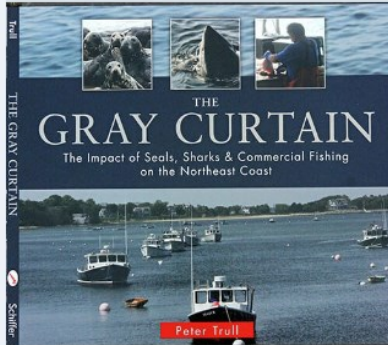




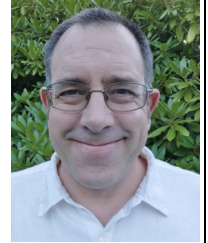
**OPET Annual Meeting  
Thursday,  
August 24, 7pm  
Sea Education Association**

**“The Gray Curtain”  
Peter Trull,  
Naturalist and  
Author**



Peter will describe, through lively discussion and his vivid photographs, the relationship between commercial fishing, expanding populations of Gray Seals, and the occurrence of Great White Sharks along the beaches of Cape Cod and the Northeast. This “Gray Curtain” has resulted from environmental changes, range expansions, population growth, and animal migrations. Although commercial fishers and scientists don’t always agree, in the minds of many, the Gray Seal has played a major role in the changing fisheries of New England. Now, a new charismatic, apex predator has entered the picture and has made its presence known: the Great White Shark.

### **A Message from Alfredo Aretxabaleta,** *OPET President*



Dear OPET Members,

As we embrace the warmth of summer, we can enjoy the beauty it brings to Oyster Pond and its surrounding environment. Our connection to nature is vital, and Oyster Pond holds a special place in our hearts. It is a sanctuary of biodiversity, a haven for wildlife, and a source of joy for our residents and visitors alike. The commitment of the Oyster Pond Environmental Trust to protect and preserve this precious ecosystem for future generations is commendable and essential.

Over the years, we have witnessed the positive impact of our collective efforts. Through conservation initiatives, we have taken crucial steps towards safeguarding Oyster Pond's natural environment. But our work is far from over. We continue to encounter new challenges: diseases like beech leaf disease affecting our forest; invasive species both in our pond and forest; water quality issues, for which we continue to sample and monitor Oyster Pond; and the potential for dramatic future changes to our shore and pond.

Let us be mindful of our individual and collective ecological footprint. Simple steps, such as reducing plastic waste, recycling, conserving water, carpooling or driving less, gardening organically, and supporting local sustainability initiatives, can make a substantial difference. Together, we can create a ripple effect that will resonate far beyond Oyster Pond's shores.

I am proud to see communities like Oyster Pond’s coming together to confront these challenges with determination and passion. The dedication of our members to maintaining the delicate balance of nature is inspiring, and it serves as an example for others to follow. I encourage everyone to engage in constructive dialogue and collaborative efforts. Only by working together can we find innovative solutions to protect our natural resources and ensure a sustainable future for generations to come.

In closing, I extend my gratitude to all the members of the Oyster Pond Environmental Trust, its Board, and every individual committed to preserving the beauty of Oyster Pond. Your unwavering support serves as a beacon of hope, providing a path towards a greener, healthier Falmouth.

Wishing you all a safe and enjoyable summer filled with cherished moments spent in the embrace of nature.

## Join OPET Today

Your donations make it possible to continue our work to conserve and protect the natural environment and ecological systems of Oyster Pond.

### Officers & Directors 22-23

President - Alfredo Aretxabaleta

Treasurer - Matt O'Connor

Clerk - Jennifer Goebel

Directors: Olivia Schmidt  
William Kerfoot Jonathan Smith  
Stephen Leighton Mike Spall  
Teresa MacRae James Wilson

Administrator - Chris Brothers

Visit our web site at

[www.opet.org](http://www.opet.org)

Or send us an email at

[info@opet.org](mailto:info@opet.org)

OPET Board meetings are open to all OPET members. Meetings are at 4:30 pm on the second or third Sunday of the month at Treetops Clubhouse or through Zoom.

We are a 501(c)(3) organization.  
Contributions are tax deductible.  
Tax Id number—04-3278142



## Stop Aquatic Hitchhikers

By Chris Brothers, OPET Administrator



Photo Credit: Dorene Sykes

At first glance, this photo of a Mute Swan swimming past a kayak might appear to be a peaceful summer day on Oyster Pond. Mute Swans, however, are considered an invasive species. They were introduced to the U.S. from Europe in the late 1800s to grace municipal parks. They eat four to eight pounds of aquatic vegetation per day, uprooting native plants that birds, fish, and other wildlife depend on for food and shelter. They outcompete native waterfowl, degrade water quality, and can quickly destroy a wetland.

