

## OPET Officers and Directors Elected for the 2001/2002 Term

Officers	Directors
Jonathan Davis	Susan Gagosian
Birgit Rose	Christine Gault
Co-Presidents	Melinda Hall
Eric Davidson	Robert King
Vice President	Leonard Kreidermacher
Patricia Kerfoot	Julie Rankin
Clerk	Peter Valtin
	Martin White
Barry Norris	
Treasurer	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](mailto:opus132@rcn.com) or [brose@cape.com](mailto:brose@cape.com). And do visit our website, [www.opet.org](http://www.opet.org).

## Dr. Ivan Valiela to Address OPET Annual Meeting

*Links Between Watersheds and Coastal Bays of Cape Cod: A Case Study of Oyster Pond* will be the title of the presentation by Dr. Ivan Valiela at this year's annual meeting.

Professor Valiela has taught at the Boston University Marine Program, located on the Marine Biological Laboratory campus in Woods Hole, since 1969. He and his students have authored scores of scientific papers on the ecology of coastal waters, with particular emphasis on studies in Waquoit Bay, here in Falmouth. Dr. Valiela has published two books; his most recent in 2001 by Oxford University Press, entitled *Doing Science: Design, Analysis, and Communication of Scientific Research*. He is, indeed, an excellent communicator who skillfully explains the significance of his scientific work to a non-science

audience. In recent years, his class has focused on a local pond or estuary to help identify issues of concerns for local "stakeholders" and to conduct scientific studies that address those concerns. Last autumn, his class studied Oyster Pond. He will use these studies and others to inform us of the important concerns of nutrient loading from septic systems and other issues related to the health of Oyster Pond.

The meeting will be held at Sea Education Association on Tuesday, July 16. Refreshments will be served at 7 PM, followed by a brief annual business meeting at 7:30, and Dr. Valiela's talk thereafter. All members of OPET and all other interested parties are encouraged and welcome to attend.

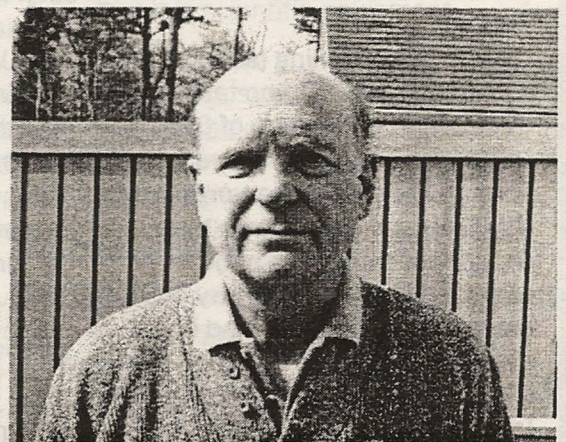
by Eric Davidson

## PROFILE: Barry Norris, OPET Treasurer

Barry Norris, OPET's long-time treasurer, has been involved with OPET since its inception. In eight years as a board member, he has been OPET's "go-to guy" for all sorts of projects.

Barry and his wife of 50 years, Barbara, "found" their Treetops home 17 years ago. They were living in Connecticut at the time, where Barry worked for a general contractor, and they had been searching up and down the coast for a waterfront home. They have lived

here full time for nearly 15 years. Their location overlooking Oyster Pond is ideal for bird watching and inspired Barry to become directly involved with the pond's preservation. He was one of the original volunteers for the Pond Watchers program, started about 12 years ago, and has remained active in that program ever since. Through the Pond Watchers program, he met



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## Calling all members!!

We have four new committees that need volunteers. This is a great opportunity to demonstrate your commitment to the protection, improvement, and conservation of the Oyster Pond watershed. Read on to choose the committee which suits you best.

**Education:** Members include Eric Davidson, Chair (508-540-9900), Jason Hyatt, and Susan Gagosian. The education committee has made significant progress in encouraging students of all levels to use Oyster Pond as a natural laboratory for projects, ranging from junior high school science fair projects to graduate studies. OPET has offered a cash prize for high school science fair participants, and hopes to expand participation in the future. This summer there will be two visiting interns from MBL and Boston University studying the pond. The OPET web site has generated several contacts from people interested in studying the pond, and looking for advice. The committee welcomes participation from anyone who has ideas and energy to work with students at any age, and to develop research projects appropriate for various age groups.

**Pond Management:** Members include Barry Norris, Chair (508-540-7345, [barry.nn@verizon.net](mailto:barry.nn@verizon.net)) and Rob King. This committee is charged with monitoring aspects of the pond that affect its ecological health, such as the weir (salt levels), storm runoff, nutrient levels, etc. It also is involved in liaisons with the Town of Falmouth and its Conservation Commission. Anyone with experience in

Town government, civil engineering, and/or conservation is encouraged to join.

**Pond Science:** Jonathan Davis, Chair (617-283-9288, [opus132@rcn.com](mailto:opus132@rcn.com)), Martin White, John Dowling, Birgit Rose, Jason Hyatt. Coordinates with the Pond Watch program, collects and analyzes data on salinity, oxygen, nutrients, and microorganisms. Also monitors plants, fish, and wildlife. As needed devises plans of action to resolve problems. Members with a scientific background are urged to help.

