

OPET Officers and Directors Elected for the 2002/2003 Term

Officers

Robert King
President

Eric Davidson
Vice President

Bill Kerfoot
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Consultant

Wendi Buesseler

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Susan Gagosian

Melinda Hall
Dana Rodin

Peter Valtin
Martin White

Honorary

Boardmember

Robert Livingstone

OPET Board meetings are open to all OPET members. Meetings are usually held on the third Sunday of the month, at 4 pm in the Treetops Clubhouse.

We'd love to have you come! For information call 508-540-7345.

OPET does not have an official phone, but you can leave a message at 508-540-7345. We'll gladly get back to you!

Or e-mail opus132@rcn.com or brose@cape.com. And do visit our website, www.opet.org.

Wendi Buesseler joins OPET as Part-Time Consultant

A warm welcome to our newest member of the Oyster Pond Environmental Trust, Wendi Buesseler. As a part-time consultant, Wendi will help manage the ever-increasing responsibilities that face a conservation trust today. She will be actively involved with the OPET board members concerning our outreach programs, newsletter, and act as ombudsman with town, regional, and state governing bodies.

Growing up in southern California, Wendi developed a keen interest in land and water conservation due to the urban sprawl and unchecked development in her community. This experience led to a B.A. in Urban Studies and Planning from the University of California at San Diego and later an M.A. in Urban and Environmental Policy and Planning from Tufts University.

Wendi moved to Falmouth in 1982 with her husband, Dr. Ken Buesseler, who was a graduate student in the Woods Hole Oceanographic Institution Joint Program with MIT. Ken is now a Senior Scientist and Department Chair at WHOI. They have two daughters, Lydia, a freshman at Falmouth High School and Hannah, a 6th grader at Morse Pond School. An avid gardener, Wendi also enjoys cooking different types of cuisines. Since moving to the Cape, Wendi has worked for environmental consulting firms and has gradually increased her involvement as a volunteer with several conservation and environmental non-profit organizations. Currently she is the Chair of the Coonamessett River Park Coalition, Chair of the Natural Resources Committee of the

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De-Nitrifying Septic System To Be Installed At 110 Oyster Pond Road

By Peter Valtin

Construction started in late September on a 2-story home at 110 Oyster Pond Road. This lot, while nominally over an acre, is mostly in the pond. Hence, the plan for sewage disposal on this site has attracted the interest of the OPET board.

As many of you know, one of the primary determinants of water quality and ecological health in a pond like Oyster Pond is nitrogen

pollution. Nitrogen comes into the pond through the air (from power plants and cars) and through ground water (mainly from residential septic systems). Nitrogen pollution is highly correlated with eutrophication — nasty smelling water due to excessive growth of algae and other plants.

Several Cape organizations have worked hard to raise

awareness of the problems posed by nitrogen pollution. Leading the pack is the Waquoit Bay National Estuarine Research Reserve (WBNERR), which annually puts on a day-long Watershed Fair to highlight the movement of pollutants — particularly nitrogen — through a watershed and into open bodies of water. According to its Director, Christine Gault, WBNERR sponsors ongoing research into

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OPET Designs and Conducts Study of Oyster Pond

