

The Authors

Mary M. Cerullo

Mary Cerullo is the award-winning author of 16 non-fiction children's books on the ocean, as well as a handbook for teachers on using children's literature in the science classroom. Her latest book, *City Fish, Country Fish* (2012) received the Skipping Stones Honor Award (2013) and is a Society of School Librarians International Honor Book, Science K - 6.

Mary has over 40 years experience as a "science translator" and has interpreted marine issues for both the general public and marine user groups through the New England Aquarium, the Maine/New Hampshire Sea Grant College Program, the Great Bay (NH) National Estuarine Research Reserve, and the Gulf of Maine Aquarium. For more information on Mary, visit: <http://marymcerullo.com>.



Mary M. Cerullo



illustration from *Sea Secrets*

The Illustrator

Beth E. Simmons

When *Sea Secrets* was written, Beth was the education and outreach coordinator for Palmer Station Long Term Ecological Research (LTER) and the California Current Ecosystem LTER at the Scripps Institution of Oceanography in San Diego, California.

Kirsten Carlson

Growing up, Kirsten loved animals, swimming at the pool, and television. Her favorite shows were: *In Search Of*, *Flipper*, *Wild Kingdom*, *Disney*, and *Jacques Cousteau Specials*. Artistic at a young age, she wanted to be the next Walt Disney, until science captured her imagination in middle school. Now, Kirsten brings her education, enthusiasm and skills as artist, scientist, and designer to every project she works on. For more information, visit: <http://www.kirstencarlson.net>

Let's Talk!

After reading *Sea Secrets*, discuss the following:

1. If you wanted to conduct long-term observation on something in nature, what would it be?
2. Why do you think the ocean matters?
3. What are some ways that humans impact the ocean?
4. How do changes in the ocean affect humans?
5. What are some small actions that could help protect the oceans? What are some large actions?



Activities

Draw a marine food web to show how creatures are connected.

Write a letter of gratitude to the ocean for its many gifts to our planet.

Write a short story called "A Day In My Life" from the perspective of either a penguin, whale, auklet, or krill.

Pair up with another student to create a poster that shows how to help protect our oceans.

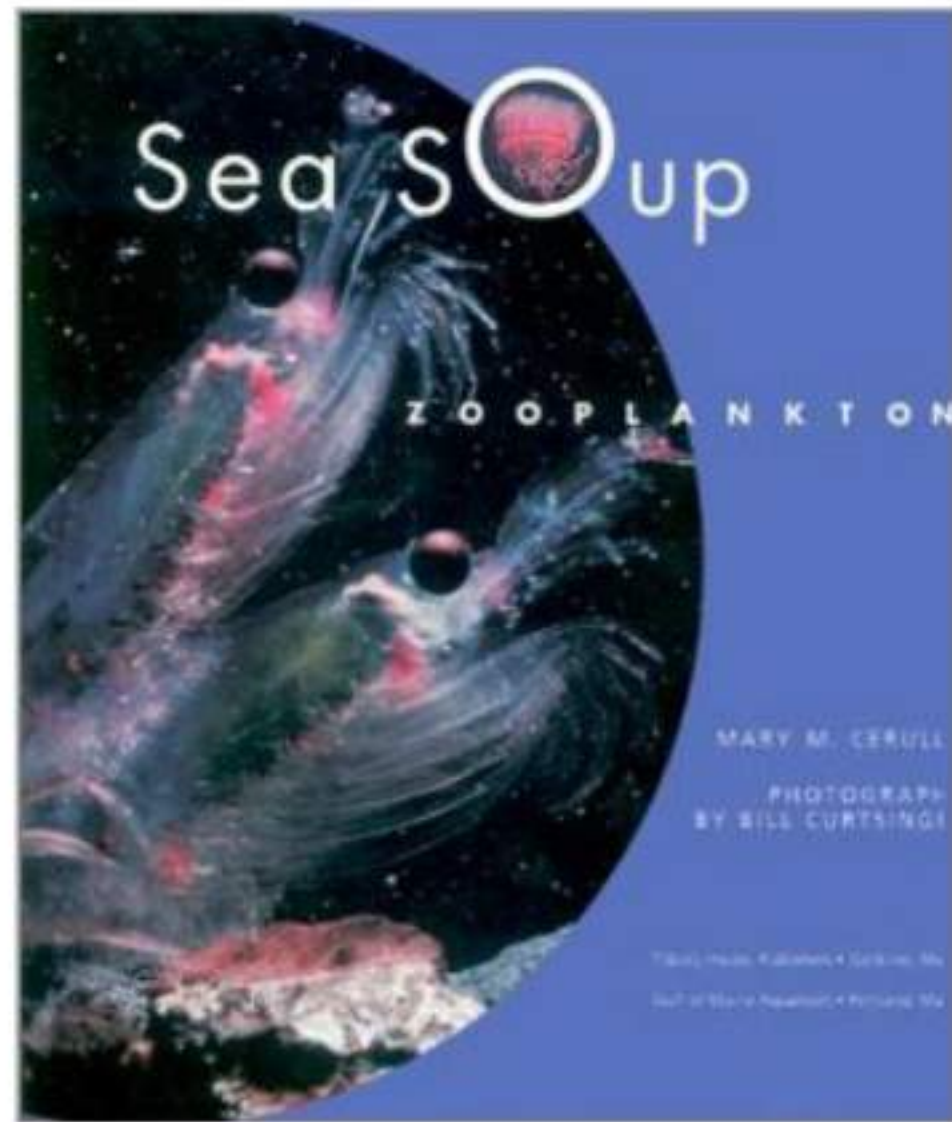
The following activities are reproductions or adaptations from Mary M. Cerullo's book, Reading the Environment.

Write a poem about how the ocean is different from land. Remember, poetry doesn't have to rhyme!

