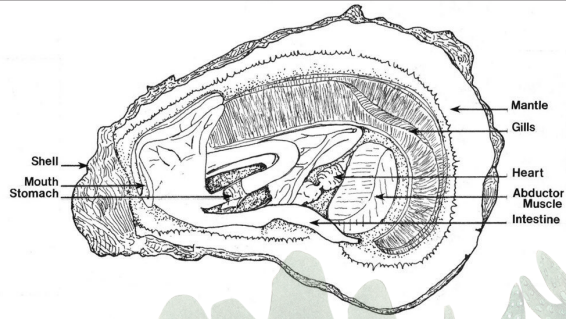


## HOW TO SUPPORT OUR EFFORTS

If you would like to help, please write a check to the Town of Phippsburg, (go to Town Hall or mail to 1042 Main Road, Phippsburg, 04562), with a designation to the Basin Oyster Project (BOP). Your donation will allow us to continue our work toward creating sustainable oyster reefs in the Basin; provide education on oysters and oystering in Phippsburg; celebrate oyster restoration with informational tours, age-appropriate school lessons, and help sponsor an annual oyster festival. If you share your e-mail, we will gladly send you bulletins about our on-going work.



## BOP’S GRANT STATUS

Our deepest thanks to The Nature Conservancy for their steadfast support of the Basin Oyster Project over time.

This year, we received a grant from the Aquaculture Research Institute (ARI), based at UMaine Orono, which basically pays for housing and a living stipend for a summer “extern” [their term]. We have selected Eleina Sturk (see page 3) for the 12-week internship. A \$5,000 grant from Sea Grant Maine will also go toward her housing and oyster farm expenses.

An additional \$20,000 Davis Foundation Grant will help fund our purchase of uglies and doubles from local oyster farmers. This grant also provides resources necessary for our ecological research in the Basin, including monitoring oyster spawning, water quality and green crabs, as well conducting a workshop on oyster restoration in the fall.

Our work would not be possible without donations of time, materials and resources from our active participants and supportive organizations and townspeople. Thank you for your support!

## MEET THE TEAM!

**Jessie Batchelder** - Manomet fisheries technician (scope includes Basin green crab study and baseline ecological survey)

**Caitlin Cleaver, PhD** - Assistant Professor of Environmental Studies, Colby College

**Dean Doyle** - Basin Oyster farmer & Chair, Phippsburg Shellfish Commission

**Lydia Gregoret** - personal-use oyster farmer and scientist, Phippsburg

**John Herrigel** - Maine Oyster Company owner, Phippsburg

**Avery Hunt** - Phippsburg resident and writer

**Joe Jerome** - Northeast Saltwater Charters, Phippsburg

**Dot Kelly** - Phippsburg Conservation Commission and Lead for the BOP

**Michele LaVigne** - Bowdoin oceanography professor and collaborator with BOP on oyster research & ocean acidification

**Marissa McMahan** - Manomet non-profit fisheries director, Brunswick. (Scope includes baseline ecological survey for the BOP)

**Ryan Saul** - Phippsburg resident and Basin oyster farmer

**Rebecca Schultz** - Basin neighbor and NRCM scientist

**Ellen Winchester** - Co-chair, Phippsburg Conservation Commission

**Olivia Richardson** - Summer worker, MOC & BOP

**Eleina Struk** - Summer intern

## OUR MISSION & GOALS, con’t

Our first major funding came from a \$20,000 Nature Conservancy grant which focused on aquaculture. With this money, we were able to ramp up our scientific studies of the variables involved in making an oyster reef successful (with help from Bates, Bowdoin, and Manomet Fisheries). We are still researching the life cycle of the oyster - from spawning to oyster maturity. We continue to assess water chemistry and the effect of predators, as well as quantifying the many environmental factors that contribute to a healthy oyster.

Now in our fourth full year of operation, our goal is to help oysters continue to establish a foothold in the Basin, and BOP is doing so through a combination of science, education, communication, and fun events. The good news: we are seeing positive results.

