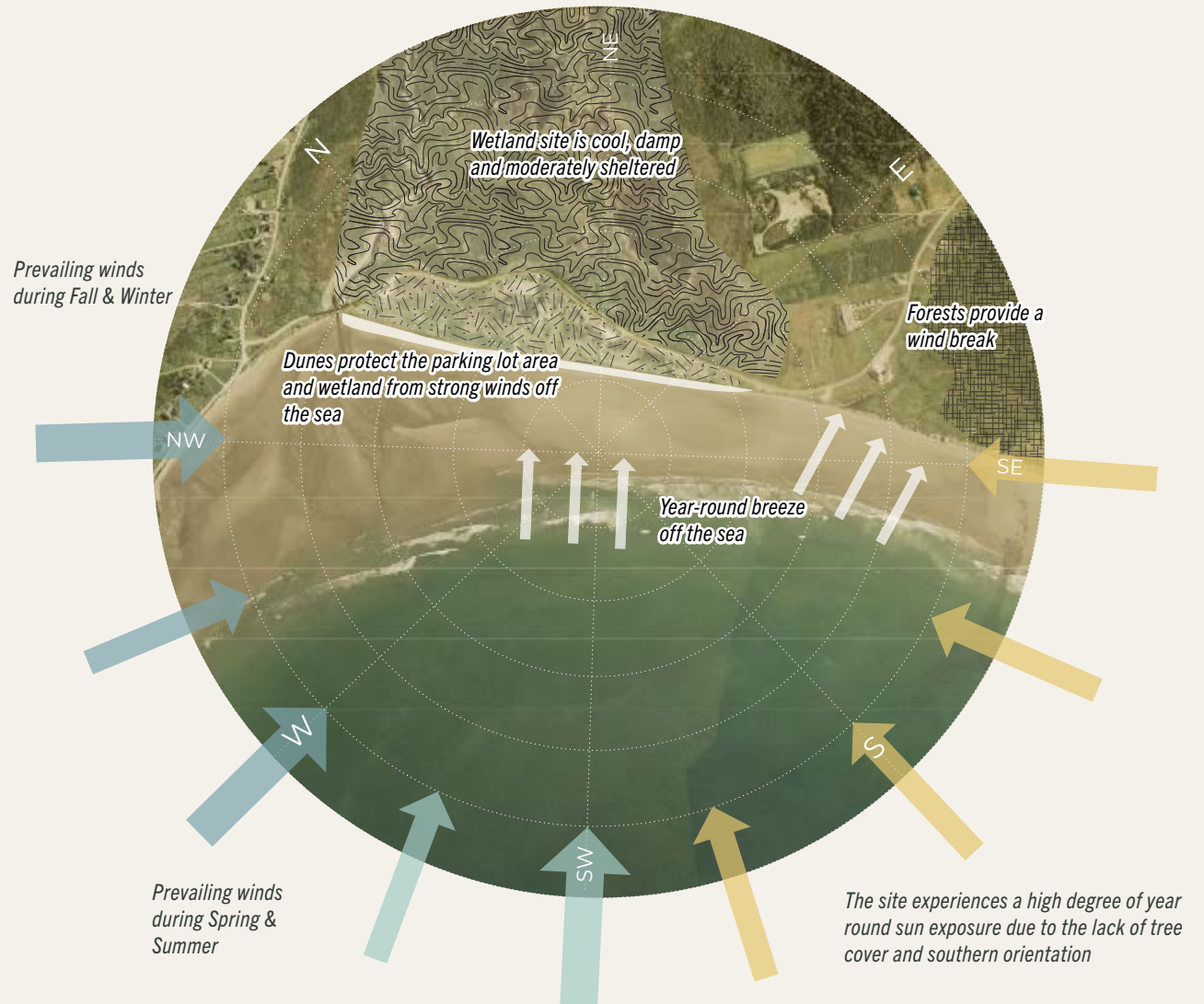
“Wide sweeping beach with views of Cape St. Mary’s Lighthouse.”

“Mavillette Beach is a showstopper. Crest the hill and the beach comes in to view, water sparkling and waves crashing slowly.”

