The Watershed

Vol. 3, No. 2

The Oyster Pond Environmental Trust Newsletter

Winter 1998

OPET Receives $25,000 Donation to Land Conservation Fund

The Chester and Dorris Carlson Charitable Trust has made an extraordinary gift of $25,000 to OPET's land conservation fund. A Director of the Trust and resident of Treetops has been watching OPET's activities with interest. Finding OPET's efforts on behalf of the Pond worthy of support, she proposed that the Trust make a major contribution to OPET to be used for its Land Conservation program. Thanks to this wonderful gift and to the many other generous donations to the Land Conservation Fund received from OPET's membership during the past year, OPET's debt on the 7 acres conservation land at the north end of the Pond has been greatly reduced: from $98,000 at last year's start of our $100,000 Capital Campaign we are down to just under $30,000 as of this date! What a way to go! We are finally in sight (without need of binoculars) of our goal to have this debt retired before the end of the year 2000. Please help us get there on schedule – make a Thanksgiving, Christmas, Hanukkah, year-end, any kind of gift, large or small, to OPET's Land Conservation Fund! See below for tips on how to make a gift that costs you less.

Ferns and mushrooms in OPET's conservation land

Geese in Oyster Pond

Oyster Pond Fish Tales

This summer was a good one for fishing in Oyster Pond: Board members *John Dowling, Bob Wilsterman* and *Jonathan Davis & Son* got out their rods, reels, hooks, worms or blinkers, waved good bye to their wives -- don't wait with dinner for me, who knows when a fish will bite -- and braved the elements. Alas for the wives, they returned home well before supper: hardly had the lures hit the water, when hungry White Perch took the hook. In no time a dozen or so fish were landed and, as far as this writer knows, set free again after their size was duly (over)estimated, in good fishermen fashion. John Dowling claims to have done battle with one perch so enormous (a foot or longer) it broke his rod (no, not the 250 lb-test line!) and courage to pursue other such monsters in the depths of Loch Oyster, at least for this season. Stan Hart, the skeptic, decided to test the waters himself, lowered a blinker from his dock and became a believer: 10 perch in less than 25 min. Did they end up in the frying pan? That you'll have to ask him yourself..

Young White Perch caught in Oyster Pond in September 1998

Board members *Bob Livingstone* and *Birgit Rose* went fishing in a more pedestrian fashion, with traps and dipnets. Their spouses had to patiently wait for their returns: so many fish had flocked to their traps, it took hours and many notebook pages to do the counts and list the species and their sizes. Meanwhile, swans threatened with attack, and there was the slippery duck-, goose- and swan poop to contend with on the docks, or a shower or a gust of wind that blew the dinghy far from the traps -- in short, an adventure each time. Board member *Carl Breivogel* dip-netted at the weir for this year's spawn of alewife. He was quite content with their number, size and state of health.

Photos by B. Rose

Annual Meeting: The Year in Review

OPET's 4th Annual Meeting was held July 9th at SEA (the meeting room walls were gaily decorated with the informative and creatively presented posters describing Oyster Pond studies by SEA's students -- from algae to nutrients to sediments to zooplankton). Outgoing President John Dowling first called for a minute of silence in memory of Oyster Pond Science pioneer K.O. Emery amongst whose scholarly legacy is the book A Coastal Pond Studied By Oceanographic Methods. This book about Oyster Pond, the bible of pond studies, was reprinted by OPET in 1996. Copies are still available for purchase from OPET or the Market Bookstore. John Dowling then briefly reviewed the year's highlights, good news all of them: the weir was constructed; pond oxygen levels have improved; the capital campaign is making good progress and OPET membership is rising steadily; OPET has sponsored student science projects and SEA has adopted Oyster Pond as field lab for their students; OPET received a grant to study the impact of the weir on pond ecology; and Falmouth voted to purchase the Peterson Farm for open space, the largest undeveloped piece of land in Oyster Pond's watershed area. Reports by the various Committees followed, and guest speaker Cameron Gifford, Chairman of the Board of the Spohr Gardens Trust, explained the purpose (preservation of the Spohr Gardens) and workings (see article below) of the Trust. Concerns about bus and other heavy traffic on Fells Road were voiced and Cam Gifford gave assurance the Trust would work closely with the Fells Road residents. The election of Board members followed (these are your representatives -- call/write to them with your complaints or suggestions) and then it was on to refreshments and lively socializing. Please join us next year!

