



Brewster Ponds Coalition Strategic Plan 2023 Update

Brewster Ponds Coalition Mission:

**Protecting and improving the health of Brewster's ponds through science,
education and advocacy.**

The Brewster Ponds Coalition: A Brief History

The Brewster Ponds Coalition (BPC) formally incorporated in October 2014, following a series of community meetings organized by the Town of Brewster Planning Department to discuss pond and watershed protection. Brewster has more pond acreage than any other town on Cape Cod, and water quality has been a topic of critical concern for the Town for over 20 years. Our ponds are an important natural and economic resource for recreation and tourism.

The Brewster Ponds Coalition is recognized as a 501(c)(3) public charity by the IRS, making donations to the organization tax-deductible.

During the eight years following our formation, the Brewster Ponds Coalition has grown to become one of the Cape's largest and most active freshwater environmental groups with over 700 members, including 12 business partners, and 110+ active volunteers. Projects include scientific research, water quality testing, pond education for children and adults, remediation projects, and many outdoor member activities such as eco paddles, bike rides and hikes.

In recognition of our actions, the BPC was recognized with the 2017 *Conservationist of the Year* award by the Brewster Conservation Trust and in 2022 was invited to become a cosponsor of Brewster Conservation Day, an annual event, along with the BCT, Department of Natural Resources, and the Historical Society. Strong relationships with town administrators have also developed over the years. The BPC was given a permanent seat on the town's Natural Resources Advisory Committee in 2021 and more recently was asked to have a seat on the Town Administrator's Water Resources Advisory Taskforce.

Our original mission statement, *"To Protect the Health, Beauty, and Enjoyment of Brewster's Ponds"* was updated in the fall of 2022 to better reflect our evolving goals and priorities. The new mission statement is:

"To Protect And Improve The Health of Brewster's Ponds Through Science, Education and Advocacy."

Also at the 2022 strategic planning meeting, the Board identified how we will measure success toward achieving this mission: inclusion of a town program to annually monitor and report on pond health, adoption and implementation of a comprehensive town-wide water protection plan that addresses nutrient pollution from septic systems, and a community educated about the importance of protecting our water resources and willing to fund the projects needed to do it.

Introduction

This Strategic Plan originated in 2018 and has been annually reviewed and updated, most recently in 2023. The annual review process has made our strategic plan a living document, ever adapting to new opportunities to fulfill our mission and continuously expanding the Board's perspective with new ideas, raising awareness of gaps and limitations, and inspiring the Board to continue to grow and move forward in service to the community.

This Strategic Plan presents a series of Action Plans developed during the BPC strategic planning process. The purpose of these plans is to ensure that the successes of the last eight years will continue and the BPC has a strong foundation to respond to future opportunities and needs.

Key Planning Issues

The BPC planning process identified several key issues as essential to continuing progress toward the Mission and the evolution of the BPC from a very successful startup to a long term sustainable organization.

These planning priorities are:

1. **Organization** - Build the organizational capacity of the BPC, including board development, a plan for succession, and adding a part-time paid professional to assist in the implementation and management of our growing number of services.
2. **Collaboration and Partnerships** - Strengthen our network of organizations in Brewster and other communities that the BPC can work with to efficiently advance the overall goal of protecting freshwater resources. Collaborators include governmental entities, pond and neighborhood associations, conservation trusts, universities, corporations, and other nonprofits.
3. **Advocacy** - Support and promote investment of public resources by the Town of Brewster and other levels of government in analysis, planning, and implementation of programs to protect our water resources.
4. **Scientific Research** - Expand our existing water quality monitoring program and cyanobacteria research through additional partnerships and utilization of technological advancements such as satellite imaging. Explore and evaluate emerging technologies in septic systems, which are the single largest contributor to water contaminants. Explore bioremediation projects such as floating wetlands to repair pond health.
5. **Education** - Continue to develop activities that directly advance the BPC Mission of protecting and improving the health of Brewster's ponds through science, education and advocacy. Activities may include enhancing and possibly expanding the BPC's Pond Education Program for Brewster school children, planning adult programs to educate the community about water quality issues and solutions, developing an outreach strategy to engage Brewster's many pond and neighborhood associations in pond protection and remediation.

