



Friends of Ellisville Marsh Newsletter

December, 2016

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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Please Consider a Year-end Gift

We are now halfway through our 2016-17 membership year which began July 1st. Have you renewed your membership? Made a tax-deductible gift? If not, please take a few minutes and renew your commitment to saving the unique resource known as Ellisville Marsh. You can see the fruits of our labors yourself! Giving is easy—visit us at <http://tinyurl.com/Donate-to-Ellisville-Marsh>

PRESIDENT'S CORNER

Recent months have seen a string of major milestones. We worked successfully with the Town of Plymouth to win a \$111,000 grant under the MA Coastal Resilience Grant Program. This extremely competitive grant was awarded in September and David Gould and Kim Tower of the Town's Environmental Management Department initiated a kick-off meeting on November 9th. The project will evaluate options for maintaining the channel flow permanently and to minimize the variability in channel flow over time. Once this analysis is complete, we hope to have a well-defined resolution – shared by the regulatory agencies that are participating in the grant study – that we can pursue the necessary resources to implement.

In addition to this leap forward for the marsh inlet, Town Meeting agreed in October to acquire and restore to wetlands the cranberry bog that abuts Savery Pond, using CPA money. This bog, when it was operating, utilized Savery Pond as a “holding pond” for the large quantities of water needed for regular harvest of the ripe berries. Savery Pond is one of several ponds in Plymouth that has experienced severe toxic algal blooms in the summer months during the past few years. Savery Pond once fed directly into Ellisville Marsh and is an important water resource in the Ellisville ecosystem. This action by the Town will improve water quality going forward and could have a positive effect on ground and surface water that flows to Ellisville Marsh.

These two developments are noteworthy achievements for our group and chart progress toward a permanent and sustainable solution for a healthy, well-functioning Ellisville marsh. This goal is universally shared by our membership and is the motivator that keeps our Directors willing to spend the countless hours they spend in support of Ellisville Marsh. We want to express our gratitude to all our members and thank them for the continuous and generous support.

Please do not let these successes deter you from renewing your membership; now, more than ever, a long-term, sustainable solution may be coming into view. We must be ready to seize the opportunity.

Jack Scambos, President

Project to Identify Sustainable Strategies for Maintenance of the Ellisville Inlet Kicks Off

November 9th saw the official kick-off of the Town's project to evaluate alternatives for the long-term, sustainable protection of the Ellisville inlet. Along with Friends' president Jack Scambos and director Eric Cody, the meeting was attended by representatives of the MA Office of Coastal Zone Management and MA Department of Conservation and Recreation. Plymouth Director of Marine and Environmental Affairs David Gould and Environmental Technician Kim Tower led the meeting, which included a detailed presentation on the scope of work and study methodology by the chosen contractor, John Ramsey of Applied Coastal Research and Engineering. The report is expected to be ready for review in the Spring.

Exciting Developments on Savery Pond

2015 has seen a number of exciting developments in the Friends' efforts to improve water quality and eliminate algal blooms on Savery Pond. These include: 1) Town acquisition/fallowing of a commercial cranberry bog that adjoins the pond, 2) collection of significant new water-quality data, and 3) cooperative pursuit of grant funding to complete data collection and develop a water quality management plan for the pond.

Cranberry Bog Acquisition: On October 15th, Plymouth Town Meeting voted to approve use of Community Preservation Act (CPA) funds for the \$250,000 purchase of an 11.5 acre property adjacent to Savery Pond, the key feature of which is a 6.5 acre cranberry bog. The planned removal from commercial operation of the cranberry bog will contribute to improved water quality in Savery Pond and the surrounding watershed, further protecting several town wells. Friends' board members Peter Schwartzman and Paula Marcoux worked tirelessly making the initial connection between the bog owner and Town staff, attending meetings, and working with local residents and Town Meeting members to garner the support necessary for passage of the article.