OPET's 1998/9 Board of Directors

Carl Breivogel, 54 South Rd; Jonathan Davis, 112 Ransom Rd; John Dowling, 106 Ransom Rd; James Ferguson; 21 Quonset Rd, Stanley Hart; 53 Quonset Rd, Patricia Kerfoot, 49 Ransom Rd; William Kerfoot, 49 Ransom Rd; Robert Livingstone, 66 Landfall; Barry Norris, 52 Landfall; Julia S. Rankin, 37 Oyster Pond Rd; Dana Rodin, 5 Sheeps Crossing Ln; Birgit Rose, 102 Ransom Rd; John C. Scibek, Montauk St; Robert Wilsterman 83 Cumloden Dr; Erik Zettler, 63 Glenwood Ave

At its July 26, 1998 meeting, the Board elected the following Officers:

Birgit Rose, President (548-5984); Robert Wilsterman, Vice President; Barry Norris, Treasurer, Patricia Kerfoot, Secretary

Thanks go to our past president and retired board members:

John Dowling (Ransom Road) stepped down as OPET's President but will – we are so lucky! – remain active as member of the Board. Under John's skillful and wise leadership, OPET's initial founding board members coalesced into a hard-working team that managed to use its many differences of opinion constructively for a better OPET. We might not be here but for John's expert guidance.

Duncan Aspinwall (The Moors) helped OPET focus its mission and brought it to the attention of The Moors Association. He also advised us on our fundraising efforts for the Fischer parcels.

Bill Brewer (Treetops) helped our young organization with his expert writing skills which got us articles published in the newspaper and documents clearly worded; his frequent advice based on his experience as a lifelong diplomat kept us from plunging into confrontational situations and led to our letters being worded diplomatically. We know he still puts in a good word for OPET on crucial occasions.

Cecily Selby Coles (Ransom Rd), together with John Dowling and Bill Kerfoot, brought OPET into being and shaped it from its loosely organized forerunner Oyster Pond Trust into the present, well-structured, 501(c)3-incorporated organization. Cecily also was very active in fundraising, both by giving a personal example and by approaching potential donors. We owe a lot to her and miss her insightful presence at the Board meetings.

John Steele (Treetops): discovered that OPET was too active an organization for him to be able to serve on: with all his obligations on other boards and in other parts of the world, he found himself out of town for too many of our meetings.

Three New Board Members:

Jonathan Davis (Ransom Road), geneticist, Harvard University, spent his childhood summers fishing for perch in Oyster Pond and is delighted that this summer, for the first time again, he could teach his son how to catch perch there. Would like to see the return of Yellow Perch to the pond.

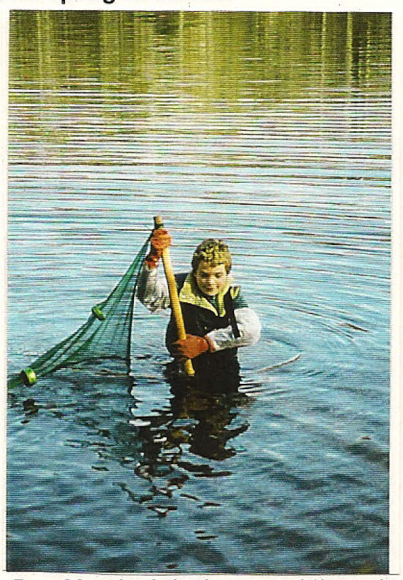
James Ferguson (The Moors), physician and longtime summer resident on Quonset Ave., didn't waste any time after his election: he right away set out to extol OPET's mission to the Moors Association to recruit new members.