MICROCLIMATE

Mavillette is a highly exposed south-facing coastal area. The coastal landscape experiences strong winds off the ocean and high degrees of sun exposure due to the lack of tree cover on the beach and in the surrounding valley area. The south-facing orientation makes for long summer days and maximizes available sunlight in the winter. Behind the dunes, the wetland area is at a lower elevation and is highly saturated making it cooler, damper and less exposed to wind gusts off the sea.

On top of the ridge, where the bushwalk area is located, there is some scattered tree canopy to protect from wind and sun.



SWOT ANALYSIS

STRENGTHS

- Mavillette Beach is a beautiful sandy beach. The beach facilitates access to the water's edge for water-based activities.
- The site has several parking lots that are located directly beside stairs and boardwalks to access the beach.
- The landscape has diverse topography and terrain, microclimates and wildlife habitats.
- The unique wildlife habitats within the wetlands host countless bird species, attracting visitors for birdwatching.

WEAKNESSES

- The beach area, which the primary attraction at Mavillette Provincial park, is not accessible for users of all abilities.
- Changing shelters and restrooms require improvements.
- Signage clutters the landscape in areas.
- Infrastructure to access the wetland is in poor condition and requires renovation.

OPPORTUNITIES

- Developing a bushwalk trail to the east of the beach could broaden visitor experience, enabling visitors to follow a network of trails from the beach to the upper ridge area.
- Existing concrete pilings in the wetland area could be used to implement a new trail and lookout which would diversify visitor experiences.
- The existing staircase and boardwalk from the parking lot to the beach provide suitable foundation to implement accessibility features whether that be a ramp or a bespoke feature.
- Opportunities to link the attractions at Cap Sainte-Marie with those at Mavillette.