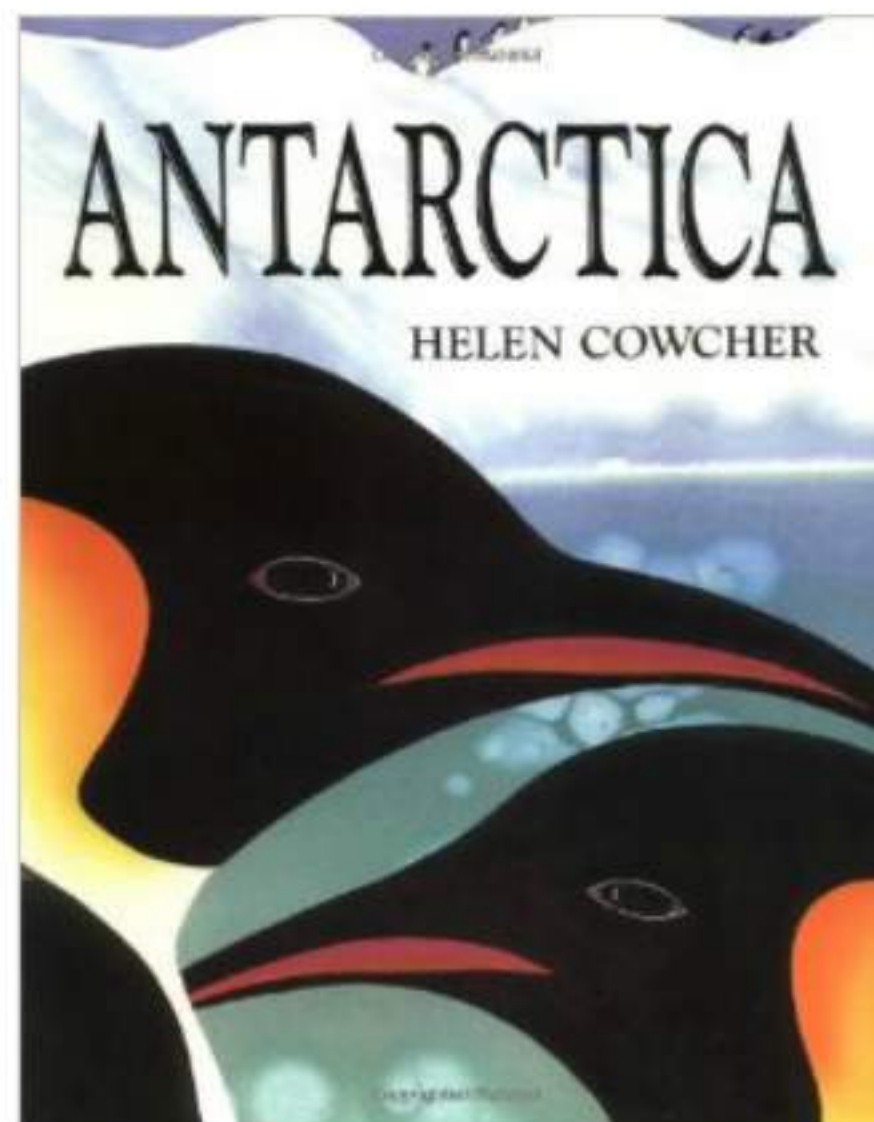
Breathe like a whale! Lie on the floor on your back. Empty out your lungs completely, then take a deep breath and hold it as long as you can. Blow it all out quickly (think of the sound a whale makes when air rushes out its blowhole), then repeat. Who could hold their breath the longest? How long did they hold it for? A sperm whale can hold its breath for up to an hour!

List ways in which people use the ocean. Next to each item on the list, write 'good,' 'bad,' or 'makes no difference.' Are there differing opinions in the class, or is there a common consensus on some human activities as they relate to the ocean's wellbeing?

