Pressures on the Chesapeake

Perspectives

Directions:

On this Perspectives worksheet, you and several classmates will look online at different websites and online periodicals to explore the ideas and issues surrounding Chesapeake watermen. Some of the websites will focus on the views of watermen and how changes in the Bay affect their lives, while others explain the science behind environmental issues.

As you explore the sites listed below, answer the questions associated with the sites on this worksheet to show your understanding of the subject.

Helpful Hint—if typing in the whole address of each website takes too long; enter in the title of the site into a search engine like Google for more speedy access.

History Detectives Websites

- Exploring the Chesapeake—Then and Now (National Geographic) — site # 15 Rock Hall, MD
  
  http://www.nationalgeographic.com/chesapeake/interactive/index.html?s1=0|time Period=1|tourStop=0

- Exploring the Chesapeake—Then and Now (National Geographic) — site # 12 Smith Island, MD
  
  http://www.nationalgeographic.com/chesapeake/interactive/index.html?s1=0|time Period=1|tourStop=0

- Chesapeake Bay Program- Bay Pressures
  

- The Washington Post- Failing the Chesapeake Bay- timeline of harvests
  
Describe Your Discoveries

1. What season is considered oyster season?

2. What are the names of the two oyster parasites?

3. What two early populations of Chesapeake people supported their food needs with oyster beds?

4. Who were watermen in the 19th century fishing for? What negative effect did this have on oyster populations?

5. In what state is Smith Island? What is special about Smith Island watermen and the way they talk?

6. What are the shacks on Smith Island for?

7. Where do crabs seek shelter when they reproduce?

8. What restriction is having an impact on whether Smith Islanders can continue to crab for a living?

9. What trade is taking the place of crabbing as a source of summer income for Smith Islanders?

10. What three pollutants make the Bay unhealthy? Where do they come from?

11. How does population growth impact the health of the Chesapeake?

12. What is the watershed’s worst problem? Why?

13. What is the shared trend in the oyster and crab harvests?

14. What animal has seen a comeback in the Chesapeake?

15. In 2008, what kind of industries does the government hope to target through “Maximum Daily Load” cutbacks? How do they pollute?
Directions:

On this K-W-L worksheet, fill in the columns to explain what you know already about watermen, and what you would like to know. When you have completed the watermen activities and newspaper articles, fill in the last column with the information you learned.

What Do I Know About Watermen Already?

What Do I want to Know About Watermen?

What have I learned About Watermen?
Pressures on Oysters, Pressures on Watermen

Newspaper Articles

Directions:

Read the following newspaper articles aloud as a class. When finished, talk as a group about some of the different environmental issues watermen seem to be facing by working on a web activity.

Excerpt 1:

A vast government effort to bring oysters back to the Chesapeake Bay has turned out so dismally that it has the ring of a math-class riddle. How do you spend $58 million to get more of something and wind up with less of it? Since 1994, state and federal authorities have poured these millions into rejuvenating the famous bivalves and the centuries-old industry that relies on them.

They have succeeded at neither. Scientists and activists say the missteps of the save-the-oyster campaign will have consequences far beyond the half-shell bar. The whole Chesapeake will struggle, they say, missing a species that was as vital to its ecosystem as coral reefs are to theirs.

“You’ve got fewer oysters and fewer oystermen and fewer oyster-related businesses,” when the goal was to help all three, said Robert Glenn of the Coastal Conservation Association of Maryland. “Clearly, your money was not well spent.”

“I wouldn’t use the word ‘failure.’ Every year we have learned to do it better. But there is no oyster restoration [instruction] book out there.”

The oyster’s plight has been overshadowed this year, with the Chesapeake’s blue crab population plummeting. But the bivalve’s story is as tragic as any, given that its protagonist just sits still and filters water.

When John Smith explored the Chesapeake in the early 1600s, oysters piled up in reefs that broke the bay’s surface. Underneath, they teemed with life.

Around most of the bay, the engine (of life) has stopped running. “You’re talking about sort of a lunar landscape here,” Paynter said. He was looking at video of a neighboring area, buried in silt and only lightly seeded with oysters. After heavy harvests and diseases and dirt washing off farm fields and suburban lawns, this is what’s left of many reefs.
“We’re at 1 percent or less [of the oyster’s historic population]. That’s collapsed. We’re still fishing. It’s kind of like if we were still whaling on the East Coast,” said David Schulte, an oyster expert with the U.S. Army Corps of Engineers. “I mean, the population may never recover. It may not recover now anyway.”

