TAMPA BAY WATCH

Kids' pages

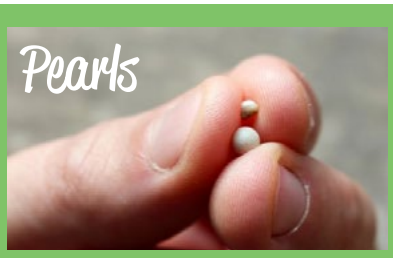
Are you ready to learn about the bay?

News for the kids of Tampa Bay!

Spring 2019

TAMPA BAY WATCH
Restoring the Bay Every Day

In This Issue:



All bivalve (two-shelled) molluscs can make **pearls,** including oysters! Natural pearls are formed when an irritant—something that doesn't belong in the oyster—comes near the oyster's shell. Trying to protect itself, the oyster will begin coating that irritant with "nacre," or mother-of-pearl, the iridescent material used to make the lining of the shell. All oysters can make pearls, but not all pearls are created equally. Beautiful, jewel-producing oysters are nicknamed **pearl oysters.** Eastern oysters and most other bivalves produce small, dull stone-like pearls.

Sources: livescience.com; geo.utexas.edu; tpwd.texas.gov; Image source: Kate Livie; arcadiapublishing.com.

Got a Question? Ask a Scientist!

Q Are oysters animals? Why do we need them?

A Oysters are animals! They belong to a large group of animals called **molluscs.** Molluscs tend to have soft, squishy bodies and a form of shell. Sea snails, scallops, mussels, clams, squid, octopuses, and many more creatures belong in this group.

Eastern oysters *(Crassostrea virginica)*—the type of oysters living in Tampa Bay—have two rough shells that grow to around five inches long and surround its soft body. All oysters can be found living in a type of brackish water: a mixture of saltwater and freshwater or saltwater bays.

Oysters are extremely important. They help clean our water, provide food and shelter for many different types of animals, and protect our coastlines. Oysters are vital for our water's health!

Oysters are known as "filter-feeders." This means that they bring water into their bodies and over their special gills. Their gills capture plankton, algae, and sediment (sand, dirt, and debris), then bring it to the mouth of the oyster. This method of feeding naturally helps keep our waters clean. **One adult oyster can filter around 50 gallons of water per day!** That means the more oysters we have, the cleaner the bay!

Above: An oyster reef

Oyster larvae (baby oysters) need a hard place to attach themselves so that they are able to grow into an adult. Oysters tend to grow closely together—or even on top of one another—because of their need to attach to a hard structure! This process will eventually build oyster reefs. Oyster reefs create habitat-important homes and shelter for hundreds of different types of organisms.

Oyster reefs protect our coast! They provide important barriers along our shoreline to help block tides and storms. Oyster reefs can absorb up to around 76% of the energy that comes from waves! This can reduce coastal damage, erosion, and flooding.

Sources: chesapeakebay.net; fisheries.noaa.gov; mentalfloss.com; mdsg.umd.edu; oceanservice.noaa.gov; tbep.org; purdue.edu

Expand Your Mind!

Meet & Greet: Creatures who Love Oysters

AMERICAN OYSTERCATCHER

Haematopus palliatus

American oystercatchers are large, multicolored shorebirds with white stomachs, brown wings, and black heads. Their distinguishing feature is their long, bright-orange bill. Oystercatchers use their special bills to eat bivalves (two-shelled) **molluscs,** including oysters, which are an important food source. American Oystercatchers can be found along the coast in salt marshes and sandy beaches.

Sources: allaboutbirds.org; audubon.org; neotropical.birds.cornell.edu; Image source: Donald R Miller, nps.gov.

OYSTER TOADFISH

Opsanus tau

Oysters provide habitat for these funny-looking fish. Oyster toadfish are usually found near oyster reefs or hiding under other rocks and debris. The oyster toadfish can grow up to around 12 inches. They usually have sandy-colored tan skin with darker splotches, and light-colored stomachs. Their faces feature fleshy whiskers, big eyes, and large, wide mouths. Oyster toadfish get their names because the males will make toad-like croaking noises underwater that are loud enough even for humans to hear!

Sources: chesapeakebay.net ; dosits.org; edc.uri.edu; Image source: Will Parsons, Chesapeake Bay Program.

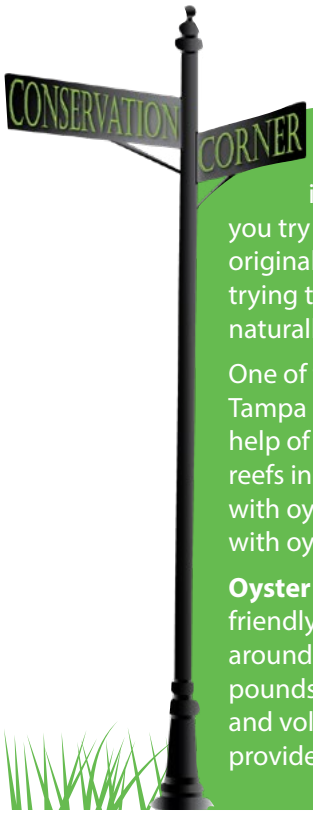
BAY SCALLOP

Argopecten irradians

Bay scallops live in shallow waters among seagrass bed habitats. The bay scallop's top shell is usually brown or tan-speckled, with a white bottom shell. Along the edges of their bodies, bay scallops have around 30 to 40 brilliant blue eyes, as well as tentacles that are sensitive to changes in the water. Scallops are sensitive to changes like increased sediment, seagrass loss, and too much fresh water.