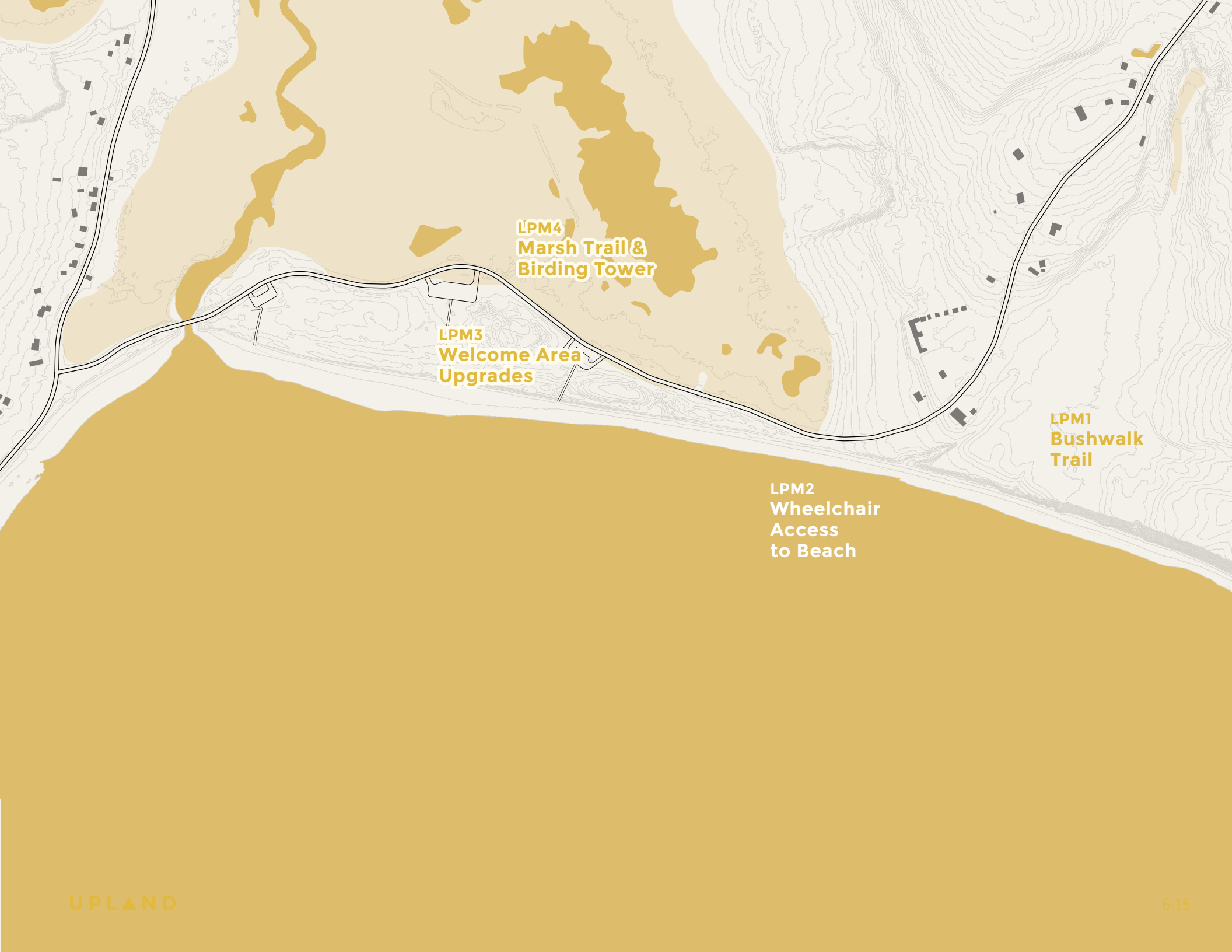
THREATS

- Sensitive dune habitats could restrict development and the implementation of accessibility infrastructure.
- Dune ridges are currently being truncated by wave action, destabilizing the dunes.
- Bushwalk area would require clearing of brush, trees and natural habitat which could threaten wildlife.
- Slopes at the ridgeline are fairly steep, and in order for the trail to expose views to the sea, trails would follow close to the ridge which could be a safety concern to users.
- Proximity to the ocean and low-lying terrain make the entire site vulnerable to sea level rise, storm surge and flooding.
- The parking lot to access the upper bushwalk is currently privately owned.

SITE IMPROVEMENTS

Visitors to La Plage Mavillette are drawn for the pearly-gray sand beaches, water-based recreation, sunsets and stargazing. Key improvements include a boardwalk along the shoulder of John Doucette Road, a proposed wetland trail with a new birding watching tower, and an accessible access ramp that would enable users of all abilities to access the beach. Also, a new trail is proposed in the upland portion of the park to the east of the beach.

- LPM1** **Bushwalk Trail**
- LPM2** **Wheelchair Access to Beach**
- LPM3** **Welcome Area Upgrades**
- LPM4** **Marsh Trail and Birding Tower**



LPM4
Marsh Trail &
Birding Tower

LPM3
Welcome Area
Upgrades

LPM2
Wheelchair
Access
to Beach

LPM1
Bushwalk
Trail

OBJECTIVES



TIMELINE



To broaden site experiences at the beach, an opportunity exists to formalize a trail that travels from John Doucette Road up to a highland area that offers overlooking views of Cape Cove and Cap Sainte-Marie in the background. The out-and-back trail includes a look-off point with seating and interpretive elements. The crusher dirt trail path meanders through inland bush meadows for approximately 500 metres before ascending to a plateau at about 26 metres above sea level. A binocular feature is installed at the lookoff, which would offer close-up views of the surrounding Cape Cove and Cap Sainte-Marie in the foreground. The trail is designed in such a way to allow for continuous panoramic views while maintaining a safe distance from the cliff's edge. The gradual slope and short length of the trail make it a relatively easy excursion for most visitors.

A small parking area along John Doucette Road would help make visitors aware of the trail. The location of the parking lot and trailhead area may require adjustments or land easements with private landowners. The trailhead should include a trailhead sign **1** featuring a map of the trail showing starting and ending points, the distance, level of difficulty and average time to complete.

The new trail could include the following features to improve the overall visitor experience.

2 Bayberry Habitat Interpretation

An interpretive panel at the mid-point on the trail describes the fragrant bayberry bush with its distinctive waxy grey berries. Photographs of the plant in bloom and bearing fruit illustrate the panel. The historical uses of the plant as medicine by the native Mi'kmaq and as a scent for candles by European settlers are described. Bayberry habitats are identified as a winter bird habitat.

