



The “Big Stink” - A Smelly Mystery Solved?

Whew. What was that SMELL? Where did it come from? How did it get here?

In mid June a ghastly smell emanated from the eastern section of the ‘lagoon’, the small pond that links Oyster Pond to Trunk River. The heart of the smell came from the mucky area adjacent to the dirt parking area along Surf Drive. A neighbor called OPET to notify us about the smell and asked if we could help. OPET sprang into action. Since then OPET has worked diligently to uncover the source of what we irreverently call the “Big Stink”. We took numerous

PRESIDENT'S MESSAGE

2008 has been a very busy year. We have a number of things to report. We continue to monitor the health of the Pond but, to reduce costs, we have reduced the number of times we collect samples. We also monitor the Trunk River and the Lagoon on a regular basis. Our work in these two areas is discussed in this Newsletter. Both the Lagoon and the Trunk River have ongoing problems, but we are actively pursuing long-term solutions. As this letter is being written, we are waiting for the WHRC to analyze water samples so we can determine if the Big Stink had a natural or a human cause. In September we had another Phragmites workday, and we are planning a more aggressive attack next year. Aggressive also means expensive. We are applying for grants to help us pay for the anticipated expense.

The conservation restriction on three of the four parcels in Zinn Park is very close to being signed. The white perch population is growing and is very healthy. Moby Perch is still lurking somewhere in the depths. What seemed to the human mind to be a perfect location for an osprey nest is not a good location from an osprey's point of view. In 2008, not a single osprey has been observed even sitting on the platform to rest. On the back burner are things we would like to do to make Zinn Park a more user-friendly experience for visitors.

We hope that you approve of what we are doing to maintain the beauty and health of Oyster Pond. These are difficult times financially, but we need your support. Please be as generous as you can, and if your situation permits, be extra generous. In the enclosed envelope, you will find that we have increased the price of both the regular and sustaining memberships. Thank you in advance for your donation. *Lou Turner*



Lou Turner bravely wading in to sample the smelliest part of the “Big Stink”.

samples at our own expense to determine the source and composition of what caused the stench.

There were three theories on the possible sources of the smell; another leak from the Town forced sewer main that runs under the bike path: a failing septic system; or illegal tank dumping from a recreational vehicle. Surface samples taken to the Barnstable County Laboratory confirmed high fecal and total coliform counts at ground zero of the smell. Thankfully, the analysis showed lesser, safe swimming levels in Trunk River itself, a popular wading area for young children. Bill Kerfoot, an OPET Board member, used his septic leachate detector to confirm what our noses told us. The mucky area in the lagoon contained strong urine (2.25%) and the offensive odor appeared to be carbamides common to decaying urea. Looking at the samples under fluorescent lights showed the presence of optic brighteners used in laundry detergents, confirming that the source was from septic waste.

To identify the source of pollution, one hot summer day we installed several small wells to sample the groundwater in the area. Also, Falmouth DPW workers very helpfully took samples from the swirling sewage at the Woods Hole sewer pumping station that feeds the pipe under the bike path to be used as a comparison.

The next step was to take additional groundwater samples and test for nitrogen levels. The results showed low total nitrogen (<2.0 ppm) from the nearby and upgradient denitrification septic system, so it was not the source.

(cont. on page 3)

Phragmites Work Update

Thanks to a grant from the Woods Hole Foundation, OPET tackled for a third year in a row the difficult task of trying to eliminate the exotic invasive plant, *Phragmites australis*, from the pond's southern shoreline. The Woods Hole Foundation money paid for a licensed pesticide applicator from Casey Landscaping to treat the cut stems of the Phragmites with herbicide. We are also grateful to Casey Landscaping for donating the labor of a three man crew to help cut and haul out the phragmites. OPET has now cleared nearly 200 feet of the shoreline.

Phragmites is a daunting foe. Phragmites or common reed form dense almost impenetrable stands that can reach 15 feet high while spreading by rhizome runners, which under the right conditions, can grow 10 feet in one year. A few plants of phragmites can quickly overwhelm a wetland site crowding out native plants, changing water hydrology and altering wildlife habitat. This impacts animals, amphibians and birds that depend on our native plants for food and nesting sources. It also has a tricky defense mechanism where parts of the root system remain dormant until cut, ready to spring into new growth. Thus repeated annual treatments are required until the plant can be completely eliminated.

We've been using the "cut and drip" method on the Phragmites. Every cane is cut and then laboriously squirted with Rodeo, an aquatic safe version of Roundup. Late summer is the best time of year for this treatment as the plant readies itself for winter by pulling all its energy deep into its root system. The treated canes also pull the herbicide deep into their rhizomes. It is very time consuming and tedious.

