

# ANNUAL REPORT

July 1, 2014 - June 30, 2015

## GREAT POND FOUNDATION



# GREAT POND FOUNDATION

*Directors:* Thomas Wallace, *President*

David Luening, *Vice President*

Robert Rukeyser, *Treasurer*

William Darman

Anne Mazar

Brendan O'Neill

Mark Patinkin

Michael Shalett

*Director Emeritus:* Robert Hughes

*Director of Science & Education:* Robert Woodruff

*Chief Financial Officer:* Barbara Conroy

*Publications Director:* Jane Hawkes

Great Pond Foundation

PO Box 2005, Edgartown, MA 02539

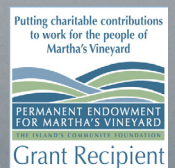
postmaster@greatpondfoundation.org

[www.greatpondfoundation.org](http://www.greatpondfoundation.org)

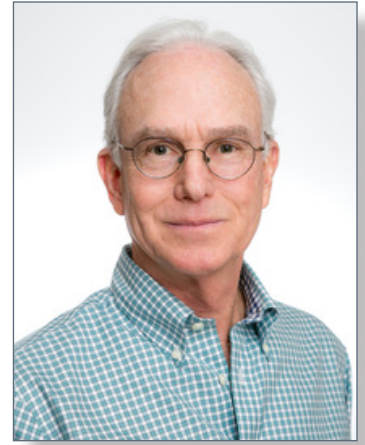
508.627.7222

Cover photos by Anne Mazar

Photo by Anne Mazar



# From the President...



July 2015

Dear Friends and Supporters,

After an unprecedented winter and a very dry spring, I am thrilled to report that the water quality of the Edgartown Great Pond remains exceptionally high. Dredging activity was curtailed this past winter, due to thick ice in the Pond. Fortunately, the ice helped to preserve the channel from last year's dredging, which allowed for a strong tidal flush in the spring and a long, 23-day opening.

Healthy oyster beds and the spread of eelgrass continue to indicate the ever-improving health of the Pond. Our combined efforts with the MV Shellfish Group in oyster propagation may yield the "strongest" population we've seen in ten years. Many thanks go to William "Boo" Bassett for his many years of work with the Oyster Restoration Project.

We continue to broaden our activities with both expanded internship opportunities for young estuary enthusiasts and enhanced monitoring to better understand our fascinating pond. For the summer of 2015, interns are working on all aspects of oyster aquaculture, further contributing to the viability and vitality of Edgartown Great Pond.

The Foundation has also spearheaded the marking and future removal of three navigational hazards on the southwestern peninsula of the Kanomika shore. These hazards have caused several accidents over the years, and their removal will avoid potential tragedy.

As you might recall, the increasing amount of nitrogen has long been the main threat to a healthy pond. Whether the source is wastewater disposal (septic) systems, fertilizer use, or storm water, our primary focus of dredging stems from keeping nitrogen levels in check or properly balanced. However, dredging alone is not enough to prevent any future degradation of our valuable resource. The Martha's Vineyard Commission recently enacted regulations to reduce the use of lawn fertilizers. According to the Massachusetts Estuaries Project, nitrogen from fertilizers accounts for nearly ten percent of the controllable nitrogen leaching into the watershed. This recent action by the MVC is a step in the right direction toward keeping nitrogen levels at acceptable rates to preserve the health of all watersheds on the island.

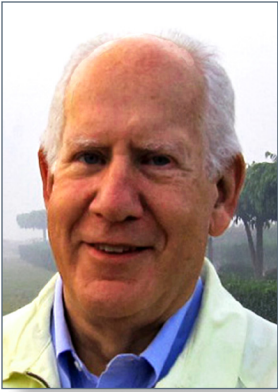
To enhance our constituents' understanding of our preservation efforts, we will be providing enhanced real-time visibility in the coming year on the Great Pond Foundation web site [www.greatpondfoundation.org](http://www.greatpondfoundation.org)

The Foundation recognizes the significant contributions of Bob Woodruff, our Science and Education leader, who, after 15 years of service, is retiring this year.

