

ANNUAL REPORT

July 1, 2015–June 30, 2016

GREAT POND FOUNDATION



GREAT POND FOUNDATION

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Photo by Anne Mazar

Cover photo- by Carter Fleming

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From the President...

August 2016



This past year has been one of challenges and accomplishments, through which the Great Pond Foundation has emerged stronger and more focused than ever.

After a highly successful opening of the Pond to the sea by the Town of Edgartown last fall, multiple major repairs to our dredge (Nessie) delayed the start of dredging until March. Fortunately, the substantial cost of repairs, while not scheduled, was covered by funds that had been reserved for needs just such as these. Immediately after another successful opening of the barrier beach in March, Nessie went to work for several weeks, removing significant amounts of sand from the delta inside the barrier beach, enabling yet another successful opening in late May. All in all, it was a highly successful dredging season, thanks in large part to Steve Ewing and his team. A strong civic leader and owner of his own marine construction business, Steve has been a key driver since day one in the development of the dredging program for Edgartown Great Pond. Having been responsible for our dredge operations for the past eight years, Steve has agreed to assume a broader role as Dredge Manager for the Foundation. As such, Steve is also taking on the critical task of developing a comprehensive management plan to ensure reliable dredge operations for many years to come.

On another important front, we are delighted to welcome Emily Reddington as Science and Education Coordinator. Emily brings with her an impressive level of expertise, along with energy and enthusiasm from which the GPF is already seeing the benefits. Arriving in the spring, Emily hit the ground running, revamping the intern program, recruiting two very capable interns for this summer, and developing a comprehensive testing program to track water quality over time and assess the effectiveness of efforts to improve it. Emily and her crew will not only collect the data using precise and consistent methods, they will also translate this information into language that the rest of us can understand!

It is important to remember that in pursuing its mission to promote the health of the Great Pond, the Foundation is in a public-private partnership with the Town of Edgartown. All of our dredging activity is conducted under the guidance and direction from the Town and in accordance with permits obtained by the Town. Critical support for our work is provided by the town of Edgartown through the Shellfish Warden, the Harbormaster, the Conservation Commission, Dredge Committee, Shellfish Committee and Board of Selectmen.

In addition to our partnership with the Town, we value our close collaboration with non-profit partners who share our interests, such as the Martha's Vineyard Shellfish Group, Martha's Vineyard Vision Fellowship, and BiodiversityWorks. Sharing information and operational know-how will help to improve the health of other ponds and the entire ecosystem of Martha's Vineyard Island.

Over the past several years, the Great Pond resident community has provided strong support for our efforts on behalf of the Pond. I am delighted to report that this year, not only is overall support at an all-time high, but the balance of participation across riparian neighborhoods has also improved dramatically. My thanks to the dedicated Board of Directors for encouraging their neighbors to support this work that is so important to all of us.

We hope you find this report to be interesting and informative. With your continued support, along with that of other generous friends, we promise to continue our stewardship of Edgartown Great Pond.

Thank you all.

A handwritten signature in black ink that reads "Tom".

Thomas C. Wallace, President

Great Pond Foundation



Finance...

Bob Rukeyser
Treasurer

The financial condition of the Great Pond Foundation is sound. As our programs and needs have grown, we have received generous funding from those who have supported us in the past while also welcoming significant new contributors. This has enabled us to carry out our mission of preserving the health of Edgartown Great Pond on a sound, long-term basis.

FISCAL YEAR 2016

We carry out that mission through our dredging and science and education programs. In fiscal 2016, the Foundation was firing on all cylinders with substantial activities throughout.

Our most fundamental activity is maintaining a channel through the delta at the barrier beach to enable successful openings to the sea using our dredge (“Nessie”). Without effective periodic exchanges of Pond and sea water, the health of the Pond would deteriorate rapidly. Since last fall, there were three successful openings – in November/December, March and May/June – lasting 24, 15, and 13 days respectively.

Revenues for 2016 were \$261,639, substantially exceeding the \$209,100 budget we established a year ago and enabling us to pursue our mission more aggressively. This fundraising success reflects the outstanding generosity of a growing group of supporters. Significantly augmenting the great support we have been relying on from our traditional contributors, donors from Herring Creek and Turkeyland neighborhoods this year comprised 25% of total contributions, five times last year’s five percent.