By Peter Valtin

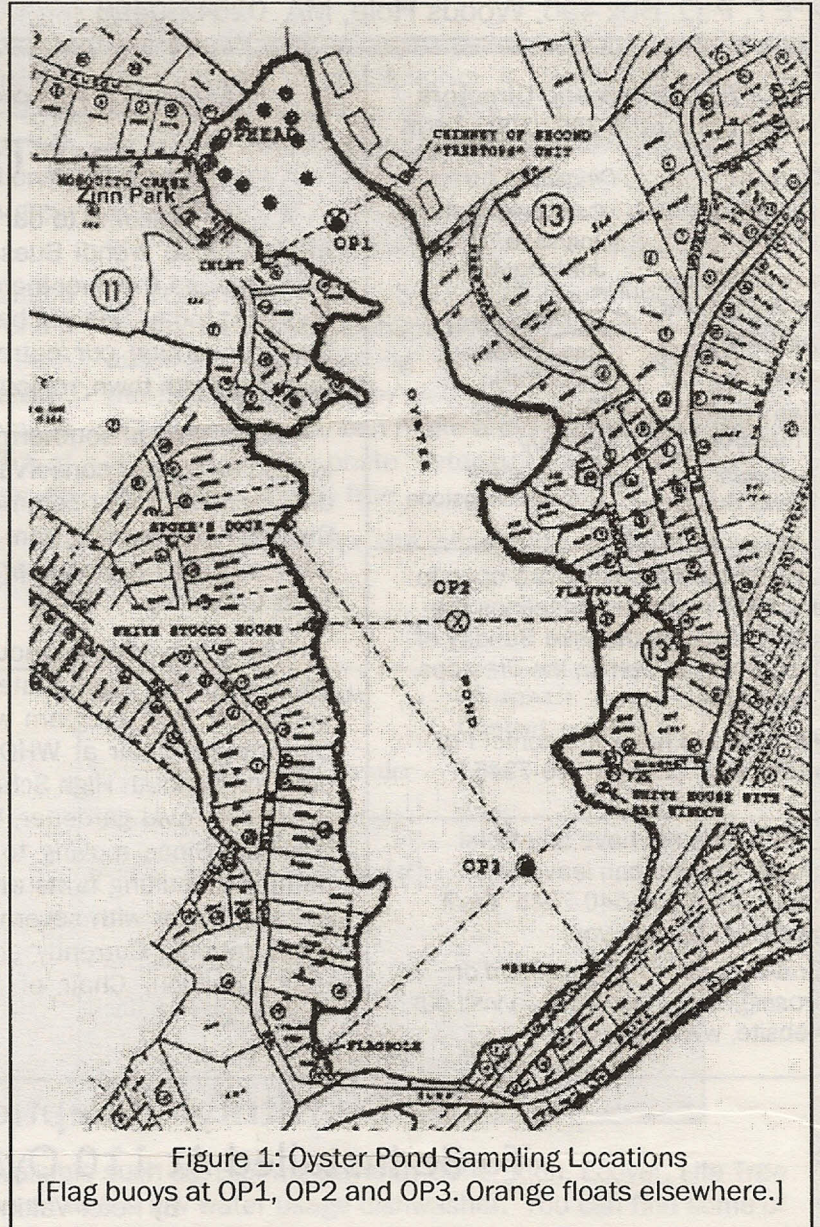
At the August 3 meeting of the Board of Directors it was decided that OPET should conduct a study of salinity, dissolved oxygen and vegetation density of Oyster Pond, focused on clarifying basic information about the pond during the annual alewife reproductive cycle.

The spring and summer of 2003 were notably wet. At the same time, the profile of Trunk River, Oyster Pond's outlet to Vineyard Sound, appears to have risen. Also, the Falmouth Shellfish warden, Paul Montague, raised the level of the pond's control weir during the alewife in-run, from about March to some time in June. As a likely consequence of some or all of these factors (and more — the pond has a nitrogen loading problem), the volume of fresh-water vegetation increased dramatically this summer over what it had been in recent years.

The Board is concerned about the quantity of fresh-water vegetation for a number of reasons. In the not very distant past, this vegetation overwhelmed the pond, creating a eutrophic environment hostile to all kinds of vertebrates, including Herring and Homo Sapiens. In 1982, for instance, the pond literally stank as large quantities of vegetation and algae died off, leading to very low dissolved oxygen and high hydrogen-sulfide levels. And it is again the case, right now, that hydrogen-sulfide off-gassing is apparent when sediments in the north end of the pond are disturbed. Also, the smell of sulfur has been noticeable this fall at the Trunk River pedestrian bridge during any low tide.

Despite the Board's concern, it is not altogether clear what to do about the situation. Discussions about how to manage the pond to a preferable level of vegetation quickly bog down in questions like "How saline is the pond during the alewife run?" and, "to what extent is the vegetation in the pond affected by salinity?" The Falmouth Pond Watchers, among others, have been sampling Oyster Pond for years — but not during the alewife run!

To begin to address the lack of data on



these questions, the Board asked Bill Kerfoot to design a study, which he graciously volunteered his time to do.