We mourn the recent loss of Dr. Burt Fleming, a founding member of the Great Pond Foundation and long-standing director. On page fourteen, we have included a tribute to his many years of dedication. A more recent loss in July is our great friend and neighbor Jerry Kohlberg, whose generous quiet philanthropy arose from his trueness to values and creative forward vision. Jerry's legacy of collaborative accomplishments and their broad benefits endures, remaining with us in the dedication of the Kohlberg family. We shall truly miss him.

We are extremely appreciative of the generous support of our donors, who have made our programs possible. That support, along with the effort of many volunteers both at the town and Foundation, are essential to keeping our pond clean, healthy and beautiful.

A handwritten signature in black ink that reads "Tom Wannica". The signature is written in a cursive, flowing style.



# Finance...

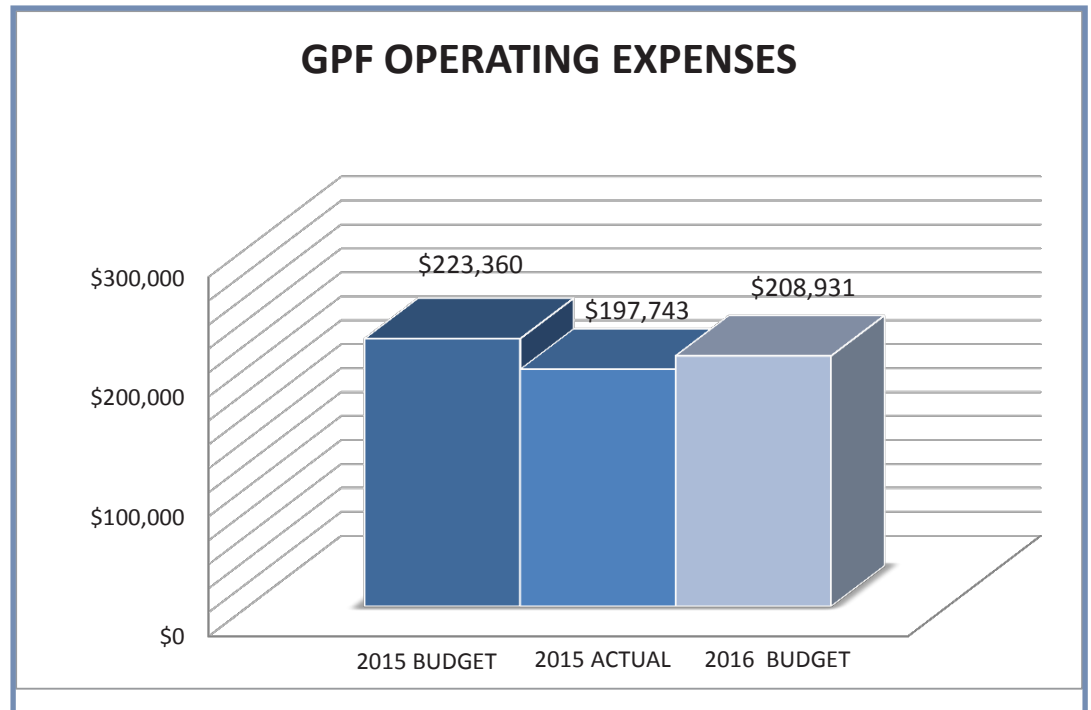
*Bob Rukeyser*  
*Treasurer*

The Great Pond Foundation strengthened its financial position during the year ending June 30, 2015. Although we did not achieve our revenue goal, the shortfall was more than covered by lower than budgeted expenses, and net income exceeded plan. This strong position enabled us to finance our dredging activities and enhance our science and education programs while also building prudent reserves for repair and replacement. It also helped ensure our long-term ability to carry out our core mission to enhance the health of Edgartown Great Pond.