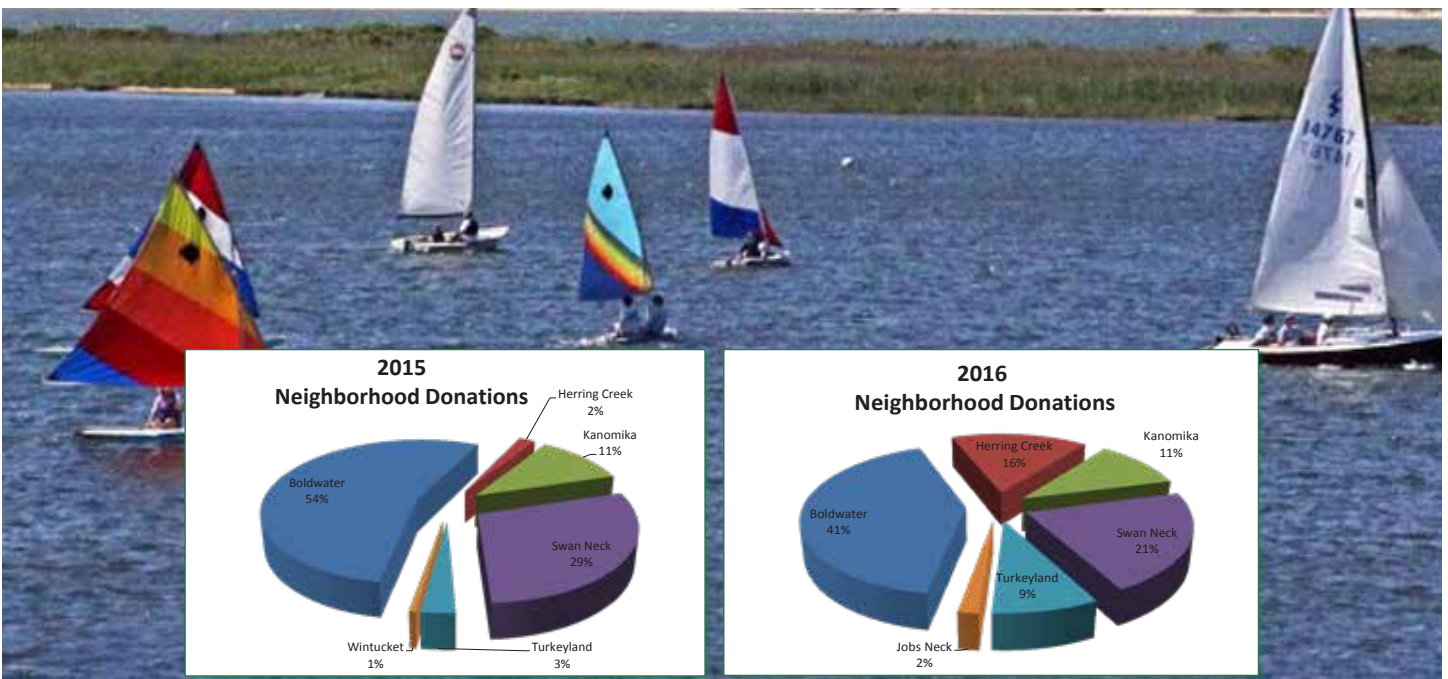




Photo by Mike Hook

It has been seven years since the Foundation put the dredge in operation. Moving large quantities of sand places substantial demands on the equipment, and we have been aggressive in maintaining Nessie. Steve Ewing, owner of Aquamarine Dockbuilders, expanded his long and close involvement with our dredging activities by agreeing to serve as the Foundation’s Dredge Manager. This provides strong professional leadership over this essential operation.

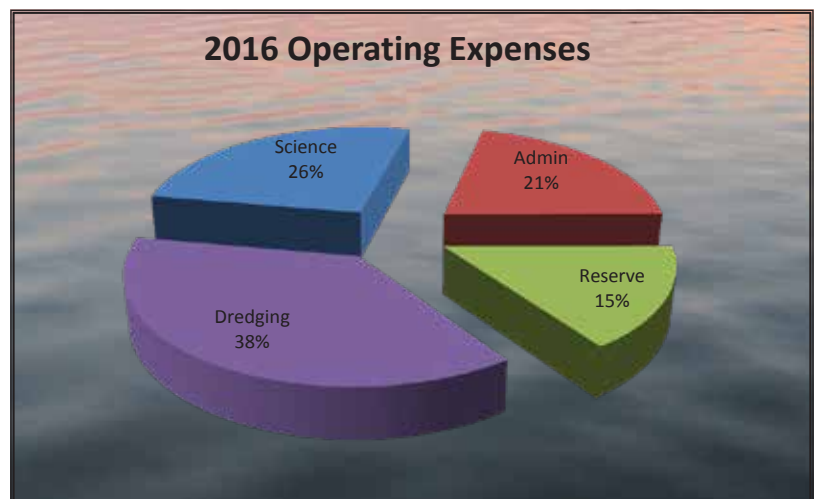
Last year, Nessie’s main pump system was overhauled. This year, the main hydraulic system required a complete overhaul. The combination of an active dredging season and major maintenance resulted in a 15% increase in Dredge expense. Dredging is our single largest expense category, accounting for 38% of fiscal 2016 expenses (see chart below).