Sources: cbf.org; edc.uri.edu; myfwc.com; Image source: Nancy Sheridan, FWC.

Our education programs get kids into the bay!



Oyster Restoration

At Tampa Bay Watch, part of our mission is habitat restoration. "Restoration" is when you try to bring something back to the way it was originally. When you **restore** a habitat, you are trying to return that habitat back to the way it was naturally—before humans had an impact.

One of the habitats we focus on restoring is the Tampa Bay oyster reef. Tampa Bay Watch, with the help of community volunteers, helps restore oyster reefs in two different ways: by creating oyster reefs with oyster domes and by building oyster shell bars with oyster-filled marine-friendly mesh bags.

Oyster domes are made out of environmentally friendly concrete and are sized about 24 inches around and 18 inches high. They can weigh over 100 pounds! These large domes are made by our staff and volunteers and then placed along shorelines to provide important habitat for oysters.

Oyster shell bars are created using oyster mesh bags. Fossilized shells are shoveled into these marine-friendly mesh bags, which are then placed along the shoreline.

Oyster domes along the coastline

Both oyster domes and oyster shell bars attract **oyster larvae** (baby oysters), which grow into adult oysters and cover the structures!

Oyster reef projects like ours help promote oyster growth along man-made and altered shorelines of Tampa Bay.

Oysters face ongoing threats like diseases and habitat destruction, and unless efforts are made to restore them, we are in danger of losing all of the benefits that oyster reefs provide.

Sources: fisheries.noaa.gov; vims.edu.

Fun Facts about Oysters!

- The shimmery, iridescent inner shell of an oyster is called mother-of pearl.
- The Eastern oyster can be found all the way from Canada to Argentina.
- There are male oysters and female oysters, but they can swap genders!
- Baby oysters who attach themselves to a hard surface are called "spat."

Sources: chesapeakebay.noaa.gov; oysterrecovery.org; myfwc.com

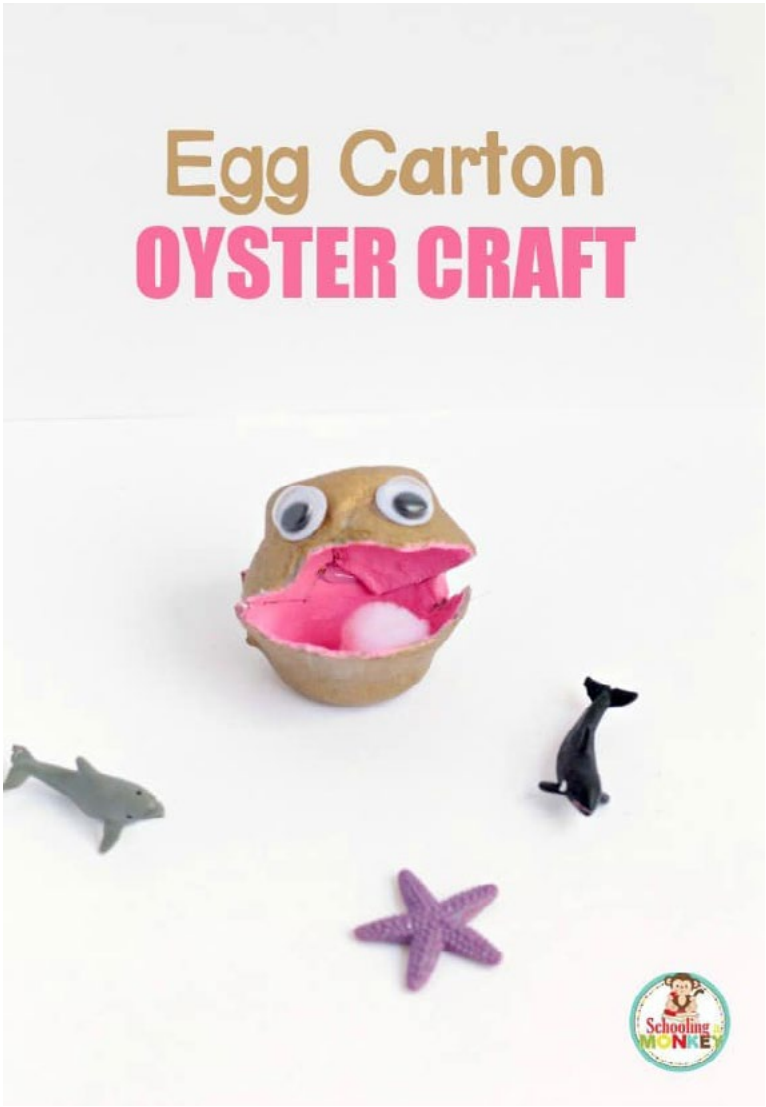
Did You Know...

