



COALITION Quarterly

Partners



Students learning about the new weather station.

A Note from The Helm

We've all heard the saying, "If you want to go fast, go alone. If you want to go far, go together." At the core of this proverb is the idea of partnership. Stellar results in business and in life usually have partnerships at their foundation, which has proven to be the case for BCWC's work in the Three Bays watershed. This issue of our quarterly newsletter will focus on our cornerstone partner, the U.S. Environmental Protection Agency Office of Research and Development (EPA ORD) based in Narragansett, Rhode Island.

In order for our supporters to fully understand the scope of this partnership, and its importance to BCWC and our Cape Cod community, we have reprinted and inserted their recently published bulletin "*Exploring Solutions to Nutrient Pollution: Restoring Cape Cod's Waters*". We ask that you take the time to read through this fascinating and informative bulletin, to really see how important our shared work is to the waters on Cape Cod.

We were introduced to EPA ORD about four years ago at a fortuitous moment. EPA ORD was launching a program they call "translational science", where they work on a significant environmental challenge and look to partner with stakeholders to develop real world solutions.

For the staff at BCWC, this has meant that our team has the opportunity to spend hundreds of hours working with the experts at EPA ORD to understand the nutrient pollution problem. We are working on multiple approaches to reduce nutrient overload – one of the most significant problems for our Cape Cod waterways.

Science has proven that approximately 80% of the Cape's nutrient pollution in our waters is related to septic systems. Our focus is on two approaches that will reduce nutrients. One is to work with private and public stakeholders to develop and permit new individual alternative septic system technologies that reduce nitrogen by 90% or more. The other approach is to find ways to treat and reduce nutrients once they have entered ground and surface waters.

Groundwater on Cape Cod moves at a rate of about one to four feet per day through our sandy soil. Therefore, this nutrient loaded groundwater will be entering our surface waters for decades to come.



The exciting news, outlined in the bulletin, is that we are already making great strides! One new septic system technology has already moved forward in the permitting process and our joint goal is to achieve "general" approval at the state level.

Together with other partners like The Nature Conservancy and the town of Barnstable, we are designing and piloting other nature-based approaches to nutrient reduction. One of the most exciting projects involves restoring wetland conditions in an area with over 100 acres of cranberry bogs. These restored wetlands will intercept and remove nutrients naturally.

All the while, BCWC continues to work with EPA ORD monitoring water conditions that will allow us to understand how our interventions will impact the nutrient load. The last pages of the newsletter feature images from our latest videos, which show the BCWC team and our partners at work. We are in the field drilling wells to look at groundwater, installing a weather station to identify changing conditions, and moving forward in the cranberry bogs with another nutrient reduction pilot project.

Please read on, check out our videos, and please support our work!

We wish you and yours happy, and especially healthy, holidays!!

A handwritten signature in black ink.

Weather Station at Fair Acres Country Day School — Making Science Fun

For any project, gathering data is vital - how else can we understand the results of our efforts? For the Shubael Pond Innovative and Alternative Septic System Project, it is important for us to be able to measure how much wastewater and rainwater is flowing into the ground. It is also critical to understand and record the pond's water temperatures and levels.

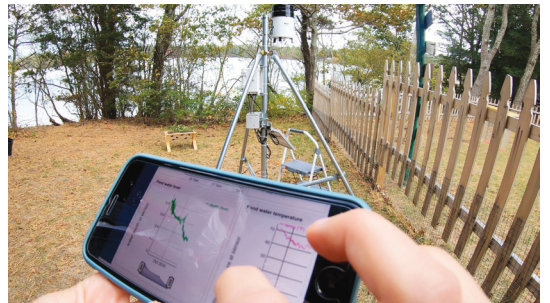
That's where Laura Erban, one of the scientists we work with from EPA ORD, comes in. Laura installed a weather station this past August at Fair Acres Country Day School in Marstons Mills. The school is located on the pond's shore, just opposite the Sand Shores neighborhood where the septic system pilot project is being conducted. This weather station was designed to collect and record data every fifteen minutes, and this data can then be viewed remotely.

In addition to being a great location for the weather station, Fair Acres also presented a great opportunity to teach the school's students about water quality and how water flows. When Laura visited the weather station in October, she met up with eleven kindergarten students and their teacher Miss Linda to discuss the weather station and what it does. Not only did they have great questions for Laura, but these five-year-old children already knew about the water cycle — evaporation, condensation, and precipitation.

As Laura noted, these children are the future stewards who will protect our watersheds. We are grateful to be able to work with partners like Laura and the Fair Acres Country Day School.



Laura Erban teaches kindergartners from Fair Acres Country Day School about the weather station.



The weather station measures and records rainfall and pond water levels and temperatures. This data can be viewed remotely through a web-based dashboard.



Weather station installed and ready for operation.

Weather Station at Fair Acres Country Day School – Science and Learning





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Mission Statement

Barnstable Clean Water Coalition works to restore and preserve clean water in Barnstable. BCWC utilizes science as its foundation to educate, monitor, mitigate and advocate for clean water.

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Check out the newest additions to the BCWC Video Library!



Cranberry Bog Permeable
Reactive Barrier Project



Drilling Monitoring Wells
at Shubael Pond



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