Science and Education, our other major activity, represented 26% of fiscal 2016 expenses. Under the direction of new Science and Education Coordinator Emily Reddington, a comprehensive water sampling program to more closely monitor Pond health is underway, effectively utilizing our summer interns. The interns are also assisting with the critical oyster restoration project, which is greatly increasing the oyster population in the Pond. Oysters have a major role in reducing pond nutrients, and more oysters means more filtration. In cooperation with BiodiversityWorks, the Foundation has also assumed an enhanced role in monitoring and protecting threatened and endangered shorebirds.

Photo by Anne Mazar

Seven years ago, thanks to incredibly generous donors, we raised more than \$800,000 to purchase Nessie, equip her for service, and put her in operation. As noted, we have made substantial investments over the past two years to keep the dredge in prime operating condition. We are also preparing for long-term needs, including potential replacement, by building a reserve. This year, 15% of expenses were set aside to enhance that reserve. Administrative expenses, including fundraising and compliance, were 21% of the total, in line with recent years.

Total expenses of \$260,248 were significantly higher than budgeted, principally reflecting major maintenance on the dredge, greater dredge activity than anticipated as well as a substantially enhanced science and education program.



LOOKING AHEAD

The board has voted to change the Foundation's fiscal year to coincide with the calendar year. This will more closely align our year-end with that of most of our donors and also will better synchronize it with the cycle of our expanding science and education programs. The Foundation's next fiscal year will end on December 31, 2016, resulting in a six-month transition period from July 1, 2016 to December 31, 2016.

We enter this transition period with strong assets, including an expanding base of contributors, growing reserves and, most important, good progress toward building a talented team. We recognize that the Pond is our most fragile asset and that restoring a sick pond is far more costly and challenging than maintaining a healthy one. We note that other Vineyard ponds have struggled, and that our own Edgartown Great Pond has contended with algal blooms in the past.

We will continue to build on the programs underway to monitor and protect the Pond. For the six-month transition period, we have established a fundraising goal of \$161,100. We are gratified that donations are now coming from more contributors in more neighborhoods, and we will foster that trend. Your generous support is extremely important and is very much appreciated.



Photo by Anne Mazar

The Great Pond Foundation would like to acknowledge the following generous individuals and foundations who helped us in 2016:

- | | | |
|--|-----------------------------------|---|
| Joe Bower & Liz Potter | Rosabeth Moss Kanter | John & Betsy Rolls |
| Toni Chute & John O'Keefe | Pam Kohlberg & Curt Greer | Mitchell & Lisa Rubin |
| Michael & Jennifer Corbo | Glenn & Debby Larsen | Bob & Leah Rukeyser |
| John & Diane Crane | Joe & Deborah Loughrey | Richard & Betty Saltzman |
| Will Darman | Dave & Doris Luening | Eric & Beth Schlager |
| Robert & Angela Egerton | David Malm | Michael & Karen Shalett |
| Andy & Betsy Forrester | Bob & Caroline Maruska | Paul Singer & Terry Kassel |
| Michael & Susan Grenert | Bill Massa & Chris Campbell | James & Susan Snider |
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| Gerald & Linda Jones | Frank & Liz Newman | |
| American Foundation for Courtesy and Good Grooming | | John R. and Inge P. Stafford Foundation |
| Colgate Palmolive Matching Fund | | Stanton Family Foundation |
| Flying-O Foundation | | United Way Matching Fund |
| Kohlberg Foundation | | Williams, Elrick & Lynai Jones |

Photo courtesy of Vineyard Colors

OUR MISSION:

The Great Pond Foundation was formed to enhance the health and beauty of Edgartown Great Pond by supporting solutions to environmental problems affecting it. Our goals are to educate the public to the Pond's value and condition and assist the town of Edgartown in enhancing its recreational and ecological features. We work with the town to promote the Pond's management.



Steve Ewing
Dredge Manager

DREDGE REPORT

In many respects this past dredging season was successful. The little Nessie dredge has proven to be able to move large quantities of sand quite effectively with limited (2 men) manpower.

The previous 2014/2015 season required a complete overhaul of the main pump system. The wear was due to the scouring of sand through the housing and around the main impellor. This job was done professionally at R.A. Mitchell in New Bedford. I have done business with that company for many years in my day job of Marine Construction. They installed all the heavy parts, the pump itself weighs about one ton, to spec.

This year the main hydraulic system needed the same complete over haul. We employed an outfit in Fairhaven, who I've used before, Harbor Hydraulics. All hydraulic pumps were removed, rebuilt or replaced and back up pumps were ordered to limit dredging down time.

We did manage to remove thousands of yards of sand from the flood delta at the opening, and even though there was some initial problems with the mechanical cutting, by the town, of the channel to the sea, a successful multi-week opening was achieved, and the Pond salinity responded accordingly.

As usual our crew of Tracy Benware and Russ Wendt did yeoman's work under adverse, cold/icy, conditions. We also had to contend with our typical strong winter Northwesterlies but were able to continue dredging through them. On occasion Josh Kresel, from Aquamarine Dockbuilders, filled in if one of the other guys got sick or went off island. Josh has been trained as leverman, running the dredge, so he is a very helpful back up.