**Land Conservation:** Birgit Rose, Chair <contact info>Chair vacant (contact Jonathan Davis for info), Mindy Hall, Pat Kerfoot, Rob King, John Dowling, Christine Gault, Gail O'Keefe, and Ann Goodman. This committee coordinates with the various organizations on Cape Cod to help protect the land in the watershed, encourage healthy practices, and promote conservation restrictions wherever possible. A major goal is to find new land that could be purchased and converted to permanent conservation land, in order to maintain the environmental quality and serenity we all enjoy around the pond. An additional task is the maintenance of Zinn Park. Members with experience in property law, conservation, or real estate could be very helpful, as would able-bodied people looking for some enjoyable outdoor activities repairing the bridge, maintaining trails, etc. Kids welcome for this last job!

by Jonathan Davis

### **(BARRY NORRIS ...Continued from page 1)**

OPET's John Dowling (see *The Watershed*, Vol. 6, No. 1, Summer 2000), who talked him into being one of the founding members of OPET. Barry felt that "perhaps some of my non-scientific experience could be of benefit to such an organization," and certainly OPET's board agrees with that! With his many years of experience managing projects and consulting for the construction industry, Barry has been invaluable to the group as advocate and liaison to the Town, for example, during construction of the weir at the culvert, and the dredging and reconstruction of the jetties at Trunk River. More recently, he has made himself indispensable as Treasurer, wielding numbers like and

expert accountant (in addition to his undergraduate MIT degree in Building, Engineering and Construction, Barry holds an MBA from the University of Pittsburgh).

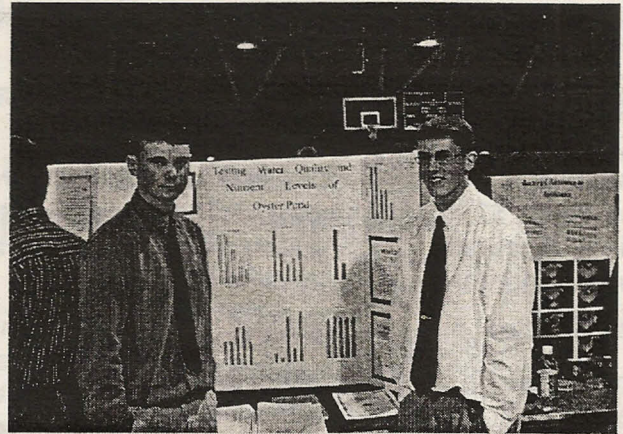
Barry is very civic-minded. In addition to being a board member of OPT, he is a member of the Falmouth Building Committee, he serves on the Board of Trustees for Cape Cod Apartments (formerly Cape Cod United Church Apartments), and is on the Exhibition Committee of the Woods Hole Historical Museum. He loves bird watching, and also somehow finds the time to play racquetball, to sail in his dinghy, to build model ships and become proficient on his computer, all while enjoying his family—including three children and two grandchildren!

by Mindy Hall

## OPET Awards First Annual Science Fair Prize

Falmouth High School juniors Tim Studley and Ted Nixon were awarded this year's OPET prize for the best science project related to Oyster Pond. The OPET Board of Directors established this prize to encourage students to take on some aspect of the chemistry, physics, or biology of Oyster Pond and its surrounding watershed as the topic of their science fair project.

Studley and Nixon's project, entitled *Testing Water Quality and Nutrient Levels of Oyster Pond* was chosen by OPET's three judges, Jason Hyatt, Bill Kerfoot, and Eric Davidson to receive the award at the science fair held at the high school in early March, 2002. Under the guidance of their



*Tim Studley & Ted Nixon display their findings at the Falmouth High School Science Fair.*

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## The Oyster Pond Salt Flux Experiment

Some of you may wonder whether Oyster Pond is either salty or fresh. Well, it's somewhere in between, or brackish. Fresh water has about .5 parts per thousand of salt, while Vineyard Sound has about 32. Oyster Pond has between 2 and 5. The amount of salt is important to the ecology of the pond in many ways, including the herring run.

So, how does the salt get into the Pond? Well, if you take a walk down Oyster Pond Road, and turn left toward the Bike Path, you will notice a small parking area on your left, with a mini-waterfall, or weir. Water flows over this weir out of Oyster Pond through a pipe under the road, out to a lagoon, and then through the Trunk River under the Bike Path, and finally into Vineyard Sound. If you are lucky, you may see herring swim in or out.

The weir is what allows water to flow in or out of the Pond. When the tide in Vineyard Sound rises high enough, water will flow over the weir into the Pond. At low tide, water can flow out of the Pond. Thus, one can

set the height of the weir according to how much salty water we would like to allow into the Pond. Sounds simple, right? Well, it's not!

The height of the Pond varies with rainfall and groundwater discharge, and the height at the weir varies with the tides, but also with the geometry of the lagoons. To make a long story short, it's complicated and does not do exactly what one might expect at first glance.

