

# 2020 MARYLAND OYSTER ANNUAL REPORT

## Challenges Bring Innovation

Despite the challenges presented with COVID-19, CBF's Maryland Oyster Restoration Program had another outstanding year. Our oyster restoration program relies heavily on volunteer engagement and hundreds of volunteers come through our doors each year to help with a number of oyster related projects. However, due to a lack of work force and state COVID-19 protocol, a delayed start to the season, and continued weather challenges, 2020's spat on shell production and oyster gardening fell slightly behind normal. Nevertheless, the support and dedication of our members was stronger than ever and through a little adjusting and an abundance of safety measures, we were able to get back on track and have a successful oyster restoration year. **Thank you to everyone for staying supportive though these tough times!**

- **Spat Produced:** CBF produced and planted 13.9 million spat-on-shell (juvenile oysters) in 2020. We grew all the spat at our Oyster Restoration Center in Shady Side, Maryland, and deployed them via CBF's oyster restoration vessel the R/V *Patricia Campbell*.
- **Oyster Gardening:** Our gardeners grew and planted over 500,000 adult oysters all over Chesapeake waters, ranging from Maryland's southern Eastern Shore to as far north as Baltimore.
- **Shell Recycling:** This year, CBF recycled over 1,200 bushels of oyster shells. Our volunteer drivers collect enough recycled shell to supply our entire oyster gardening program, roughly one quarter of our annual oyster shell needs. The restaurants, marinas, schools, and neighborhoods that donated shell helped save CBF more than \$7,500 and provided enough shell to grow up to one million oysters.

## Accomplishments and Challenges

2020 was a difficult year for us all. Most of our volunteer work was sidelined, our season had a delayed start due to COVID-19 protocols, and major weather events hindered larvae and spat production late in the year. But—largely due to the support of our members, donors, volunteers, partners, and oyster gardeners—we managed to find success.

**In particular, we saw a significant increase in one sector—shell recycling.** CBF's shell recycling program runs year-round and helps to save valuable oyster shells from ending up in landfills. This year, we recycled 1,200 bushels of oyster shell throughout the state.

Oyster shells are the primary substrate used by oyster larvae when they reach their final stage of larval development. Once larvae attach to an oyster shell, it is known as spat. The 1,200 bushels collected are enough to supply our entire oyster gardening program for a full year, a savings of over \$7,500, and has the potential to result in over one million new adult oysters planted in the Bay.

Our entire shell recycling program relies on a core group of volunteer drivers. These drivers never missed a beat this year, despite the challenges presented by COVID-19. Collecting shell is a hard and dirty job, and their dedication to saving the Bay is evident every mile of the way. Our accomplishments this year and the record-breaking number of recycled shells would not have been possible without their support and hard work.

**A special thanks from CBF's oyster team to Bev, Eric, Rob, Dave, Gary and Paul!**



CBF STAFF



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# New Projects for 2020 and Beyond



## Turnbull Shoreline Restoration

In partnership with Arundel Rivers Federation, CBF monitored 700 feet of restored shoreline in Glebe Bay on Maryland's South River. Offering significantly more habitat potential than that of a bulkhead or seawall, the incorporation of live oysters into an intertidal breakwater—one example of a living shoreline—is a more Bay-friendly way to combat sea-level rise and enhance shoreline stabilization.

The project was completed in the summer of 2019, and monitoring took place during the early spring and winter months of 2020. As expected, some mortality occurred, particularly at the highest points of the project. However, we observed a healthy amount of growth for surviving oysters near the bottom of the breakwater structure. Preliminary observations suggest that there may be some thermal refuge along the inside and near the bottom of the reef ball structure—thus protecting oysters that would otherwise be killed off during winter freezes.

As a relatively new approach to shoreline restoration for CBF, this data will give us a better understanding of ideal oyster placement for future shoreline restoration projects. We will continue to monitor this project over the coming years for oyster growth, habitat benefits, and its effectiveness on shoreline stabilization.



## Innovation in Oyster Monitoring

Just as important as the actual restoration work, is the behind-the-scenes work of monitoring. Monitoring is essential to making sure that finances are well spent and restoration projects are performing to their fullest potential. Through a newly formed partnership with Northrop Grumman, developments in technology are being used to advance oyster reef monitoring on the cutting edge.

Each year, Northrop Grumman challenges several teams of their employees to use technology to solve unique problems. The project is designed to be a fun competition for their engineers, but also produce real world results.

In 2019, the group chose to work with CBF by helping to advance new, less invasive, and more cost-effective ways to monitor the health of oyster restoration sites. Everything from sonar, lasers, bio-acoustic sampling, and cutting-edge photo-recognition software has been tested and developed over the last two years.

The advancement of these projects has continued well into 2020, and CBF is now working closely with Northrop Grumman staff and students from the University of Maryland to bring these unique concepts to reality. The success of this project will not only help to save thousands of dollars each year, but also reduce the need for physical sampling of active restoration projects, leaving the natural reef structure totally undisturbed.

## Volunteers Make it All Work

- A network of nearly 250 oyster gardeners and volunteers donated time and energy to help restore the oyster population in 2020.
- These volunteers logged close to 12,000 hours of work, helping to plant oysters and improve water quality.
- Despite challenges with the pandemic, CBF oyster gardeners, volunteers, members, and donors all came together to support a mission for a healthier Chesapeake Bay.



## It Takes Partners

In 2018, CBF founded the Chesapeake Oyster Alliance, a diverse coalition of non-profits, community



Chesapeake  
**OYSTER ALLIANCE**  
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organizations, oyster growers, and others committed to adding 10 billion oysters in the Bay by 2025. In 2020, CBF and Chesapeake Oyster Alliance partners worked together to increase public investment in oyster restoration, implement science-based fisheries management for oysters, and promote the oyster aquaculture industry. It is only with a healthy oyster population that a restored Bay is possible, and the dedication and hard work of this coalition helps get us a step closer that goal every day.