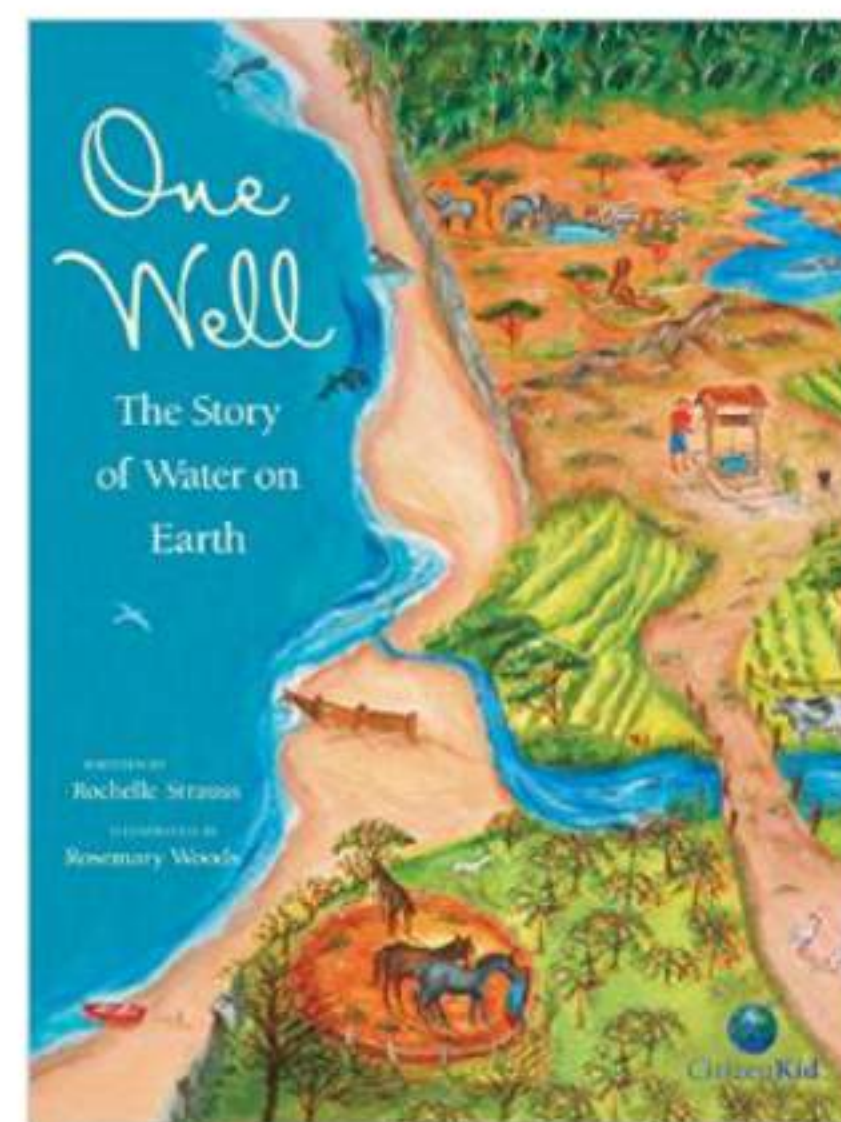
Text-to-Text Connections



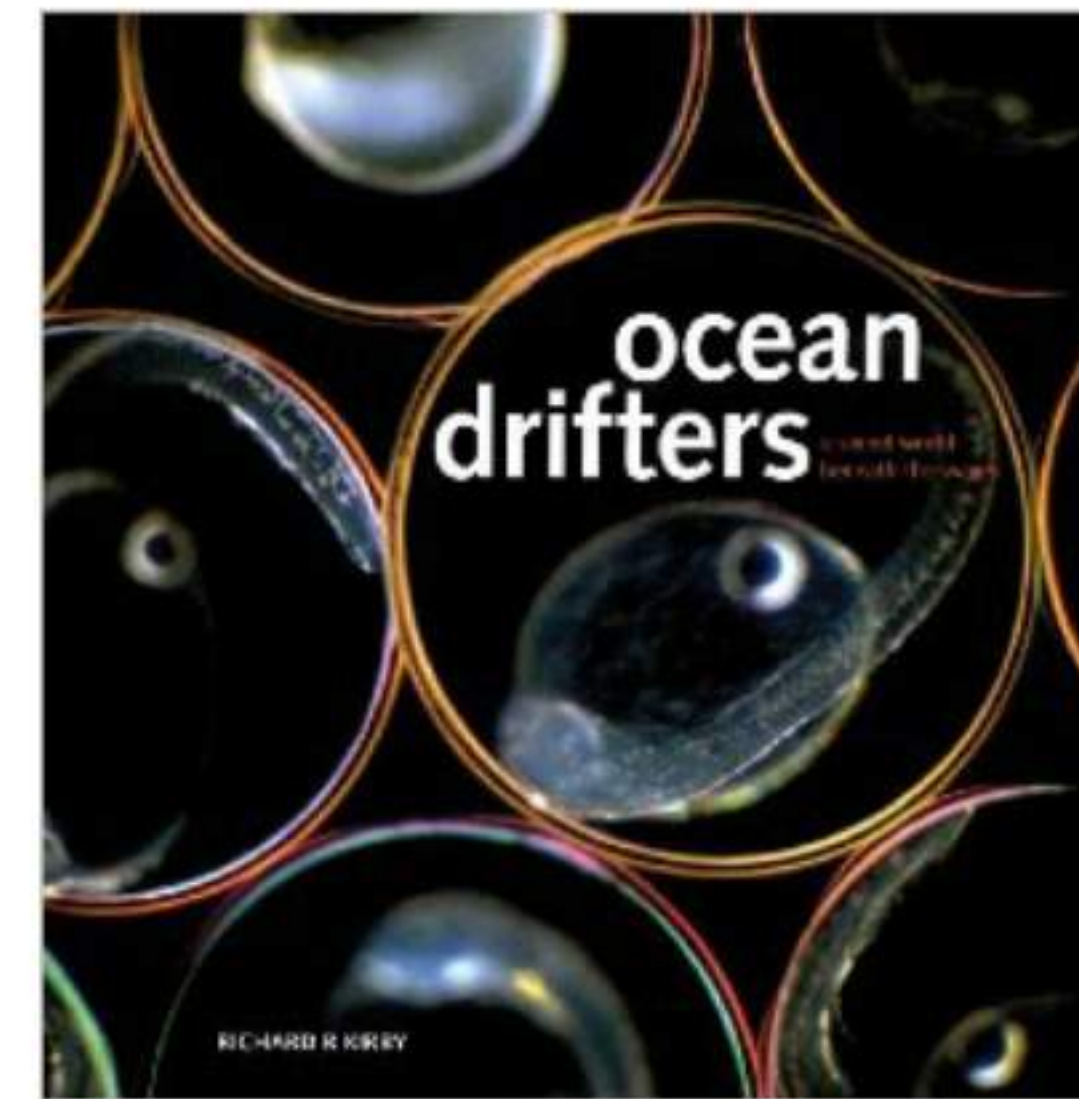
Sea Soup: Zooplankton,
by Mary M. Cerullo and
photographs by Bill
Curtsinger. Grades 4 - 7.