So, how do we know if the weir is letting in the right amount of water to keep the pond healthy? Well, I put together some electronics consisting of a temperature sensor, pressure sensor, conductivity sensor (which indicates salinity), and a flow meter (acoustic travel time), along with a data logger and battery pack. I put this setup in the culvert and eaves-dropped on the salt flux.

It looks like the weir is working properly. However, I am still monitoring the salt flux with the help of a \$2,000 grant from The Sounds Conservancy to maintain the system.

What can you do to help? First and foremost, do not build dams in Trunk River. Kids love to do this, and fishermen do it to give them an unfair advantage in catching herring in order to liveline them for striped bass fishing. Building dams is illegal. If you see one, break it.

You can also help me protect my monitoring equipment, which people do vandalize in the summer. The instruments are in the culvert. Please don't climb in there, and if you see someone messing with the set-up, kindly ask them to stop, and explain that it is scientific equipment.

If you have any questions about my project, send me an email at [jhyatt@whoi.edu](mailto:jhyatt@whoi.edu), especially if you know something about electronics or digital signal processing! Do you like Matlab? Do you have a basement full of old oceanographic instruments? Let me know. Get involved before Oyster Pond gets gooey.

*by Jason Hyatt*

### *(SCIENCE FAIR ...Continued from page 3)*

science teacher, Dr. Johnson, the students measured pH, dissolved oxygen, total solids, nitrate, orthophosphate, salinity, and temperature at five locations in the pond this winter. They concluded "Overall, it is evident that Oyster Pond is a healthy, safe pond for the surrounding ecosystem." They were awarded a \$200 prize from OPET. The competition will be repeated in 2003, and we also hope to offer a similar prize for the science fair of Falmouth Academy.

The OPET Board of Directors is also encouraging undergraduate college students to study the pond. Last October, Dr. Ivan Valiela chose Oyster Pond as the subject for a class that he teaches in the Boston University Marine Program (BUMP). Some of the studies of algae and nutrients conducted by the BUMP students will be repeated this coming summer by two summer interns sponsored by Drs. Ivan Valiela, Eric Davidson, and Roxanne Marino as part of a National Science Foundation program for undergraduate research experiences. If you see Carolyn Weber (Cornell College) and Stacy Baron (Bowdoin College) rowing around the pond this summer, collecting water samples and making measurements, please offer a shout of support.

*by Eric Davidson*

## **BUMP Students Adopt Oyster Pond**

The Boston University Marine Program (BUMP) at the Marine Biological Laboratory puts its incoming students through an intensive course in Marine Ecology in their first semester in the fall. For this, Professor Ivan Valiela annually selects an ecosystem in the greater Falmouth area for a two-week, exhaustive study, which is tailored to the concerns stakeholders of that area express at an introductory meeting of students and stakeholders.

This past fall, to the delight of OPET, Oyster Pond was chosen and OPET's directors scrambled to compile a list of questions about the Pond and its watershed that were of interest and/or concern to them. The meeting with the students was held at SEA and several Oyster Pond residents attended. The questions were many, including, What are the sources and/or causes of nutrient input? Is the Pond now mainly phosphate- or nitrate-limited? What is the current picture of fish and plant population and diversity? The students presented their findings at a later meeting, again held at SEA. Please watch OPET's website and our next *Watershed* for summaries of their results.

## **Before You Clear That Brush—Check First!**

As summer returns to the Cape, so does the urge to tidy up the property, trim that tree, and clear brush to make room for views across Oyster Pond. However, trees and vegetation provide shelter and food for the wildlife that teems around Oyster Pond. Vegetation also helps to prevent erosion and sedimentation into Oyster Pond by holding back storm water runoff from rains and snow, thus helping to protect water quality.

For these reasons, Oyster Pond and other wetlands are protected by the Conservation Commission, a Town board which administers the Massachusetts Wetlands Protection Act and local wetland regulations. The area that is protected includes Oyster Pond, its wetlands, banks, and a buffer zone that extends 100 feet out from Oyster Pond and its wetlands and banks. Activities such as vegetation removal, clearing, tree removal or limbing (removal of tree limbs), building, excavation, piling of earth or other materials, and dock construction, are regulated by the Commission. This means that a permit or other review from the Conservation Commission is generally required. Doing

work without such permits can result in the owner being assessed fines or other enforcement action.

So, if you are considering such activities within 100 feet of Oyster Pond or its associated wetlands, please check first with the Conservation Department at Town Hall, to find out whether you need a permit to do this work. Such permits, when issued, only last for three years, so if you have received a permit in the past, please check with the Conservation Department to find out whether you need a new permit. Your cooperation will help to protect Oyster Pond, its wild denizens, and the natural beauty of Cape Cod.

Contact information: Margaret Emslie, Conservation Administrator, or Mark Kasprzyk, Conservation Agent, Conservation Department, Town Hall, 59 Town Hall Square, Falmouth, MA 02540, Phone 508- 548-7611. Town Hall hours are Monday through Friday, 8 am to 4:30 pm.

*by Jo Ann Muramoto, Ph.D.  
The 300 Committee*