I am personally very proud of the men working this program. They have to carve out a big chunk of time, maintain a fairly complex and sophisticated piece of heavy equipment all under adverse weather and marine related conditions.

I can't forget Geri, Aquamarine's office manager, who has efficiently kept the business side of the program running smoothly. She has a good knack for dealing with tough independent guys - no easy feat in the dead of winter.

The dredge skiff has been scoured pretty severely by running through winter ice. It will be re-fiberglassed in our shop in the off-season, but we're looking at a steel work skiff to replace it. The 40hp tiller four stroke out board runs great. The heavy duty trailer still hauls and launches the dredge well. We plan on painting the trailer this year too.

Respectfully submitted July 8th 2016

Steve Ewing

Year	Pond Openings	# of Days
2014	November 29 – December 13	14
2015	April 10 – May 8	28
2015	October 27 – November 20	24
2016	March 16 – March 31	15
2016	May 29 – June 11	13



Photo by Elizabeth Ricketts



water quality data from 1970 to 2006. Responding to one of many recommendations in the MEP, the Town of Edgartown up-graded its waste water treatment plant in 1996. Still, the nutrient -rich ground water from the old plant continues to have a negative impact on Pond water quality,

Recognizing the benefit of regular flushing of the Pond water by the ocean, the Foundation began its dredging program in 2008, using a rented dredge. By the following year, generous supporters of the Foundation were able to raise enough funds to purchase its own dredge, fondly dubbed “Nessie”, and the Foundation has run a highly successful dredging program ever since.]

May 29, 2016 opening Photo by Tom Wallace

[Editor’s Note: Below is a little background information.

As a barrier beach pond, Edgartown Great Pond is susceptible to degradation due to run-off from septic systems, fertilizer applications, and other contaminants. These pollutants along with naturally occurring organic debris, if left to accumulate, can cause excessive algal growth, which in turn virtually suffocates otherwise healthy organisms in the water. The Pond eventually would become stagnant and “die.”

For years the Pond has been opened up for brief periods of time after major storms; however, farmers and fishermen long ago realized that the Pond needed more regular flushing in order to maintain good water quality. These men – and no doubt some hearty Island women- banded together and manually opened up the Pond to the sea using shovels and oxen-drawn plows.

Over twenty years ago, when the run-off from increasing development [the year-round population of Edgartown nearly tripled between 1970 and 2000.] raised the nutrient loads to alarming levels, the problem was studied seriously. The Massachusetts Estuaries Project (MEP) collected





Emily Reddington

Science & Education Coordinator



Intern Program

Each year the Great Pond Foundation engages the services of high school and college interns to assist with the summer field program. This year the Foundation has begun an extensive water sampling program at ten stations around the Pond. It is our goal not only to track the changes in water quality throughout the season, but also to compare them to benchmarks of Pond health established by the Massachusetts Estuaries Project. It is a very exciting season as we learn to deploy our new equipment, collect large amounts of data, and design a robust sampling regime. We also spend our time partnering with BiodiversityWorks to monitor and protect the beach nesting birds on the barrier beach and with the Martha's Vineyard Shellfish Group to restore the oyster population in the Pond. It is through these partnerships that we broaden our impact as a foundation and really learn about what it takes to maintain a healthy pond ecosystem.

This year we are especially lucky in that we have two exceptional individuals who not only care about Edgartown Great Pond's health, but who are also motivated enough to help us develop and implement our newly expanded field program.



Sam Hartman is an 11th grader currently attending the Newman School in the Back Bay. His interests are Marine Biology, hiking, and sports. Sam and his family have been summer residents of the Vineyard for most of his life. As an intern for the Edgartown Great Pond Foundation, Sam brings his positive attitude, boating experience, and love of Island waters to our team. Sam plans to become a middle school Biology teacher in the future and hopes that the internship will help him achieve this goal.



Natalie Scanlan is a recent graduate from Ramapo College of New Jersey. She graduated with a Bachelor's degree in Environmental Science. Interested in Conservation and Marine Biology, Natalie hopes to learn more about conservation management and restoration projects during her time here with the Great Pond Foundation. Natalie brings a strong work ethic, insightful project planning, and love of learning to our team. In the future, Natalie would like to focus her studies on the field of shark conservation.

Oyster Restoration

By Sam Hartman

The oyster restoration project in Edgartown Great Pond is in full swing for the 2016 season. The reason for restoring oysters to the Pond is to improve the water quality and clarity of the Pond in the most natural way possible. Oysters achieve this goal by filtering excess nitrates, phosphates, and other nutrients out of the water at a rate of more than a gallon an hour.