Now let's address the kayak. While working on this newsletter, I attended a workshop on invasive aquatic plants led by Jim Straub, of

the Massachusetts Department of Conservation and Recreation (DCR). According to DCR, more than a third of Massachusetts' approximately 3000 ponds have been impacted by invasive aquatic plants. These plants are commonly spread by people moving boats between water bodies. I confess even though I knew motor boats should be cleaned before being transported to new water bodies, it had never occurred to me this applies to kayaks and even paddleboards as well. Usually my kayak is out of the water long enough to dry between trips. DCR provides instructions on how to clean watercraft to prevent the spread of aquatic invasive species and protect ponds which you can access at <https://www.mass.gov/doc/stop-aquatic-hitchhikers-handout/download>.

### Gifts in honor of:

- ♥ Mindy Hall by Leslie Hall
- ♥ Mindy Hall by Leonard and Patricia Johnson
- ♥ Mindy Hall by Anne-Marie Runfola and Ken Kostel
- ♥ Werner and Birgit Rose Loewenstein by Joel Martin and Laurie Baefsky
- ♥ Chris Neil and Linda Deegan by Olivann and John Hobbie
- ♥ The Moors Association by the Falmouth Road Race

### Gifts in memory of:

- ♥ Louise Bailey by Michael and Eileen Spall
- ♥ Irwin and Liz Golden by Meredith Golden
- ♥ Harry Haas by Heather Haas
- ♥ Lily by Tom and Amelie Johnson
- ♥ Karen Linden by Liza Fox and Alfredo Aretxabaleta
- ♥ John Powers by Richard Fields
- ♥ John Powers by Deborah Shafer Hayden
- ♥ John Powers by Martha F. Powers
- ♥ Julie and Stubby Rankin by Joan Rankin Berman
- ♥ Rear Admiral Edward M. Peebles by Ellen Peebles
- ♥ Grace Sexeny by Stephen Sexeny
- ♥ Dr. Norman and Jayne Starosta by Peter and Cynthia Starosta
- ♥ Betsy Stegeman by John Stegeman
- ♥ Lou Turner by Lee Turner
- ♥ Lou Turner by Stephen Turner
- ♥ Lou Turner by Judith Ziss
- ♥ Albert A. Wickersham, Jr. by Meredith Golden

## Beech Leaf Disease: An Emerging Threat to New England Forests

By Chris Brothers, OPET Administrator

In early June, OPET learned about beech leaf disease from OPET member and *Falmouth Enterprise* editor Liz Saito from an article she wrote about this emerging threat to New England forests in the *Enterprise*. (Liz wrote about beech trees in the Summer, 2020 newsletter). Several board members over the next few days walked the trails in the Headwaters of Oyster Pond to determine its prevalence in the beech trees on the property. We were alarmed to see that almost every tree seemed to be infected with this disease, which is caused by a nonnative nematode, *Litylenchus crenatae mccannii*.

Nematodes are microscopic roundworms; among the most common animals on Earth, they are ubiquitous in all environments. It is not clear if the nematode causes the disease, or a bacteria or fungus within the nematode. The disease seems to affect all species of beech.

The nematode that causes beech leaf disease overwinters in the leaf buds of the trees. Before the leaves emerge in the spring, the worms have already damaged the leaves inside the buds. The affected leaves look striped with black or dark green bands which are galls containing the worms. As the infection progresses, leaves become shriveled and leathery, then die and fall from the tree. Leaves that emerge without symptoms from uninfected buds remain healthy through the growing season.

If the trees are healthy and receive enough rainfall over the summer, they may be able to put out a second set of buds and new leaves. These new leaves are not infected with nematodes. However, the trees can become reinfected in the fall. How the disease spreads is not known, but it is thought to be carried by birds and insects or possibly by wind or rain. Most trees can only re-leaf for a few years, and if they are also stressed by drought or other diseases, will likely die within six to ten years. By the time trees show the characteristic banding of the leaves, they may already have been infected for five or more years. Beech trees also suffer from beech bark disease, fungal infections, and mite and aphid predation.