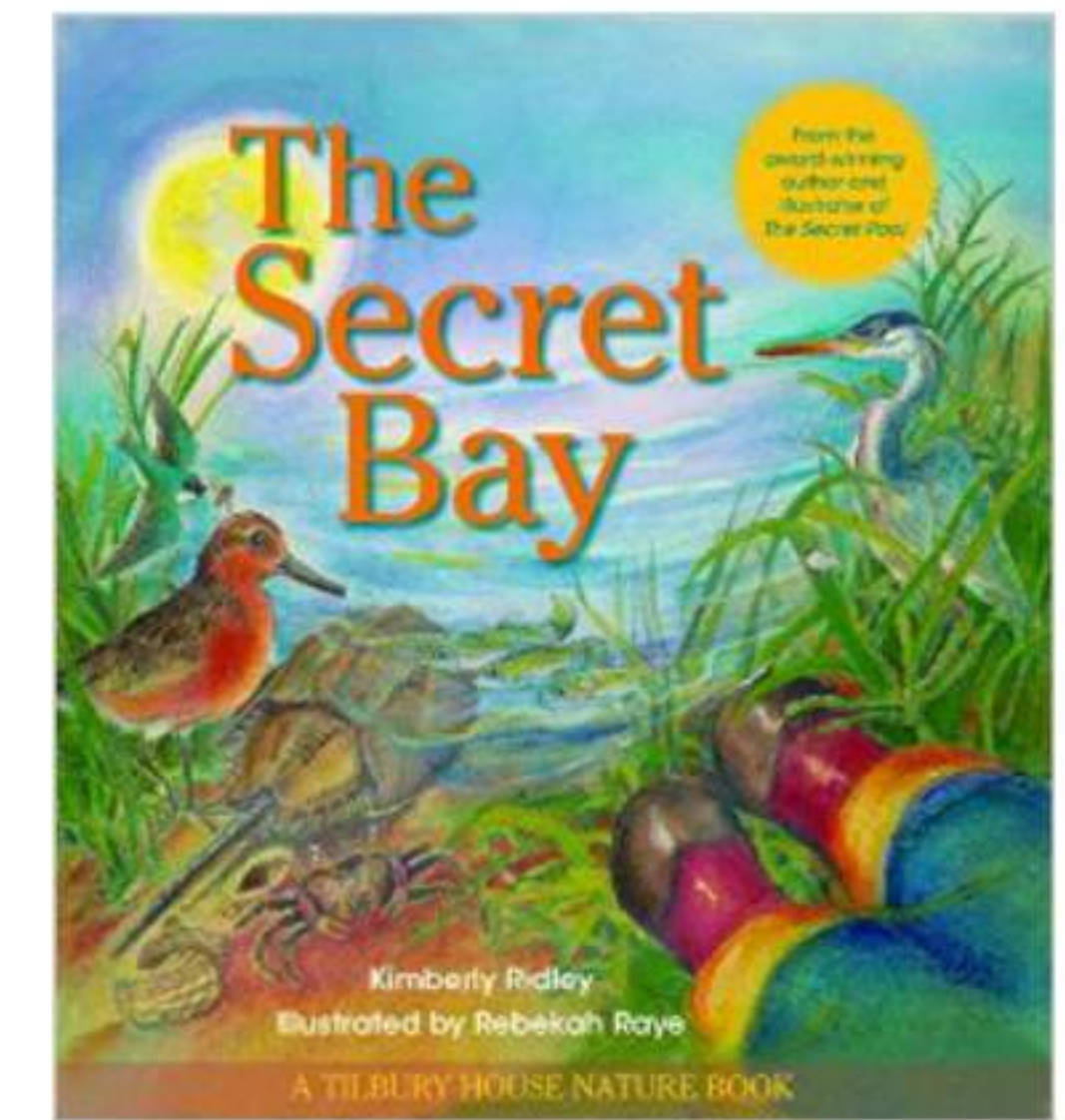
Antarctica, by
Helen Cowcher.
Grades PreK - 3.



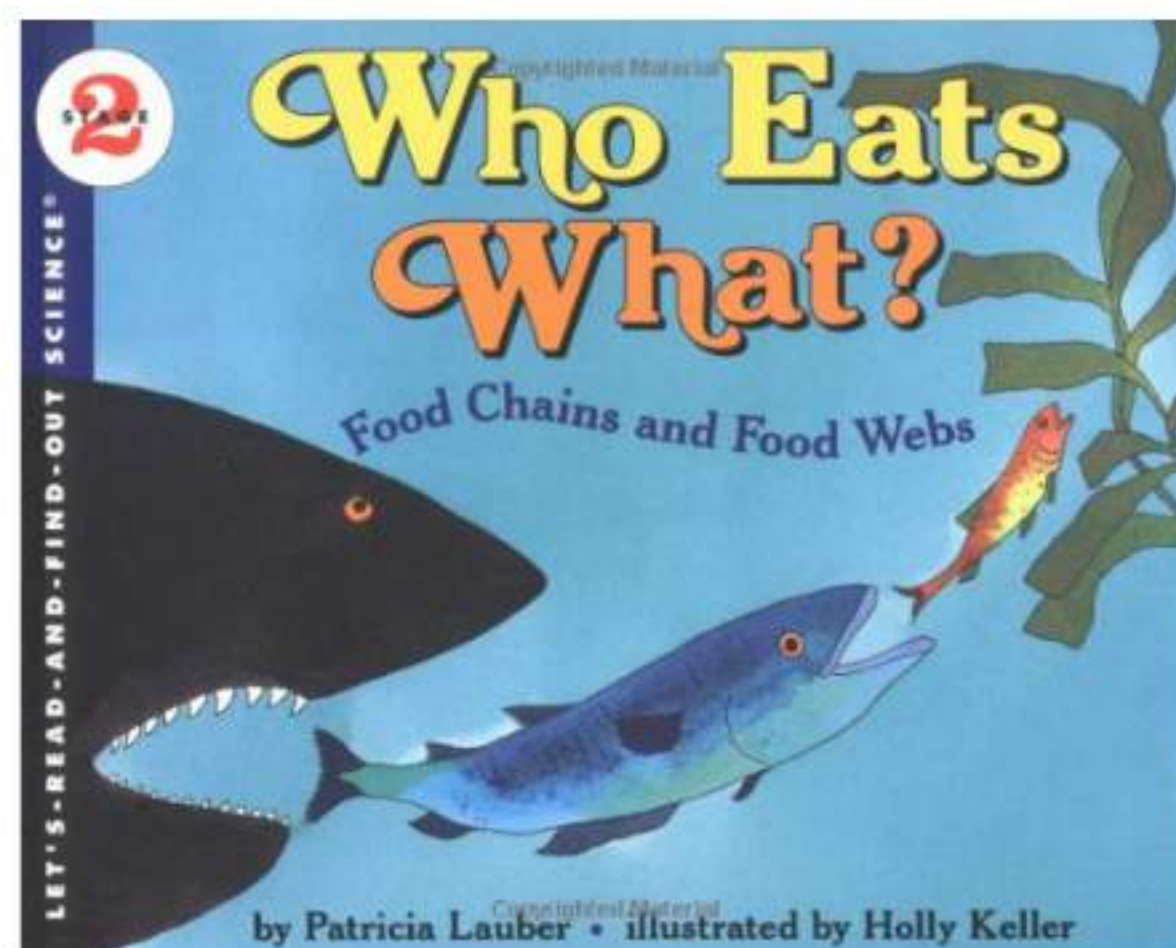
**One Well: The Story of
Water on Earth,** by
Rochelle Strauss and
illustrated by Rosemary
Woods. Grades 3 - 7.



