



Friends of Ellisville Marsh Newsletter

Fall 2018

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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A Successful Nesting Season for Muttonchops and His Mate!

Shifting Lots Preserve (Ellisville Beach) may have had only one pair of Piping Plovers this summer but they overcame tough odds and reared two fledglings (shown below in this August 17th photo, courtesy of Diane Jordan).



New High-Resolution Image Captures Impacts of Current Inlet Blockage

Astute Ellisville residents may have noticed a white aircraft with red stripes flying over the marsh the morning of August 16th at dead low tide. The plane was in the process of capturing what is most likely the highest resolution photograph ever taken of Ellisville Marsh and its immediate surroundings. Flown by Col-East out of North Adams, MA, the plane was equipped with digital camera equipment capable of capturing both infrared (IR) and red-green-blue (RGB) bands of light. IR imagery records heat given off by plant life and is therefore useful in determining the health of marsh vegetation. RGB imagery closely matches what the human eye sees. The resulting image is called an orthophoto because it can accurately measure elevations relative to a vertical control point on the ground. The latest image is larger what can be created by any camera you own, "weighing in" at 1,300 megabytes. This is the third in a series of orthophotos (also taken in 2008 and 2011) the Friends have commissioned, making Ellisville Marsh one of the most closely studied natural resources in the Commonwealth. Analysis of the new image will be overseen by Friends' scientist Ellen Russell (see condensed image – page 2).



Color infrared aerial orthophoto captured August 16th, 2018 by the Friends of Ellisville Marsh.

Screen shot only—actual image is too large at 1,300 Mb to handle on most standard PCs.

The colors captured are useful in distinguishing between different types of plants present as each species emits different amount of radiant heat, not to mention the usefulness of determining extent of sand, open water and bare areas.

High-level Meeting in Boston Breeds Optimism

Friends' president Eric Cody, past president Jack Scambos and founding member Greg Lano met in Boston recently with a high-ranking official in the office of Energy and Environmental Affairs Secretary Matthew Beaton. The purpose of the meeting was to discuss how to move toward a sustainable, long-term solution to the problem of blockage of the Ellisville Marsh inlet. There had been little discussion, and no meaningful action on the part of the Commonwealth, since the

largely state-funded study of inlet alternatives was wrapped up in May 2017. We found the MA EEA official to be very well-informed about the project and action-oriented. We are hopeful that this meeting will signal the start of a new, public-private partnership aimed at putting in place a permanent fix. Stay tuned.



Friends Make Great Strides at Savery Pond

This year, we have directed our efforts toward better understanding the hydrology of Savery Pond rather than collecting nutrient data from the pond sediments and pond water. We delayed sediment and (continued) water sampling until 2019 due to upcoming availability of funding from the Town of Plymouth. Resources donated to the Savery Pond Initiative will now extend further because the Town has agreed to match the Friends' finances for key elements of the nutrient investigation.

Meanwhile, 2018 was a good year on the pond, with only minor algal activity rather than the (increasing typical) extended cyanobacteria algal bloom. Hydrologic investigations completed by FoEM included:

1. Installing a stream gauge on Herring Brook (the outflow stream that discharges to Ellisville Marsh) and gathering continuous pond outflow data.
2. Assessing hydrogeologic conditions on the "East Bog" (purchased by the Town in 2016), including how shallow groundwater beneath the bog relates to Savery Pond.
3. Mapping the water table in the pond vicinity to evaluate groundwater flow directions.

Results of these new investigations are key to understanding nutrient dynamics that fuel algal blooms on the pond. Summary reports for all three investigations will be posted on www.saverypond.org in the new year. The Savery Pond Initiative team thanks all local residents who provided access to their wells for the water-table mapping, to the Town for helping survey wellhead elevations, and to our volunteers who worked tirelessly in completing these tasks.

As we transition into 2019, we will be focusing on making arrangements for the 2019 sampling season to complete as many key tasks as possible towards developing a nutrient management plan for the pond. We are dedicated to continuing our efforts to restore the pond to a healthy condition for the benefit of the ecosystem, the marsh, and pond residents. We will continue to pursue funding to support completion of the plan and identify solutions to reduce/eliminate algal blooms. If you would like more information about the Savery Pond Initiative, email us at savery@ellisvillemarsh.org or check out our project website (www.saverypond.org).

