

Ripples

2019



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CLEAN WATER: This goal drives the Brewster Ponds Coalition (BPC). Clean water impacts everyone and clean pond water fosters enjoyment of Brewster’s 80 ponds, a natural and economic resource for recreation and tourism. But, even if you don’t actively enjoy Brewster’s ponds, you rely on clean water every time you turn on your faucet to pour a drink, to clean your dishes, or take a bath.

But what is the connection between clean pond water and your tap water? They both come from the same source—a single aquifer, which provides 100% of Cape Cod’s drinking water. It’s recharged entirely by precipitation and is extremely susceptible to contamination from various land uses and activities like septic systems and fertilizer runoff. Cape Cod’s ponds are early indicators of future water quality issues, and many of Brewster ponds suffer already from degraded water quality; resulting in cyanobacteria blooms that can close ponds and clusters of plants that make ponds inaccessible. Whether swimming, boating, or fishing in your favorite pond or turning on your faucet, clean pond water matters.

The Brewster Ponds Coalition mission is to protect the health, beauty, and enjoyment of Brewster ponds. Look inside to learn how the BPC and its volunteers support these goals through education programs, cyanobacteria pond monitoring and research, pond restoration work with neighborhoods and environmental groups, as well as advocacy with the Town. If clean water is important to you, please join us by mailing the enclosed contribution envelope, donating online at brewsterponds.org and/or becoming a volunteer. Thank you for your support!

Join the BPC to preserve Brewster’s Ponds

MESSAGE FROM OUR PRESIDENT

Building the Future with the BPC's New Strategic Plan

Dear Neighbors and Friends,

The Brewster Ponds Coalition was formed in 2014 by a small group of motivated volunteers who were inspired to seek solutions that protect Brewster's numerous freshwater ponds. In this brief time, the BPC community network has grown to hundreds of families and individuals, many of whom have become directly involved in the BPC's mission as donors, leaders, and volunteers. This growing support has enabled the BPC to develop science-based programs and educational events that are helping to ensure that Brewster's ponds are safe and healthy for the future.

With this very strong start, the all-volunteer Board of Directors recognized that it was time to build a comprehensive plan to shape the BPC's long term future. Beginning late last year, the Board launched a strategic planning process that included gathering data through member surveys, detailed interviews and consultation with community leaders and other non-profit organizations, and two facilitated planning workshops. With generous support from a group of experienced BPC advisors, five high-level planning priorities were identified:

Organization - Build the human resources necessary to ensure continuity of leadership and community engagement.

Collaboration and Partnerships - Develop a network with other organizations to advance

the BPC's mission of protecting Brewster's freshwater resources.

Programs and Education - Continue BPC science-based programs, including adult and youth education, water quality monitoring and research, and other community events.

Development and Fundraising - Create the financial capacity to fulfill BPC goals and specific plans.

Communication - Ensure the BPC communicates its mission and activities effectively with members, partners, and the community at large.

The result of this intensive work was presented at the 2018 annual meeting in August. One strategic plan recommendation - to amend the BPC by-laws in order to expand the Board of Directors from nine to a maximum of fifteen members, was unanimously approved, and members elected three new board members to fill these newly created positions. Today, board members and volunteers are developing detailed plans for events and programs for the coming year to support our strategic plan. For more details on the strategic plan, please visit the BPC web site at brewsterponds.org/strategic-plan-and-by-laws.

Thank you to BPC supporters and volunteers for making this possible!



Sincerely,
Tom Vautin
President

2018 Splash Award



The BPC presents its annual Splash Award to the volunteer who has made a 'splash' through their contributions to improve Brewster Ponds' water qual-

ity, beauty, or natural habitats. The 2018 winner is renowned Cape Cod artist, Jim Holland. Jim designed the BPC logo, the Ripples publication and

the Pond Hero stickers as well as helped to produce BPC educational videos. When Jim moved to his Brewster pond front home, he felt it was natural to help out the BPC. "I was a graphic designer before I became a full time artist," said Jim. "I still like to work in design on a volunteer basis, and I want to help get the BPC's message out. If people are more aware about groundwater issues--whether or not they live on a pond--they might change their practices." His striking designs have certainly helped to achieve this goal!

Volunteers Share Their Rewarding Experiences

Assisting the BPC in fulfilling its mission “(to) protect the health, beauty, and enjoyment of Brewster’s Ponds” is a satisfaction shared by all who volunteer. However, beyond the group reward, our volunteers experience their own personal satisfaction as well.



BPC volunteers prepare for Beautify Brewster roadside cleanup

For many volunteers the expanded appreciation of community is especially rewarding. Emmy award winning documentary filmmaker Allison Argo put it succinctly. “The BPC fosters a sense of community for me.” Jane Johnson agrees, “By working with the

Ponds Groups I have met so many great people and made lasting friendships over the years.”