## FISCAL YEAR 2015

The winter of 2014-15 presented exceptional challenges. We are permitted to operate our dredge (“Nessie”) each year only from November 1 to April 30. This winter was marked by unusually long periods of ice cover on the Pond. Dredging was not possible because of the ice cover. In addition, there was unprecedented maintenance required this year, most notably the dredge impeller, a critical part that took some time to replace. Together, these factors prevented us from dredging this winter.

Fortuitously, a year ago, Nessie worked in tandem with the Edgartown Town dredge, which was in the Pond for the first time in years. Together, they removed some four times the sand removed in 2013. Even a year later, a good channel remained, and we had a 14-day opening in late November-December 2014, and an excellent 23-day opening in late April-early May 2015.





For future generations

Photo by Rob Hughes

Benefiting from the unusually long openings, the Pond concluded fiscal 2015 with excellent clarity, the most encouraging eel grass growth in years, and a strong increase in the oyster population. The Great Pond Foundation has worked together with the MV Shellfish Group for eight years on restoration of a vibrant oyster population. Each adult oyster can filter up to 50 gallons of water per day, removing a substantial volume of nitrogen from the Pond.

Revenues for FY 2015 were \$179,600, 16% below the aggressive \$214,100 goal we set a year ago. We continue to encourage those who have contributed generously in the past as well as to appeal to all who benefit from a healthy Great Pond to support our programs. We are also grateful to the Vision Fund for its funding.

Total expenses of \$141,742 were 15% under budget, principally due to the absence of dredging as explained above, and lower general and administrative expenses. Nevertheless, we initiated significant activities, including a project to bury three century-old duck blinds in the Pond that have presented navigational hazards and a comprehensive plan to anticipate maintenance and replacement requirements. Science and education expense was also below budget but higher than last year, reflecting increased testing and the purchase of a long lens web camera and instruments for monitoring water quality and weather.

As we've noted in the past, the excess of our revenues over expenses allows us to build reserves to maintain and, ultimately, replace Nessie and also enables us to weather and respond to damaging storms and other risks to the health and stability of the Great Pond. The generous support of our donors is strengthening our ability to prepare for these prospects and contingencies.

*Although FY '15 financials have not been audited, the numbers presented herein may be considered reliable estimates.*

## FISCAL YEAR 2016

For fiscal 2016, we anticipate conducting a robust dredging program, including implementing a long-range maintenance plan, completing removal of the duck blind hazards, continuing a vibrant science and education program, and building a sustainable, year-round presence for the Foundation. Even though financing these activities will require some reallocation of budget resources, investments made in 2015 make achieving this realistic. For fiscal 2016, we have established a fundraising goal of \$209,100, in line with recent years.

The sustained support of generous donors has made it possible for the Foundation to enhance the quality of life in and around Edgartown Great Pond by acquiring and operating a dredge built and dedicated to serving the unique needs of the Great Pond and by conducting an array of science and education programs, ranging from internships and water quality monitoring to oyster restoration.

Because a healthy great pond yields widespread benefits, we actively seek broader support from all those who live near or who care about the Pond. We also seek additional grants from foundations and agencies and to build on our good relationship with the town of Edgartown to gain financial support for operating the dredge.

Edgartown Great Pond is a fragile asset. Your continued support is extremely important and is very much appreciated.



**The Foundation would like to acknowledge the generosity of the following friends and organizations for their donations over the past year:**

