

## **Executive Summary**

The Lake Huron Centre for Coastal Conservation (herein referred to as the “Coastal Centre”) was retained by the Bluewater Beach Committee (herein referred to as the “Committee”) to assist in preparing a Beach Management Plan for Bayfield’s Pier Beach (also called Bayfield Main Pier Beach). In recent years, the beach has been referred to as the Main Beach. Historically however, it has been the known as the Pier Beach. The Committee, which consists of representatives from the Pioneer Park Association, the Municipality of Bluewater, the Huron County Health Unit and the Ausable Bayfield Conservation Authority (ABCA), has decided to use the historical name for the purpose of this report.

Pier Beach is an important reach or section of the Lake Huron shoreline due to the ease of public access, which attracts many visitors. Local residents have always recognized its significance and in 1945, Lucy Woods Diehl, a life-long resident of Bayfield, enlisted the aid of several friends in the community to purchase and preserve the last piece of undeveloped lakefront property on the bluff overlooking the Bayfield River and Lake Huron. This property named Pioneer Park contains a portion of the 140-metre length of Pier Beach. Three entities own (and actively manage) the beach: the Pioneer Park Association, the Municipality of Bluewater, and the Crown.

Considering the dynamic nature of the shoreline, the many potential users, and the multiple owners of the Pier Beach, it is important that this area be co-managed with an acknowledgment of the sensitivity of this limited resource. Beach users grow accustomed to the presence of certain amenities, and in keeping with the limitations of this area, may have to forego some user wants to continue to benefit from the health and enjoyment that this beach currently offers the residents of Bayfield and beyond.

The goal of this report to provide recommendations for the on-going management of this important Lake Huron beach. The report provides an explanation of Bayfield’s coastal setting and the coastal processes that formed the beach and continues to shape its future. From this background information, key recommendations are provided that have been vetted by the community and are intended to guide future management decisions. Further information regarding these recommendations can be found in Section D (p. 21) and E (p. 32).

### ***i) Public Input and Engagement***

The Bayfield Pier Beach is a prime location serving both local residents and tourists alike. The ultimate management of this site should be made with consideration of both the needs of Pioneer Park Association and the Municipality of Bluewater, as well as the residents of Jowett Lane. It is recommended that the plan be re-visited after five years.

### ***ii) Beach Sand Management***

The municipality in conjunction with Pioneer Park Association may wish to consider a pilot project using sand fencing to capture blowing sand. Erecting two parallel rows of sand fencing along the beach in the offseason (*i.e.*, November to March) parallel to the shoreline, could add to the reservoir of sand on the beach. This project would only be suitable if the lake water levels were at average or low levels.

Use of harbour dredging and sand disposal from the Bayfield River is a practice of beach nourishment commonly found along American ocean and Great Lake coastlines which supplies new sand from offsite

to augment the beach sand resources. Due to potential contamination issues related to dredged material, this approach is not recommended for the Pier Beach. Furthermore, sand nourishment from other outside sources is also not recommended.

### **iii) Beach Grooming**

Mechanical beach grooming on Bayfield's Pier Beach is not recommended, and if required, used sparingly and only when specific thresholds are exceeded (e.g., algae is covering the first three metres of shore, a die off of fish or shore birds has occurred).

### **iv) Invasive Plant Management**

Beach zones and riparian corridors need to be protected from the expansion of *Phragmites australis*. Contaminated equipment will make this plant much more mobile and more of a threat to the Bayfield River, Bayfield beaches and natural areas. If mechanical equipment needs to cross the beach area to access the lakeshore for maintenance purposes, the equipment should be pre-cleaned to safeguard against cross-contamination from other impacted sites.

### **v) Beach Entrance/Gateway**

Due to the potential obstruction of views, fluctuating water levels, and on-going maintenance issues, it is recommended that the entrance to the beach, and the beach itself, be left in its current state with no plantings (e.g., trees or dune grass) of any type.

Newly placed armour stone around the parking area will act as a physical barrier to prevent vehicles from entering the beach while also providing maintenance-free seating areas for visitors.

### **vi) Lighting**

Pioneer Park Association, the Municipality of Bluewater and the community have indicated a clear commitment to protecting the natural environment. To date, there is not a clear need for lighting at the beach.

### **vii) Signage**

Signage should be consolidated as much as possible into one attractive structure. A double or triple in-line sign system to incorporate 4 to 6 panels for mounting is recommended (see examples below). Signage should include an acknowledgement of partial ownership by the Pioneer Park Association. Pioneer Park and the Municipality of Bluewater will provide input into wording and placement of signage.