Educating the community about our ponds, from the basic to the technical, is clearly another BPC priority. For Sue Bullard “It is a joy to watch students having fun as they learn about our pond ecosystem and how their families can help maintain the beauty and health of this precious resource.” A former high school science teacher, Jan McGann concurs. “My involvement with the elementary school’s pond curriculum and the Citizen Science cyanobacteria testing has been very rewarding.”

BPC volunteers enjoy an array of intrinsically satisfying experiences ranging from various pond adventures to photo shoots, from public lectures to bake sales, and even trash collection. Some are like biochemist Chuck Mandasky who relishes an opportunity “to wade in a pond in the early morning light and look at beautiful little creatures under a microscope.” Others, including journalist Sue Spencer, enjoy sharing with neighbors the story about preserving our special resource. As Myra Frain put it: “By participating in the BPC I have been able to spend more time actually enjoying the ponds while simultaneously learning about them.”

Want to join these volunteers? There are many ways for you to accomplish great things with the BPC. Check out volunteer opportunities at brewsterponds.org/volunteer

Neighborhood Advocacy At Work

Each summer, the Save Blueberry and Sol’s Ponds (SB&SP) group hosts a huge yard sale which raises about \$4,000. Those funds now go into a dedicated tax-free account hosted by the BPC. The group has used funds to construct two stormwater remediation projects and has plans for more. “Building neighborhood awareness and financial support over the long term is the key to the success of these projects,” said SB&SP co-president Marty Lucenti. “It’s up to us - those who live near and use the ponds - to take the leadership role.”

The Friends of Elbow Pond (FOEP) is taking the reins in a first of its kind project in Brewster - a privately funded project to address both nutrients and invasive water plants. A pond study is now in progress, funded by FOEP with help from the BPC. Upon completion, FOEP will apply to the Town and State to do restoration work. “The BPC’s help is crucial for this project.”, said John Keith, the FOEP technical leader. “The BPC is supporting the project by funding 25% of the study if the Friends meet their fundraising target.” The Elbow Pond project



Invasive plants ring Elbow Pond, which the experimental FOEP project plans to address.

will likely help create a template for other ponds to follow, reducing the cost for future pond work.

We’re eager to help other pond neighborhood organizations. If you are concerned about your pond and are looking for advice, please contact us at info@brewsterponds.org or 508-258-9801.

BPC Citizen-Scientists Provide Early Warning on Cyanobacteria



Citizen Scientist, Chuck Madansky, collects water samples from Cliff Pond.

By Susan Spencer

ONCE A WEEK, from spring to fall, Chuck Madansky goes out into Cliff Pond, near his home in Nickerson State Park, and takes water samples. He's on the hunt for microscopic organisms that give a picture of the health of the pond, and in particular, for cyanobacteria blooms that release biotoxins.

Cyanobacteria can kill animals and fish that ingest it. People who come in contact with cyanobacteria can develop rashes and other irritations. Most at risk are dogs and children who may consume pond water with cyanobacteria. When cyanobacteria cells are exposed to stomach acids they can release toxins into the body. Unlike other exposures to bacteria the concern with cyanobacteria is not infections, but poisoning from the toxins.

Cliff Pond was closed last fall after a cyanobacteria bloom.

"In June, the levels (of cyanobacteria) were really the highest on Cape Cod," Madansky said. "As of last week, in September, they were the lowest I've ever seen. That was a good sign."

Madansky, a psychotherapist with a doctorate in microbiology and molecular genetics, is one of about a dozen volunteers with the Brewster Ponds Coalition working with the Association to Preserve Cape Cod (APCC) to collect and analyze water samples as an early warning system for local cyanobacteria blooms.

The BPC purchased a Lim-Tex cyanoScope monitoring kit last year to collect and prepare the samples to be analyzed with a digital microscope.

Volunteers, usually two per pond, drop off their samples with BPC board member Gwen Pelletier. The sample is then picked up by Karen Malkus-Benjamin, project lead, a BPC board member and coastal health resource coordinator at the Barnstable Health Division for analysis.

However, Madansky has testing equipment in his home and demonstrated the process. Next, the sample is separated in a ZAPPR (from the CYANOSCOPE kit) which concentrates bloom forming cyanobacteria at the top of the device. Then a smaller sample from the top of the ZAPPR is observed under a microscope to determine if there is



ZAPPRs concentrate each water sample's cyanobacteria at top of device.



Microscope's computer interface displays any present cyanobacteria in ZAPPR's water sample.

any cyanobacteria and which species is dominant. In ponds with significant cyanobacteria the samples are also tested for phycocyanin and chlorophyll-a with a fluorometer, to determine the amount of cyanobacteria in relation to other phytoplankton in the pond.