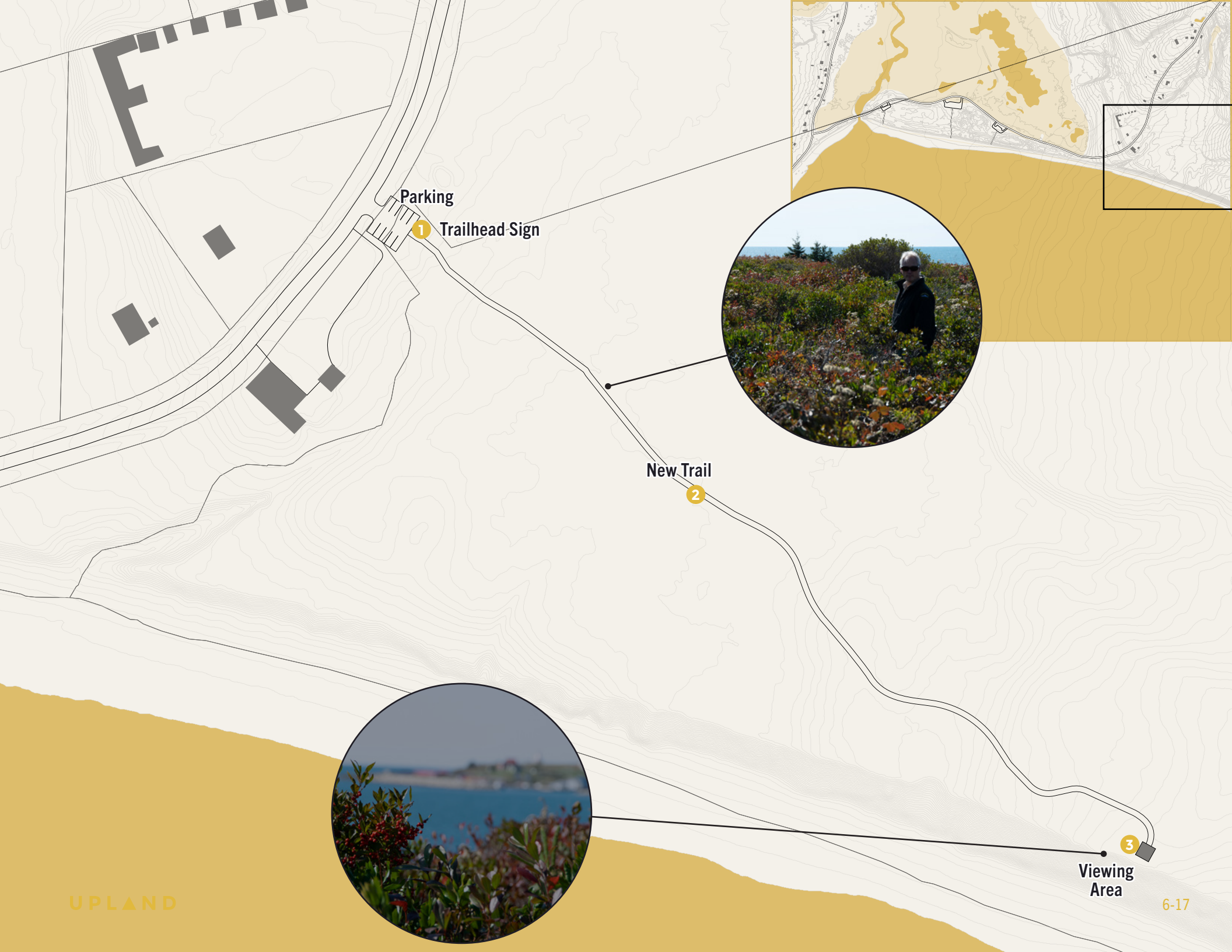
3 Fundy Look-off – Glooscap's Bathtub

This interpretive panel overlooks the meeting point of the Gulf of Maine and the Bay of Fundy, and informs about the natural history of the waters there. A map on the panel identifies the nearest landmass across the Bay and the distances. The tides of Fundy are explained. The panel also bears a chart of the sizes of the whales of Fundy. A sidebar on the panel features the Mi'kmaq legend of the giant Glooscap who angered Whale when he asked Beaver to build a dam across the bay so that he could use the Bay of Fundy as a bathtub.