6. **Pond Protection and Improvement** - Partner with the town and neighborhood groups to identify opportunities to identify, plan and fund pond protection and repair projects. These projects may include building stormwater retention basins and rain gardens, weed harvesting, and/or installation of aeration systems or floating wetlands.
7. **Development and Fundraising** - Create the financial capacity for the BPC to fulfill our goals and implement specific plans, through annual membership campaigns, business partnerships, grants, and other fundraising activities.
8. **Communication** - Ensure that the BPC effectively communicates all aspects of its work with its members, partners, and the community at large.

Action Plans

The Action Plans reflect the specific steps the BPC will take to advance each of these key planning issues. It is important to note that, while these topics are all immediately compelling, actions must be viewed as steps in a long term plan that will shape a multi-year strategy. It is clear that the BPC first needs to build capacity through the Board, volunteer working groups, and financial support to implement key actions.

This Executive Summary is an overview of the Action Plans for each priority area. A detailed version of the Strategic Plan, which includes an appendix of examples of specific action items for each priority area is available on the BPC website - www.brewsterponds.org.

Planning is an ongoing process and this is not a static document. The BPC will regularly review progress on the Action Plans and, where appropriate, update these activities and timelines so that this Strategic Plan remains a relevant and useful working document over the long term.

Priority Area - Organization

Long Term Goal: Ensure a thriving, well-structured organization with the capacity to carry out the Mission of the Brewster Ponds Coalition over the long term.

Summary of Accomplishments and Current Status: The BPC continues to be an all-volunteer organization. The founding board of seven directors has been expanded to 10 members and the bylaws have been updated to accept up to 15 board members. Another bylaw change allows for membership of up to 40% non resident board members with at least a 60% majority being residents or owning property in Brewster. The responsibilities of this group of dedicated individuals includes planning and executing all BPC programs.

In addition to the Executive Committee, the Board has identified nine working committees including a nominating committee. Job descriptions for all officers, board members in general and committee chairs have been written and reviewed annually with updates made as needed. Committee action plans have also been developed and are reviewed annually.

The BPC continues to recruit many volunteers who participate directly in programs and other support activities. The contributions made by these very talented and dedicated volunteers,

totaling over 1,300 non-Board member volunteer hours in 2022, are very important, especially for the Citizen Science, Pond Education, Communications and Events Planning Teams.

However, as the BPC continues to grow beyond its startup phase, expansion of both the leadership role of the Board and the supporting volunteer structure are becoming increasingly important. A well-defined and supported organizational structure with manageable roles and responsibilities is an essential part of the BPC's foundation in the long term.

Key Objectives:

- Fill the remaining vacancies on the board of directors with skilled and highly motivated people.
- Continue to develop and support working committees and special project teams of BPC volunteers and Board members to support key functions and projects of the organization.
- Develop and implement a plan to support the existing BPC volunteer organization with part-time professional resources to enhance operational efficiency and enable the board to shift its focus to organizational leadership.
- Develop a plan of succession to ensure the seamless transfer of leadership as board members retire from the board.

Timeline: The Board is already working on several of these matters and will begin implementing actions within the next several months, especially those that will determine the organizational structure going forward. While recruiting will require time, filling key positions will remain a high priority, with a goal to add several new board members and a support professional by the Spring of 2023.

Priority Area - Collaboration and Partnerships

Long Term Goal: Maintain and enhance productive relationships with Town Boards, Departments, and Committees; neighborhood and pond associations; universities and other non-profit organizations.

Summary of Accomplishments and Current Status:

The Brewster Ponds Coalition recognizes that collaboration with others is critical to the success of the BPC mission. In a few short years, BPC has achieved wide recognition as a valued and trusted partner in catalyzing and implementing impactful initiatives and programs. BPC Board members meet periodically with Town officials and Boards, including the Town Administrator, Select Board, and Departments of Health, Natural Resources, Conservation, Public Works, and Planning on specific topics and projects. BPC Board members also participate on special task forces, and provide essential data to regulatory bodies.

The BPC has worked in partnership with several Neighborhood and Pond Associations, the departments of Natural Resources, Conservation, and Public Works on many pond remediation projects involving construction of stormwater retention basins and rain gardens, and weed harvesting.

