

Teacher Guide & Answers

Passage Reading Level: Lexile 1120

1. What unexpected change did scientists notice in the Hudson River in 2005?

- A Zooplankton had returned to the same levels as before the zebra mussel invasion.**
- B The total number of zebra mussels in the Hudson River had returned to almost zero.
- C The zebra mussels in the Hudson River had stopped eating all types of plankton.
- D The average size of the plankton in the Hudson River was decreasing.

2. What caused the number of zooplankton in the Hudson River to increase?

- A the decline in the number of phytoplankton
- B the decline in the number of native mussels and clams
- C the decline in the number of small zebra mussels
- D the decline in the number of large zebra mussels**

3. Read these sentences from the text.

"As zooplankton rebounded, so did native mussels and clams. Scientists anticipate some fish species will rebound too as their food supply increases."

What conclusion can you draw about zooplankton based on this evidence?

- A Zooplankton eat native mussels, clams, and some fish species.
- B Zooplankton are similar organisms to certain mussels and clams.
- C Zooplankton are an important food source for native mussels, clams, and fish.**
- D Zooplankton are a more important food source for most species than phytoplankton.

4. What relationship could scientists track in order to see whether or not blue crabs were the main reason that large zebra mussels have declined?

- A the relationship between the size of zebra mussels and the size of blue crabs over one year
- B the relationship between the average numbers of large zebra mussels and blue crabs over time**
- C the relationship between the average numbers of blue crabs and phytoplankton over time
- D the relationship between the size of blue crabs and the size of zooplankton over one year

5. What is the main idea of this text?

- A The number of zooplankton in the Hudson River has unexpectedly gone up in recent years, so scientists expect the number of zebra mussels to increase as well.
- B The number of small zebra mussels in the Hudson River has unexpectedly gone down in recent years, so scientists have decided to change the focus of their studies on the Hudson River.
- C The number of large zebra mussels in the Hudson River has unexpectedly gone down in recent years, but scientists will continue to study the river to understand the invasion's changing impact.**
- D The number of large zebra mussels in the Hudson River has gone down in recent years, but scientists predicted that change and are not surprised by it.

6. Read these sentences from the text.

"These new effects **rippled through the food web**. As zooplankton rebounded, so did native mussels and clams. Scientists anticipate some fish species will rebound too as their food supply increases."

What does the author mean by the phrase "**rippled through the food web**"?

- A completely changed the relationships in the food web
- B caused harm to other species in the food web
- C did not impact other parts of the food web
- D **had effects on other parts of the food web**

7. Choose the answer that best completes the sentence.

_____ zebra mussels can live six or seven years, now it seemed that most were dying after only one or two years.

- A For example
- B Since
- C Because
- D **Although**

8. What happened to different living things in the Hudson River ecosystem almost 20 years after the zebra mussel invasion? Make sure to mention the changes in at least three populations in your answer.

Suggested answer: Answers may vary in detail, but could mention that the number of zebra mussels, particularly large zebra mussels, has declined while the number of zooplankton, native mussels, and clams has started to increase.

9. What does the number of zooplankton in the Hudson River show about the large zebra mussels in the river? Use evidence from the text to support your answer.

Suggested answer: Since large zebra mussels eat zooplankton, the fact that the number of zooplankton in the Hudson River had risen to pre-invasion levels showed that there had been a decrease in the number of large zebra mussels.

10. One question that scientists have not yet answered is what caused the number of large zebra mussels to decline. How might tracking different parts of the ecosystem over a long time help scientists to answer this question?

Suggested answer: Students should recognize that keeping track of the different species that could feed on large zebra mussels should help scientists answer their question; over time, scientists may notice an inverse relationship between the number of a predator species (like blue crabs) and zebra mussels (like the relationship they had noticed between large zebra mussels and rotifers). Advanced answers may recognize that any relationship between any living or non-living factor and the number of zebra mussels may be a clue to what in the ecosystem is causing the number of large zebra mussels to decrease.