Joe Bower & Liz Potter	Marty & Joanne Homlish	Randy & Melani Nardone
Karen Bressler & Steve Rabin	Tom & Sonja Hout	Frank & Liz Newman
Toni Chute & John O'Keefe	Rob & Susan Hughes	John & Betsy Rolls
Michael & Jennifer Corbo	Gerald & Linda Jones	Mitchell & Lisa Rubin
Bruce & Myrna Pope Cummings	Rosabeth Moss Kanter	Bob & Leah Rukeyser
The Darman Family	Glenn & Debby Larsen	Richard & Betty Saltzman
Barbara & Roger Fieldman	Dave & Doris Luening	Howard & Amy Seife
Letty Fonteyne	Joe & Deborah Loughrey	Michael & Karen Shalett
Andy & Betsy Forrester	Bob & Caroline Maruska	James & Susan Snider
Patrick Gage & Irena Wilson	John & Irene MacKenty	Evan & Oscie Thomas
Michael & Susan Grenert	Bill Massa & Chris Campbell	Melissa Vail & Norman Selby
Ed & Ellen Harley	Anne & Brian Mazar	Tom & Stacy Wallace
Fergus & Sarah Henderson	Bob McLaughlin & Gabriella Morizio	John & Gail Wasson
Jeremy Henderson & Catherine Samuels	Jeff & Jacqui Morby	
Gus Daniels Foundation		
IBM Matching Grant		
Kohlberg Foundation		
John R. and Inge P. Stafford Foundation		
United Way Matching Grant		
Weber, Gallagher, Simpson, Stapleton, Fires, & Newby		

<b>POND ENHANCEMENT PROJECTS</b>	<b>IMPROVED CIRCULATION</b>	<b>INCREASED SALINITY</b>	<b>REDUCED NITROGEN</b>	<b>PARTICIPATING PARTNERS</b>
Cut Through Barrier Beach to the Sea	X	X	X	Town of Edgartown
Oyster Restoration		X	X	Shellfish Committee, MV Shellfish Group
Dredge Delta Channel to Opening	X	X	X	Dredge Committee, Aquamarine, Shellfish Committee, Edgartown Harbormaster
Dredge Other Permitted Areas	X	X		Shellfish Committee, Dredge Committee
Seek Dredge Permits - Other Areas	X	X		Shellfish Committee, Dredge Committee
Water Quality Monitoring			X	Mass. Estuaries Project, Town of Edgartown, MV Commission
Manage Invasive Plant Species				Nature Conservancy, Sheriff's Meadow Foundation
Reduce Local Fertilizer Use			X	Property Owners in Watershed
Algal Bloom Research & Remediation			X	Woods Hole Oceanographic, URI Marine Science
Support Responsible Development Rules			X	Planning Board, MVC, Ponds Advisory Committee]
Support Existing Sewer Developments			X	Wastewater Commission
Monitor Nitrogen Plume (test wells)			X	Town of Edgartown, Nature Conservancy, MVC
Public Education Programs			X	Various
Monitor New Dentrification				



Photo by Anne Mazar



*Tom Wallace*  
*President*

# Dredge Permitting and Operations...

Our “Nessie” dredge has proven her value over the past seven years, with water quality in the Pond at its best in decades. Nevertheless, this past winter was the first season we could not get the dredge into the Pond due to unforeseen equipment issues and persistent and prolonged icing and snowdrifts, which hampered our access to the Pond. When we acquired Nessie, it was thought that dredging every other year would be appropriate. However with increased storms and a reconfigured (wider) barrier beach, annual dredging has proven most prudent. We were fortunate in 2014 to have the town dredge and Nessie work simultaneously to clear the channel from Hurricane Sandy’s effect.



An ice cover makes the Great Pond look like a meadow. Photo by Alan Muney

Mother Nature continues to play a major role in determining when we can actually dredge within the limited time allowed each year by our permits. Last winter’s unprecedented volume of ice proved to be a double edged sword: it shut down dredging activity, yet the thick ice also helped to preserve the significant channel that had been created the year before.

This spring’s opening to the sea proved to be one of the best. The opening spanned remarkably calm weather and record breaking high and low tides, which provided excellent circulation and cleansing action to the Pond.



A channel is being dug. Photo by Tom Wallace



A most successful opening for 23 days! Photo by Tom Wallace





Besides an already major overhaul of Nessie’s primary pumping system, an evaluation of all systems and refurbishment will be completed in the coming months. Due to the heavy salt exposure, the dredge’s mechanisms will be examined for their longevity. With this survey comes an appraisal of the equipment’s useful lifespan, which will be helpful in our long-term planning. We make all efforts to reduce wear and degradation on the equipment, but a time will come when the dredge will need to be replaced. Funding has long been planned for this replacement, even if it is a decade away.