Erik Zettler, Science Coordinator at Sea Education Association (SEA), is our liaison with SEA and its student field study program of Oyster Pond. Interested in conservation, biology, BIG sailboats (SEA's schooners), and in being a student again – he's going for his Ph.D. now at the Boston University Marine Program at the Marine Biological Laboratory, Woods Hole – Erik is a welcome and youthful addition to the Board.

POND STUDIES / POND SAMPLINGS

Oyster Pond has been the focus of several study groups the past year. Last December, OPET sponsored 2 science projects for **Falmouth Academy students** Dan Murphy, Misha Strumwasser and Andrew Davies. Under guidance from Dr. Linda Deegan from the MBL, 8th grader Dan Murphy and several OPET Board members learned how to seine a frigid Oyster Pond for fish in the shallows. Dan's project was to determine what kind of fish where to be found in December and whether different kinds preferred different pond locations, i.e. salinities. He found mummychogs, sticklebacks, silversides in all sampling locations, and a few small white perch at Mosquito Creek. Salinity turned out not to differ much in any of the sampling locations.

Seining at bike path beach
Photo by R. Livingstone



Dan Murphy bringing round the seine
Photo by R. Livingstone

Juniors Andrew Davies and Misha Strumwasser sampled the deep kettle hole of the southern basin. They found some dissolved oxygen at 6 m in all their samplings, and salinity was between 8 and 15 ppt there. They also found that ammonia and phosphates were high at 6 m depth, and that temperatures there were consistently higher by a few degrees than at the other depths. Andrew and Misha garnered an Honorable Mention for their project at the Falmouth Academy Science Fair.

Salinity and Oxygen – Pond Watchers Study

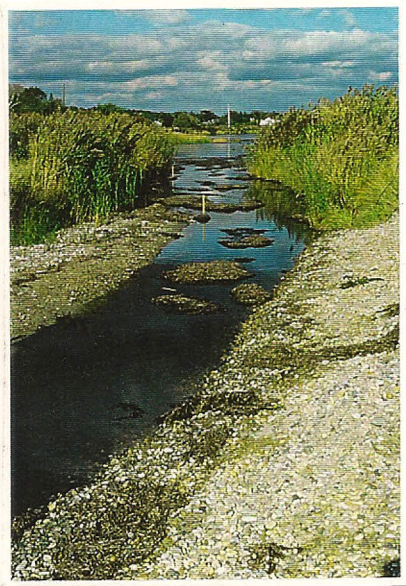
OPET members Jonathan Davis, John Dowling, Barry Norris, Julia Rankin, Birgit Rose and Marge Zinn took this summer's samples. Dr. Brian Howes' and Dale Goehringer's lab at CMAST, U Mass Dartmouth, analyzed the samples. At a Pond Watchers party, these two scientists honored those Pond Watchers who have been on active duty for at least ten years, with a certificate. 4 OPET members garnered this honor: John Dowling, Barry Norris, Julia Rankin and Marge Zinn. Other prizes were given, too – it was a fun party. Thanks, Brian and Dale!

Here are some of the results: There has been a steady decline in salinity of Oyster Pond from the high salinity levels of 1988-1991, which were 12 - 18 ppt between surface and 4m depth. In 1997 salinity was around 2-2.5 ppt (parts per thousand) all the way down to 4 m – as it was in the 1960s. Even the very bottom layer of water in the deepest kettle hole has lost half its salt content: at 6 m it has dropped from about 22 ppt in 1988-1991 to about 15 ppt in 1997. And at 5.5m it was only about 4.5 ppt compared to 20 or more in the earlier years. The layer of high-salinity bottom water now is only 0.5 m deep compared to the previous 2.5 m and, in addition, its salt content is significantly reduced, making it less heavy. This means there is a better chance that the whole water column gets churned up by storms and become mixed with the top layer. In fact, SEA students sampled the deep kettle hole in early October 1998 after a stretch of very windy days and found a salinity of 1.4 ppt from top to the very bottom: the whole pond had gotten turned over, probably for the first time since hurricane Bob in 1991.