Next year we hope to ramp up our efforts and cut and treat **all** the phragmites along the entire south shore of the Pond – from the weir to the south-eastern corner. We are applying to the Conservation Commission for per-

mission to cut the canes to the ground and then spray them with a low volume backpack sprayer. This will be limited to the monoculture stands of phragmites 5 feet and back from the Pond's edge. Canes closer to the water will be swiped and those directly next to the water we will still use the cut and drip method.

To pay for this more extensive work we are applying to the Falmouth Community Preservation Committee for funding.

The Community Preservation Committee distributes funds collected from the CPA real estate surcharge with matching funds from the state. Open



Mark Skiest, mans the clippers while Matthew Foley squirts dyed herbicide into cut phragmites canes. We are grateful to Casey Landscaping donated the work of three laborers to assist in cutting and hauling out phragmites. Photo by Dorene Sykes

space, community housing, historic resources and recreation projects are eligible for funding. If our grant application is approved by the CPC, it then must go to the April Spring Town Meeting for a vote. If Town Meeting members vote in favor of the project, funds will be available in July.

By Wendi Buesseler



THE 2008 HERRING MIGRATION REPORT

It was a moderately good year, though the Trunk River is not closely monitored so an accurate count is not known. However, there were four days in April when an estimated 1,000 herring migrated each day. After spawning, adult herring return to the ocean over an unknown span of time. Usually, they go out in smaller groups and aren't as obvious as when they are migrating in, except for one occasion this summer. About 500 adults were trapped for a short time in the Lagoon on their way to Vineyard Sound.

When the fry migrate, it is much more noticeable. They usually pause for one or more days between the weir and the culvert under Surf Drive. They circle around forming a large loop of fish. It is not known what signal sends them to congregate at the weir and what causes them to finally exit to the Sound. Rainfall does play some role. While pausing they are subject to predation by white perch, little green herons, and a fairly large snapping turtle that hovers in the culvert.

The fry migrate out from July until as late as December. An estimated 70,000 one-inch herring fry migrated during the month of July. No significant migration occurred during August or September,



Up close and personal with herring at the Weir. Dann Blackwood, USGS

but about an additional 80,000 three-inch fry migrated during October and early November. And the migration is ongoing. The largest concentration of fry pausing at the weir was estimated to be between 25 and 30 thousand. I have taken a 10-second movie of fry crossing the weir. This will be on our website in the near future. I cannot tell if these migration numbers are terrific, below average, or above average.

In early November, I saw some herring fry that had just left Flax Pond in East Falmouth headed for the Coonamessett River and the ocean. I was surprised that they were only an inch long—the same size that our fry were in July. Either their small size is due to a late spawn or Oyster Pond is a healthier environment. Rita Montiero, a graduate student in Woods Hole, can tell us if the Coonamessett fry are late spawners because she can determine the age of herring fry by counting the rings that are added daily to their otoliths. Mike Bothner, another Woods Hole scientist, is also studying our fry to measure their mercury content who reports that the average length of these beautiful fish is 3.5 inches (8.9 cm) and the average weight is 4.5 g.

By Lou Turner

(cont. from first page) Also neither the septic system nor the sewer line could have contributed the observed bacteria, which would have required a strong surface discharge.

The source contained urine compounds and optical brighteners consistent from a human source, but not a match to sewage from the Woods Hole/Bike Path sewage line, on chromatographs. We are forced to conclude that the observed discharge was a one-time event, probably from a urinal/sewage discharge from an overnight camper parked in the pull off area. The discharge severely aggravated odors that are already present in the lagoon area.

Though we did not discover a “smoking gun” (or perhaps a smoking toilet in this case?), this experience highlights the value of OPET to the neighborhood and Town. OPET is the “boots on the ground” to respond to problems, and we do what needs to be done to conserve and protect the natural resource of Oyster Pond.

By Wendi Buesseler



Hot work in the hot sun, pounding in wells to sample the groundwater. Dana Rodin pounding away while Bill Kerfoot and Wendi Buesseler await their turns.

Trunk River and Lagoon Problems

The Trunk River and what we affectionately call the Lagoon are the connecting links between Vineyard Sound and Oyster Pond. During March and April, adult herring migrate from the Sound into Oyster Pond. Starting in July the herring fry start migrating back to the ocean, and this migration continues intermittently for the rest of the year. The river must be at least two to three inches deep in order for adult herring to reach the Lagoon.

The Trunk River is both narrow and shallow. High tides can deposit sand, gravel, and eelgrass that create obstacles to migration. Rocks are placed in the river, despite signs imploring peo-

mer, adult herring could not find a path to get into the Trunk River. This problem was quickly found and solved, but this is the reason why the Lagoon must also be checked on a regular basis. The decaying eelgrass is several feet thick in places and has created a solid looking area that produces hydrogen sulfide smell that can be detected in the Trunk River parking lot when the wind is from the east. Last summer floating eelgrass was dense enough that glass American eels about two inches long were struggling to get through it and make their way into Oyster Pond.