The Friends of Ellisville Marsh enthusiastically supported the proposed purchase. Taking the bog out of agricultural production cannot fail to reduce the nutrient loading of the pond and is an essential first step in its recovery from water-quality impairment. The purchase also opens the door to wetland habitat restoration, which will mesh nicely with the Town's laudable achievements elsewhere. ***We thank all those who helped support passage of this article.***

2016 Data Collection: The Friends have been gathering water quality data at Savery Pond in partnership with the Town's Department of Marine & Environmental Affairs since 2012. The Friends initiated the Savery Pond Project when the pond began to experience regular and severe algal blooms and high levels of cyanobacteria, which are known to generate toxins that are dangerous to humans and animals, repeatedly forcing closure of the pond by the Department of Public Health. In 2012, the Friends used both grant funding and donations to commission a \$3600 baseline water quality assessment. In 2014, we collaborated with the Town and others in gathering data for the Plymouth Ponds and Lakes Stewardship Project (PPALS). The resulting PPALS Pond Atlas characterized Savery Pond as "impaired", and having low dissolved oxygen and extremely high levels of nutrients, especially phosphorous (which was the highest of all 38 ponds sampled). This past summer, the Friends assisted Town Staff in collecting continuous data from a vertical profile of probes leading down to the deepest point in the pond. These data, along with laboratory analysis of multiple, collected samples, are

currently under review and should be very helpful in understanding nutrient cycling and conditions for algal growth.

Upcoming Directions and Pursuits: The Friends are also working cooperatively with Town staff to pursue a Massachusetts Environmental Trust (MET) grant to develop water quality management plans for Great Herring, Little Herring and Savery ponds. Specific to Savery Pond, this project would include analysis of pond sediment to assess its role as a nutrient source, estimation of other nutrient sources (e.g. septic systems, fertilizer applications), and development of a “nutrient budget” for the pond. The nutrient budget will serve as a basis for developing the water quality management plan. If the grant is authorized, Friends board members will assist by serving as a point of information exchange between grant participants and interested parties and reviewing collected data, associated analyses and project documentation. Friends will also be asked to raise \$5,000 as matching funds against the total grant budget of \$50,000.

Potential Long-term Contribution to Watershed Health

Restoration of Savery Pond to full health is a needed prerequisite for any future project to restore the herring run that connects the pond with Ellisville Marsh. Restoration of the herring run would likely enable recovery of anadromous fish species such as river herring and catadromous species such as American eel. This vision of a fully re-integrated Ellisville ecosystem just became a little easier to imagine thanks to the Town and our dedicated members.

We’re Looking for a Talented Individual— Have experience updating a web site?

If you can answer “yes” to this question, we want to hear from you! The Friends need a volunteer resource to help keep the organization’s web site www.EllisvilleMarsh.org running smoothly. Please contact us at Board@EllisvilleMarsh.org