In the past, state officials have responded that disease would probably kill these oysters, so it was better that watermen benefit. Virginia officials still say so. Maryland officials say they have begun to question this view, although they have continued the work on a smaller scale. “It’s not going to be John Smith’s bay,” said Rich Takacs of the National Oceanic and Atmospheric Administration. “And it’s probably not going to be your grandfather’s bay.”

For watermen, the picture is not much better. On the Lynnhaven River in Hampton Roads, Peter Nixon embraced the call to be a shellfish farmer and found his new life to be more stressful than his old one. He figures he needs to sell a million oysters a year to make any kind of money, but so far he has the capacity to raise about 200,000.

“God, I don’t know if we’ll ever get there,” he said.


**Excerpt 2:**

“On the day oyster season traditionally begins in Maryland, Paul Coleman was catching crabs instead, and working on his boat engine on Kent Island.

“All my life I’ve been oystering,” Coleman, 71, said last week. “Thirty years ago here, the oysters grew out of the water. We caught us 100 bushels in one day about 30 years ago.”
Now I bet there ain’t 20 bushels in the whole place. Twenty years from now, there’s liable to be nobody oystering.”

Maryland’s oyster industry, which once supplied about half the nation’s oysters, is in trouble. Harvests have plummeted to record lows, and pollution and overharvesting are ravaging what’s left. In addition, a deadly oyster disease this year has wiped out unprecedented proportions of an already depleted supply, and more than 90 percent of the state’s oyster grounds are infected. The mysterious disease will never completely go away, scientists said, and it will be years before enough disease-resistant oysters can be bred to make a significant difference.

Once, the Chesapeake Bay teemed with oysters. Fortunes were made on them. Railroads were built to haul them out to market, and towns grew on top of their discarded shells. At the turn of the century, about 28,000 oystermen worked Maryland’s waters and harvested more than 10 million bushels of oysters a year. Now, about 1,600 oystermen harvest a total of less than 1 million bushels annually.

Even if (two deadly oyster diseases, MSX and Dermo) abated, today Maryland would probably still face the serious overharvesting problems confronting it before the disease struck. The state is trying to limit harvesting by imposing daily catch limits and by forcing oystermen to use antiquated and inefficient methods. Mechanical dredging is allowed only from sailboats -- the old wooden skipjacks that form the last fleet of working sailboats in the country.

The vast majority of oysters are still caught with hand tongs, a technology used by American Indians before white settlers arrived on the Chesapeake. The oysterman stands on the edge of his boat, lowers a long scissors-like apparatus into the water, scrapes together a pile of oysters and hauls them hand-over-hand to the surface. A variation called the patent tong is lowered by ropes to reach oysters in water too deep to reach with hand tongs.

But despite the dramatic decline in oyster harvests, Maryland officials say oystermen are still extracting more oysters from the bay than the bay can support.

“The oysters are still going to die, so in a sense, it’s better utilization of oysters to let them use {them} at the present time,” Krantz said. “Closing the industry wouldn’t do anything. The disease situation is going to take its economic toll, and the industry will end up pretty much closing itself. I think the watermen will begin choosing something else to do.”

Brown said oysters are important to Maryland’s history and culture as well as profitable to watermen.

“It would be awful, but we could survive without them,” he said. “But we sure don’t want that to happen, and we’ll do everything humanly possible to prevent it.”

Excerpt 3:

“Gov. Martin O’Malley’s decision to set aside some of the Chesapeake Bay’s most productive oyster beds as sanctuaries and spend millions of dollars on developing oyster farming in the state could prove the most positive development for the Maryland oyster in decades.

Maryland’s oyster harvests have fallen from millions of bushels a generation ago to about 100,000 today. Declining water quality, years of excessive harvest and parasitic diseases that attack the shellfish but pose no danger to humans have taken their toll.

Instead (of a public fishery), roughly one-quarter of what many decades of research have demonstrated to be the best shellfish beds - in some cases, whole creeks and rivers - will be set aside so that oysters can prosper, reproduce and better establish their populations without ending up on the deck of a waterman’s boat (through oyster farming).

...Not surprisingly, many watermen aren’t happy with this proposal. They see the state abandoning their way of life and feel victimized. But they are also in a distinct minority: An industry that once supported thousands has been whittled down to about 200 people harvesting part-time. Mr. O’Malley expressed hope that many of them can be employed in the fledgling aquaculture industry.