### **viii) Accessibility**

There are many options for what would make the beach more accessible (*e.g.*, boardwalk, benches, picnic tables), however, given the limited size of the beach and the maintenance required for such items, no structures are recommended to be placed on the beach, even if they are designed to be mobile.

In order to make the pier area more accessible, it is recommended that there be an accessible parking space as close to the entranceway as possible. A summer maintenance program for the hard-surfaced area would help to reduce sand accumulation.

Size and font of letters on non-glare signage and high-colour contrast between the sign and the letters are important considerations.

### **ix) Waste Management**

A regularly scheduled 'shoreline cleanup' should be continued, or if not already an annual event, arranged to assist in waste management. In addition, careful attention not to disturb the 'strand line' should be part of the education and awareness program prior to instructing volunteers to perform the cleanup. Strand lines provide important nutrients to a sterile environment.

All waste receptacles should be accessible and the Butt-Free beach program should continue to provide education regarding proper disposal of cigarette butts.

### **x) Water Quality**

Recommendations for water quality issues are separated into actions and monitoring components.

#### *Actions*

- a. All pet waste needs to be picked up and properly disposed in appropriate receptacles.
- b. Investigate the need for public education on the importance of pet waste pick up and disposal, and whether sufficient disposal receptacles exist within the Village of Bayfield including the harbor.
- c. Ensure there are no cross connections or leaks between sanitary sewers or old septic systems and stormwater drainage facilities.
- d. As part of the stormwater master plan for the village of Bayfield, gain a better understanding of the watershed drained by 1) the Tuyll outfall, and 2) the ephemeral channel that emerges on the bank near Colina Street.
- e. Continue to engage the local community with information about stormwater management and low impact development technologies (*e.g.*, rain barrels, rain gardens, permeable pavement) through outreach activities of the Main Bayfield Watershed Plan.
- f. Continue to support community actions such as demonstration rain gardens.
- g. Assist the Municipality of Bluewater in implementing low impact development technologies (*e.g.*, permeable pavement, grass swales, rain gardens) for existing infrastructure and proposed developments.

#### *Monitoring*

- h. Continue to monitor water quality, specifically *Escherichia coli* (*E.coli*) at the public beach with the assistance of the Huron County Health Unit.

- i. Continue to monitor water quality (*E.coli*, total phosphorus and soluble reactive phosphorus) at the Colina, Tuyll and Delevan stormwater outfall sites.

***xii) Surface Water Drainage and Bluff Vegetation***

Surface water drainage and bluff vegetation are two important factors that are often overlooked when considering beach management. New drainage channels should not be created when existing drainage outlets exist nearby (*e.g.*, Bayfield River). This is especially true for inland bluff areas where flowing water can exacerbate erosion challenges that already exist (*i.e.*, in bluff areas, inland from the crest of bluffs). Surface water should be managed as close to the source as possible. Natural areas and rain gardens help to capture water, slow it down and prevent erosion, while also filtering out pollution. Bluff vegetation is important in providing slope stability as a result of extensive root systems, and should not be removed. Trees, shrubs and plants also help to filter out pollutants before they reach the lake.

***xiii) Beach Safety***

Signage regarding wave refraction and reflection off the steel sheet pile lining the jetty and rip currents offshore require adequate warning signs for beach users and swimmers. The Lifesaving Society recommends that ‘No Swimming’ signage be installed on the pier and on the beach to the south of the pier (at least 50 metres south of the pier). Wording on these signs should include reference to no swimming, deep water, currents pose a high risk of drowning, and conditions may change (Lifesaving Society, 2018). These are the recommendations from the Lifesaving Society, however, any such ‘no swimming’ signage will not be adopted without some interpretation.

In order to keep swimmers separated from watercraft operators, the swimming area should be clearly marked as per the recommendations in the aquatic safety audit (Lifesaving Society, 2018). Depth of the swimming buoys should reflect current best practice.

***xiii) Beach Management Programs and Options (including Pier Beach)***

In order to benefit the health and safety of the Bayfield Pier Beach, the promotion of these programs should be continued.

<b>Program Name</b>	<b>Delivery Agency</b>
Butt-Free Beach	Lake Huron Coastal Centre
Beach Clean-Ups	Blue Bayfield, Lake Huron Coastal Centre, Pioneer Park Association
Blue Flag Beach	Environmental Defence
Coast Watchers	Lake Huron Coastal Centre
Living Beaches	Lake Huron Coastal Centre
Main Bayfield Watershed Plan	Ausable Bayfield Conservation Authority
Rip Current Awareness	Royal Canadian Lifesaving Society in conjunction with Lake Huron Coastal Centre
Watershed Report Card	Ausable Bayfield Conservation Authority
Water Quality Monitoring	Ausable Bayfield Conservation Authority, Huron County Health Unit