It is possible that the next big storm surge could entirely block herring migration.

The accumulation of sand and eelgrass in the Lagoon has also kept the depth of water in Oyster Pond high enough so that residents have complained about

flooded docks and flooded basements. A channel dug through the sand plug this year has had two benefits. It increased the flow of water out of the pond and decreased residential flooding. We also think the increased flow brought enough fresh water into the Lagoon so that the algae bloom of the previous two summers did not occur in 2008.

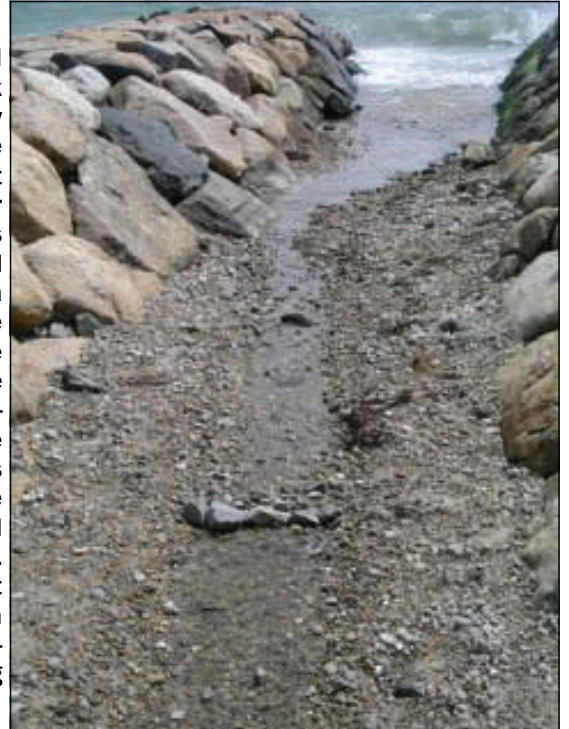
In summary, without the attention that OPET pays to both the Lagoon and the Trunk River, the herring migration would

ple to not do so. Vegetation accumulates that threatens to choke the river and must be removed. All of the above means that the Trunk River must be monitored on an almost daily basis to remove obstacles to migration. For the spring migration, daily manicuring is needed to ensure the river is deep enough for the adults to get to the Lagoon.

The Lagoon creates a different set of problems for migration. Over the years, storm surges have brought sand and dead eelgrass into the western end of the Lagoon. The water always finds a path through the sand and eelgrass, but last sum-

mer, adult herring could not find a path to get into the Trunk River. This problem was quickly found and solved, but this is the reason why the Lagoon must also be checked on a regular basis. The decaying eelgrass is several feet thick in places and has created a solid looking area that produces hydrogen sulfide smell that can be detected in the Trunk River parking lot when the wind is from the east. Last summer floating eelgrass was dense enough that glass American eels about two inches long were struggling to get through it and make their way into Oyster Pond. It is possible that the next big storm surge could entirely block herring migration. The accumulation of sand and eelgrass in the Lagoon has also kept the depth of water in Oyster Pond high enough so that residents have complained about flooded docks and flooded basements. A channel dug through the sand plug this year has had two benefits. It increased the flow of water out of the pond and decreased residential flooding. We also think the increased flow brought enough fresh water into the Lagoon so that the algae bloom of the previous two summers did not occur in 2008.

By Lou Turner

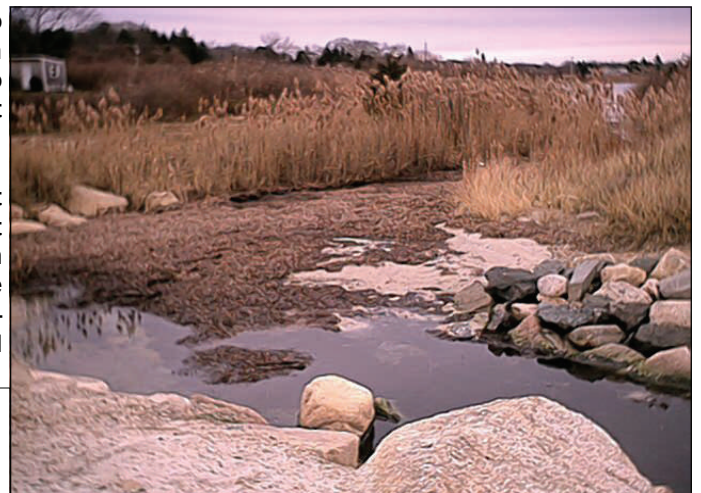


Trunk River Spring 2006 with a "poacher's dam", rocks placed to block herring from migrating up to Oyster Pond and easier to catch. This picture also shows how narrow and shallow the river can be, the water level is much too low for herring passage. Herring will still try sometimes, flapping up sideways on the trickling stream.