**LAST REMAINING
PHOTO PRINT FOR
SALE**



The Friends are offering for sale the last donated print from this summer's photo exhibition. Expertly captured by Dr. Karl Zuzarte of Tiverton, RI, this image features a loon carrying a chick in its tail feathers. Image size is 6 ½" x 10." Matt size 11" x 14." Karl is Past President of the Photographic Society of Rhode Island. Minimum bid is \$50.

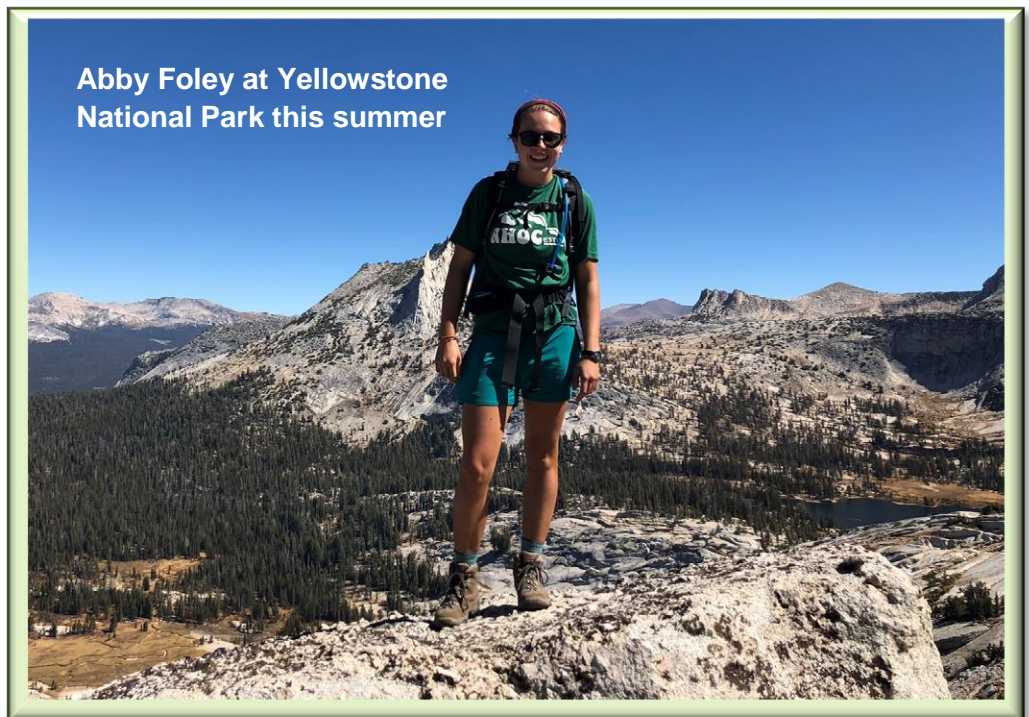
If you are interested, email us at board@EllisvilleMarsh.org

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Membership and
Consider a Year-
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tax-deductible.***

***Visit us at
EllisvilleMarsh.org
and click on the
"Donate" tab.***

Abigail Foley Moves On After Four Summers with Friends

Abby Foley has been the mainstay of our environmental monitoring efforts over the past four summers, throughout her entire term as an undergraduate student at the University of New Hampshire. Her responsibilities with us have included data collection on wetlands vegetation, sampling water quality and salinity, and measuring tidal hydrology to establish tidal range in the marsh. Her final year Capstone Project at UNH was titled, "*The Effects of Tidal Inlet Maintenance Dredging on the Productivity and Health of Ellisville Marsh Based on the Growth of Primary Vegetation Species and Other Environmental Parameters*" (She received an A and four credits toward her bachelor's degree in Marine, Estuarine and Freshwater Biology for the paper and her work with us). What's next for our exceptional environmental monitoring assistant? It's off to nursing school at UNH in January. Best of luck to Abby as she tackles new challenges! We'll miss seeing her on those summer days when it's too hot for almost anyone to be out in the marsh counting stalks of *Spartina*. Best of luck from all of us, Abby!



Your feedback is always welcome!

The board of directors values feedback and input from members. In fact, some of the organization's best ideas have come from informal conversations and email exchanges with you.

Interested in playing a more active role? Volunteering in one of our programs?

You can reach us at any time on email at board@EllisvilleMarsh.org