Birch Bark Illustration

A drawing made by scraping on birch bark, created by Tomah Joseph in 1884, shows the giant Glooscap and the whale.



UPLAND

OBJECTIVES



TIMELINE



One of the key barriers for site users is the lack of accessible infrastructure to the beach for people of all abilities. To achieve equitable access and preserve the integrity of sensitive dune habitats, a small ramp or comparable alternative is recommended. Dunes serve as natural climate change adaptation infrastructure, preventing inner landscapes from sea level rise and storm surge, therefore, their integrity must not be compromised by the proposed infrastructure. Furthermore, extensive ramped boardwalk systems will be vulnerable to damage from storm surge.

Recognizing these challenges, there is an opportunity to create a small parking lot consisting of six accessible parking stalls toward the eastern side of the beach where the road is at its lowest elevation and the dunes are only approximately one metre high. This area provides an opportunity to create a relatively small ramp structure that allows visitors in a wheelchair to roll over the dune and get to the beach. Once on the beach, a beach access mat is provided that will allow wheelchair users to access firmer sand, where they can enjoy the beach.

The ramp structure is only 12 metres long and can be designed with materials such as steel to improve durability and traction. In case of a destructive storm, the small size of the ramp makes repairing or replacing it less costly.

A beach access mat that extends from the ramp will allow wheelchair users to travel down toward the beach. Many companies, such as Mobi-mat® offer products that can be purchased and installed easily. Different mats allow for different arrangements. For example, a heavier mat can be installed and left in place, but requires regular maintenance (sweeping sand off the mat) and occasional reinstallation when sand prevents proper access). Lighter mats can also be purchased that can be rolled out (and back up again) on a daily basis. This can be done manually by two people, or a piece of equipment can be purchased that allows this to be done by one person.

Another opportunity to improve the visitor experience for visitors in a wheelchair is to provide a floating beach wheelchair. These wheelchairs feature rubber pneumatic tires that absorb the shock and discomfort caused by rugged terrain, and it provides easy mobility

through sand and other rough surfaces. The armrests and wheels are comprised of flotation materials that enable balance while bathing in the water. The integrated handles on the armrests provide added stability while enjoying the ride on land or in the water.

The operational responsibilities of these accessibility services can be integrated with the seasonal lifeguard job responsibilities, or alternatively, the Municipality can hire someone.

An accessible washroom facility should also be provided near the parking area.