Through the efforts of Petey Jackson, a member of both the Martha's Vineyard Shellfish Group (MVSG) and the Edgartown Shellfish Department, the amount of oysters in the Pond has dramatically increased. Petey joined the MVSG last June and took over the implementation of the program at Edgartown Great Pond. Because of his experience and quick work, an oyster restoration season was possible last spring. This year, with a full off-season of planning and preparing under his belt, Petey has greatly increased the amount of gear deployed and the scope of the oyster restoration project.

The restoration is comprised of three main parts: the deployment of 27 new oyster cages and four buoy lines with bags of scallop shells attached, the addition of loose shell to the bottom of the pond, and the use of remote set tanks near the end of Kanomika Neck. Through these methods oysters are being reintroduced into the Pond in the hopes that a sustainable population can be established.

The addition of oyster cages to the Pond adds a more controlled environment for the oysters to grow and increases the number of oysters filtering the water in the pond. Oyster larvae, or “spat” as they are called, settle on hard substrates such as rock or shell. By suspending oysters and shell in the upper water column in these grow cages, oyster spawning will occur more than once. The oysters in grow cages are in surface water that warms up faster than the bottom water of the Pond.

The oysters in the warm surface water will spawn before those located on the Pond bottoms, enabling at least two sets of spat in each part of the Pond. Buoy lines with shell bags add a hard substrate to which oyster larvae can attach, giving the natural oyster population a way to establish in areas that would otherwise be too sandy for oyster growth. By adding oysters to the Pond, the health and well-being of the ecosystem can be secured for the future in a sustainable way. Spreading shell to areas of the Pond that naturally have soft sandy bottoms provides additional hard substrate for oyster larval settlement.

The remote tanks are filled with more of the shell bags, as well as adult oysters. After feeding and incubating these adults, oyster larvae are released and attach to the shells in the shell bags, creating a population of baby oysters which can be added to the floating oyster cages. These cages are strategically placed along the west coast of the Pond (where it is sandy) and in the coves. Many of the cages are in areas where oysters had not previously been observed.

This season we are systematically testing out all corners of the Pond to see if an oyster population is viable in new areas and also to see which areas result in the most successful spawning. This strategic experimentation will inform the placement of future restoration efforts in the Pond.

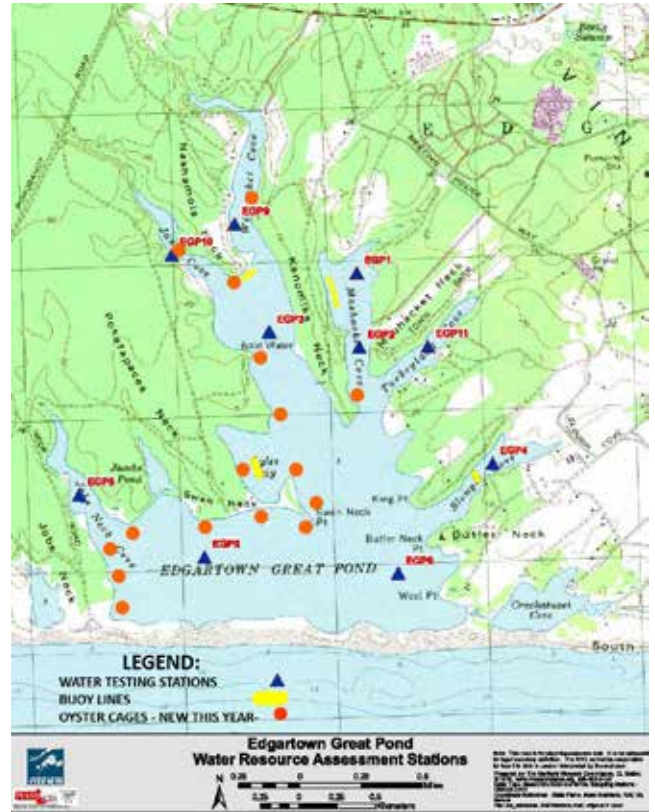


Photo courtesy of the Vineyard Gazette



Shorebird Monitoring

By Natalie Scanlan

Photo courtesy of Vineyard Colors

Edgartown Great Pond serves as a home and migration pit stop for a variety of shorebirds like Ruddy Turnstones, Sanderlings, Ruffs, and many others every year. Piping Plovers, American Oystercatchers, and Least Terns are beach nesting shorebirds that reside on the Pond's barrier beach every spring and summer. We focus our efforts on these three species because Piping Plovers and Least Terns, rare in Massachusetts, are protected by the state and federal endangered species laws, and American Oystercatchers, although not listed species, are vulnerable to the same challenges facing Plovers and Terns. This year five pairs of Piping Plovers and one pair of American Oyster Catchers have nested along our barrier beach. The Great Pond Foundation has teamed up with BiodiversityWorks to monitor the nesting shorebirds at Edgartown Great Pond.