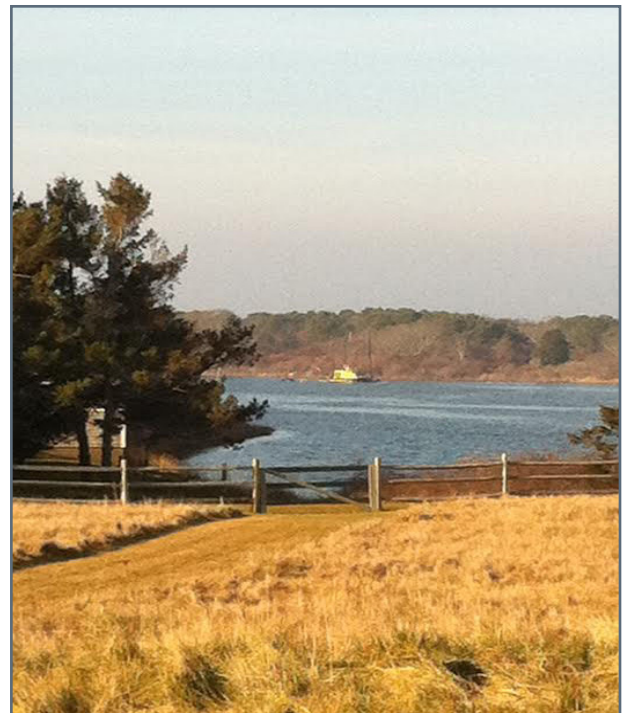
New impeller purchased last winter for Nessie



Greenish-yellow algae suffocates flora and fauna as it takes over the water. Photo by Tom Wallace

One only needs to look at Jacob’s Pond, a small cove between Swan Neck and Jacob’s Neck, to observe what occurs when there is not enough circulation in a pond. Jacob’s Pond has over years become mostly closed off from Edgartown Great Pond by migrating sand. This small body of water has become eutrophic, rich in phosphates and nitrates and covered in algae. The challenge of nitrogen management has been well documented as the primary issue with any body of water on Martha’s Vineyard.

Dredging a channel through the barrier beach continues to be our preferred method for promoting a sustainable and attractive Edgartown Great Pond. We are looking forward to getting an early start with this season’s dredging program upon completion of the necessary maintenance to Nessie. We hope that Mother Nature will cooperate with the weather so the opening’s re-salinization, and nutrient flushing will continue the long-term health of the Pond and our efforts to preserve and protect this fragile estuary on the island of Martha’s Vineyard.



Pretty as a painting!

Photo by Rob Hughes



# Science & Education...

Bob Woodruff

Director of Science & Education

## REFLECTIONS

This past year was one of big transitions for the Foundation. Having turned 80 on April 1, I submitted my resignation to the Directors and agreed to stay on for a limited period of time to assist with the change.

### Summer Interns and Oyster Restoration



Last year, native Islander and shellfish biologist Emma Green-Beach was hired by the Foundation to oversee the Summer Internship Program and begin to take on the science and education work I have been engaged in for the past 15 years. Emma has a lifelong association with the Pond—and her work with the Martha’s Vineyard Shellfish Group (MVSG) as a shellfish biologist greatly strengthens the Foundation’s role in management of the Pond.



For the past seven years GPF interns have worked closely with Boo Bassett, field manager for the MVSG’s Oyster Restoration Project, nurturing thousands of oyster spat raised in the MVSG hatchery. The first hand knowledge and hands-on experience imparted to our interns through Boo has been immeasurably valuable. This year Boo is retiring and handing the cudgel to Petey Jackson, long-time Edgartown shell fisherman. Two highly qualified GPF interns, Allie Banks and Kelly Felder are presently assisting Petey with the Restoration Project.