Oxygen now penetrates to deeper waters. It was found this summer at 4 m even in the northern kettle hole, where in previous years no trace of it had been detectable. The oxygen reaching the deeper layers is bad news for the anaerobic, hydrogen sulfide producing bacteria that can live only in absence of oxygen. This explains the lack of foul smells that used to plague especially the southern end of Oyster Pond during summer months and whenever severe storms blew in. This should be appreciated by the residents at the south end of Oyster Pond.

Trunk River Lagoon, too, has been less smelly. This may be due to less eel grass making its way into the Lagoon during storm tides, presumably because both the silting in of Trunk River and the weir reduce the velocity of tidal inflow up Trunk River. The eel grass sinks to the bottom of the Lagoon where it decays, using up the oxygen. Too much eel grass results in a stagnant, smelly Lagoon.

Nitrates remain at high levels; but at low salinity, phosphates become growth limiting for algae. Sea water has high phosphate content, and sure enough, the first tidal inflow over the weir in September brought a small algae bloom to the part of Oyster Pond just upstream of the weir.



Eel grass washed into the Lagoon during one of this fall 's storm tides.

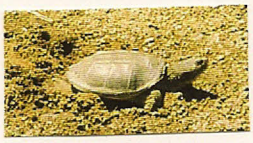
Grant from The Community Foundation of Cape Cod and Gift of Free E. Coli Analyses from Envirotech, Inc., Aid Pond Studies

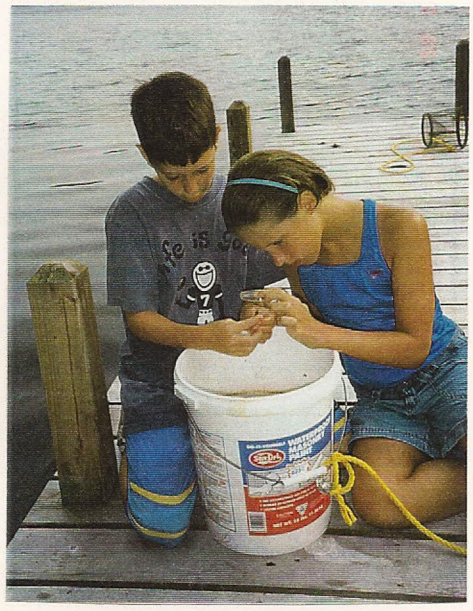
With the aid of a $3,000 grant from the Community Foundation of Cape Cod, which OPET matched with $1,500 in funds, and a gift of free fecal coliform bacteria analyses, worth $525, from Envirotech, Inc., Sandwich, MA, OPET has undertaken tests for fecal coliform bacteria counts and fish studies by trapping. Further studies will we carried out throughout the year.

Fecal Coliform Bacteria. Board members Stan Hart and Birgit Rose took monthly surface samples at 6 locations of the pond. Most counts during normal weather periods were below 15/100 ml, the limit of acceptability for shellfish. Only after strong rains, counts shot up, some above 1,000. These can be attributed to runoff from roads and docks; the samplers often encountered duck, goose and swan droppings on the docks (4 sampling sites were from docks). Since a coliform count of 200 /100 ml is the safety limit for swimming, the lesson here may be not to swim in Oyster Pond right after rainstorms! Otherwise the pond seems to be doing okay in regard to coliform bacteria.

Fish Studies

With money from the grant, OPET purchased minnow traps, line and buoys. Robert Livingstone and Birgit Rose set the traps and tallied the fish. Traps were set at different depths and different locations in the pond. White perch and eel were caught in unbaited traps at 4 m depth – a good sign! Of course the most abundant catches came from the shallows, at 1m or less: at times there were hundreds in the trap overnight, mostly killifish, some four-spine sticklebacks, occasionally silversides, and often young white perch. The perch grew about 4 cm in length in 2 months: in mid-August, their length averaged 3.5-4cm, and in mid-October it averaged 8 cm. A healthy growth rate. The largest perch trapped was 9 cm, even in bigger-mouthed minnow traps. Older perch don't seem to go into traps. This may explain the sharp decline in their number being caught by end of October. Neither do alewife go into traps. But they could be easily spotted schooling in the shallows, and especially between the weir and culvert they gathered by the thousands.