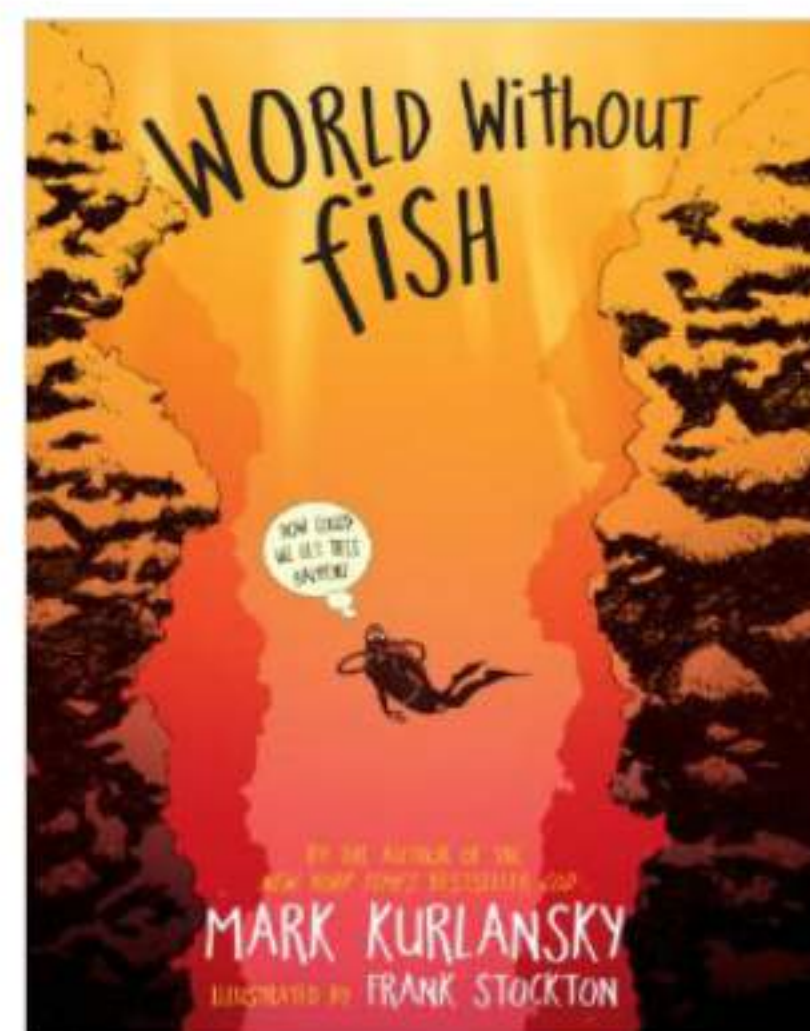
**Ocean Drifters: A Secret
World Beneath the Waves,**
by Dr. Richard Kirby.
Grades 5 & up.



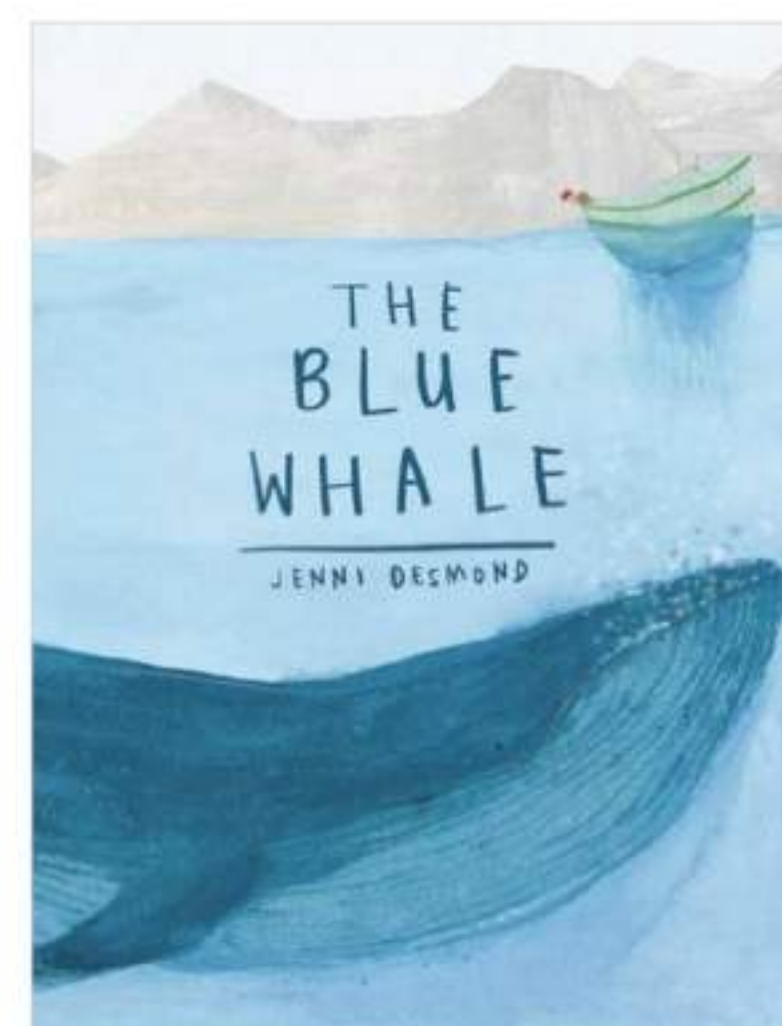
The Secret Bay, by
Kimberly Ridley and
illustrated by Rebekah
Raye. Grades 1 - 6.



