The Watershed

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The Oyster Pond Environmental Trust Newsletter **Summer 2005**

***OPET*, P.O. Box 496, Woods Hole, MA 02543-0496**

OPET Annual Meeting 2005
This Year —Something Different

OPET is offering a different format for this year's annual meeting. Rather than one speaker there will be a panel discussion on the Long Term Management Options for Trunk River and Oyster Pond. Invited speakers include: Dr. Brian Howes, Estuaries Project; John Ramsey, coastal engineer; Jennifer MacKay, Falmouth Conservation Commission,: George Calise, Falmouth Engineering Depart.; Chuck Martinson, Falmouth Herring Warden and Jo Ann Muramoto, Coastal Resources Committee.

Trunk River , December 6, 2004 Debris from just one winter storm. Under this eel grass, Trunk River is struggling to pass by.

Long time OPET members know about the continuous problem of keeping the Trunk River channel open to maintain outflow from Oyster Pond. Winter storms, especially those with a strong southeast wind, push large amounts of eelgrass and fine sand up Trunk River into the lagoon. As there is not a correspondingly strong outflow from Oyster Pond to push this debris back out, it piles up creating a blockage at the lagoon entrance. This prevents the control weir from regulating water levels in the Pond.

This seasonal buildup requires seasonal maintenance. The blocked river is a dilemma for the Oyster Pond's herring. Each year the river must be opened in early spring for returning herring to spawn and again for adults and their fry in the fall to exit.

In addition, this dammed lagoon heats up, cooking up a stew of nutrient rich water and eelgrass to form huge mats of algae. Last summer was especially bad as Cladaphora glomerata spread across the surface of the lagoon (see Winter 2004 newsletter at www.opet.org for photos). The trapped water also became depleted in oxygen, building up hydrogen sulphide sufficient to be toxic to fish.

Swift cooperation between town officials and hard labor by Americorp volunteers opened up the clogged river last summer. The draining Oyster Pond restored oxygen levels and improved fresh water flushing to the lagoon reducing the Cladaphora. Unfortunately, we may see a repeat of the Cladaphora growth in the lagoon this year.

Will we have to continually rely on people power or machine dredging to keep this channel open or are there other methods? Should a seasonal removable trap gate be installed to prevent the inflow of seaweed? All this will be discussed at the meeting on July 26th.

Join us for the Annual Meeting
Tuesday July 26,2005
Woods Hole Research Center
149 Woods Hole Road
7:00 pm Light refreshments
7:30 pm Meeting

Purple Loosestrife and Phragmites – Aliens in our Backyard

Pretty to look at, colorful to see, but the exotic invasives purple loosestrife and common reed phragmites are bullying their way into Oyster Pond's ecosystem. Both species are aggressively crowding out our native plants as first reported in our Winter 2000 Newsletter (available on our web site). This is a big problem for our local birds, mammals, butterflies and amphibians that depend on native plants for food and shelter. A new volunteer group, the Wetlands Invasives Steering Committee (WISC) led by Dr. Richard Payne is trying to do something about these invaders in Falmouth.

"Exotic" invasive plants are plants introduced from other parts of the world. Lacking their native, natural controls, they can spread rapidly in our ecosystems and thrive in a variety of environments. Many are garden escapees that develop self-sustaining populations that dominate or disrupt natural ecosystems.

Phragmites or common reed (*Phragmites australis)* form dense almost impenetrable stands that can reach 15 ft. high (seen in the Trunk River photo) ***continued on page 3***

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!

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 *asirasking@aol.com* or *bisler@adelphia.net*. And do visit our website, www.opet.org.

2004 BUMP Research Projects

Since 2001, students in the Boston University Marine Program (BUMP) have conducted studies of Oyster Pond. Here are the titles of papers from last fall's session. The full text can be seen at our web site www.opet.org.

Salinity, dissolved oxygen, and nutrient concentrations in Oyster Pond
Karen Bishop and Michael Perret

Oyster Pond (OP), a regulated-tidal pond in Falmouth, MA, is a valuable model, and ongoing testament to how human manipulation *will* distort the natural composition of flora and fauna in delicately balanced estuarine waters.

Oyster Pond: Concentrations, effects and sources of groundwater nutrients
Carrie Soltanoff, Lukas Cheney & Megan Mach

We estimated inputs of the nutrients nitrate, ammonium, and phosphate to the six different sub-watershed of Oyster Pond.