The BPC Citizen Science Team has developed several very important collaborative relationships. Partners in water testing and cyanobacteria research include the Association to Preserve Cape Cod (APCC), the University of New Hampshire, the Cape Cod Commission and the National Oceanic and Atmospheric Administration (NOAA), and the Brewster Department of Natural Resources. The team has also worked with the Brewster Department of Health to develop a protocol for reporting, communicating, and posting cyanobacteria advisory notices at ponds and on the Town website when toxic blooms are found. The protocol is being adopted by other communities.

The Pond Education Team works closely with the Brewster elementary schools teachers to provide class and field curricula to teach the impact of water quality on pond ecology.

Educating the adult community has also been a major focus. Led by the Events Team, the BPC has hosted many workshops and talks related to protecting water resources with topics focused on three main sources of water pollution: septic tanks, stormwater runoff, and fertilizer and insecticide use. In 2022, the adult education series of four programs kicked off with a presentation by the Superintendent of Brewster's Water Department.

The Pond Summit has been organized every year since 2016, including the pandemic years, and is now widely recognized as the most visible and impactful annual gathering of its kind. The 2022 Pond Summit was co-hosted by the Town of Brewster and drew over 160 attendees from the community, participating both in person and virtually via live streaming from Lower Cape TV. The Summit focussed on the impact of septic system nutrient loading to groundwater and ponds. A panel of experts explained the problem, discussed what remediation steps Brewster has taken so far, possible solutions including sewerage and sewage treatment, as well as alternative septic systems, and funding opportunities.

The BPC also works closely with related organizations such as the Brewster Conservation Trust, the Cape Cod Compact, the Barnstable Clean Water Coalition, and the Orleans Pond Coalition (OPC).

Looking forward, all of these relationships are essential to the BPC in meeting its Mission.

Key Objectives:

- Continue to strengthen communications with town boards, committees, and staff. Identify partnership opportunities and attempt to influence agendas to include water resource improvement projects.
- Have BPC board members attend the meetings of the town Boards whenever water resources topics are discussed. Work toward getting BPC representation on Town Boards.
- Reenergize our efforts to build ongoing and long-term relationships with neighborhood and pond associations to protect and improve water quality. Assist in developing

stewardship programs, establish water quality monitoring teams, and provide technical information. Promote participation in the newly developed Pond Pledge Program.

- Focus on remediation and other projects, leveraging BPC's matching grant program to produce tangible and observable results on issues such as reducing harmful storm water runoff, weed harvesting, and using preventative measures such as aeration systems to ensure that our water resources are improved and protected.
- Continue to partner with the University of New Hampshire and LimTex on groundbreaking cyanobacteria research. Look for similar collaboration opportunities for future projects, for example a floating wetland or other bioremediation project.
- Seek out collaboration opportunities with other non-profit organizations on Cape Cod.

Timeline:

As with most of the planned Actions, the timeline for implementation will be heavily influenced by the BPC organizational capacity. However, of greatest importance is work, with the help of the Select Board and Town Administrator, to sponsor an article on either the 2023 Fall Town Warrant or the Spring 2024 Town Warrant to fund a town-wide comprehensive water protection plan that addresses nutrient pollution from septic systems.

Energizing the Pond Outreach Committee of the Board of Directors to re-establish connections with pond and neighborhood associations will also be a high priority, as will working with Town departments to plan and develop joint pond remediation projects.

Continuation and expansion of the Citizen Science, Pond Education, and Adult education programs will follow schedules similar to 2022.

Other projects identified in the detailed action plan are expected to be implemented during the spring and summer of 2023.

Priority Area - Advocacy

Long Term Goal: Support and promote investment of public resources by the Town of Brewster and other levels of government in analysis, planning, and implementation of programs to protect our water resources.

Summary of Accomplishments and Current Status: The BPC has consistently supported town sponsored water resource protection projects including funding for engineering studies, stormwater remediation projects and land purchases such as the 2021 purchase of the Sea Camps properties.