Oysters are thought to be a **keystone species:** an animal that has an important role in its environment. Without keystone species, the environment in which they live would be drastically changed in a negative way. *Source: nature.com*

Fun Activity:

Make your own oyster!

Make your own oyster with this egg carton oyster craft! Remember to ask an adult for help with this craft.



Materials:

- Egg carton
- Googly eyes (optional)
- Classroom glue or glue gun
- Paint
- Paintbrushes
- White pom-pom or bead
- Scissors

Instructions:

1. Cut two egg cups out of the egg carton. On one side of the egg carton, leave a little bit of extra room where you will glue the two sides of the carton together. Try to make the rest of the egg carton as round and smooth as possible.
2. Paint the inside of the egg cups pink and the outside of the carton a different color. Real oysters are usually a grayish olive color, but be as creative as you like!
3. Let the paint completely dry.
4. Glue the two egg cups together where you left the extra room. The mouth of the oyster should sit where it looks like its mouth is open. If using classroom glue, then allow time to dry.
5. Glue the pom-pom or bead inside of the mouth of the oyster for a pearl.
6. Glue two googly eyes on the top front of the egg carton. Eyes can also be drawn on with a marker or paint.
7. Enjoy your eggcellent oyster creation!

Sources: Pinterest, schoolingamonkey.com

TAMPA BAY WATCH
Restoring the Bay Every Day

Kids' Pages is a quarterly newsletter supplement to the *Bay Watch Log.*

Please get your kids involved and sign them up to be a member today! Email **membership@tampabaywatch.org** or visit tampabaywatch.org.

Cover masthead artwork drawn by Sarah Kelly, one of Tampa Bay's talented youth artists.

Estuary EDventures

TAMPA BAY WATCH

Kids' pages Investigations

Topic: Oysters

Spring 2019 edition

Instructions: Read through the appropriate Kids' Pages edition and answer the questions below. Once all the questions have been completed, refer to the Answer Key to check your work.

Multiple Choice (choose one):

1. To which phylum, or group of animals, do oysters belong?
   - (a.) Echinoderms
   - (b.) Arthropods
   - (c.) Molluscs
   - (d.) Mammals

2. Which animal does **not** belong to the same phylum as oysters?
   - (a.) Clams
   - (b.) Sea snails
   - (c.) Sea lilies
   - (d.) Octopuses

3. Up to how many gallons of water can a single oyster filter?
   - (a.) 20 gallons/week
   - (b.) 50 gallons/day
   - (c.) 50 gallons/hour
   - (d.) 20 gallons/hour

4. Oyster reefs can absorb around what percentage of energy from waves?
   - (a.) 65%
   - (b.) 76%
   - (c.) 35%
   - (d.) 56%

5. What is the term for an animal that has an important role in its environment and whose removal would drastically change the environment in a negative way?
   - (a.) Invertebrate species
   - (b.) Abundant species
   - (c.) Invasive species
   - (d.) Keystone species

Fill in the Blank:

6. The iridescent material oysters make to line their shells is referred to as mother-of-pearl, also called "_____."

7. Oysters are important because they _____ our water, provide food and _____ for many types of animals, and protect our _____.

8. Oysters are known as "_____" (2 words), meaning they bring water into their bodies over their gills, capture plankton and algae, and bring it to their mouth.

9. Baby oysters who attach themselves to a hard surface are called "_____."

Short Response:

10. In 3-5 sentences, please discuss how oysters are being negatively impacted in the bay and describe how Tampa Bay Watch's restoration efforts help oyster populations. Please provide two examples of oyster restoration techniques from the Conservation Corner of the Kids' Pages publication.

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Kids' pages Investigations
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ANSWER KEY

1. C. Like most other molluscs, they have a soft, squishy body and form a shell.

2. C. Sea lilies are echinoderms, related to sea stars and sea urchins.

3. B. This means the more oysters cleaning the bay, the healthier the water quality!

4. B. This can reduce coastal damage, erosion, and flooding.

5. D. Many other species in Tampa Bay largely depend on oysters for survival.

6. The iridescent material oysters make to line their shells is referred to as "mother-of-pearl," also called "**nacre**."

7. Oysters are important because they **clean** our water, provide food and **shelter** for many types of animals, and protect our **coastlines**.

8. Oysters are known as "**filter feeders**" (2 words), meaning they bring water into their bodies over their gills, capture plankton and algae, and bring it to their mouth.

9. Baby oysters who attach themselves to a hard surface are called "**spat**."

10. **Answers will vary.** *Example answer: Tampa Bay Watch helps increase oyster populations through two methods: building oyster domes and creating oyster shell bars. Both domes and shell bars provide structure to attract larval oysters and ultimately help promote oyster reef growth. Oysters are facing impacts such as habitat loss and disease, so the efforts of Tampa Bay Watch to provide important habitat for oysters is crucial to maintaining a healthy bay and avoiding losing the benefits that oysters contribute.*