Seagull Beach Maintenance Plan –

Updated 2023

Town of Yarmouth

Purpose

The purpose of this plan is to define how the Town of Yarmouth will manage Seagull Beach so that it may protect and maximize its resource area values while providing adequate public access and preserving its recreational value.

Background

Seagull Beach is a valuable coastal resiliency, wildlife habitat, recreational, and tourism resource for the Town of Yarmouth and its residents. Coastal barrier beaches and dunes are significant to wildlife, wildlife habitat, storm damage prevention, flood control, and recreation. Coastal beaches dissipate wave energy by their gentle slope, their permeability, and their granular nature, which in turn, permit changes in beach form in response to changes in wave condition. Coastal Dunes are important because they protect landward properties from storm damage and flooding by dissipating wave energy and/or blocking storm elevated sea levels and storm waves. Seagull Beach is mapped as Priority Habitat of Rare Species as classified by the Natural Heritage and Endangered Species Program of the Massachusetts Division of Fisheries and Wildlife. Seagull Beach is an important nesting location for both Piping Plovers and Least Terns, both of which are protected by state and federal regulations.

Seagull Beach is also an important recreational and tourism resource offering almost half a mile of public beach and quality amenities for residents and tourists alike. To maintain the quality of the beach resource for recreational purposes while protecting the value of the coastal resource, a balanced approached to beach maintenance activities must be achieved. This balance can be achieved using best management practices for beach and dune management.

Dune Management

Primary dunes are the first line of defense against coastal storm flooding and provide sand to adjacent beaches. Beach grasses, wrack, and other vegetation on the dunes trap sand and store it as a future sediment supply for the beaches. To protect public and private property, the primary dune should provide as continuous and as unbroken a barrier for the entire length of the beach as possible. It is also important to provide controlled and managed access points for recreational users of the beach. The beach provides recreational benefits to all and as such the Town has a vital interest in the continued protection of the beach and dune area. The Town may perform annual routine maintenance to achieve this.

The dunes at Seagull Beach have experienced significant growth over the past 20 years creating a healthy and important coastal resource. Dune growth, along with the seasonally set-aside areas for nesting habitat, has reduced the available access paths and recreation area of the beach for tourists and residents.

Figure 1. Change in Seagull Beach Dunes over the past 18 years

In the past, the Town has carried out small scale dune maintenance to limit further dune expansion. This included the excavation of the un-vegetated toe of the dune and redistribution of the sand onto the main beach area, and the clearing of windblown sand within the access paths to the beach. This activity can have a destabilizing effect on the dune and negatively impact habitat for nesting shore birds. Therefore, this practice is **no longer allowed** under this maintenance plan and the dune system shall be allowed to **migrate naturally**. The exception to this is the allowance for the clearing of windblown sand build up along the designated access pathways A through E as shown on Figure 2. The access paths shall be maintained to their previous width as delineated by the sand fencing in place. Sand will be removed using a front-end loader or skid steer and all care will be taken to minimize impact to dune stability and vegetation. No heavy equipment is allowed on the toe of the dune outside these access pathways, and no heavy equipment is permitted below the Mean High Water (MHW) line.

Figure 2. Extent of dune maintenance activities

<u>Beach Maintenance</u>

Beach maintenance includes both proactive and reactive measures that occur throughout the year. All maintenance activities should be carried out to avoid negative effects to the beach and dune resource areas. Proactive maintenance includes oversight and care of man-made structures such as access points and fencing, and beach grass planting. All proactive maintenance shall occur before April 1st to avoid negative impacts to nesting plover and tern populations in compliance with the Massachusetts Endangered Species Act (MESA) regulations.

Seaweed provides important habitat and a critical source of food for marine animals. Plant debris deposited on the shoreline also provides important nutrients and organic matter for the ecosystem. Organic matter in the wrack line (the area where items from the sea are deposited on the shore between high and low tides) provides food and habitat for small crustaceans and a number of other species, which then provide food for fish, crabs, and nesting and migrating birds. The wrack line also catches sand that helps build up beaches and dunes, important for storm damage protection and flood control. Accumulations of seaweed on beaches, however, can cause management challenges, particularly in warmer weather when the material decays and causes odor and fly problems.

Reactive beach maintenance includes removal of marine debris (defined as any persistent solid material that is manufactured or processed and directly or indirectly, intentionally or unintentionally, disposed of or abandoned into the marine environment) in order to provide the public with a litter free beach, removal of excessive amounts of fly infested seaweed that's has been declared a health hazard by the Health Department, and emergency measures in the wake of severe weather events. Beach cleaning is carried out seasonally from mid-March using a tractor with a towable beach rake to remove debris. Removal activities should be conducted on an 'as needed' basis but generally **not more than once a week** and every effort should be made to remove as little sediment from the beach as possible. The following best practices for beach cleaning shall be followed:

1. All machinery used on the beach shall remain at least **10 feet** seaward of the dune toe to protect the stability and ecology of the dune area. The toe of the dune is the location of a visible break in slope, and is not necessarily occupied by dune vegetation. If it is discovered that the 10-foot buffer to the dune toe has been breached, the Commission will issue an Enforcement Order, and beach cleaning will become prohibited;
2. Removal shall be focused on the areas of trash and nuisance seaweed on the open beach area. No raking shall occur below the daily high tide line (within the intertidal zone), leaving the wrack line to provide a seed source, nutrient source, and foraging habitat for shorebirds and to help build the beach and dunes;
3. The mechanical rake shall be set to only skim the surface to avoid scraping or moving beach sediments;
4. Under 'normal' conditions, bucket loaders shall not be used to collect seaweed but can be used to transport seaweed collected by the mechanical rake;
5. All beach cleaning activities shall be carried out in accordance with the MESA regulations in conjunction with Mass Audubon during the nesting bird season, between April 1st and August 31st.
6. Material removed from the beach shall be deposited **offsite,** since trash and non-organic material is always present.