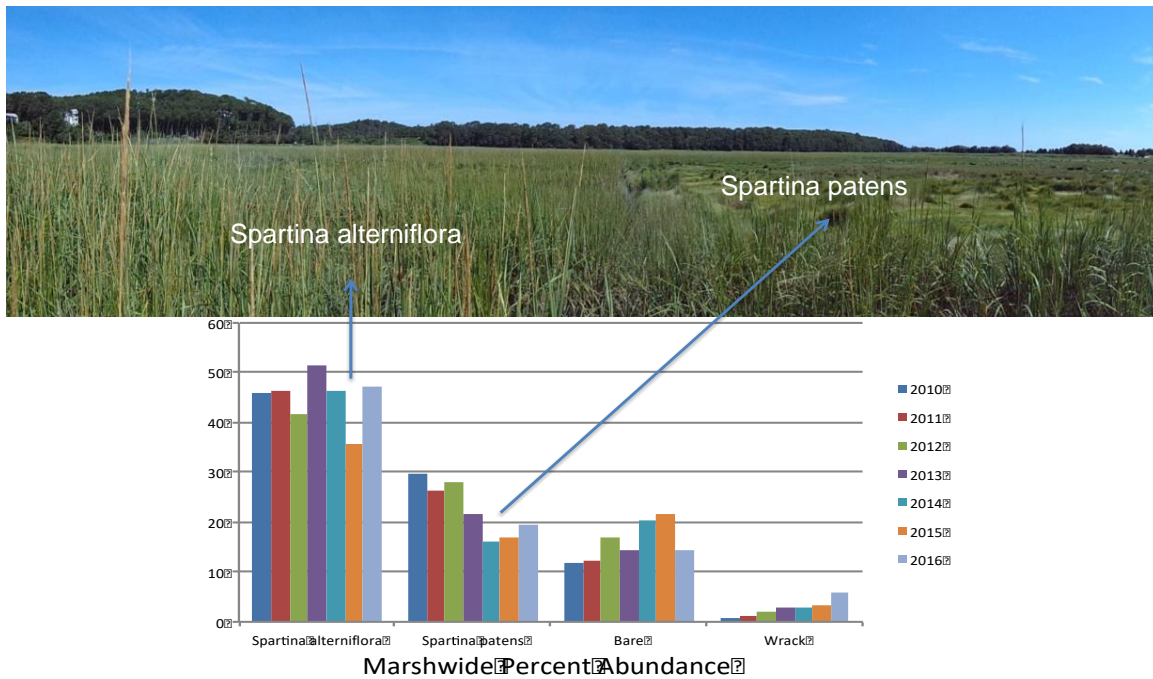
An enthusiastic group of birdwatchers joined Friends board member and Manomet Center shorebird expert Brad Winn for the Ellisville Fall Bird Walk on November 13th. Photo courtesy of Brad Winn.



Health of the Marsh-What This Summer’s Monitoring Suggests

The vegetation in Ellisville Marsh consists of relatively few species - fourteen to be exact - in comparison to the abundance of flora that inhabits the edges of the marsh (Check out the plant inventory compiled by Irina Kadis at <http://www.salicicola.com/checklists/Ellisville/>). Only a few species can withstand regular diurnal submergence with the high pH and high salt environment that the ocean provides through very unique physiologic adaptations. These particular plants, of

which *Spartina alterniflora* and *Spartina patens* are the two most abundant in Ellisville Marsh, have been monitored over the last six years using a network of fixed vegetation plots. A quick glance at the bar chart below shows how these two plants' percent abundance has varied, along with areas considered bare or those with wrack deposition.



In general, *S. alterniflora* across the marsh has stayed fairly constant throughout the years – gaining in some areas and declining in others. *S. patens* has experienced a general decline in this marsh, and in marshes across the Cape as well. Areas of bare and wrack deposition have increased. It is unclear how many factors other than tidal hydrology contribute to these changes; however, extreme storms and other weather patterns associated with long-term climate change are expected to be among them.

What does this mean for the health of the marsh? While the marsh system is a complicated and delicately balanced one, it also has amazing resilience. For example, more bare area translates to more foraging ground for birds. More wrack means more organic matter to increase the elevation of the marsh. As far as the vegetation is concerned, these primary producers will be in a constant state of flux given increasing tidal range and the counteracting forces of marsh building through sand and wrack deposition. We continue to monitor these changes with the hope of guiding any long-term solutions for channel maintenance toward one that offers the greatest benefit to the marsh ecosystem.

And Finally... Did You Know There's a White Shark Detection Buoy off Ellisville?

Have you come across a strange-looking, cylindrical buoy marked CB-1 in the water about ¼ mile off the beach at Ellisville Harbor State Park while boating? It's a white shark-detecting buoy (CB stands for "clever buoy") deployed in 2015 to detect and identify tagged great white sharks that visit Ellisville. While no contacts have been reported recently, several tagged great whites swam past the buoy in late 2015—sharks nicknamed Margaret, Oearch and Jameson. Only tagged sharks swimming within 200 yards of the buoy are detected. If you like to know what's up in Ellisville waters, there's an app for that:

<http://www.atlanticwhiteshark.org/sharktivity-map/>