Bill's design calls for a triangular sampling grid in the north end of the pond, with the corners of the triangle located at the Treetops dock, Mosquito Creek inlet and a point somewhat south of the center of the north basin of the pond. [See Fig. 1] Samples will be taken monthly throughout the year. Salinity and dissolved oxygen measurements will be taken at various depths at each sampling point. At each sampling point, a vegetation density sample will be taken. The vegetation density will be measured by (a) estimating the number of strands of vegetation per square meter visible from the surface and (b) using a Secchi disk to measure turbidity. Each set of

Remembering Don Zinn

My Buddy and "Brother" Professor Donald J. Zinn

by Bob Livingstone

It was in the 1980's when I first met Don. I noticed he wore a Phi Gamma Delta insignia ring which also happened to be my fraternity. Don was a member at University of Rhode Island; I had been a member at Oregon State College. In a manner of speaking we were brothers. This relationship prevailed in conversations, correspondence, meetings and so forth and lasted until his death in 1996. One of his postcards thanking me for Christmas cod fish cakes shows an aspect of this fraternal relationship.

You can see from the above that Don was full of the "old nick" limericks he knew by the dozens; he seemed to have one for every occasion. He also had a full store of golfing stories – some clean and some not so clean. In fact, he once asked his wife Marge to pre-approve the golfing story he planned to use for a talk he was giving to the Woods Hole Historical Museum.

Bob:

Your communications of two/six duly noted and gratefully appreciated, and also for which many thanks. Hope to be able to express all this personally in the near future, at which time I may have something in exchange, like -

A New England schoolgirl named Finn

Panned for gold; often scored a big win

But she called it all quits

For her parents had fits

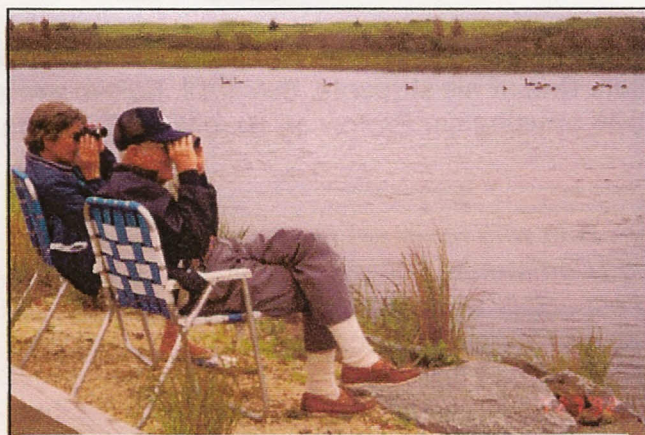
'Cause their daughter was sieving in Lynn!

Perge,

Guess Who???

1/ The word "perge" an obsolete term (according to my Webster's unabridged dictionary) used in the fraternity means "to go on; to continue".

Besides being members of the same fraternity, Don and I had many common interests including our backgrounds in natural history and the environment. I was the fish man, ichthyologist; Don was a Professor of Zoology and Ecology for 28 years at the University of Rhode Island. Don's wife, Marge, a botanist, often accompanied us on our excursions. We walked, we talked, we birded and we collected. We became experts on Oyster Pond, and on a number of occasions we made similar observations on nearby Salt Pond. We had hundreds of water samples which Marge analyzed at WHOI. At more than one cocktail party, I would greet Marge with vials of pond water to be analyzed at WHOI. We were never questioned.



Don & Marge birding in the Lagoon, July 1992

Don and Marge were married in 1987. They lived in Marge's house on Oyster Pond Road practically on top of the Trunk River. Don spent much time at the river where he observed all the goings on. He was an acute observer and from time to time would send me notes of his observations. Here is a typical report.

There was a certain excitement associated with biological collecting. On our walks Don was always seeing schools of small fish. He would report these to me and try to make them

*Notes on Trunk R. for Saturday, 8 November
1995 at 2:40 PM*

- 1. This is the highest I have ever seen Trunk R.*
- 2. Bottom covered with eelgrass only at the curve,
and considerably before the water surface.*

*...
8. Conduit on O. Pond side of Surf Drive has
water to within 3 inches of top.*

Above are 3 observations from a list of 11

into small herring. I usually checked his reports. Sometimes the fish turned out to be mummychogs (Fundulus) in a color phase, silversides (Menidia) or even Sheepshead minnows (Cyprinodon).