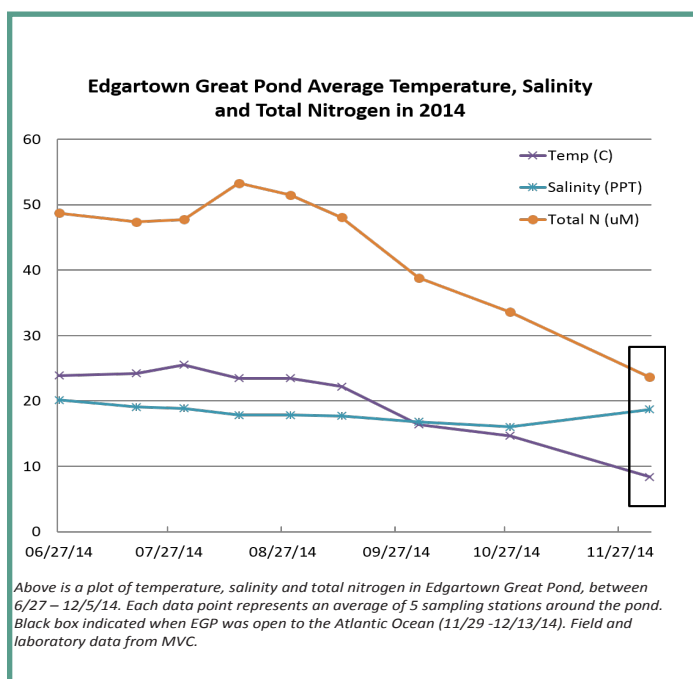
### Water Quality Monitoring

Boo reports that both natural and hatchery-raised oyster populations are thriving – the best possible indicators of the water quality and health of the Pond. Now in its eighth year, the Oyster Restoration Project can justly take credit for this recovery of the oyster population, along with good management by the Edgartown Shellfish Department.

In the fall of 2013 GPF hydrogeologist Craig Saunders and I placed four wells in the Pond with digital recording devices



to monitor temperature, salinity, and water levels. Unfortunately, the extreme icing of the Pond in the 2014-15 winter played havoc with the wells (bending 2 inch iron pipe!) and ruining two of the monitors. The remaining two will be placed in more secure locations where they can be more easily monitored and removed if threatened by ice again. The monitors have provided some useful data which will be made available via the GPF web site : [www.greatpondfoundation.org](http://www.greatpondfoundation.org).



# Meet the interns...



Allie Banks is from Rochester, NY and has spent her summers on Sengekontacket with her family. She will be a senior at Groton School in the fall where she will be head of the Environmental Board. In addition, she enjoys singing with her a cappella group, photographing for the school paper, and publishing the yearbook. She is particularly passionate about photography, and hopes to get some nice shots of the Pond before the summer ends. After taking a yearlong ecology course in school, Allie became interested in the work GPF was doing to better understand and promote pond health and sustainability. In the future, she is interested in pursuing both Environmental Science and History in college.

*"I love spending time out on the water as we set the shellbags and spawning cages out in the coves. Whether we're making shellbags, setting out spawning cages, creating living shorelines, or working on the swan survey I've enjoyed spending time outside and getting to understand the Pond and the life within it better."*



Kelly Felder grew up on the Island, where she gained a love and appreciation for the ecology of Martha's Vineyard. Kelly is a recent graduate of University of Vermont, earning her bachelor's degree in Wildlife Biology. For the past three summers she has worked for the Martha's Vineyard Land Bank and Mass Audubon at Felix Neck as a field scientist monitoring nesting shorebirds of Martha's Vineyard.

*"Interning for The Great Pond Foundation has been a whole new learning experience. I am really enjoying learning about the life history of oysters and how different aquaculture methods can increase their productivity in the hatchery as well as in Edgartown Great Pond. I hope to continue learning about the Vineyard's ecology, and to attend a graduate program furthering my studies in wildlife biology."*

## **Introducing Petey Jackson and note from Rick Karney, Director of MV Shellfish Group**



Petey Jackson is an Edgartown resident and is working out great. He is efficient and hard working. In the past, he worked a bit with Boo, so knew the routine and was able to jump right in. He started late in the season but managed to get out all the long lines and spat collectors in time. We couldn't have asked for a better pinch hitter. I saw Kelley, one of the interns, the other day, and she said things were going well. Petey said they were going to start to put last year's seed from the hatchery into growing cages this week. He is also employed by the Edgartown Shellfish Department, so there is good coordination and sharing of gear.