Macrophytes and Eutrophication in Oyster Pond
Jennifer Culbertson and Erin Kinney

We chose to examine the macrophyte population in Oyster Pond as an indication of wastewater nitrogen load coming into the pond.

Effects of salinity and nutrient loading on species presence, growth, and food web position of fish in Oyster Pond and Salt Pond
Christine Bibeau, Craig O'Connell and Amber D. York

We compared fish populations within Oyster Pond and the saltier, higher nutrient loaded, Salt Pond.

Herring Update

Trunk River and Oyster Pond continue to be Falmouth's most important herring run. According to Chuck Martinson, Falmouth's herring warden, Trunk River had one of its best runs in recent years. In comparison to Falmouth's nine other runs, Trunk River is sustaining its population or even improving a little.

One late night fisherman reported Trunk River was so thick with herring he couldn't see the bottom. Another said he saw 10,000 herring pass by! Even with a fisherman's tendency for exaggeration -- that is still a lot of fish.

Chuck Martinson estimates this year's returning population at a more realistic 5,000 to 6,000. Chuck says that predators take their share of fish including a group of foxes he spotted one night catching herring from the sand bar in the lagoon.

Chuck thanks OPET volunteers for their help in keeping Trunk River open for fish passage. OPET's efforts contributes to the health of Oyster Pond's herring population.

FYI – a Town of Falmouth shellfish permit is required to take more than six alewives a day. The permit limits the catch to 20 herring per day and can only be used on Mondays, Wednesdays, Fridays and Saturdays.

A Message from FACES

FACES (Falmouth Associations Concerned with Estuaries and Saltponds) supports the efforts of OPET in raising the public's awareness of environmental issues associated with our coastal ponds. The coastal ponds are being stressed more each day as our ground water becomes saturated with nitrogen from septic systems, lawn fertilizer and road runoff. You are invited to the **FACES Annual Meeting** on **August 4th at 7:30 at the Woods Hole Research Center**, 149 Woods Hole Road. Our **guest speaker, Dr. Ivan Valiela** of the Boston University Marine Programs at the Marine Biological Laboratory, will address his extensive experience with the declining health of our coastal ponds and the challenges we face.

Brad Stumke, FACES Chair

OPET is a member of FACES

continued from page 1 It spreads by rhizome runners that can grow 10 feet in one year. A few phragmites can quickly overwhelm a wetland site crowding out native plants, changing water hydrology and altering wildlife habitat.

Purple Loosestrife (*Lythrum salicaria*), a native of Europe, is a hardy perennial that can reach 8 feet in height. A once popular garden plant due to its adaptability, it escaped into the wild quickly spreading into wetland areas where its impenetrable stands replace valuable wildlife habitat (unbelievably, it is still sold in garden centers). A single plant can produce up to 300,000 seeds annually that are widely dispersed and result in an estimated 475,000 acres of wetland degradation annually by this "purple plague." Loosestrife has rapidly spread along the shoreline of Oyster Pond, replacing our native cattail marshes .

Montezuma National Wildlife Refuge in central New York state.

An example of how loosestrife can over run a wetland system. A biologist holding a white rod in middle foreground is barely seen.

Wetlands Invasives Steering Committee (WISC)

Luckily, Falmouth has many concerned volunteers working to bring both plants under control. Last summer, Dr. Richard Payne organized over 50 volunteers to map every nook and cranny in Falmouth for the presence of either species. The good news -- three stands of the rare, native phragmites were found. The bad news for us -- Oyster Pond has a large abundance of both species.

After examining several control options, the WISC choose biological controls, or beetles, for purple loosestrife and manual removal and herbicide applications for phragmites as the most viable alternatives.

Beetles for Biocontrol

Dr. Payne appeared before the OPET Board in May to discuss plans to release two species of host specific loosestrife eating beetles, Galerucella calmariensis and Galerucella pusilla in the Oyster Pond area. This is the only feasible method to control loosestrife, as neither mowing, burning, herbicides, nor water level management is successful.

To avoid a potential "releasing the genie in the bottle" problem, the USDA rigorously tested the beetles for potential impacts prior to approving their use in 1992. The tests included "feeding trials"— exposing the beetles to 50 species of native wetland species and important commercial and agricultural plants. The studies demonstrated these beetles are host specific to loosestrife species -- they lay eggs only on loosestrife and their larvae feed only on loosestrife. Some localized short term feeding by adults can occur on other plants, but that is rare. More than sixteen other states are successfully using the beetles for loosestrife control.