**Who Eats What? Food
Chains and Food Webs,** by
Patricia Lauber and Holly
Keller. Grades K - 4.



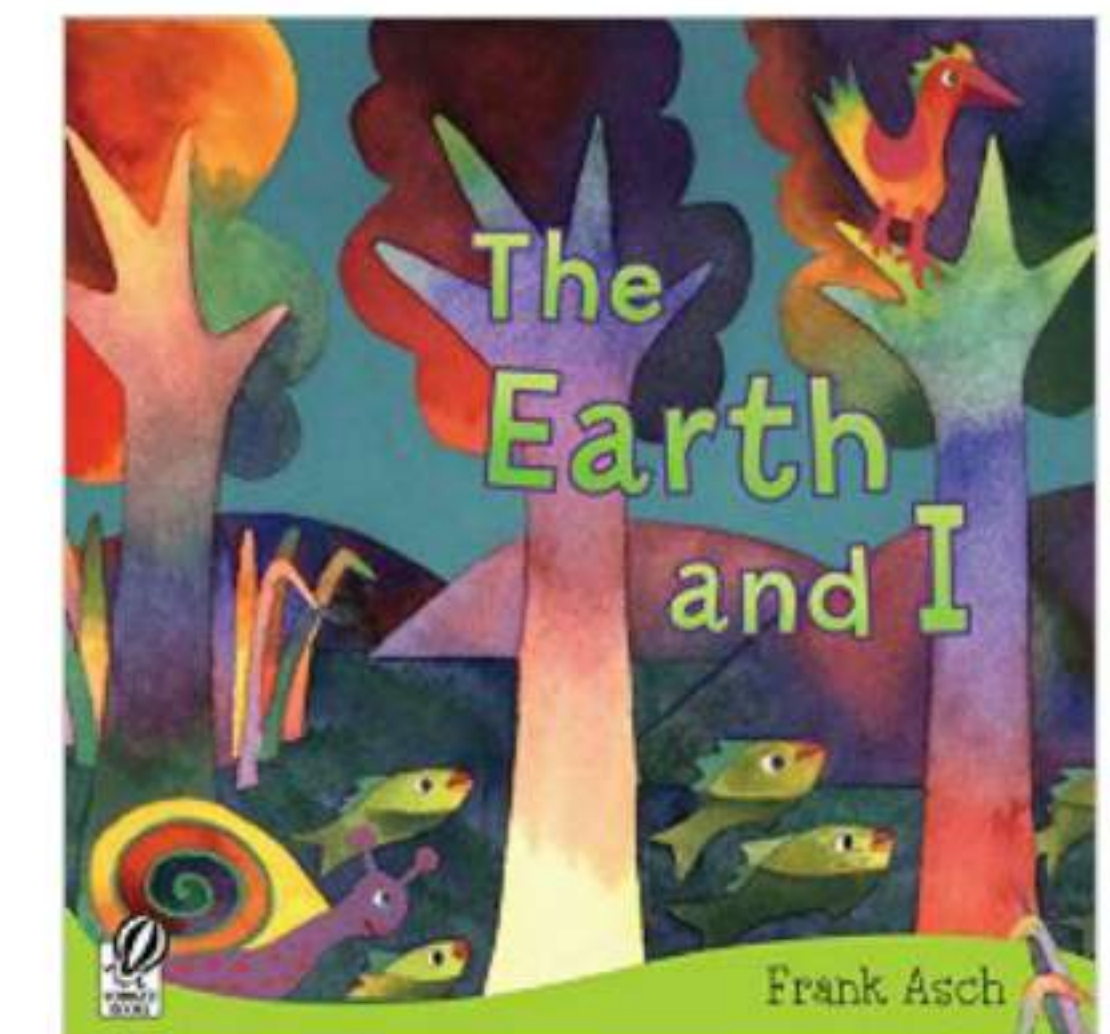
World Without Fish,
by Mark Kurlansky.
Grades 6 & up.



The Blue Whale,
by Jenni Desmond.
Grades PreK - 4.



**Wild Ideas: Let Nature
Inspire Your Thinking,**
by Elin Kelsey and
illustrated by Soyeon
Kim. Grades PreK - 2.



The Earth and I,
by Frank Asch.
Grades PreK - 3.

Online Connections

Click on each title to access online.

EBOOK: Color & Draw Journal for *Sea Secrets*: Learn how to draw a blue whale, an adelin penguin, and krill!

ARTICLE: Mass Death of Seabirds in Western US is Unprecedented: Why are so many auklets starving?

VIDEO: Why Thousands of Birds Died on the US Coast

VIDEO: Listen to blue whales sing

VIDEO: Weather v. Climate: Crash Course Kids

VIDEO: Home Sweet Habitat: Crash Course Kids

GAME: Take a Climate Change Expedition!

KIDS TAKING ACTION: Give Water A Hand environmental program

INFO ON WATER FOR TEACHERS: Project Wet

INTERACTIVE LESSON: Water's importance, the water cycle

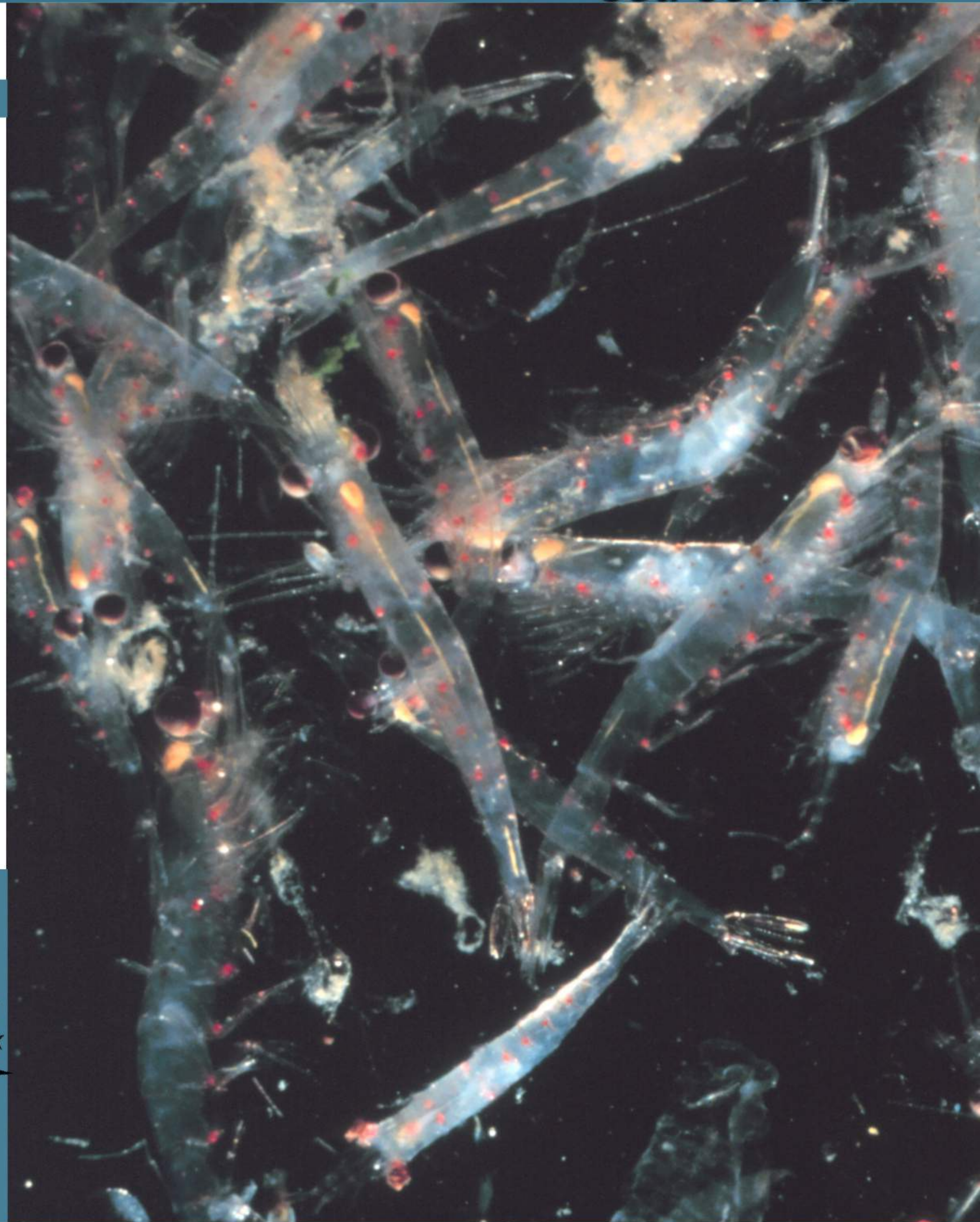
ARTICLE: Gulf of Maine Research Center on mild winters and warmer water