Lilly and Matthew, grandchildren of Arnold and Charlotte Wolf, Treetops, help Bob Livingstone identify and count fish caught in a minnow trap
Photos by R. Livingstone

Alewives Tale (by Bob Livingstone)

Their journey has begun. They are leaving Oyster Pond now, in the autumn months, over the weir, through the culvert, into the lagoon and finally make their exodus from Trunk River into Vineyard Sound for a 3-4 year life in the ocean before returning to Oyster Pond again to repeat the cycle. Early this spring, the adult alewife spawned in the Pond. Spawning was more widespread than in other years, per-haps because of the lower salinity environment (as low as 1.2 ppt) the weir has helped bring about. By October /November, the young alewife are a good 4 inches in length and are ready to head back to sea. Bob Livingstone observed their exodus on October 9:

"I arrived at the weir at 10:40 am. Earlier in the morning, rain had come down in buckets. WQRC radio called it "car wash rain". The current was running out of the Pond . Standing on the weir and gazing down into the water I could make out numerous alewives along the banks. Suddenly hundreds and hundreds crossed back and forth over the weir. Were they getting ready to start their migration back to sea? I decided to drive to Trunk River to check. Trunk River was still flowing to the Sound. I saw no herring, but after a while the flood tide set in and pulses of salt water began traveling upriver, pushing in as far as the lagoon. It was about 11 am now, and I drove back to the weir. The current had reversed there, too, and was now flowing into the pond. Two crows were fishing from the top of the weir and 4 little green herons were perched nearby; one heron had to defend its catch from a thieving crow. The herring were now streaming over the weir by the thousands. I took a water sample: 63 F, sslinity at 2.1 ppt. I returned to the weir around 2 pm. The current now ran out of the pond. The place was still alive with alewife. With my dipnet I collected a sample of 40 within seconds, measured their length and returned them to the water. I wondered if they were exiting Trunk River now. I drove there, and I could see small pods of alewife gathering at the upstream bend. A flounder made a pass a one. The current was ebbing towards the Sound. I positioned myself on the bicycle bridge where I watched for a solid hour the alewives making their way to the Sound. Quite a sight it was!"

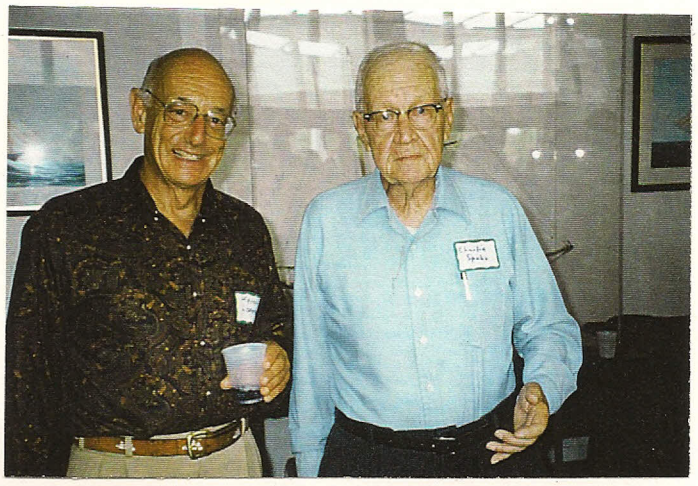
Epilogue: On the very same day, the Woods Hole fishing vessel Shelagh K. was reported to have sunk in the Sound with 180 ton of herring (a million or more?) in her hold! How many Oyster Pond spawnings would that be? But OPET won't be discouraged – we'll keep working to improve the pond and produce more herring yet!

