Building Conservation Trust Provides Funding for Local, State, and National Fisheries, Habitat Conservation and Restoration Projects

LIVING REEF ACTION CAMPAIGN

Building Conservation Trust & CCA Maryland

The Living Reef Action Campaign (LRAC) is a Building Conservation Trust (BCT)/CCA Maryland habitat project, partnered with Stevenson University, Lehigh Cement and the Chesapeake Bay Foundation that focuses on rebuilding the Chesapeake's oyster populations as well as their three dimensional reefs while engaging hundreds of students through restoration based STEM educational programs as the foundation for restoring our Chesapeake marine estuary.

Each year, our partners and volunteer efforts of CCA Maryland provide funding for a variety of environmental educational opportunities at your school in support of restoring Chesapeake Bay oyster reefs. These opportunities have ranged from 1 day class speakers to week long curriculum unit focused on Chesapeake Bay restoration, water quality, and oyster restoration. To qualify, your school begins by scheduling a meeting with a CCA Habitat Committee member who will introduce the Living Reef Action Campaign and discuss your ideas to develop a learning experience for your students.

How Can Your School Participate:

1. **Host a classroom demonstration of Oysters filtering water**
   CCA Maryland volunteers will bring (2) 10gal aquarium tanks into the classroom with Chesapeake Bay water. One tank will host 20 live oysters and then other tank does not. Throughout the day, students can watch the filtering power of the oysters as they clean the water as filter feeders. Generally this demonstration features a presentation by a CCA volunteer on the history of oysters, their role in the ecosystem, how their population and reefs have been destroyed and what is being done to restore them. The presentation is complimented by a few 3-5min videos. CCA Maryland will help teachers create worksheets to be used homework or classroom graded papers.

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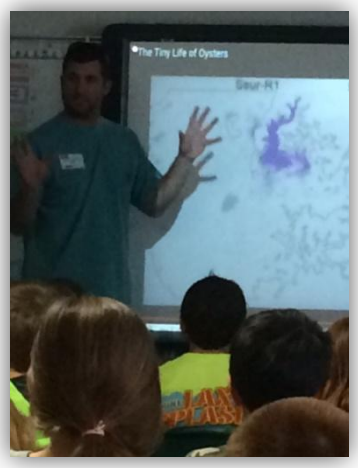
2. Stakeholder Speakers

By coordinating with CCA Maryland, we do our best to schedule the availability of different representatives that will speak on behalf of oyster policies and restoration representing the viewpoint of different Stakeholders; commercial fisherman, recreational fisherman, elected officials and fishery managers.

Delegate Susan Krebs

Senator Justin Ready



CCA Gov't Relations Dave Sikorski

3. 19th Century Oyster War Cannon

The Maryland Department of Natural Resource Police enjoys taking their historic cannon out to the schools to tell the stories of the Oyster Police of the 1800's and how the cannon was used to protect the Chesapeake Bay's bounty during the "oyster wars" of the 19th century. This is a great event to kickoff a week long curriculum unit on Chesapeake Bay and oyster restoration.

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4. Reef Ball Construction

Our partnership with Lehigh Cement provides us the opportunity to bring our Habitat Trailer to the schools in which students are able to mix concrete and build their own reef balls which will be used in ongoing construction of our Living Reef Action Campaign restoration project. The trailer holds tooling, equipment, molds and cement for building up to 20 new reef balls at the school property.

- To qualify for a Reef Ball Construction event, your school needs to:
  - Develop an action learning plan/curriculum activity leading up to the build
    - We want students to have learned what they are engaging in
    - Needs to be submitted to CCA Maryland Habitat Committee
  - Must provide (1) volunteer for every 2 molds being used
  - Access to outdoor electric and water hose spigot
  - Large outdoor area for constructing reef balls and the ability to leave the concrete cure for up to one week depending on weather
  - Recognizing the combined efforts of the school, Lehigh Cement, and CCA's efforts of building concrete reef balls in support of oyster restoration
- The CCA Maryland habitat committee welcomes all curriculum and action learning ideas to make any of the above experiences better for the students who are learning and supporting restoration.