Must-see videos!

Attack of the Green Crabs
(animated short dedicated to Maine clammers)

A Climate Calamity in the Gulf of Maine, Part 1:
The Lobster Pot Heats Up (animated short)

A Climate Calamity in the Gulf of Maine, Part 2:
Acid in the Gulf (animated short):



Online Connections, continued.

Click on each title to access online.

INFO ON KING TIDES:

1. from the EPA
2. from kingtides.net
3. Fact Sheet

CLIMATE CHANGE ACTIVITIES: Potential Consequences of Climate Variability and Change

HURRICANE AND WEATHER ACTIVITIES

ESTUARIES INFO: Katahdin to the Sea

POSTER: Adelie Penguins

POSTER: Cassein's Auklets

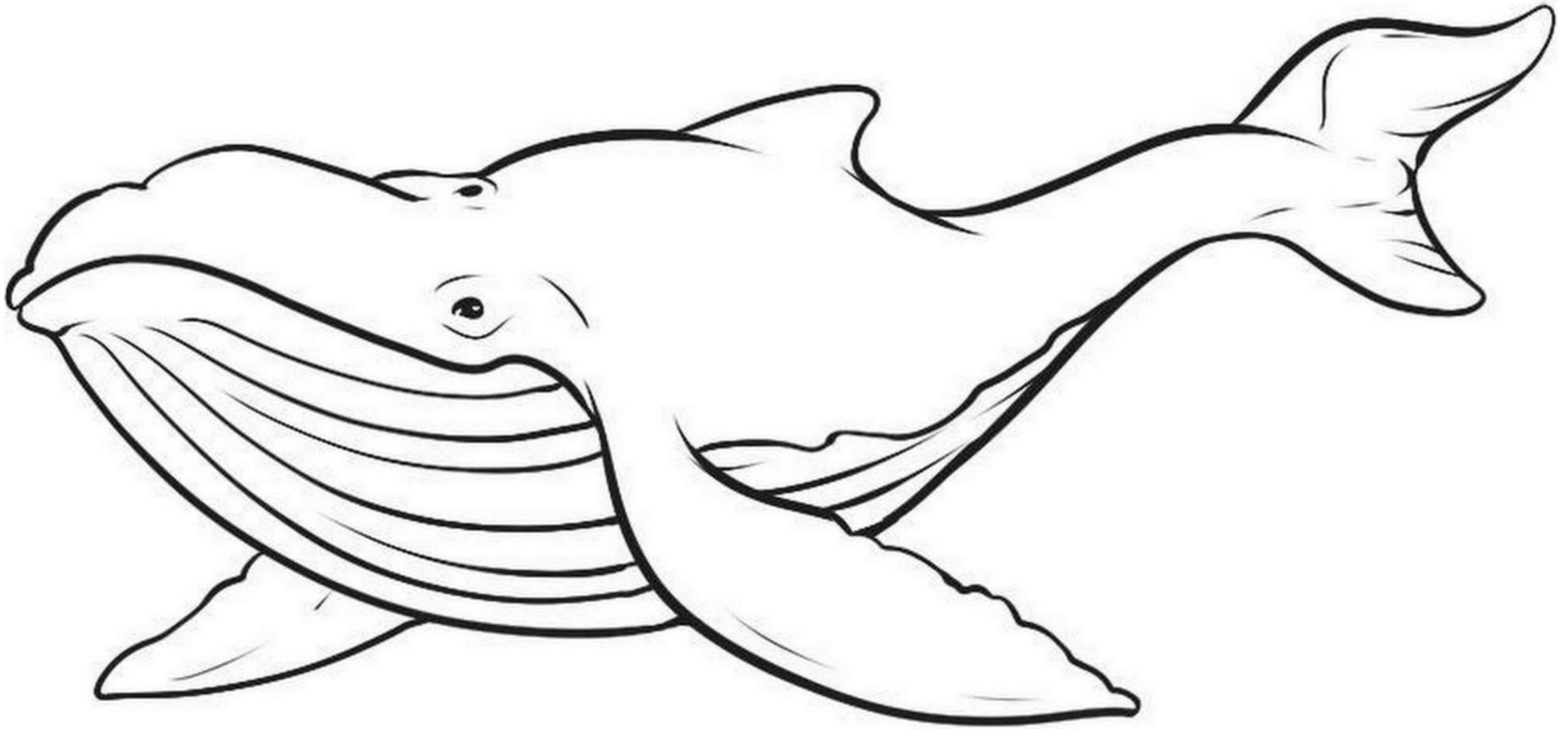
MORE RESOURCES: Northeast Climate Center