In Memoriam

We mourn the loss of world-renowned microbiologist and OPET Honorary Lifemember *Holger Jannasch*.. Throughout his scientific career at the Woods Hole Oceanographic Institution, Holger enthusiastically pursued microbes in the deepest depths of the sea and on the highest plains on land. He collected samples from thermal vents at the bottom of the oceans and from lakes at the top of the world in Tibet. But he also cared a lot about his "homeport", Falmouth and Woods Hole. OPET is highly indebted to him for his efforts in preventing development of the Fischer Parcels, now OPET Conservation land, both by testifying at zoning bylaw hearings and by a most generous contribution from him and his wife Friederun towards the purchase of said land. And very importantly for all those of you who frequent the short footpath connecting Ransom and Fells Road: the Jannasches have owned for decades the property that this important shortcut to Oyster Pond Road and Surfdrive beach traverses, and have allowed its use by the public. (The property is now owned by WHOI.) Those of us who knew him, dearly miss Holger's many fascinating stories, his vast knowledge, keen intellect, personal warmth and fine, kind humor.

Update on The Spohr Gardens

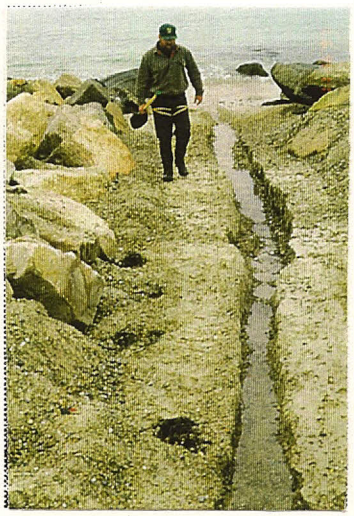
The Spohr Gardens are an important part of the Oyster Pond Watershed. They have been exceptionally beautiful this past spring. With the death of Charlie Spohr in 1997, his vision and foresight have led to the preservation of The Gardens as the Margaret K. and Charles D. Spohr Charitable Trust. Charlie had wanted his Oyster Pond treasure to be preserved for the public to enjoy as they have been doing for years. In his will, Charlie had named as trustees Cameron Gifford (East Falmouth), Chairman, Michael Kadis (Whitecaps Dr), foreman of the gardens, and Mary Lou Canepa, Dusty Miller Rd. Gary Tavares (East Falmouth) and Ariana Fairbanks (Penzance Rd) have been added as trustees to meet the provisions of the will for five trustees. The Trust's primary goal is to maintain The Gardens in their natural beauty and to operate them in harmony with the neighbors and in an environmentally sound manner, as Charlie Spohr had always done, to protect Oyster Pond. The annual maintenance cost of the six-acre Gardens is about $60,000. This cost is not entirely covered by the interest generated by the endowment left in the Trust; some of the principal is being used each year. Therefore, the Spohr Garden Trust had to initiate a fund drive to build its endowment for the future and has established a fund managed by the Community Foundation of Cape Cod. OPET has contributed $1,000 towards the establishment of this fund because the Gardens are such a significant and important part of the Oyster Pond watershed, and because their continued maintenance in an environmentally friendly manner is very important for the health of the pond.



Charlie Spohr (right) and Werner Loewenstein at 1995 OPET meeting

Photo by Judith Dowling

Donations can be made to the Spohr Gardens Trust, 45 Fells Rd, Falmouth, MA 02540, and are tax deductible.



Pond Management Committee Tackles Trunk River

Now that the weir is in place, OPET's next thrust is to try to get Oyster Pond's outlet to Vineyard Sound, the Trunk River, and its estuary, the Trunk River Lagoon, under control. The jetties have failed and are not protecting the river properly during storms. As a result, Trunk River gets frequently plugged by storm tides with sand, rocks and seaweed to the point that the river bottom now is higher than the weir setting. Because of this, the pond is too high and is getting very fresh.

