



# Friends of Ellisville Marsh

Special Report

## Friends Launch Living Shoreline Investigation

A highlight of last month's Annual Meeting was a presentation by the Friends' scientific advisor, Dr. Ellen Russell, on Living Shoreline techniques and how these nature-based approaches might be applied to revitalize Ellisville Marsh.

If you weren't able to attend, here it is in a nutshell.

### What is Meant by "Living Shoreline?"

A type of "soft armoring" aimed at stabilizing shorelines and controlling erosion and flooding, *Living Shoreline* techniques use vegetation and other natural or organic materials to protect, enhance, or recreate coastal features (Source: [Massachusetts Wildlife Climate Action Tool](#)).

In her initial exploration of how these techniques might work for Ellisville Marsh, Ellen has been contacting experts in the field, attending conferences, and researching current Living Shoreline applications in New England, as well as consulting with representatives of the Town of Plymouth to explore interest.

### Living Shoreline, a Nature-based Approach

*To be alive "something must grow and develop, use energy, be made of cells and reproduce cells, respond to its environment, and adapt" ...*

A shoreline, whether designed by nature or man, can meet this definition. Ellisville Harbor's ecosystem has natural adaptive factors that allow it to expand towards the ocean, counteracting and responding to the ever-present sea level rise. These include the shifting barrier spit formation that protects the system from wave energy and subsequent erosion; the accumulation of sand deposits (both wind and water borne) and storm provided wrack (stinky rotting plant and algal debris) that build elevation; and the colonization (growth and development) of marsh plants in new areas. These plants act as sponges absorbing water as their root and leaf structures stabilize dune and marsh by intertwining and trapping sand and sediment particles.

Methods used to enhance these natural means of protection have earned the term “Living Shoreline” approaches. They include everything from plantings expanding or creating dune/marsh to more energy-intensive spreading, distribution, and draining of marsh sediments. We now have the term “thin-layer deposition” meaning spreading of thin layers of compatible soil on top of portions of sunken marsh or mudflat to keep that particular area just above sea level. Another tool called “runneling” involves excavating small channels from areas of waterlogged marsh so that they drain and keep their heads above water

The Friends of Ellisville Marsh hopes keep the ocean at “bay” by enhancing what nature has provided in conjunction with keeping the marsh’s inlet channel open when necessary to allow it to continue its function as an “alive” estuary. The pictures below are provided from ongoing Living Shoreline projects.



### **Runneling**

Photo Credit: Wenley Ferguson,  
Save the Bay, USFWS Webinar,  
August 20, 2020



### **Breaking Wave Energy**

Photo Credit: Partnership for the  
Delaware Estuary



### **Marsh Planting**



To access the slideshow, use the link shown under “For More Information.”

**For More Information:**

- "What are Living Shorelines" stacker -- <https://www.northeastoceancoun...>
- "Living Shorelines in New England: State of the Practice" -- <https://www.northeastoceancoun...>



## **Dead Tree? Leave It Be.**

During Ellen's presentation at the Friends' annual meeting, newly elected director Linda Frascarella asked whether the dead cedar tree that washed up on the beach at Shifting Lots Preserve several years ago should be removed. The answer is no. Natural debris like this captures seaweed and other material and helps windblown and tide-washed sand pile up. Sand held in place by the tree can better support vegetation. Much of the area within the shorebird nesting area seen behind the tree is in fact newly vegetated, enhancing the nesting habitat. Both of this summer's successful Piping Plover nests and most of the dozen or so Least Tern nests were in this area. This is natural shoreline protection at work.

**Our membership year began July 1st. Click here to renew your membership!**

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### **Friends of Ellisville Marsh, Inc.**

PO Box 1728, Sagamore Beach  
MA 02562 United States

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