We did the big oyster spawning yesterday using broodstock from EGP. We got over 140 million eggs. We kept about 37 million (our capacity) and released the rest equally in both Edgartown and Tisbury Great Ponds, over 50 million per pond. In 2 to 3 weeks the larvae should be able to be moved to the remote set systems. Emma helped set up the tanks/pumps with the interns last year, so she knows the routine and it should progress smoothly. Emma collected a sample of adult oysters from the Pond to test them for dermo disease. She taught the interns how to prepare the oyster tissue for testing.

Emma recently found some mussel seed attached to the experimental BioHaven® floating island pods that were hung out last year. We still need to confirm the species identification, ribbed or hook mussel, but in either case it appears that the pods can catch natural mussel spat and also that the floating island material could be used as a substrate to aquaculture mussels in the ponds to increase the population of shellfish for their water cleaning filtration services. We also had our first successful spawns of ribbed mussels at the hatcheries this week. We have about 1.5 million embryos. So we are pretty excited about this week's developments on the ribbed mussel front. The plan is to develop culture methods that will allow us to add this species to the restoration tool box.

# Highlights of the Intern Program of 2015

We are delighted to offer this list of on-going and potential projects that offer exciting opportunities not just for our interns and resident biologists but also for interested volunteers.

## Oyster Restoration Project

with Project Field Manager Petey Jackson

- ◆ craft baskets for oyster sets
- ◆ set lines in the Pond
- ◆ monitor sets

## Water Quality

with hydrogeologist Craig Saunders

- ◆ install monitoring wells on barrier beach and in Pond
- ◆ assist in monitoring and gathering data from wells (August)

## Flora and Fauna Inventories

with marine biologist Emma Green-Beach and MVC cartographer Chris Siedel

- ◆ up-date survey of stands of *Phragmites*; determine native or invasive biotype
- ◆ up-date fish species inventory—(under guidance of MA Division of Marine Fisheries)
- ◆ up-date Invertebrate species: inventory; compile digital catalog; record relative abundance

## Collections and Surveys

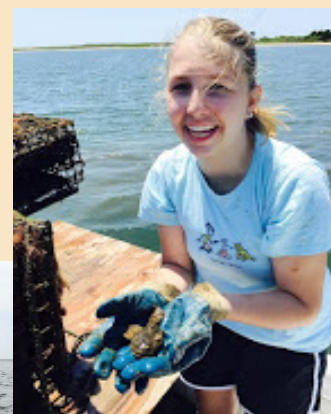
with marine biologist Emma Green-Beach

- ◆ create digital catalog of plant and macro algae; record relative abundance
- ◆ perform bi-weekly counts of Mute Swan breeding population - pairs and offspring
- ◆ perform bi-weekly counts of Canada Goose breeding population - pairs and offspring
- ◆ map presence of Ribbed/hooked mussels ; record species; note sediment and associated fauna

## Species Population Monitoring

with marine biologist Emma Green-Beach

- ◆ monitor Mute Swan molting/feeding behavior the effects on Pond plants and water quality
- ◆ monitor Dermo disease in oyster population – take bi-monthly samples June -August





## Potential Issues with Geese and Swans

by Bob Woodruff

When we hear the words “invasive species” we think of the *Phragmites* reeds at Swan Neck or a myriad of other non-native plants that threaten native plant communities. But Canada Geese and Mute Swans are both considered “invasive,” each for very different reasons.

The permanent resident Canada Geese we have today along the Northeast Coast are descendants of escaped or released live decoys used in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries. Prior to the release of the live decoys, like their name implies, Canada Geese bred in the North and migrated through but were not permanent residents in this region. A ban by the federal government in the early 1930’s put an end

to the use of live decoys. Subsequent release of the captives led to the establishment of the feral non-migratory population we have today. In many areas along the Coast the population has expanded to the point where the species has become a nuisance on golf courses, agricultural crop land, parks, etc.