Since a little over a year ago, the BPC has been testing water in Blueberry, Pine, Greenland, Sheep, Cliff, and last year in Rafe, ponds. Slough Pond was also tested once, and along with Elbow Pond, will likely be added to the regular rotation.

The APCC has taken the lead on cyanobacteria testing in Upper Mill, Lower Mill and Walkers ponds. Upper mill pond was closed for several weeks this summer after a bloom was reported to the town by the APCC and BPC volunteers.



Madansky uses a fluorometer to test water sample's amount of cyanobacteria in relation to other phytoplankton.

“What’s great about the cyanoscope method is you can actually do data processing in the field or at home without a formal lab” said Malkus-Benjamin. “The impact of this year’s citizen scientist program shows that people are willing to spend time doing sampling and care about water quality in town.”

What’s more, the data collected

in Brewster ponds contributes to a larger study of cyanobacteria in the Northeast, which researcher and Lim-Tex owner Nancy Leland said is critical for understanding community and water resource management needs.

The citizen-scientist model, in which trained volunteers handle the front line of collection and analysis, provides a cost-effective way for communities to get a timely assessment of their situation



Chuck Madansky records results and emails them to Malkus-Benjamin.

without having to bring in expensive consultants.

“There’s so much that needs to be done that state and other governments don’t have resources for,” Leland said. “We’re hoping these tools are going to help you get to a better place. We’re doing the science behind it.”

Leland said she was thrilled with the quality of sampling and preliminary analysis done by the BPC and the APCC, calling it “research grade.”

“Volunteer monitors can do this,” she said. “We can ask questions we’ve never asked before; and we can actually get some answers in a year instead of five years.”

Leland planned to pick up this summer’s water sample data from Malkus-Benjamin in late September, and said she anticipated the findings would be available at the end of October.

Working toward a solution to a long-term problem is one of the reasons Madansky got involved in the BPC. He said he liked the educational focus of the BPC and its commitment to helping people improve the condition of ponds.

“It makes me feel good to be out there in relationship with the pond,” he said. “It also makes me feel good to feel we’re paying attention. Kind of like a canary in the mineshaft.”

**Your donations and time make the Citizen Scientist program possible.
\$100 donation contributes to equipping the program: water sample collection and analysis supplies as well as laboratory equipment:
a \$500 cyanoscope or a \$1750 fluorometer.**

Pond Education Program Brings Fun and Learning to Brewster Students

Since 2016, the BPC's Student Pond Education program teaches children about clean water's impact on pond ecology. In 2018, Brewster public schools joined the program; approximately 200 students from Brewster public schools along with the Partnership School participated—nearly twice as many as last year.



Students, teachers, and BPC volunteers explore pond creatures at Long Pond field trip

Program lead, Karen Malkus-Benjamin, developed class and field work curriculums. Each class receives a tub full of classroom materials to introduce students to the pond macroinvertebrates and what they tell us about a pond's health. The program culminates in a series of half-day pond field trips at Long Pond in May and June, where students experience varied pond habitats first-hand. Activities include a puppet show about some of the macroinvertebrates they studied in class and a guided walking tour.



BPC volunteers teach pond ecology to Brewster students.

The trip's highlight is pond creature exploration. "Hula hoop research centers" containing tools like turkey basters, spoons, magnifiers, and yogurt cups enable students to observe pond creatures like whirligig beetles, caddisfly larvae, and other barely

visible creatures in basins of pond water. Each student receives a takeaway bag containing information about pond-friendly practices and pond exploration.

The trips are a hit with the children. One student commented, "This was the best field trip of the year", as he boarded the bus back to school. Several classes gave the BPC thank you artwork about their pond trip.



Thank you note from students



A big thank you to our hardworking Education Action team: Sue Searles, Board member and leader, Dottie Babbitt, Sally Bullard, Kathy Budreski, Nancy Emerson, Myra Frain, Nancy Gustafson-Smith, Ellie Johnson, Jan McGann, Elizabeth Perry, Doug Smith, Elizabeth Taylor, Cheri Tyree, Shirley Vautin, and Ann Van Bork-- some of whom pictured at this Long Pond field trip.

Your donations and time make this pond education program possible.

A \$25 donation equips 4 students for the program; a \$325 donation funds bus transportation for one field trip.

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People form lifetime bonds with a special pond: a favorite swimming spot, fishing hole, or a peaceful view. Honor a loved one's memory "in lieu of flowers" or recognize a special someone's special affinity to ponds by donating to the Brewster Ponds Coalition. Donate online at brewsterponds.org/join---donate or by mail at P.O. Box 459, Brewster, MA 02631. Each donor receives a personal thank you note and will be listed in Ripples' separate memorial and honor donation section. We welcome bequests; please call 508-258-9801 for more information. Thank you!



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Protecting the health, beauty and enjoyment
of Brewster's Ponds

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Contributions are tax deductible.

Ripples Contributors

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