Support for water quality issues and projects has been provided through funding, educational programs and letter writing. Two presenters in our 2022 speaker series included the Superintendent of the Brewster Water Department who spoke about the health of Brewster's

drinking water and the town's legal council who spoke about the town's ongoing suit against Eversource to halt the use of herbicides to remove vegetation under the powerlines.

Board members have also, at the town's invitation, participated in reviewing and commenting on proposed revisions to town regulations and bylaws that affect water resources, specifically those related to stormwater management and, more recently, Title 5 septic systems.

In recent years the Board has also sent letters in support of the environmental issues related to the whole Cape. Topics include the stopping the dumping of radiation contaminated water into Cape Cod Bay from the Pilgrim Power Plant and the need to shut down the rifle range at the army base in Bourne. The Board, however, is mindful of our need to focus on our mission. We discuss each request carefully and vote as a Board on whether or not to participate.

Key Objectives:

- Recognition by the town that the BPC is a valuable water resource planning partner
- Keep the community focussed on water resource protection
- Guide the community to adopt regulations and bylaws that support sustainability
- Educate the community about the importance of protecting our water resources and funding the projects needed to do it.

Timeline:

As mentioned above, of greatest importance is to work, with the Select Board and Town Administrator, to sponsor an article on the 2023 Spring Town Warrant to fund a town-wide comprehensive water protection plan that addresses nutrient pollution from septic systems.

Priority Area - Scientific Research

Long Term Goal: - Provide early warning signs on high levels of cyanobacteria that might lead to harmful toxic blooms in local ponds. Continue involvement in groundbreaking cyanobacteria research. Explore ways to improve pond health through bioremediation.

Summary of Accomplishments and Current Status:

The BPC Citizen Science Program provides early warning signs on high levels of cyanobacteria that might lead to harmful toxic blooms in local ponds. Since its launch in 2017, the program has grown to include 50+ trained volunteers who collect water samples from 18 ponds on a biweekly from May through October. This program operates in collaboration with the APCC and the University of New Hampshire. The team works closely with Brewster's Board of Health to report, communicate, and post cyanobacteria advisory notices at ponds and on the Town website when toxic blooms are found.

For several years the BPC has also been involved in groundbreaking cyanobacteria research with the University of New Hampshire and Lim-Tex, a company that designs water testing equipment. These include a cyanobacteria aerosol study to see if the harmful toxins can be

airborne and a study of cyanobacteria in the food column. Also in 2022, the BPC participated in and helped to fund a study to test a new method and protocol for the collection, storage, and processing of picocyanobacteria - Anatoxin- a, particulate cyanobacteria.

In another 2022 groundbreaking research project, the BPC worked with the Cape Cod Commission on a remote sensing initiative with the National Oceanic and Atmospheric Administration (NOAA) to see if satellite imagery is an effective way to measure general pond health and water clarity. BPC volunteers participated by taking secchi disc depth measurements to determine water clarity in select ponds on dates that corresponded to satellite flight schedules. The findings will be compared with results quantified by the overhead satellite images.

Another project, still in the planning stage, involves exploring the use of a floating wetland and the harvesting of plant material as a means of removing phosphorus from impaired ponds.

Key Objectives:

- Continue to expand the Citizen Science program to include the testing of more ponds and provide timely reports .
- Continue to engage in groundbreaking scientific research
- Launch a floating wetland project and explore other bioremediation options to improve pond health.

Timeline:

Priority Area - Education

Long Term Goal: Provide ongoing programs that educate and inspire residents to care about and care for the health and water quality of our ponds.

Summary of Accomplishments and Current Status:

Community education has been a hallmark of every BPC activity and program since our founding in 2014. The BPC has organized and held many public events during the past eight years, including expert speakers on environmental topics, “how-to” programs on pond protection, guided outdoor activities, and family events.

A signature program of the BPC is the Pond Education Program for school children. The program was developed in partnership with local schools to provide a science-based pond education curriculum with lesson plans, classroom kits, and capstone annual spring field trips to a local pond for hands-on study. The Brewster Public schools joined this program in 2018, almost doubling the number of participating students. This program continues to be very well

received by teachers, students, and parents; and the BPC has established a superb volunteer team to support this effort. Due to the COVID pandemic, the program in 2020 was modified and the field trips canceled. In response, the Pond Education Team in 2021 produced a very successful presentation for the teachers to present virtually, including a virtual field trip. They also recorded four pond protection book readings by local authors that can be viewed on our website and developed a syllabus of pond protection books for children of all ages.

