



Friends of Ellisville Marsh Newsletter

Fall 2019

This newsletter is produced on a periodic basis to keep members of the Friends of Ellisville Marsh, Inc., apprised of developments and opportunities to become involved.

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RENEW YOUR MEMBERSHIP NOW

(if you haven't already)

We anticipate the need to perform maintenance on the Ellisville Inlet again this winter. Each event costs us thousands of dollars. We need your help!

Renew now at:

<https://tinyurl.com/EllisvilleMarsh>
[Donate](#)

www.EllisvilleMarsh.org

What Sea Level Rise Means for Ellisville Marsh

We are all Greta Thunberg! One had to admire the courage of the Swedish sixteen-year-old, standing in front of world leaders at the UN demanding action on global warming, the main consequences of which are (now undeniably) climate change and sea level rise. For more than a dozen years, all of us who make up the Friends of Ellisville Marsh have taken our own stand, fighting for the right to restore tidal flows to a threatened salt marsh and in doing so, maintaining the finely balanced marsh ecosystem to support native vegetation, fisheries, and wildlife of all kinds. We are already witnessing the effects of global warming—more powerful storms, coastal erosion, altered migrations of shorebirds, loss of habitat and critical food supplies for both shore and marine species, and declining water quality. According to Dr. Anne Giblin, senior scientist at the Marine Biological Laboratory at Woods Hole, “Historic data would suggest that marshes can’t withstand a sea-level rise rate of more than about a centimeter a year.” She adds, “There’s a real concern that climate change is going to cause us to lose our marshes just at a period of time when there’s increased emphasis on their role for storm protection.”

Dr. Ellen Russell, Friends director and scientific advisor, describes some of the likely impacts locally:

- Increased erosion of marsh, harbor channel edges and creek banks due to increased sea level and higher associated tides.
- Increased inundation periods will cause plant root rot and loss of marsh grasses.
- Increased inundation will keep methane gas (CH₄) emissions more “contained” as long as salinities remain >18 parts per thousand. Methane is a powerful greenhouse gas.
- Increased frequency and intensity of storms are likely to result in increased frequency of inlet opening. (continued onto page 2)



Where the water will be. Impact of a hypothetical, three-foot sea level rise on Ellisville Marsh in the future. Created using NOAA’s sea-level rise viewing tool. Courtesy of Ellen Russell.

Impacts of Sea Level Rise (continued from page 1):

- Increased erosion of beach front and coastal bank/cliff.
- Intrusion of salt water beneath the shallow fresh water aquifer that may affect drinking water quality for those on private wells.
- Undermining of culvert systems beneath Ellisville Road and Salt Marsh Lane during longer periods of tidal flooding.
- Warming of Cape Cod Bay temperatures, attracting new and different marine species to visit or stay. Losses of species that can't tolerate warmer temperatures.
- Increasing ocean acidification to the point where marine mollusks and crustaceans have difficulty forming calcium carbonate shell.

What to do to proactively meet the dual challenges of climate change and sea level rise? Stay tuned. We will be exploring a variety of potential coastal solutions.

Did you see the [Boston Globe](#) series “Everything is changing’: Climate change on Cape Cod?” Friends director Brad Winn is a featured source. Here’s a short video: <https://tinyurl.com/CapeClimateChange>



‘Swat Team’ of volunteers from the Friends, Wildlands Trust and Mass Audubon rallies on July 19th to erect emergency fencing around the Least Tern colony at Shifting Lots. Photo by Eric Cody.



A Least Tern chick prances in the rocks at Shifting Lots Preserve. August 2019. Photo by Diane Jordan.

2019 Intern Chris Foley Reflects on His Summer Experience

We asked our 2019 environmental intern, Chris Foley, to tell us what he learned this summer. This is what he said. “I will be honest, I did not know too much about what I was getting myself into when I accepted the offer. However, once getting out on the marsh I really started to enjoy the things I was exposed to. I learned so much I never would have without the experience.