OPET submitted Article 69 on the Fall Town Meeting Warrant, asking the town for $15,000 to prepare plans and specifications to repair the jetties, dredge the Trunk River, and get all necessary permits. The Finance Committee at their meeting of October 20, 1998 approved the Article unanimously and Town Meeting approved it with an overwhelming majority. Now we await the blueprints and the permits – prepare for a long haul!

Shellfish Constable Paul Montague opens Trunk River outlet after a storm *Photo by R. Livingstone*

Treasurer's Report: OPET Fiscal Year June 1st 1997 Through May 31st 1998
This Is Where Membership Dues and other Donations Went

Fund	Donations/ Income	Expenses/Payments		Carryover to Next Year
General Fund	$ 9,240.00	Insurance	$ 1,254.00	
Interest Earned	$ 87.09	Postage	$ 664.23	
		Office Supplies	$ 105.17	
		Printing/Copying	$ 190.68	
		Dues/Bank Charges	$ 34.84	
		Book Loan Repayments*	$ 3,500.00	
Total	***$ 9,327.09***		***$ 5,748.92***	***$ 3,578.17***
Land Conservation Fund	$ 44,846.12	Interest on Mortgage	$ 9,064.45	
		Mortgage Principal Reduction	$ 34,886.39	
		Permits/Supplies	$ 50.50	
Total	***$ 44,846.12***		***$ 44,002.24***	***$ 843.88***
Emery Book Fund	$ 2,324.30	Postage	$ 103.16	
		Sales Tax	$ 89.76	
		Cost of Books	$ 1,212,12	
Total	***$ 2,324.30***		***$ 1,405.04***	***$ 919.26***
Pond Studies Grant Fund	$ 3,000.00	Water Analyses	$ 150.00	$ 2,850.00
Overall Total	***$ 59,497.51***		***$ 51,306.20***	***$ 8,191.31***

* The Board of Directors voted to repay from the General Fund $3500 in loans board members had extended to OPET in 1996 to cover the Emery book printing expenses. $3,000 of these repayments were then donated by those board members to the Land Conservation Fund

OPET is financially healthy. Of the carryover funds in our bank account, $2,850 in grant funds and $1,500 as OPET's contribution are committed to the Pond Studies Grant Fund. Other funds were held in reserve for the next mortgage and insurance payments and other expenses, such as supplies and mailings, to be incurred in the next fiscal year.

STOCK GIFTS TO OPET PAY DIVIDENDS

A gift of stocks, mutual funds or bonds to OPET may be the perfect move before December 31! Even with the downturn in the stock market last quarter, many stocks are still well above the price at which investors had acquired them, and this could lead to a heavy capital gains tax bill if they were to be cashed in. If you contribute stocks to OPET, you can avoid capital gains tax on the transfer of the stock and receive a charitable deduction in the full amount of the current value of the stock.

Say you have stock worth $1,000 that cost you $300. If you contribute the stock, and you're in the 36% tax bracket, you could receive a charitable tax deduction of $1,000, yielding a real dollar savings of $360. In addition, you will have avoided $140 in capital gains tax ($1,000 - $300 = $700 capital gains; $700 x 20% capital gains rate = $140 potential capital gains tax). So, what will the $1000 stock gift really cost you? $1000- ($360+$140) = $500. In donating your $1000 stock, the gift to OPET really costs you only $500, or just half of the face value of the stock. In other words, at the same cost to you, you are giving OPET 100% more than if you donated cash!

But what if the stock is now worth less than what you paid for it?! There is still an advantage to dedicating that stock to OPET. If you have realized a great deal in capital gains from the sale of highly appreciated securities earlier in the year, you might remove your undervalued stocks from your portfolio to offset those capital gains and still take a charitable tax deduction. It's a great way to balance out your tax liability this year.

Call John Scibek at 508-362-2566 (evenings) for more information on contributing securities to OPET.

From the Membership Desk

OPET's membership continues to increase. This past year there were 167 members: 2 Honorary Life Memberships, 6 Life Members, 58 Supporting Members, 97 Regular Members, and 4 Business Members. In addition, OPET gave Honorary Membership to 3 students and 3 science advisers.