After gorging themselves on upland grasses, geese seek the protection of ponds and estuaries at night. There they defecate, enriching the waters with nitrogen, which has negative consequences for the ponds such as algal blooms. Some states, like New York, have begun to address the problem by adopting management programs aimed at reducing the population. Island biologists are increasingly concerned that action is needed in Massachusetts and on the Island to get control of the goose population. To that end, GPF in concert with the BiodiversityWorks staff is beginning a study of goose ecology on the Island, starting with observations of nesting and feeding behavior on Edgartown Great Pond.

The Mute Swan, first introduced from Europe to America in the 1950’s to adorn Long Island estates, has begun to cause alarm as its population rapidly expands from Massachusetts to Maryland and beyond. Unlike geese, swans do not graze outside the ponds but spend their entire lives within the ponds, feeding on submergent aquatic vegetation, (SAV). So, while they do not import nitrogen to the ponds, they do damage stands of SAV which are critical habitat for fishes, shellfish, crabs, and other vertebrates and invertebrates. Again, states like Maryland have become alarmed and have started management programs to reduce swan populations. In August, when the swans are molting, our staff will be monitoring the feeding behavior of the great flocks in an effort to determine their impact on the ecology of the Pond.



Photo by Anne Maza



## **GPF mourns the loss of Founding Director and friend**

It is with great sadness that the Foundation acknowledges the loss on May 11, 2015 of Dr. Burton Fleming, physician, sailor, Director, and friend of the Pond.

Burt advocated for many years that a clean, sustainable pond did not happen by accident. His insight from other estuaries proved valuable to our efforts in proactively anticipating challenges rather than simply reacting to issues as they occurred. Burt was passionate about the Edgartown Great Pond and certainly had a major influence in uniting riparian owners and fostering a collaborative to increase the odds that our pond would remain a sustainable estuary.

As a founder and longtime director of the Foundation, Burt provided a critical linkage between the world of science and the rest of us. Beyond that, he served as a dedicated and clear-eyed skipper, always keeping us on course and focused on our basic mission. Burt possessed an active mind and a curiosity about the world that made him a joy to be around.

He was a strong athlete, in addition to his prowess as a sailor; he was an avid water and snow skier, ice hockey player, ice dancer, and snow skier. As a pilot who earned his license with multi-engine and instrument ratings, he enjoyed the freedom of being up in the air, seeing our precious world curve below out of his cockpit window. His passion for avian creatures manifested itself into the art of woodworking and earned him several awards for his fine craftsmanship.

An enthusiastic fisherman, Burt had great luck with angling bass that swam into the Pond during the opening of the breach. Burt's legacy will continue in our efforts to maintain a healthy environment for aquatic life in the Pond with the Great Pond Foundation's shellfish initiatives and our collective duty to maintain and protect the dwindling population of herring native to our riparian waters.

His legacy as a conservationist, friend, and devoted family man shall not be forgotten.

*We are grateful for the contributions we have been receiving in Burt's memory.*



Photo by John Culbert



Photo by Anne Mazar

## Please join us to support our Great Pond!

We would like to reach out to all our friends and neighbors in the Great Pond 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:

On the web: [www.greatpondfoundation.org](http://www.greatpondfoundation.org)

By postal mail:  
**Post Office Box 2005**  
**Edgartown, MA 02539**

By email: [postmaster@greatpondfoundation.org](mailto:postmaster@greatpondfoundation.org)

By phone: 508-627-7222

By Fax: 508-627-9777

Back cover photo by AnneMazar



INCREASE SALINITY, REDUCE NITROGEN  
AND IMPROVE CIRCULATION

GREAT  
POND  
Foundation

THROUGH THE INVOLVEMENT OF  
PEOPLE WHO USE THE POND

*Enhancing  
the health of  
Edgartown Great Pond*

IN PARTNERSHIP WITH THE TOWN AND  
OTHER CONCERNED ORGANIZATIONS