One night I took Don night lighting with two powerful flashlights where the culvert goes into the Pond. Attracted to the beam of light were small fish, grass shrimp, several blue-claw crabs, Nereid worms and a host of pelagic this and that. It was like an invertebrate zoology class – wonderful! On another night I collected a water sample just off Trunk River in

Vineyard Sound. To my surprise there were two “glass eels” (a young stage of the American eel) in my quart jar. These I had to show Don! So I took my bucket and jar and walked over to the Zinn’s house. A party was in progress. Don answered my knock on the door with a loud “What have we here?” It’s amazing what a couple of glass eels and some illuminating jelly fish (ctenophores) will do for a party.

Don, Marge, and I were founding members of the Falmouth Pond Watchers and FACES (Falmouth Associations Concerned with Estuaries and Saltponds). We attended countless meetings and seminars. WHOI used some of our water sample and fish data in their Pond Watcher’s Reports. Once Don and I helped a fall migration of alewives get out of a jammed up Trunk River – all reported in the Falmouth Enterprise.

Laura and I shared many dinners with Don and Marge and for a number of years we all bussed to Boston to see the Boston Pops. Don loved the Pops, especially the drums –the noisier the better. On all these outings, whether walking or driving, he had a thing about what he called “goodies”. “ I think you’ve earned a goodie now, how about a goodie!” Goodies were individually wrapped large gum drops or other kinds of hard candies. His pockets seem to have an endless supply.



*A Winter Meeting at the Waquoit Bay Preserve (pictured
l-r Don Zinn, Pete Swain, Julie Rankin & Marge Zinn)*

Because Don was a wonderful story teller he connected easily with people, especially his students who he often kept track of even after their graduation. One of his students, Brenda J. Boleyn wrote a note to the Falmouth Enterprise on October 8, 1996 praising her Professor. Here is a paragraph from that note.

“Although I didn’t appreciate it at the time, it was Dr. Zinn who really set my compass. Several years later as a fledging faculty member at Cape Cod Community College, I continued to hear from him. Retired to Falmouth, he kept me posted especially about his passion, conservation of our natural resources. In his quiet way he never stopped ‘shouting’ encouragement, and he never stopped sharing his depth of knowledge and experience.”

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samples will be accompanied by local weather information from a recognized recording station, as well as tide gauge measurements taken at three docks (Treetops, Ransom Road and Spohr Gardens) and at the weir.

Preliminary work for the study has begun — little orange buoys mark 12 separate sampling points in the north end of the pond, and 3 flag buoys mark the additional sampling points that coincide with those of the Falmouth Pond Watchers. [The Pond Watchers sample on four Sundays in mid-to-late summer every year.]

This study is only the beginning of a series of studies needed to clarify the micro-ecology of Oyster Pond. The Board will continue to pursue its own studies, but hopes as well to encourage work by noted scientists like Ivan Valiela and Brian Howse, as well as anyone else (including high school students!) who can bring energy and interest to bear.

(BUESSELER—Continued from page 1)

League of Women Voters of Falmouth, board member of FACES (Falmouth Associations Concerned with Estuaries and Salt Ponds), the Fertilizer committee, the Eco-Landscaping Committee, and is a Town Meeting member.

Wendi brings a wealth of knowledge and understanding of the many conservation issues OPET is involved with now and an appreciation of what is needed to plan for the future. With her help and support, we look forward to the continuing success and dedicated service in conservation and environmental leadership OPET brings to our beautiful community.

Susan Gagosian

Visit the OPET Website

We would like to remind our readers to visit our online website, <http://www.OPET.org>. Here you will find everything from a history of our organization to a variety of maps, a discussion of projects, and archived newsletters dating back to 1995 (plus a predecessor from 1991). Our photo gallery features Oyster Pond beautifully documented in all four seasons, thanks especially to Birgit Rose, long-time board member. We also provide a list of useful links to related websites of interest, and annual meeting highlights of the past five years. We welcome feedback on the website, so have a look!

(SEPTIC SYSTEM—Continued from page 1)

nitrogen loading (both sources and paths through a watershed), as well as conducting outreach to Cape towns and organizations about ways to reduce nitrogen loading.