On leased areas of bay, river or creek bottom, the mollusks can be cultivated in a manner that allows them to grow faster, be less susceptible to disease and be harvested year-round.”

“Oyster Turning Point”, Mike Ludwitzke, Baltimore Sun, December 7, 2009
Vocabulary

for Chesapeake Bay Newspaper Article Activity

Directions:
After reading the newspaper articles study the words below and read the definitions aloud. Which words are new? Which did you notice in the articles? Highlight or make a star next to the new words you learned! Then use the vocabulary words to fill in the blank or answer questions on the vocabulary activity below.

1. Tonging—The process of collecting oysters with hand tongs, a long scissor-like tool with metal rakes on the ends developed to pick up the oysters from a boat.

2. Dredging—The process of collecting oysters with a dredge, a large metal basket attached to a toothed bar which scrapes oysters off the Bay bottom as it drags behind a sailboat or workboat.

3. Ecosystem—A specific area of size in which climate, landscape, animals and plants are constantly interacting.

4. Nutrients—A chemical that an organism needs to live and grow.

5. Mollusk—An animal species with a soft body encased within a shell.

6. Bivalve—Marine or freshwater mollusks having a soft body with platelike gills, enclosed within two shells hinged together.

7. Dissolved oxygen—Oxygen dissolved in water, depending on water temperature, wave movement, and plant and animal respiration.

8. Aquaculture—The science, art, and business of growing marine or freshwater animals for food.

9. Waterman—A person who makes his living from the water by fishing or harvesting marine animals.

10. Algae—A group of simple, often single-celled plants, found underwater in fresh or salty conditions.

11. Skipjack—A sailboat designed for oystering on the Chesapeake Bay.
Directions:
In the activity below, use the vocabulary and definitions at left, along with context you learned in the newspaper articles, to fill in the blanks with the appropriate words.

1. Name three reasons the population of bivalves are declining in the Chesapeake Bay.

_____________________________________________________________________

2. Many __________________________ who support themselves crabbing or fishing are concerned about the problem with ________________________________ blooms in the Bay.

3. Two ways that watermen harvest oysters are ________________ and ________________

4. Many new businesses specializing in ________________________________ are growing throughout the state to meet the demand for Chesapeake oysters as the number of wild oysters is shrinking.

5. Baby oysters are called ________________________________

6. ____________________________s are rarely seen on the Chesapeake, although the memory of them sailing throughout the Chesapeake survives as one of the icons of the Bay.

7. Oyster reefs have a special place in the ________________________________ of the Bay, providing a natural habitat for many species of marine life.

8. Oysters also do an important job underwater, filtering the water of excess ____________ that can be a source of many pollution problems.

9. The number of oysters in the Bay directly impacts the amount of underwater grasses in the Bay and the amount of ________________________________ the grasses contribute to the water supply.

10. Because of over harvesting and diseases, wild oysters are much rarer, making ____________________________ a more reliable source of farmed oysters in the future.
Directions:
After reading the newspaper articles, exploring the internet sites, and discussing what you absorbed with your classmates, share the information you learned with your public! Pretend to be an advice columnist, “Mr. Estuary,” for a newspaper and answer the questions below to most help your readers. Write your answers on a piece of notebook paper.

Dear Mr. Estuary,
I’m an open-water swimmer and I just love taking laps in the Chester River, a tributary of the Chesapeake Bay. But lately, I’ve noticed the strangest thing: when I get out of the water after a long swim, I’ve got green stuff all over me! Yuck! It doesn’t hurt or smell, but there sure is a lot of it. What is it? And how did it get there?
Sincerely,
Wet and Bewildered

Dear Mr. Estuary,
I am a competitive eater and my best competition food is oysters. I can eat 200 in 2 minutes! But I’m starting to have a feeling in my gut that maybe there are drawbacks to eating that many mollusks. What do you think? Why should I stop?
Thanks for your help,
Filter Feeder

Dear Mr. Estuary,
My dad was a waterman, and his dad, and my great-grandfather before that. I’m trying to be a waterman, too, and dredging for oysters is my preferred way to get into the business. But it’s getting harder and harder to catch anything at all (I did get an old shoe and a tire last time, though) and I can’t make ends meet. What should I do? What career path do I follow now??
Yours Truly,
Empty Dredge