Treatment for beech leaf disease is in the experimental phase. Researchers in Ohio have had some success with applications of a potassium fertilizer called phosphite, which is known to promote plant defenses, applied to the soil at the base of small trees (2-4 inches in diameter).

Treatment for larger trees is problematic because of the potential for soil and water pollution. A foliar fungicide, fluopyram, can be sprayed on the leaves of trees to kill the worms, but it must be sprayed in late May to late June before the worms enter new buds in late summer. How often it needs to be applied is not known, and there are concerns about the nematodes developing resistance and effects on insects. The trees can also be reinfected by nearby, untreated trees. The OPET Board of Directors debated treating about 40 beech trees on the Headwaters property but ultimately decided not to do so for these reasons.

Beech leaf disease was first discovered in Ohio in 2012. It has been making its way eastward and reached MA and RI in 2020. It is now found in 12 states and Ontario, Canada. The Cape Cod National Seashore documented Beech leaf disease in the park in 2021, its first report on Cape. The Massachusetts Department of Conservation and Recreation is asking the public to report beech leaf disease in order to monitor its spread and impact in the state at this site <https://arcg.is/1Svrz40>.



This beech leaf shows the characteristic dark banding along the veins of the leaf in a tree infected with beech leaf disease. Photo credit: Chris Brothers.

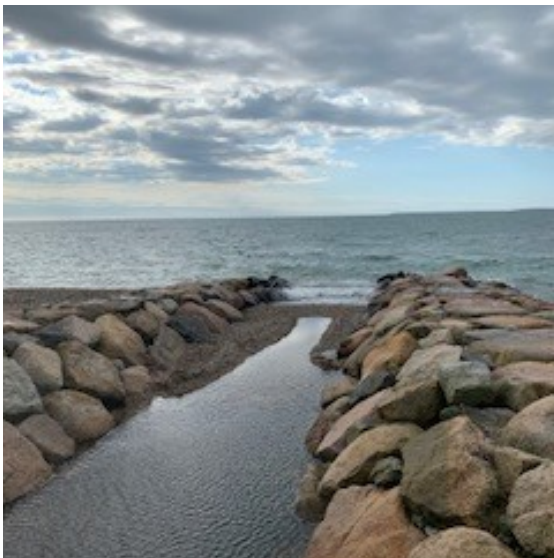
## 2023 Trunk River Herring Count: A Big Success!

by Matt O'Connor, OPET Treasurer

For the better part of April and May, a team of 13 faithful herring counters spent time at Trunk River monitoring the annual spring migration of herring from the ocean to Oyster Pond where they come to spawn. Despite some storm-induced disruptions, 224 ten-minute counts were logged over a seven week period. The counts resulted in a total of 2,391 herring seen migrating up Trunk River. This was a 153% increase over last year's count of 945 herring!

For the last two years, we've followed the counting protocols put forth by the Massachusetts Department of Marine Fisheries (DMF). As a result, DMF can put our sampling data into an algorithm that allows them to estimate the total size of the Trunk River herring run. It also allows them to compare our results with counts from herring runs elsewhere in the state. The DMF's 2022 estimate for the Trunk River herring migration was between 7,400 and 18,800 herring. With this year's much increased count, we anticipate a higher estimate for the total herring migration.

On two occasions during this year's count, storms pushed sand and small stones into the mouth of Trunk River completely blocking the channel. On both occasions, our determined counters dug out the channel, by hand, to re-establish the connection between Trunk River and Vineyard Sound allowing the migration to proceed.



*The mouth of Trunk River temporarily blocked by gravel following a storm. Photo Credit: Matt O'Connor.*

The Trunk River herring migration continues to be a predominantly night-time event, with 56% of our sightings occurring after 7:00 p.m. However, at peak times of the migration, hundreds of fish can be seen at almost any time. One person counted close to 1,000 herring one day about 3:15 in the afternoon! She just happened to be in the right place at the right time.



*Herring often migrate after dark to avoid predators like this Osprey. Photo Credit: Connor Thompson.*

In addition to the herring counts, the DMF also asks for air temperature, water temperature, and weather data at the time of each count. This data helps them to better understand the conditions that seem to correlate with migration activity. Last year, our weather and temperature data was rather spotty. This year, we established a station at Trunk River where counters had access to thermometers for documenting water and air temperatures so our supporting weather data was much more complete.

