

2012OCT12

Kenneth M. Jones



Date: October 5, 2012

To: Martha's Vineyard Commission
PO Box 1447
Oak Bluffs, MA 02557

West Tisbury Board of Selectmen
PO Box 278
West Tisbury, MA 02575

✓ Chilmark Board of Selectman
PO Box 119
Chilmark, MA 02535

Edgartown Board of Selectmen
PO Box 5158
Edgartown, MA 02539

Re: Coastal Dune Restoration on Tisbury Great Pond

Dear Commissioners and Selectmen,

The Riparian Owners of Tisbury Great Pond cut through the barrier beach of Tisbury Great Pond three or four times every year. These man-made openings have compromised approximately 40% of the mature coastal dune on this 5,000 foot stretch of barrier beach, creating an unnatural habitat and altering the life of both the beach and the pond. Although the pond is located in West Tisbury and Chilmark, this practice affects Edgartown as well, due to the diminished supply of sand flowing eastward to Katama and Wasque.

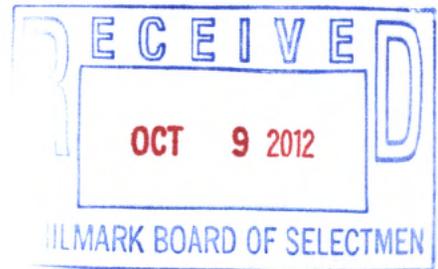
Whereas the process of cutting through the barrier beach has not included any corresponding action to care for the coastal dune, I presented the attached proposal to the Riparian Owners at their annual meeting on July 14, 2012. This proposal was well-received, and the sense of the meeting was that more information and input was required before acting.

I request that you please review the attached proposal and let me know if you would be willing to support this project in principle. I would also be glad to receive any suggestions you have for useful next steps.

Thank you for your consideration.

Sincerely,

Kenneth M. Jones



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**Proposal to
Care for Coastal Dunes
Affected by Opening of the Barrier Beach
On Tisbury Great Pond**

Updated July 4, 2012

Kenneth M. Jones

[REDACTED] West Tisbury, MA 02575
[REDACTED]

<https://sites.google.com/site/maljonesvineyard/>

(See Photos on Website)

Overview

The Riparian Owners of Tisbury Great Pond cut through the barrier beach three or four times every year. These man-made openings have compromised approximately 40% of the mature coastal dune on this 5,000 foot stretch of barrier beach, creating an unnatural habitat and altering the life of both the beach and the pond.

Thus far, the process of cutting through the barrier beach has not included any corresponding action to care for the coastal dune. This proposal suggests that the process of opening the pond include a component of dune restoration.

Background

The practice of opening the pond has been going on for over 200 years. In the past, farming and shellfishing interests primarily motivated the pond opening. More recently, as development has increased around the edge of the pond, riparian owners have also been concerned with protecting the water quality of the pond, shore erosion, and preventing flooded basements.

Barrier beaches and coastal dunes are strictly protected in Massachusetts. One exception is a piece of special legislation approved by the State Legislature on April 2, 1904 entitled "An Act to Provide for the Drainage of the Low Lands and Meadows Around Certain Great Ponds in the County of Dukes County" (St. 1904, c.203). This is the law that permits the regular opening of Tisbury Great Pond. The Act enables the riparian owners to organize and do "whatever may be necessary to properly drain the low lands and meadows around such great pond."

Typically, a cut is made at a location where deep water exists on the pond side of the barrier beach. This is done so that the pond can easily empty into the ocean and so that tidal exchange occurs efficiently. However, deep water exists only where the pond is protected by a mature dune. Consequently, when a cut is made, part of a mature dune is washed away into the opening.

After the pond is opened, sand typically accumulates to the west of the cut. Several months later, the next cut is naturally located a little further eastward in order to avoid the accumulated sand and to take advantage of the next area of deep water. According to old-timers and historical photographs, it takes about 90 years for the opening to move from the west side of the pond to the east. (See beach history photos beginning with the 1938 opening at the west end of the pond.) At the same time as the opening moves eastward, the shoreline naturally moves northward (inland) at the rate of about 5' per year. This means that new areas of deep water appear again to the west.

Current Conditions

Three current conditions deserve attention. First, cuts are now being made near the eastern end of the pond. We cannot continue in this direction for much longer. Before too long, we will need to begin the cycle by returning the cut to the western end of the pond.

Second, the coastal dune protecting the pond is severely compromised. The cut itself, the machine activity necessary to create the cut, the significant volume of water that flows through the cut, and the wind and storm impact on the area surrounding the cut all work to prevent the existing vegetated dune from running the full length of the barrier beach. Natural restoration of the dune has not happened fast enough to keep up with the periodic cuts in the beach.

Third, because 40% (approximately 2,000') of the coastal dune is compromised, a significant amount of sand has washed over into the pond during major storms. This large influx of sand makes the pond smaller and shallower, causes problems with navigation, and diminishes the supply of sand to points east (Edgartown and Wasque).

Proposal

It is proposed that the Riparian Owners of Tisbury Great Pond, acting under the authority granted to them in their enabling legislation to do "whatever may be necessary to properly drain the low lands and meadows around such great pond," take the following actions.

- (1) Ensure that the practice of opening of the barrier beach on Tisbury Great Pond includes a substantive component of dune restoration.
- (2) Conduct the initial dune restoration process as follows. Before an opening is made, and at a time appropriate for habitat concerns (late winter or early spring), create a foundation for a new dune that mimics that characteristics of the existing one. At a high a point on the beach, at least 500' away from any planned opening, and about 20' north of the existing mature dune line, use a front end loader to push up approximately 1,000 cubic yards of sand. The sand would be shaped into a small dune approximately 100' long and 8' high. Then transplant existing dune grass to the top of the new dune, to create a 5' x 100' vegetated area. The dune grass would be relocated from the area that will be washed away during the next opening. Dale McClure, contractor for the openings, estimates that the above work could be accomplished in less than two days for approximately \$2,500.
- (3) Refine the above process as necessary, aiming to balance protection of the pond with protection of habitats (including those habitats that unnaturally resulted due to repeated opening of the pond).
- (4) Interpret the above actions as essential to "whatever may be necessary to properly drain the low lands and meadows around such great pond." Whereas the current work to open the beach is performed without filing applications or engineered plans, and whereas dune restoration is as an essential aspect to properly opening the beach, this work would simply be incorporated into the larger project without additional paperwork.



Documents Available to View or Download (Click Here)

- Beach Photos A-B-C (Collection of historical photos of barrier beach, in 3 parts)
- Massachusetts Acts of 1904, Chapter 203
- Coastal Dune Proposal to West Tisbury Conservation Commission (April 9, 2012)
- Letter to Riparian Owners of Tisbury Great Pond (June 8, 2012)