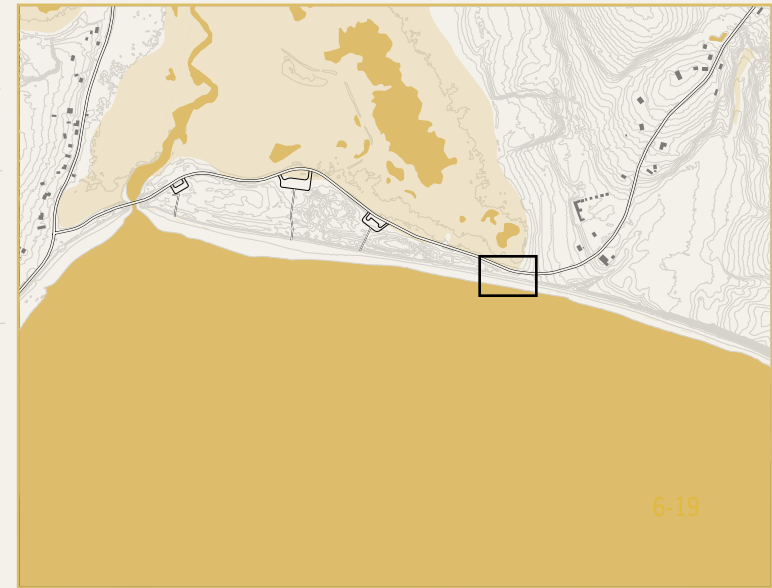
Accessible
Parking

Ramp

Beach
Access
Mat



UPLAND



OBJECTIVES



TIMELINE



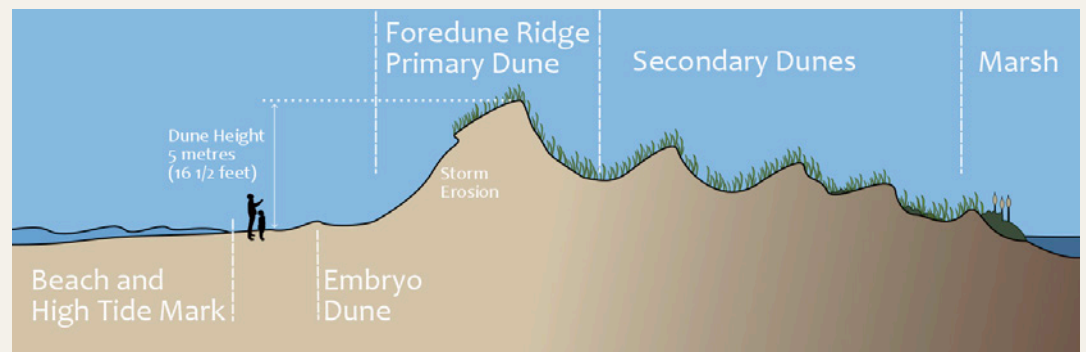
Subtle changes are recommended to the parking areas to improve the visitor experience. First, welcome signs are proposed for each parking lot near the boardwalk entrance. Currently, most parking areas include many separate sign panels scattered throughout the trailhead area. An entrance sign would allow these many sign panels to be consolidated onto one sign, that includes a map and other useful visitor information. Welcome signs should bear strong warnings about keeping off the dunes. The Mavillette dunes are badly used by people who walk through them, crushing the marram grasses, and wearing paths into the sand that break the dune ridges down.

Second, the parking lots are rearranged and delineated with bumpers or staked canvas lines to improve parking capacity and flow.

Finally, a new boardwalk or trail feature is proposed between the central and eastern parking lots to improve connectivity. The boardwalk or trail will run parallel to John Doucette Road, where an extended paved

shoulder will allow on-street parking for an additional 16 cars during busy summer days. If more stalls are needed, this concept can be carried out throughout John Doucette Road on both sides of the street.

Interpretive information about the **Power of a Grain of Sand** can be located on the boardwalk leading to the beach, describing the miraculous dunes, their formation, structure, size and fragility. A cross-section diagram of the Mavillette dunes provides dimensions and a sense of scale for the visitor. Dune ecology texts explain the dune building plants and introduce the birds and animals that live in the dunes. Interpretive panels are integrated into the boardwalk structure. There is the option to repeat this interpretive content on each of the three boardwalks leading to the beach.





Welcome Sign

On-Street Parking

New Boardwalk or Trail

New Boardwalk

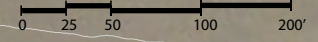
Birding Tower

On-Street Parking

Boardwalk

Welcome Sign

Boardwalk



MARSH BOARDWALK AND BIRDING TOWER

OBJECTIVES



TIMELINE



A marsh boardwalk and birding tower is proposed between the central and eastern parking lots on the inland side of John Doucette Road. These new features will replace a former trail and birding tower that were removed due to rot. The base of the new birding tower will be constructed out of steel to avoid rot in the future. Opportunities exist to implement subtle interpretive interventions along the boardwalk to share the unique wetland functions and explore the diverse flora and fauna that occupy the area:

1 Marsh Ecology

At the edge of the marsh, an interpretive panel teaches about the marsh environment, an extremely productive and very busy habitat for a wide variety of creatures. A cross-section diagram of the marsh explains how salt water and fresh water environments blend in this intertidal zone. The Mavillette marsh's history as an Acadian aboiteau site is told.

2 Bird Detectives (Birding for children)

A set of interpretive panels introduce children to the fun of being a birder, intent on identifying the birds that they see in the landscape.

Children are encouraged to look for clues to a bird's identity based on their relative size, its colouring and markings, and other distinctive elements of its appearance and behaviour. The interpretive panels include a relative size chart, a diagram labelling the parts of a bird, recommendations for birding equipment such as binoculars and a birding journal, and colour photographs of birds typical to the marsh. A sidebar on one panel provides resources for adults available online, accessible with cellular phones, including a link to the ebird.org site, bird song resources, and links to two free apps that can support their child's birding activities.