Pond environmental education for all age groups is a core function of the BPC mission. Many creative opportunities abound to expand these activities, and the only limitations are time, funding, and human capacity. Recent programs have included native plant and alternative lawn workshops, a talk by the Superintendent of the Brewster Water Department about the quality of Brewster's drinking water, tours of Terra Firma Permagardens, aquatic invasive species workshops, and a talk by the town's legal council who spoke about the town's ongoing suit against Eversource to halt the use of herbicides to remove vegetation under the powerlines. Guest speakers at the annual Pond Summits and Annual Meetings have also provided opportunities to educate the public.

The BPC's annual *Ripples* magazine, now 12 pages long, provides another opportunity to educate the community. Copies are sent to every household in Brewster as well as business partners and everyone on our mailing list.

A Pond Protection Pledge program has been started by a resident of Sheep Pond with support and assistance from BPC. This program asks residents to pledge to refrain from using chemical fertilizers, maintain their septic systems, and stop using home cleaning and other products that contain phosphates. This project can be replicated at other ponds through BPC's Education Committee working in concert with the Pond Outreach and Volunteer recruitment programs.

Key Objectives:

- Continue to provide the pond education curriculum and field trips to 2nd and 5th graders in Brewster and explore the possibility of creating a similar program for middle school students.
- Design programs that educate residents and visitors on topics that promote clean water advocacy in the Brewster community, including a mailing for new Brewster homeowners.
- Plan four adult programs per year that address water quality issues.
- Promote widespread adoption of the Pond Protection Pledge program in collaboration with BPC's Pond Outreach and Volunteer recruitment activities.

Timeline:

Planning with the 2 public elementary schools in Brewster for the 2023 school year is now ongoing. We look forward again to another in pupil field trip in May.

Plan programs in early 2023 to educate the community about the need for a comprehensive town-wide plan that addresses nutrient pollution from septic systems. Encourage support for approving funding for the study which we hope will be on the 2023 Spring Town Warrant.

Other educational opportunities and events detailed in the Action Plans will continue as time and capacity allow. The practice of the BPC is to include education as part of every activity and event on a year-round basis.

Priority Area - Pond Protection and Improvement

Long Term Goal: - Protect and improve water quality in Brewster ponds.

Summary of Accomplishments and Current Status:

From its inception in 2014 BPC has been committed to working with neighborhood pond associations, town offices, corporate partners, and others to seize opportunities to identify, plan and fund pond protection and repair projects. These projects may include building stormwater retention basins and rain gardens, weed harvesting, and/or installation of aeration systems or floating wetlands. This long-standing commitment is now formally affirmed in the opening words of BPC's new mission statement – "Protecting and improving the health of Brewster's ponds."

The BPC previously created a "*Pond Waterfront Improvement Guide*" as well as a detailed database of stormwater runoff sources in Brewster that may lead to pond contamination. The BPC has shared this information with various neighborhood associations and the Brewster departments of Natural Resources and Public works in an effort to promote improvements. This remains an important area of concern limited primarily by available time and people.

Through sound fiscal management and careful planning, BPC has established a dedicated fund to assist neighborhoods and pond associations with remediation efforts. BPC will provide matching funds up to \$10,000 to cover up to one-third ($\frac{1}{3}$) of the total cost of the project. Most projects are expected to be one-time investments, however, for multi-year projects such as macrophyte (or aquatic vegetation) harvesting, BPC can commit funding for up to three years. Ponds with a surface area that is at least one third within the town's borders are eligible. Funds raised by the pond association to cover its share of the costs can be made as tax-exempt donations to be held in BPC's dedicated fund.

In addition to providing matching grants, BPC can provide access to technical experts to assist with assessment and planning of remediation projects.

BPC has assisted with remediation projects at Canoe Pond, Blueberry Pond, Elbow Pond, Owl Pond, and Lower Mill Pond.