Degradation and loss of sandy beach habitat, caused from development and erosion, are the primary causes of the decline of Piping Plover and Least Tern populations. Development and recreational use on and around beach habitat increases food and shelter that attract predators like skunks, crows, raccoons, and gulls. These animals prey on the eggs and chicks of beach nesting birds. Maintaining a healthy, pristine, and native shoreline ecosystem for these birds is important for their survival. When these fragile native species start to dwindle, or even disappear, it is an indication that this barrier beach and Pond shoreline health is in danger. Just as water quality is an indicator of pond health, so is the survival of native species.

Management Practices

- **Piping Plover Nest Enclosures:** In the right circumstances, 10-foot diameter cages made from wire are placed around the nest to keep predators from scavenging the nest.
- **Signs and Fencing:** Signs and twine are placed around the nesting habitat of beach nesting birds to prevent the nests from being crushed by foot traffic and to provide a safe and comfortable space between birds and humans.
- **Predator Control:** Targeted removal of predators by professionals has increased successful hatching and fledging of beach nesting birds.
- **Landowner Involvement:** Over 50% of Martha's Vineyard piping plovers nest on privately owned beaches. It is important that landowners cooperate to help in their recovery.



Plover nesting area is protected by enclosure.
Photo by Natalie Scanlan



Piping Plovers

The plover's diet consists of marine worms, crustaceans, and insects. Foraging occurs along the sandy beach, intertidal zone, mud flats, estuaries, and where seaweed washes up. Nesting occurs in the early spring where pairs establish and defend their breeding territory from other plovers. Nests consist of a shallow scrape above the high tide line in areas of sparse vegetation and rocky sand. Females can lay one to four eggs, and both parents incubate for approximately 26 days. When the eggs hatch, the parents protect the chick by drawing attention away from the chick, pretending to be injured and peeping (see photo at right).

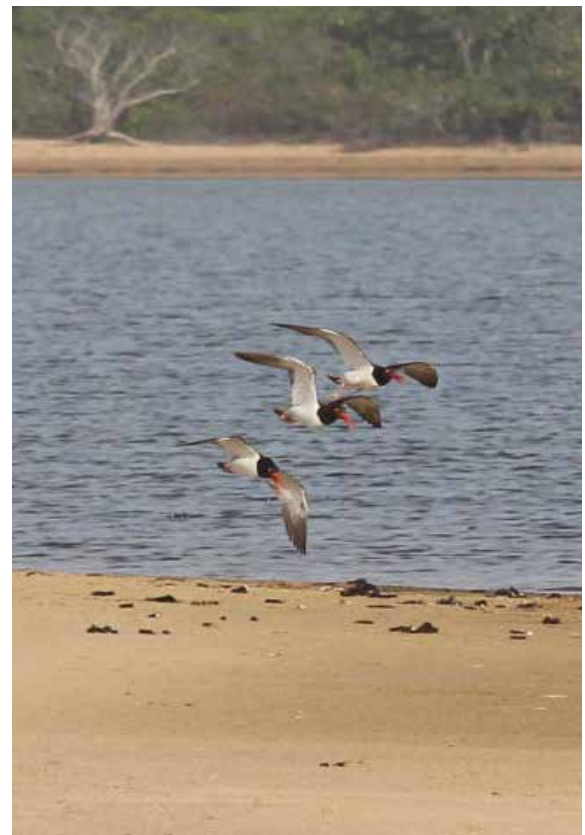
Piping Plover chicks hatch with the ability to run and find their own food. They are less than three inches tall and often forage together while their parents protect them from bad weather and predators. Camouflage is a chick's best defense. Because of their coloration, a chick will often lie low in a footprint and remain motionless when threatened by a predator. It takes roughly 26-35 days for a chick to fledge.



American Oystercatchers

Oystercatchers feed on bivalves, mollusks, worms, and marine invertebrates that inhabit the intertidal zones. They use hammering and stabbing techniques to open bivalves and eat the meat inside. Nests consist of scrapes in sandy or rocky substrate on open beaches, small islands, estuaries, and salt marshes. Females lay one to three eggs, and both parents incubate for 26 days. Oystercatchers call and move away from the nest or eggs when predators are present and typically move off a nest long before a predator notices them.

A few days after hatching, chicks move off their nests but stay in the nesting territory. Adults often hide their chicks in vegetation until they are almost fledged. Like Plovers, American Oystercatcher parents give an alarm call when predators are present, and the chicks will respond by running for cover or by staying immobile. Chicks are dependent on their parents for food until they are at least 60 days old.



Photos on this page by Mary Flathers



What is a healthy pond?