The OPET Board voted to join the Woods Hole Oceanographic Institution and Salt Ponds Area Bird Sanctuary in donating $350 each to purchase 10,000 beetles for release this fall. The beetles will be sprinkled about in groups of 100 to 200 around the Oyster Pond and Salt Pond areas.

There will be little activity by the beetles this year as they concentrate on wintering over in stalks of loosestrife. It is when they emerge hungry next spring they really go to work. By the second season, the plants will be much reduced in size and scope. It will take 3 to 5 years to completely eradicate or at least control the loosestrife, allowing native vegetation a chance to remerge or at least compete.

Cut and Treat

Phragmites control still depends on human activity for eradication. The best method is to cut the canes down in late summer when the energy of the plant is concentrated in the blossom in preparation for seed generation. Rodeo, a glyphosate herbicide similar to Roundup, is dropped into each hollow cane, a very tedious task.! It takes several seasons for this to work.

The WISC and the town Land Management Working Group chose three test sites for this method: the Margaret Doutt conservation parcel in Waquoit, a small secluded stand on the Breivogel conservation parcel and the upper parking lot at Old Silver Beach. Unfortunately, the phragmites on Trunk River and will have to wait.

Volunteers are needed to cut and remove the phragmites canes. Licensed Town employees with apply the Rodeo. Dick Payne welcomes volunteers. Contact him at 508-540-4732 or dannas@cape.com.

AVOID introducing other exotic invasive plants into your garden. These two popular garden plants were recently deemed "invasive plants" by the Massachusetts Invasive Plant Advisory Group

BURNING BUSH (*Euonymus alatus*).
Popular due to its "burning" fall foliage, corky bark and red berries, the burning bush unfortunately escapes gardens into natural areas much like the purple loosestrife. Forests are especially hard hit where it forms dense thickets crowding out native understory shrubs and prevents forest regeneration.

JAPANESE BARBERRY(*Berberis thunbergii*)
A twiggy, thorny shrub with red fall color and berries. A popular garden choice due to its adaptability. Spread by berry eating birds, it forms thorny impenetrable thickets, smothering native shrubs and plants in woodlands, floodplains and pastures. Barberry is invading the undergrowth of Beebe Woods.

Plant these lovely Native Shrubs Instead

Red Chokeberry (*Aronia arbutifolia)*
A vase shaped shrub with clusters of white pinkish flowers in the spring yielding into brilliant red berries in the fall. The glossy thick leaves turn orange to red in the autumn. Grows to 8 ft in average, well-drained soil in full sun to light shade. 'Brilliantissima' is a common cultivar.

Summersweet (*Clethra alnifolia*)
A deciduous shrub with glossy leaves that turn yellow in the fall. Heavily perfumed, upright white flower spikes bloom in mid summer. Grows and establishes quickly to 5' to 8' in sun or light shade. Several cultivars are available including 'Creels Calico' with variegated leaves and 'Ruby Spice' or 'Pink Spires' with pink blossoms.

Enter OPET's PHOTO CONTEST

OPET members and friends are encouraged to submit their favorite photo of Oyster Pond, the shoreline, Trunk River, Zinn Park, Spohr Garden, wildlife, or people enjoying the Pond for our first ever photo contest. You can submit up to three photos per person. Color, black and white or experimental photos are fine. Send digital JPG format via email to dylanmcfan@yahoo.com or mail to OPET's po box. Please vote for your favorite photo online. Winners will be notified by the Winter Newsletter and have their photo prominently displayed on the website. Top Prize will be announced on the website. Deadline for submission is September 30, 2005. *by Erika Hahn*

IN MEMORIAM *for long time residents of Oyster Pond Road and OPET members,* ***John and Freda Karalekas****.*

Mr. Karalekas died on October 31, 2004 at the age of 93. Mrs. Karalekas preceded him on October 29, 2003. Mr. Karalekas was a World War II veteran who served in a component of Gen. George Patton's Third Army. He owned and operated Falmouth Gardens Grocery on Main Street from the 1940s to 1977. He was also a gourmet cook and avid golfer.

Mrs. Karalekas, a lifetime resident of Falmouth, was on the board of directors of the Falmouth Historical Society and a 60 year member of the Falmouth Garden Club. She was also active in the Falmouth Theater Guild, performing in many colorful roles.

They are survived by three daughters, two sons, 10 grandchildren and 13 great-grandchildren.