# Basin Oyster Project

## Shellfish Reef Restoration

SUMMER 2023 • PUBLISHED BY BASIN OYSTER PROJECT

## UPDATE ON BOP OYSTER EFFORTS, from Caitlin Cleaver

We continue to establish small-scale oyster reefs at our two permitted locations in the Basin - Thistle Point and Denny Reed. In the first few years of the project, we settled eyed larvae on aged oyster shell and grew small oysters purchased from Muscongus Bay Hatchery to larger sizes before planting them on our sites. This year, we are shifting our strategy to engage New Meadows oyster farmers by purchasing, at a discount, their “doubles & uglies” -- oysters that are fused together or too misshapen for retail sale. After they are counted and measured, we will plant and track them. These more mature oysters will help strengthen the reefs.



Caitlin on workboat hugs two BOP teammates

For research, we still monitor habitat changes during Scuba dives. We will complete this before we plant oysters and then likely again before the winter to check on them. Over time, we anticipate the habitat will become more complex.

Through shoreline surveys this summer, we want to determine if the oysters along the New Meadows are spawning or reproducing and then if the larvae are naturally settling in the Basin. This would be good for our reef-building efforts because it proves that there would be a local source contributing to our reef.

We will also deploy “spat collectors” or plastic, hat-shaped pieces that have been covered with a hardened cement-lime-sand mixture, as well as mesh bags that hold aged oyster shells, at our sites. Both collectors are designed to catch larval oysters. Finally, we’re figuring out a method to determine if the adult oysters are getting ready to reproduce.

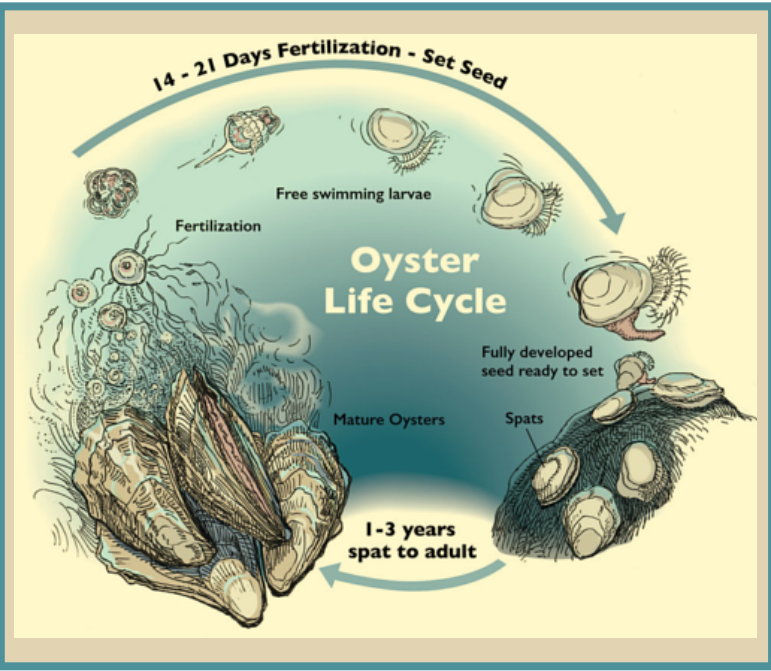
In addition, we’re collecting data on water and air temperature, salinity, turbidity, and dissolved oxygen every other week, as well as monitoring green crabs. The Basin’s robust green crab population has certainly made us adjust our reef-building strategies. A good understanding of the dynamics of the green crab population will help influence our future efforts.

## OUR MISSION & GOALS

The Basin Oyster Project is a non-profit volunteer group of local oyster farmers, scientists, Phippsburg Conservation Commission members, neighbors, and educators. Our mission is to create a sustainable oyster reef in the Basin on the New Meadows River and to understand what is necessary to make that happen.

We first got together in late 2019, after the Nature Conservancy asked our Conservation Commission to take over their early oyster restoration efforts in the Basin, within the 2000 acres donated by the Hatch family. Despite Covid restrictions, interested people joined our effort via zoom calls and outdoors, while we continued the Nature Conservancy effort of growing larvae to become mature oysters.

...con’t page 4





# ITS ALL HAPPENING THIS SUMMER WITH THE BASIN OYSTER PROJECT!

## EDUCATION & COMMUNITY OUTREACH

Our educational programming engages local school kids with the shellfish industry and aquaculture. We are using oyster science to develop hands-on lessons for groups of various ages. We also coordinate with oyster farmers and researchers locally and along the East coast and offer community outreach events.