Healthy ponds have eelgrass, clean water, clean sediment, and a high diversity of animals large and small. According to the Massachusetts Estuaries Project (MEP), a healthy pond would have the following parameters:

Dissolved O ₂	≥ 6.0 mg/L pH 6.5-8.5
Temperature	≤ 85°F
Transparency	between 3 m - 0.6 m
Total nitrogen	0.28 mg N/L - 0.61 mg N/L
Chlorophyll-a pigments	3 µg/L - 10 µg/L



Photo of eelgrass courtesy of the Vineyard Gazette

The Foundation can and is measuring all of these parameters except chlorophyll-a. The Martha’s Vineyard Commission (MVC) will be collecting chlorophyll-a measurements four times during the 2016 season

Edgartown Great Pond baseline as determined by MEP

Increasing nutrient pollution or “eutrophication”, the effects of which are shown in this photo of Jacob’s Pond, is the greatest threat to Martha’s Vineyard’s estuaries. Our Vineyard ponds are much healthier than most of the East Coast estuaries with nitrogen levels just slightly above the suggested limit. Fortunately, this degree of pollution can be reversed with timely management and restorative efforts going forward.



Algae growth on Jacob’s Pond
Photo by Tom Wallace

According to the final MEP report, Edgartown Great Pond exhibits Moderate to Significant Impairment in some parts of the pond and Moderate Impairment in others. The upper basins of the pond are more impaired than the lower basins, which are shallower and closer to the tidal openings.

The oxygen depletion and amount of phytoplankton present, as assessed through chlorophyll-a measurements, indicated that at the time of the study, the nitrogen inputs were above the level necessary to support a pristine pond ecosystem.

Total Nitrogen (TN) levels in the lower basin were 0.582 mg N/L and in the upper basins were on average 0.650 mg N/L. Healthy local estuaries that support eelgrass have TN levels 0.35-0.45 mg N/L. The MEP set a benchmark of TN <0.5 mg TN/L averaged across all EGP sites in order to restore the estuary.



Measuring transparency using a secchi disc

What can we do to restore and protect pond health?

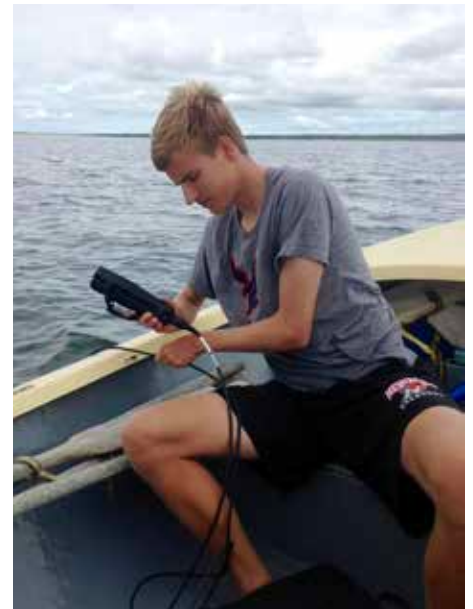
- Come up with a Nitrogen management plan to prevent future degradation, reduce Nitrogen inputs, and restore eelgrass
- Control nutrient inputs and maximize tidal flushing
- Fund the sensors that monitor and transmit real-time data feeds of Pond parameters
- Fund research to monitor the health of the Pond and identify threats before they become devastating
- Stay informed; the more you know and share your knowledge, the more successful we will be at protecting the Pond
- Be the eyes and ears of the Pond and report anything out of the ordinary to the Foundation-send photos or emails

How and why is the Great Pond Foundation monitoring Edgartown Great Pond?

This spring we purchased state-of-the-art equipment so that the Foundation can assess Pond health and collect quality data. We are sampling the ten sites around the Pond every week during the summer in order to record trends and variations so that we can identify any potential anomalies before they become detrimental. At least twice this season we will collect paired samples with the Martha's Vineyard Commission to be analyzed this off-season.

By having the scientific grade equipment in-house, the Foundation now has the ability to answer site-specific and time-dependent questions. We are interested in how the quality of the Pond varies throughout the coves, throughout the season, and in response to Pond openings. We are working in conjunction with the Martha's Vineyard Commission to compare data sets to make sure that our methods are readily comparable and can be used for future studies. Now that we have our own equipment, we can answer our questions, and yours, as they arise.

We use a hand held probe called a CTD (Conductivity Temperature Depth). This device measures Dissolved Oxygen, Turbidity, pH, ORP/Redox, Conductivity, Specific Conductance, Salinity, Total Dissolved Solids, Resistivity, Seawater Density, Total Suspended Solids, Depth, and Temperature. We also have a 9500 Photometer to measure nutrients. Currently, we are measuring Ammonia, Nitrate, Phosphate, and Silica but have the ability to measure many other nutrients with this device, should they be of interest.



Sam using the hand held CTD



(Left) Natalie preparing a water sample

Nitrogen and Phosphorus are the most commonly measured nutrients because of their role in promoting phytoplankton growth which can then lead to reduced oxygen levels and impaired Pond health. In estuarine systems where Nitrogen and Phosphorus are not limiting factors, Silicates (most of which come from the weathering of rocks) can be the limiting nutrient for phytoplankton growth. We are also measuring Silica to get a complete picture of our Pond.