(continued onto next page)

Banner Season for Threatened Shorebirds

Once again, we had a successful nesting season for a lone pair of threatened-species-listed Piping Plovers. Coastal erosion has whittled down the areas of Ellisville beaches considered suitable (by the birds) for nesting, but our pair laid four eggs within the area we had protected with fencing and dutifully incubated for nearly a month. Three of the eggs hatched and we had chicks running around the beach for another 26 days. We watched as all three fledged—a great result! We thought we were done for the season.

Not so fast though. The word must have gotten out that Ellisville Beach was a good nesting spot as dozens of also-threatened Least Terns began to show up. For the first time in many years, we had a Least Tern colony! Then it doubled in size, expanding to a new area on the outer barrier spit. As many as thirty birds took up residence, creating 10–15 nests. Both threatened species appear to like the camouflage offered by the cobble near the inlet and predators don’t frequent this area as much. While it is difficult to get an accurate count of Least Tern chicks because the adult birds fiercely protect to colony, this made for a highly successful season! (*Canary in the coal mine*—bird populations are in decline—see <https://www.audubon.org/climate/survivalbydegrees>)



2019 summer intern Chris Foley measures salinity using a refractometer at one of five marsh locations. Photo by Ellen Russell.

(Summer Intern's Reflections –continued from page 2)

The names of all the different marsh plants are still floating around in my head. Along with the species of plants, I learned all about how to take salinity measurements, how to use HOB0® loggers and the software associated, and much more. Not only did I learn things about the marsh, but also I learned how to manage my time better, how important responsibilities given to you are; all things that will help me throughout this school year and beyond. I could not be more grateful to the Friends of Ellisville Marsh for giving me for this opportunity. I hope this becomes a lasting connection and I look forward to doing more work and becoming more involved in the future.” Chris’s responsibilities included salinity measurements, census of wetlands vegetation in fifty-plus sampling plots across the marsh and deployment/retrieval of barometric pressure gauges for determining tidal elevations. He is a sophomore at the University of New Hampshire.

State Project to Rebuild Ellisville State Park Jetty Proceeds

As we have reported previously, a new Commonwealth of Massachusetts project is underway to develop a preliminary design for the rebuilding of the rock jetty on the north side of the Ellisville Inlet, identify the permits required to construct it, and develop comprehensive cost estimates and timelines for both permitting and construction. Rebuilding the jetty to its original design specification and elevating its landward end are expected to greatly reduce the volume of sand that over-washes into the channel during major storms and thereby reduce the frequency of inlet maintenance by the Friends. A survey team was on site for several days in September to create an Existing Conditions Plan on which the design shown. The project is being led by the Executive Office of Energy and Environmental Affairs and is called the Ellisville Harbor Inlet Stabilization—Feasibility Analysis. The kickoff meeting in August was attended by Friends directors Eric Cody and Ellen Foley, as well as Friends member Greg Lano, whose persistent communications with state agencies helped kindle the project. This project will be pursued in parallel with continued inlet maintenance and permitting by the Friends. Final results are expected to become available in early to mid-2020. We will keep you posted of developments.

Want to fight back against invasive crabs? LET’S EAT THEM!

Friends director Paula Marcoux is also **edible SOUTH SHORE** Food Editor.

Check out her article and recipes at <https://ediblesouthshore.com/feature/pinching-back-the-battle-against-invasive-crabs/>

Savery Pond Project Wins Funding at Fall Town Meeting

The Friends’ sister nonprofit Savery Pond Conservancy (SPC) has been working closely with Plymouth’s Department of Marine & Environmental Affairs (DMEA) over the past several months to gain approval of a funding request for the Savery Pond project at Plymouth’s Fall 2019 Town Meeting. We are happy to report that this initiative was successful. Town Meeting voted to approve nearly \$29,000 for the project. Congratulations, SPC! www.saverypond.org

WANT TO LEAVE A LASTING LEGACY BEHIND?

RECOGNIZE THE CRITICAL IMPORTANCE OF SUSTAINING AN IMPORTANT ENVIRONMENTAL INITIATIVE?

Consider including the Friends of Ellisville Marsh in your estate plan.

Friends of Ellisville Marsh is a tax-exempt, 501(c)(3) nonprofit organization. Tax ID #77-0691727.
Ask your estate planning advisor for details.