This spring, we hosted a graduate program class from Tufts (affiliated with Wolfes Neck in Freeport). Olivia Richards from that class is now working with us this summer.

In May, some of Caitlin’s Bates students had a field trip to the oyster farm. More recently we had 5 elementary school classes to Basecamp where Dot demonstrated some filtering experiments.

On July 27 at 7 pm, there will be a BOP presentation at the Popham Library. We are also planning a series of weekly informational talks at Basecamp, to be held on Tuesdays at 7 pm, July 11, July 25, Aug. 8 and Aug 22. Each will be focused on one of the following topics: Sea-weed; Basin oyster project update with Dot/Joe/John/Caitlin; Water Quality Assessment with Bigelow Labs team, and Runoff with John Herrigel. Olivia Richards is organizing these community events.



Dyke Newell Students at Basecamp for Dot’s oyster filtration demo.

## WELCOME OLIVIA RICHARDS

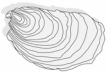
Olivia joined The Maine Oyster Company (MOC) in early June and hit the ground running, from shucking oysters at the Maine Oyster Festival in Freeport, learning the ropes at MOC’s raw bar in Portland, to supporting the Basin Oyster Project (BOP) team with ongoing ecological monitoring and oyster upkeep. While most of her time will be spent with MOC, she is excited to lend a hand with BOP’s fieldwork. She will also help set up a replica of the Basin restoration sites in an observation fish tank at Basecamp, as part of our development of a Marine Innovation Lab and Lounge (MILL) to share information about our oyster story with the community.

Here’s her story: “As a member of the MOC team, I look forward to expanding my knowledge to include aquaculture. I graduated from Tuft’s Agriculture, Food, and Environment master’s program in May, where I was lucky enough to work at Wolfe’s Neck Center in Freeport. My summer there opened my eyes to the interaction between land and sea-based food systems.

“My interest was further piqued when a grad school friend and I went on an oyster farm tour last June, led by none other than Joe Jerome, co-founder of MOC. Months later, Joe and John Herrigel were invited to speak to the “Food from the Water” study group that my friend and I cooked up to pursue our shared interest in the topic. My excitement about MOC’s multi-faceted approach prompted me to ask John about opportunities to support their work. And here I am, looking forward to a fun oyster-filled summer!”



Trips so far this season: the Bates field trip (top right), the Basin dive (right and far right), and (top left) Dot with Eleina (middle) and Olivia (right).



Below: Phippsburg Conservation Commission member Jen Blood helping with oyster bag maintenance at the Basin, She was intrigued by Peter Dunbar’s presentation to the Commission in May and came to see for herself!



Above: Underwater shot of shell hash in the Basin on a winter day. Note the clarity of the water and the oyster shell in the middle.



## MEET ELEINA STURK

I am currently a rising Junior at Bowdoin College majoring in Biology. During the school year I work for the Asian Studies department as an office assistant and Japanese language TA. In my free time I enjoy drawing and playing basketball.

I was introduced to this opportunity as an “extern” for BOP, funded by ARI (Aquaculture Research Institute at UMaine, Orono) by my advisor and Marine Biology professor, who knew that I was interested in doing marine fieldwork over the summer. The job was particularly intriguing to me because it encompasses a variety of different ideas and experiments, and there are many things that can be tested and explored. It also lets me spend a good chunk of my time outside!



Eleina at Basin Dam, sorting oysters

## A DAY (OR TWO) IN THE LIFE...

Eleina began her internship on May 22. By the next day she was swamped with new things. Here is her first report:

*Went to Maine Oyster Company for the second time, having been before when Dot gave me a tour around town. Dot and I went down to the Gamble Preserve and looked at some of the wildlife on the ocean floor. I recognized a lot of the creatures but realized that I need to brush up on my scientific naming skills. At MOC, I met Joe who taught me the basics of driving a boat. It was a lot harder than driving a car! In the afternoon, I had water sampling training with the Kennebec Estuary Land Trust, where we were taught how to test the salinity, the pH, the temperature, and dissolved oxygen of the water. Did some oyster sorting at Denny Reed with Dot. I’m feeling a lot more confident about my sorting skills and am starting to find a rhythm.*