FIND YOUR WATERSHED

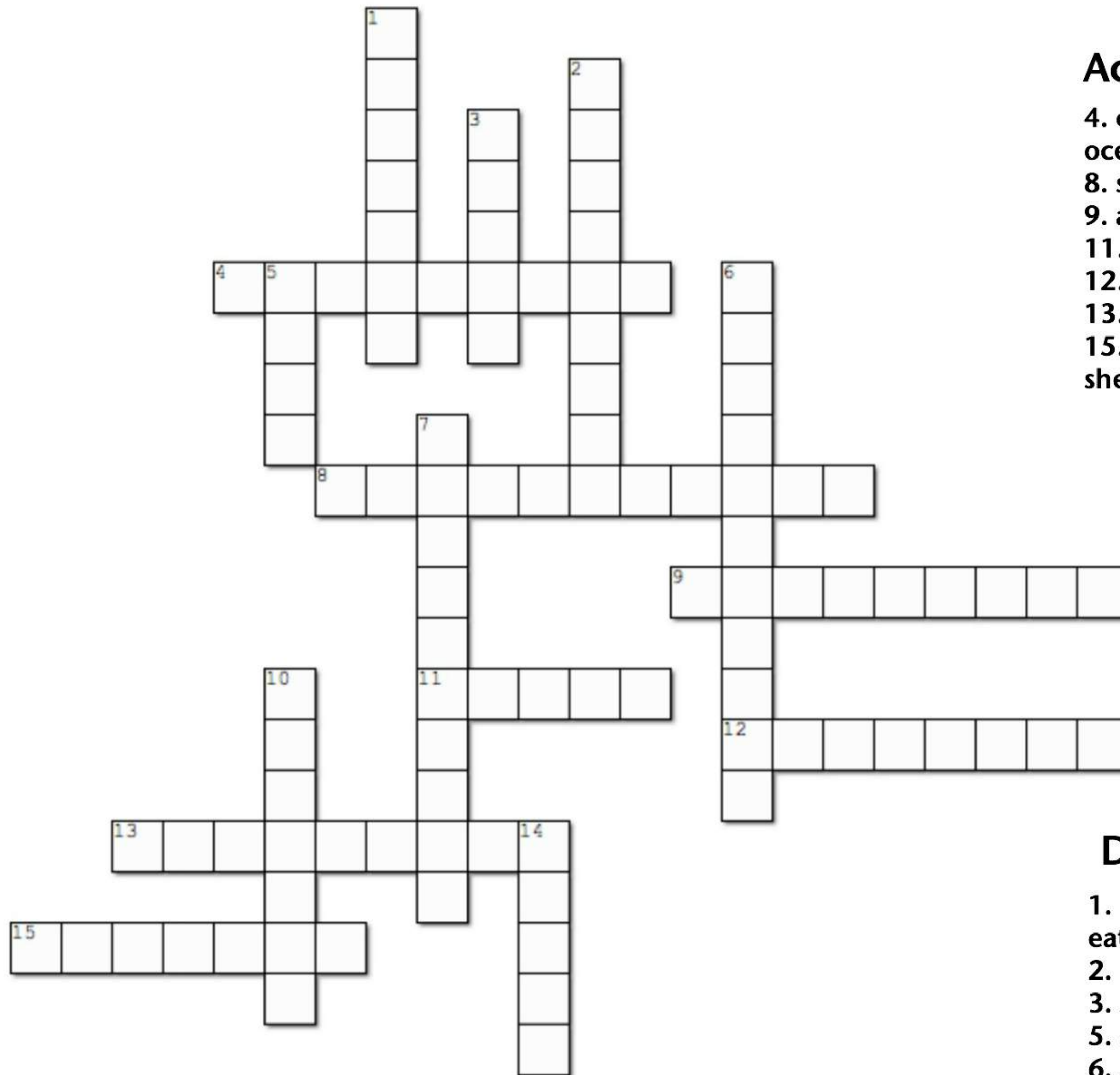
MAINE CONNECTION: Friends of Casco Bay

PHOTO ARCHIVES: National Oceanic and Atmospheric Administration's photo library, the resource for all photos in these worksheets!

Color your own whale and give it a name!



Your name: _____ **The whale's name:** _____



Across

- 4. cold, deep water rich in nutrients that comes up to the ocean's surface
- 8. small, drifting animals that feed on phytoplankton
- 9. a community of plants, animals, and their surroundings
- 11. to change
- 12. a nourishing substance
- 13. animals that feed on other animals
- 15. the shedding of an old shell by the replacement of a larger shell

Down

- 1. (2 words) links together plants and animals by what they eat and what eats them
- 2. land surrounded by water on three sides
- 3. shrimp-like creatures
- 5. animals hunted or caught for food
- 6. a group of ocean animals having a hard shell, such as lobsters, crayfish, and shrimp
- 7. the number of a particular kind of living thing
- 10. a method of identifying animals
- 14. very large number of similar animals

You can find answers in the glossary of *Sea Secrets*!

Common Core Standards

KINDERGARTEN: ELA-LITERACY.RL.K.1

With prompting and support, ask and answer questions about key details in a text.

FIRST GRADE: ELA-LITERACY.RI.1.2

Identify the main topic and retell key details of a text.

SECOND GRADE: ELA-LITERACY.RI.2.5

Know and use various text features (e.g. captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts of information in a text efficiently.

THIRD GRADE: ELA-LITERACY.RL.3.7

Explain how specific aspects of a text's illustrations contribute to what is conveyed by the words in a story.

FOURTH GRADE: ELA-LITERACY.SL.4.2

Paraphrase portions of a text read aloud.

FIFTH GRADE: ELA-LITERACY.L.5.4

Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies.

SIXTH GRADE: ELA-LITERACY.RL.6.4

Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of a specific words choice on meaning and tone.

SEVENTH GRADE: ELA-LITERACY.RI.7.2

Determine two or more central ideas in a text and analyze their development over the course of the text; provide an objective summary of the text.

EIGHTH GRADE: ELA-LITERACY.RL.8.1

Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.