<u>Seaweed management</u>

Under normal conditions (non-emergency conditions), seaweed removal from the beach shall be limited to the area between ten feet seaward of the base of the primary dune and mean high water and should comply with the above best practices. Excess accumulations of seaweed on Seagull Beach can cause aesthetic and/or public health concerns particularly during warmer weather when the material decays

and causes odor problems. Monitoring of seaweed build-up and removal of a portion of the fresh seaweed material by hand on a regular basis during periods of high accumulation may help to control the amount of seaweed that accumulates over time.

Emergency Procedure for Seaweed Management

In the event of extreme volumes of seaweed accumulation, that is deemed to create a public health or safety concern, the following procedures are set forth.

In accordance with the Town of Yarmouth Wetland Bylaws, a written or oral request shall be made to the Conservation Commission, and if oral, must be confirmed in writing within 24 hours of work commencing. The Town of Yarmouth Conservation Commission will consider approving seaweed removal from areas seaward of the daily high tide line only if the presence of the seaweed is persistent and deemed a public health or safety issue that has been identified as such by the appropriate town official (either the Director of the Board of Health or Chief of Police). The official must provide, in writing, a declaration that states the conditions at the beach constitute an official public health or public safety emergency and must state the reason(s) why the project is necessary for the protection of public health or safety. A simple majority of the Commission is required to certify the work as an emergency project to be performed only for the time and place certified by the Commission for the limited purpose of abating the emergency. A front-end loader may be permitted to carry out emergency cleanup of seaweed between a point immediately below the berm crest and the Mean Low Water Mark (MLW). Individuals carrying out emergency cleanup shall make all reasonable efforts to remove as little sand as possible from the beach. At no time shall front-end loaders or other mechanical devices used in the emergency cleanup, ever operate below MLW.

Although seaweed is a natural material, once it is removed from a beach, disposal can pose some challenges. A disposal strategy shall be developed by Town staff responsible for the management of the property and agreed by the Conservation Commission, prior to the summer season. Disposal strategies will vary depending on space available for storage and drying of seaweed, the amount of material to be disposed of, the resources available for disposal, and ecological impacts.

Nesting Habitat

Seagull Beach is an important nesting location for both Plovers and Terns, both of which are protected by state and federal regulations. The Town of Yarmouth participates in Mass Audubon's Coastal Waterbird Program to monitor, manage, and protect Piping Plover, Least Tern and Common Tern nesting populations on Yarmouth's public beaches. The following best practices have been successfully adopted for Seagull Beach:

1. All areas of suitable piping plover nesting habitat should be identified and delineated with posts and warning signs or symbolic fencing on or before April 1st. Suitable nesting habitat for all species of terns should be identified and delineated on or before May 15.
2. All beach maintenance (lifeguard chairs, boardwalk maintenance) should be done before April 1st.
3. Endangered species monitoring begins when the presence of listed species is found and continues until the last chick has fledged.

4. Installation of permanent and/or temporary symbolic fencing and signage are installed for the creation of refuge areas to protect incubating Piping Plovers (*Charadrius melodus*) or Least Terns (*Sterna antillarum)* and their eggs. The fencing is maintained as long as the eggs are viable. Once hatching begins, the symbolic fencing is modified to allow free movement of the chicks. If unfledged chicks move outside the delineated symbolic fencing, then the boundaries of the protected area can be adjusted.
5. Daily discussions will be with a qualified shorebird monitor and before any work activity occurs on the Seagull beach. The operator of any machinery shall meet the qualified shorebird monitor(s) onsite and discuss the current location of plover adults and chicks and provide any update information as needed to properly and safely perform beach raking activities. No raking and sea weed removal shall occur unless a qualified shorebird monitor has located plovers and determined that the work can begin.
6. No raking shall occur within 100 yards of any unfledged piping plover or tern chicks. No raking shall occur between 100 and 200 yards of any unfledged piping plover chicks unless a monitor is present to determine the location of the chicks and to ensure that the raking equipment remains at 100 yards away from it.
7. The use of fireworks is prohibited on Seagull Beach.
8. Dogs are not allowed on Seagull Beach from April 1st through to Labor Day.
9. There shall be no vehicular access into or through delineated nesting habitat.
10. Kite flying is prohibited on Sea Gull Beach between April 1st and August 31st each year.

Review

Before the summer season, beach management staff and the Conservation Commission shall review all maintenance procedures and recommend any modifications for the following year.