The mouth of the Lagoon clogged with eel grass last Dec.

The "elbow" at Trunk River completely clogged with eel grass, Dec. 2004



OPET Celebrates 20th Anniversary

On August 31, the Dowlings (John and Judy) opened their Pondside summer home to the OPET group. The beautiful day contributed to a good time celebrating over 20 years of accomplishments of the organization. President Lou Turner welcomed everyone. Bill Kerfoot talked about the past fundraising success that raised over \$380,000 to purchase Zinn Park. John Dowling addressed the challenges of the future, discussing the nitrogen overload, conservation needs, and perhaps acquiring more land between Zinn Park and Spohr Gardens. Wendi updated the group on ongoing projects such as the water quality monitoring, managing the Pondside invasive species (Phragmites and Purple Loosestrife), and the successes with monitoring the herring migration and making sure that impediments to migration are quickly removed. John and Bill both reminded all that we plan to have a fundraiser in the near future for specific projects.

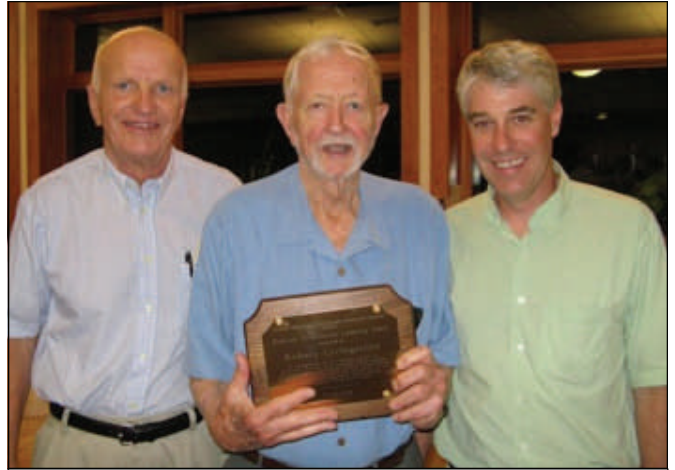
It was nice to see many past and present OPET directors as well as many others who have contributed in so many ways with their generous support to OPET over the years. We thank Doreen Sykes for the photos.

By Bill Kerfoot



John Dowling talking to the group.

Robert Livingston receives FACES Award



This summer, Honorary OPET Board Member, Robert Livingstone, was awarded the FACES 2008 Falmouth Environmental Leadership Award for his long time work monitoring the health of Oyster Pond and its herring population. Pictured with Bob are Brad Stumke (left) and Chris Neill (right) past and current FACES Presidents, respectively.

Board Member News

Barry Norris, John Dowling and Dana Rodin have stepped down from the Board having served the maximum six consecutive years allowed under the bylaws. Barry has served as our able Treasurer for several years. Dana has been extremely helpful as our legal counsel and John was always a source for sound advice. Dorothy Aspinwall also stepped down to allow her more time to travel to see her family.

OPET welcomes:

Florence (Sunny) Davidson a psychologist, family therapist and author.

Steve Leighton a mechanical engineer and scientific instruments designer.

Bill Rowe is our new Treasurer and a Certified Public Accountant who is the Town accountant for the Town of Stoughton.

David Sykes is a retired staff engineer with Raytheon and former chair of the Town of Lincoln Board of Appeals.

Peter Valtin is rejoining the Board after a year's hiatus. He is a computer programmer.

Officers & Directors 2007—2008

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| President - Lou Turner | Max Holmes |
| Vice President - Michael McNaught | Bill Kerfoot |
| Treasurer - Bill Rowe | Stephen Leighton |
| Clerk Florence Davidson | Martin Monk |
| Directors Alfred Allenby | Jonathan Smith |
| Barbara Doe | David Sykes |
| | <i>Executive Assistant</i> - Wendi Buessler |
| | <i>Hon. Board Member</i> Robert Livingstone |

OPET Board meetings are open to all OPET members. Meetings are usually held on the third Sunday of the month, at 4:30 pm in the Treetops Clubhouse.

We'd love to have you come!

OPET does not have an official phone, but you can leave a message at 508-540-3263. We'll gladly get back to you!

Or email: lturms67@comcast.net or

wbuessler@comcast.net

Please visit our website www.opet.org.

Happy Holidays & Best Wishes for a Happy New Year

Photo by Dorene Sykes



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Trust**

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stamp