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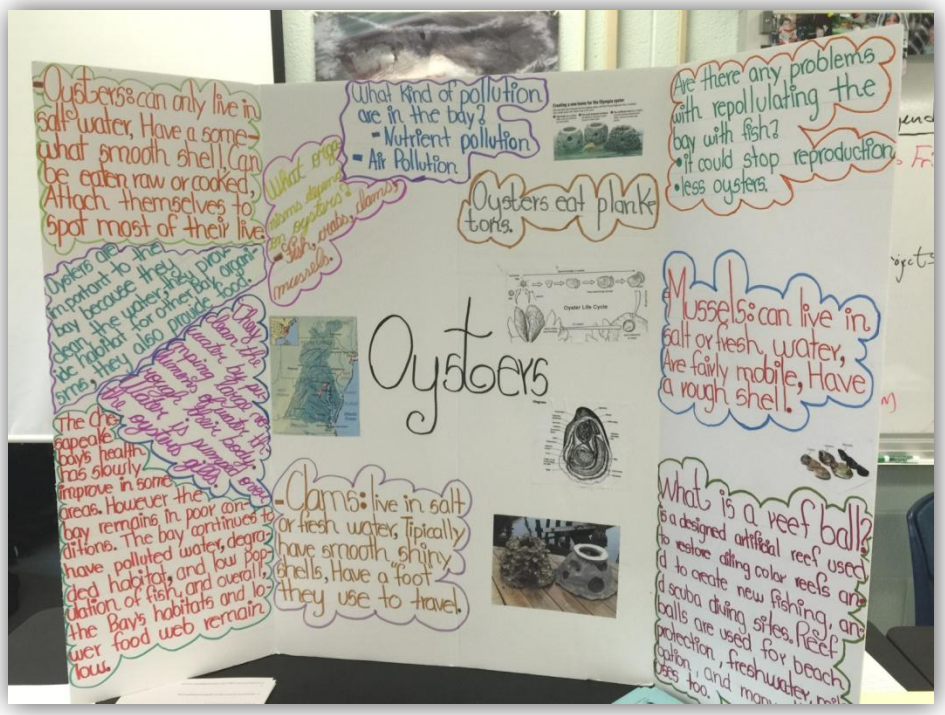

5. Curriculum Ideas Promoting Oyster Restoration

- Oysters as a Natural Resource: History of the Chesapeake Bay Oyster Fishery
  - Related Vocabulary words
    - Natural Resource, non-renewable, renewable resource, fishery, seed beds, spat, larvae, tongs, reef, oyster dredge, schooners, etc.
  - Recognize the oyster as a locally important natural resource, why? How?
  - History of oysters, used as food and commerce, trade. Why did colonials fight over oyster harvest? The Oyster Wars? The beginning of the Maryland Natural Resource Police
  - Students prepare a graph depicting oyster harvest data over time, interpret the graphs, hypothesize about events that might have effected oyster harvests
  - Construct a visual timeline of the decline of oyster fishery, did oysters remain constant through time, how did it change, identify a trend, etc.
  - Describe methods of harvest
  - Identify who the stakeholders are, what are their viewpoints, who are right? Who are wrong?
  - Discuss management policy, recent sustainable oyster population bill, how did this legislation travel through Annapolis?
  - Why are oysters important to the Chesapeake? How do they benefit the ecosystem?

- Discuss oyster beds versus oyster reefs, three dimensional benefit versus flat on bottom, do other creatures use the reefs and how?
- Oysters filter water, how do they do this? How does this clean the water? How much water can one oyster filter per day – 50 gallons.
- Identify excess nutrients runoff, where does it come from, how can it be prevented, how does it hurt the water quality? Does it affect marine life?
- What is a watershed? Identify Chesapeake water shed
- Sustainable harvest, what is it? How does it benefit the Chesapeake?
- What is a reef ball? How is it made? How is oyster spat planted on reef ball? how many spat per reef ball ~2000 new oysters
- How do oyster reefs benefit the Chesapeake? How do reef balls create an artificial reef? Benefits? What marine life uses reef balls? How are currents affected by reef balls? Stirring the water column, moving nutrients, keeps the three dimensional reef clean of silt, brings food, etc. Identify marine life that use reef.
- Recycled oyster shell, how is it used? Why not throw away, fills landfills, wasted resource. Spat seeding on shells. How many spat per shell?
- How are volunteers within CCA Maryland helping to restore the bay?