OPET would like to thank this year's dedicated counters: Alfredo Aretxabaleta, Paula Beckerle, Samantha Broun, Jay Burnett, Brad Butman, Michael Casso, Elizabeth Davies, Jen Goebel, Pat Keoughan, Cindy Moore, Kate Morkeski, and Rob Rosenthal.

If you have questions about the count or would like to participate in next spring's count, please feel free to contact Matt O'Connor at [oconnorscapecod@gmail.com](mailto:oconnorscapecod@gmail.com).

## Species Spotlight: Fishers

*By Chris Brothers, OPET Administrator*

Thirty years ago, when I worked for the Massachusetts Audubon Society's Wellfleet Bay Wildlife Sanctuary, we got a phone call about a dead Fisher that had found been on Coast Guard Beach in Eastham. This was more than unusual, so I was dispatched to pick it up and drive it to the Massachusetts Division of Fisheries and Wildlife Office in Bourne. The wildlife biologist there was astonished a Fisher was on the Outer Cape. He proposed that someone might have killed it off Cape somewhere and then disposed of it on the beach. Why someone would do that, he couldn't explain.

Fishers were extirpated from Massachusetts by the 19<sup>th</sup> century, largely due to clearing land for agriculture. With the regrowth since then of the dense forest habitats they prefer, their populations have made an amazing rebound. They are found throughout the state except on Martha's Vineyard and Nantucket. Fishers are more common than most people realize as they are seldom seen. They are primarily nocturnal and crepuscular (active at dawn and dusk) during the summer but tend to be more active during the day during winter, when their tracks can also be seen in the snow.



Fishers belong to the weasel or Mustelid family along with, in Massachusetts, Short and Long-tailed Weasels, River Otters, and American Mink. They have elongated, slender bodies with short legs and furred tails that sometimes reach a third the length of their bodies. They range from four to 16 pounds and two to three feet long, with males being larger than females.

Although they mostly hunt on the ground, Fishers are good tree climbers because, like cats, their claws are

retractable. This is why some people call them Fisher Cats, which is inaccurate as they are not cats. Fishers prey on squirrels, rabbits, rats, mice, birds, and eggs, and will also eat fruit, carrion, and unfortunately domestic cats and backyard poultry. As predators, Fishers have the undeserved reputation of being vicious, but they are actually fairly shy and elusive, another reason they are seldom seen.

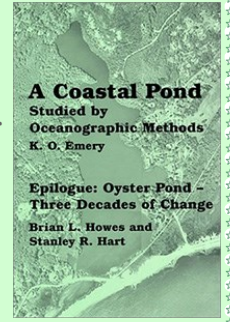
Fishers in New England typically give birth to one to four kits in March and mate within days. Like many other mustelids, as well as seals, bears, bats, and skunks, Fishers can delay implantation of the developing embryo into the uterus for many months; for Fishers up to eleven months. The kits are then born two months after the embryos implant. Biologists believe this behavior, also called embryonic diapause, allows the mammals to time the development of the embryos for when the female is most nutritionally fit to bear young, and to have offspring born when they have the best chances of surviving. How they do this is hormonally controlled, but poorly understood.

The females den in cavities in large trees and raise the kits for two months before moving them to a den on the ground. By five months the kits are learning to hunt, by late fall they are on their own, and by age two they are ready to reproduce.

If you live in Treetops or the neighborhoods surrounding Oyster Pond, you may have been lucky enough to have seen a Fisher. If you haven't yet, keep looking. Both of these photos are from wildlife cameras on our trails.



For its size, Oyster Pond is one of the best studied coastal ponds on Earth. K.O. Emery in 1969 wrote the classic study of Oyster Pond titled *A Coastal Pond Studied by Oceanographic Methods*. This important book traces the history of the pond from pre-European and early settler days to the middle of the twentieth century. It describes in detail the pond's topography, geology, and biological characteristics. Numerous studies have followed since then. We are fortunate to have as neighbors many preeminent scientific institutions whose scientists use Oyster Pond as a model site for investigating ecological processes. Learn more about research conducted in Oyster Pond at our website ([opet.org](http://opet.org)).



*Gray Seals. Photo Credit: Peter Trull.*

Sea Education Association  
171 Woods Hole Road, Falmouth

Naturalist and Author  
Peter Trull  
"The Gray Curtain"

Thursday,  
August 24, 7 pm

OPET Annual Meeting

OPET Annual Meeting – Thursday, August 24, 7 pm



**The Oyster Pond  
Environmental  
Trust**

P.O. Box 496  
Woods Hole, MA 02543