(Right) Photometer on board to measure nutrients present in samples



Photos by Emily & summer interns Natalie & Sam

This season we will be collecting a large volume of data by sampling thoroughly and consistently throughout the Pond. We will take these data and compare them to the baselines established by the MEP study and begin to document trends in pond health. This will inform future management plans and help assess their effectiveness.

[Editor's note: Below is the sampling plan that has just begun; data from the samples will be forthcoming.]

Edgartown Great Pond - Water Quality Monitoring 2016

Parameters	Ideal Conditions*	MEP Baseline*	MEP Target*	GPF Sampling Frequency	MVC Sampling Frequency
Dissolved O ₂	≥ 6.0 mg/L	3 - 14 mg/L	≥ 6.0 mg/L	2x / week Jul-Oct	2x / Jul
pH	pH 6.5-8.5	-	pH 6.5-8.5	2x / week Jul-Oct	n/a
Temperature	≤ 85°F	-	≤ 85°F	2x / week Jul-Oct	2x / Jul
Transparency	3 m - 0.6 m	-	3 m - 0.6 m	2x / week Jul-Oct	2x / Jul
Total Nitrogen	0.28-0.61 mg N/L	0.58-0.65 mg N/L	0.5 mg N/L	1x / week Jul-Oct	2x / Jul
Chlorophyll-a	3 - 10 µg/L	2 - 30 µg/L	3 - 10 µg/L	-	2x / Jul
Conductivity	-	-	-	2x / week Jul-Oct	-
Salinity	-	12 - 27 ppt	-	2x / week Jul-Oct	-
Turbidity	-	-	-	2x / week Jul-Oct	-
Pressure	-	-	-	2x / week Jul-Oct	-
Depth	-	-	-	2x / week Jul-Oct	2x / Jul
ORP/Redox	-	-	-	2x / week Jul-Oct	-
Specific Conductance	-	-	-	2x / week Jul-Oct	-
Total Dissolved Solids	-	-	-	2x / week Jul-Oct	-
Resistivity	-	-	-	2x / week Jul-Oct	-
Seawater Density	-	-	-	2x / week Jul-Oct	-
Silica	-	-	-	1x / week Jul-Oct	-
Phosphate	-	-	-	1x / week Jul-Oct	-

*Data taken from Massachusetts Estuaries Program (MEP) Final Report: Linked Watershed-Embayment Model to Determine Critical Nitrogen Loading Threshold for the Edgartown Great Pond System, Edgartown, MA

Future Plans

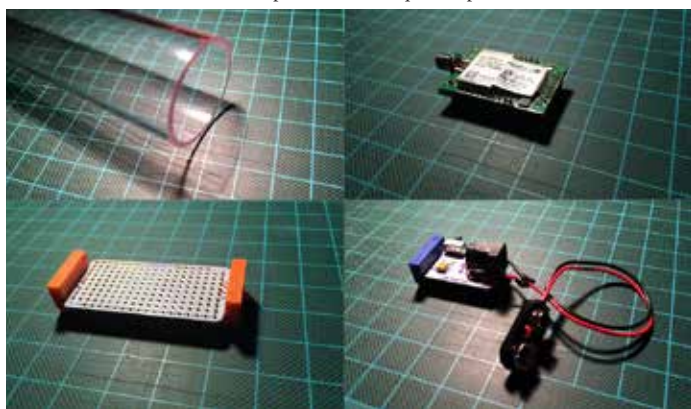
In August, we will be partner with HereLab, an island innovator, to place real-time sensors throughout the Pond to monitor water quality and transmit live data to our website. Not only will we be getting more data than we have ever had, but the sensors will be made by local students ages 11-111. There is a 5-day STEM course (August 22-26th) set up to learn to build, program, and deploy these sensors throughout the Pond. We hope to have sensors in the Pond by September 2016. For more information please visit <https://herelab.io/stem-camps/>.

We are thrilled about this opportunity to have real-time information about the Pond. Have you ever wondered if a pond opening was successful? With these sensors you will be able to look at the live data and answer that question for yourself in real time from any smartphone, tablet, or computer connected to the internet.

The combination of this innovative technology and with our thorough sampling of the pond with our CTD and Photometer will give us the clearest perspective of Pond health that we have ever had.



Four components of an aqua temp sensor



Please join us to support our Great Pond!

We would like to reach out to all our friends and neighbors in the Edgartown Watershed. We need to hear from you about anything concerning the Pond. We also welcome your questions on any of our projects. We hope that you will join us in our efforts to care responsibly for this great resource. Your tax-deductible donations would be greatly appreciated as well!

Where to find us:

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Photo by Anne Mazar

INCREASE SALINITY, REDUCE NITROGEN
AND IMPROVE CIRCULATION

THROUGH THE INVOLVEMENT OF
PEOPLE WHO USE THE POND

**GREAT
POND**
Foundation

*Enhancing
the health of
Edgartown Great Pond*

IN PARTNERSHIP WITH THE TOWN AND
OTHER CONCERNED ORGANIZATIONS