Key Objectives:

- Stormwater runoff improvements remain an important area of attention and will be addressed through the network of pond and neighborhood associations in 2023.
- Through BPC's revitalized Pond Outreach program, the goal is to initiate or complete at least three remediation projects per year through our matching grant program and to enlarge the grant fund to serve even more pond associations.

Timeline:

BPC has reaffirmed its commitment to pond improvement and protection by assigning responsibility for pond outreach activities to a board member who, in turn, will recruit volunteers to serve on a Pond Outreach Committee in 2023. In 2022 remediation projects or discussions were initiated with associations at Canoe Pond, Upper Mill Pond, Seymour Pond, and Slough Pond. These projects are in their early phase and likely will continue throughout 2023.

Priority Area - Development and Fundraising

Long Term Goal: Develop comprehensive financial resources to sustain the BPC mission and programs.

Summary of Accomplishments and Current Status:

Building financial capacity is a critical function for any organization to fulfill its mission. From its start, the BPC has had outstanding support from the Brewster community. Now in our eighth year we have over 700 contributors and 12 business partners. Their support has enabled the BPC to cover administrative costs, fund the Pond Education Program, expand the Citizen Science Program, and provide grants to help fund neighborhood remediation projects and scientific research. Other funding comes from SUPfari sponsored eco paddles, a Yoga on the Beach program started by a member, and the sale of BPC hats.

The Board applied for an ARPA grant in partnership with the Barnstable Clean water Coalition to pilot phosphorus reducing alternative septic systems in 2022 but was not awarded the funding. Time and resources permitting, funding from grants is an avenue that the Board needs to explore more fully especially as it relates to pilot projects and exploratory research.

At present, fundraising is handled by two or three board members and not a specific committee or team.

Key Objectives:

- Build a Development and Fundraising Team
- Develop an overall plan identifying the tools and methods that will be most effective, including continued refinement of the annual member appeal, business partnerships, grants and merchandising.
- Explore the possibility of Town funding as a budget line item and/or funds from the new Cape Cod Water Quality Protection Trust

Timeline:

As resources permit, establish a formal Development and Fundraising Team and engage experienced outside resources to assist with grant applications and potential sponsorships. Plan fundraising events and activities to fund special projects like a bioremediation project or a floating wetland.

Priority Area - Communication

Long Term Goal: Create a sustainable, managed infrastructure to effectively communicate the BPC Mission, core issues, and pond-friendly practices.

Summary of Current Status:

The BPC recognized early on that active communication was essential to introducing ourselves to the community, as well as, creating awareness of water quality issues and BPC activities. The BPC website was quickly developed as an educational resource and email newsletters now reach over 700 people.

Email via MailChimp is currently the preferred communication medium for BPC activities and is augmented by quarterly e-newsletters, Facebook, Instagram, Twitter feeds, and press releases to local media outlets. The BPC also publishes marketing collateral as well as our well-received annual appeal publication, *Ripples*. *Ripples* is mailed to all Brewster households and everyone on our mailing list annually. It is also distributed at the Brewster Chamber of Commerce visitor center, the Brewster Ladies Library, Town Hall; as well as at BPC events. Together, these tools have helped put the BPC “on the map” with stakeholders.

To accomplish this, the BPC has developed an outstanding volunteer Communications Team, led by experienced Board members, and includes skilled writers, photographers, designers, and social media experts. This group is a high-functioning team that has worked effectively to promote the BPC’s work. Communications capacity is one of the strongest elements of the BPC

organization. The Communications Team is also an important resource for information gathering and identification of messaging opportunities for the BPC.

Key Objectives:

- Continue to develop an annual communications plan to organize and schedule communications resources and activities.
- Continue to develop strong relationships with a variety of effective media channels.
- Continue to recruit and recognize BPC Communication Team members.
- Assign responsibility for communication projects to the proposed paid part time Consultant.
- Create general public awareness of water quality issues and BPC activities.
- Target communications to specific audiences.
- Develop relevant messaging to support core issues.

Timeline:

Although the BPC communication process is working well, the Communications Team plans to increase coordination with other BPC programs and activities to ensure that important information is produced and distributed on a timely basis.

The Communications Team also serves a support function to other programmatic aspects of the BPC, and many of the Action Plans detailed in the Appendix will need to be coordinated with those functions as they develop over time.