In several of the past 4 years, OPET has sponsored research by Ivan Valiela's Boston University Marine Program (BUMP) students in and around Oyster Pond (web link to latest reports). These studies have demonstrated that Oyster Pond is already showing the effects of excessive nitrogen loading.

We were, therefore, relieved to discover that the Cape Cod Conservation Commission has understood the importance of this issue. In issuing a permit for construction of the new home, Conservation has required the installation of a de-nitrifying septic system. The system is referred to as the Fixed Activated Sludge Treatment process. It is thoroughly described in this web page from the Barnstable County Health

Department: <http://www.barnstablecountyhealth.org/AlternativeWebpage/Fast/Fast.htm>.

In a nutshell, the system requires an extra tank, in which waste nitrogen is converted to a form that is not biologically active. The County Health Department (and the State Department of Environmental Protection) believes that the system "is capable of producing finished effluent with total nitrogen content of 19 mg N/L." To put this in perspective, it is often assumed that wastewater exiting the house has about 40 mg Nitrogen/Liter. The Massachusetts Alternative Septic System Test Center has found that "At the [septic system] base, this system was estimated to remove 60 percent of nitrogen inputs compared to 22 percent for a Title 5 system during the same period."

This is not perfect, but it is definitely a step in the right direction!

An Environmental Tip to Help Oyster Pond

By Wendi Buesseler

Did you know that your automatic dishwashing detergent could contribute significant amounts of phosphorus to Oyster Pond? Phosphorus is a nutrient for plant growth and algae especially love to feed on it. It is estimated that 1 pound of phosphorus can grow up to 300 to 500 pounds of algae.

Although we can't say what percentage automatic dishwashing detergents contribute to Oyster Pond's phosphorus budget, we can look to studies from wastewater treatment facilities as a comparison. Those reports show that phosphorus from automatic dishwasher detergents contribute from 15% to 35% of the total phosphorus load of the incoming waters to the treatment facilities.

In the 1970s, Massachusetts passed laws to limit

the amount of phosphorus in laundry and hand dishwashing soaps to no more than .5% phosphorus by weight. Since formulas for automatic dishwashing detergents at the time required phosphorus, they were allowed up to 8.7 percent phosphorus by weight. Now with advances in technology, this is no longer true.

Currently, Senate Bill No. 1252 is making its way through the Massachusetts's legislature to require automatic dishwashing detergents to also meet the .5% phosphorus by weight requirement. Until this bill is passed, you can make a difference by switching to a lower phosphate detergent or to one that is entirely phosphate free.

Check below for the phosphate content of your detergent.

Dishwashing Detergents	Phosphate Content	Dishwashing Detergents	Phosphate Content
Palmolive Gel	1.6%	Spot-Free (Wal-Mart) Powder	7.0%
Cascade Complete: Liquid	4.0%	Stop N Shop Powder (Lemon)	7.5%
Cascade Complete: Gel	4.0%	Stop N Shop Powder (Regular)	7.5%
Sunlight Gel	4.3%	Cascade Complete Powder	7.7%
Cascade Pure Rinse	4.4%	Cascade Complete Tablets	8.48%
Electra-Sol Gel	4.9%	Sunlight Tablets	8.7%
Sunlight Powder	5.6%	Electra-Sol Tablets	8.7%
Electra-Sol Powder	6.1%	Palmolive Tablets	8.7%

There are also several phosphate-free brands available such as; BioPac, Seventh Generation, Ecover, Life Tree or Shaklee. I've had great results using Ecover, even with a low water usage dishwasher. You can find some of these products at Shaw's in the Natural Product Section, Windfall Market, or Amber Waves.

Membership Survey

The board wants to thank all the people who responded to the recent membership questionnaire. The results are clear and support the present directions of OPET. About 98% of the people who responded agreed that we should be supporting water testing and

analysis. 83% felt we should be facilitating scientific research. 81% agreed that purchase of land could make sense. About 60% thought it would make sense to employ some help. The complete survey results will soon be up on the web site.

Spohr Gardens and OPET

Spohr gardens and OPET obviously have a lot of common interests. In an effort to communicate effectively, the two boards have jointly decided that a member of OPET will join the Spohr Gardens board, and a member of their board will join the OPET Trustees.