

Name _____ Class: _____ Date: _____

Worksheet 4: Summary

1. How have humans affected the Chesapeake Bay food web?

People have overharvested most of the species in the Chesapeake Bay including whales, sharks, seals, sea turtles, predatory fish, grazing fish, predatory invertebrates, and oysters. Algal blooms caused by pollution and the lack of oysters in the Bay has led to the decline of ocean floor algae, plants, and like sea grass and an overgrowth of bacteria. Jellyfish that were once rare are now common.

2. Explain the role that oysters play in keeping the ratio of floating algae to sea floor algae levels of the Bay healthy.

Oysters filter the nutrients, microbes, and floating algae in the Bay. This filtering prevents an overgrowth of floating algae (algal blooms) that leads to the formation of dead zones

3. Use your food webs, charts and data from part III to list at least five consequences of the altered food web of the Chesapeake Bay.

- A. lots of nutrient pollution – algal blooms, dead zones, cloudy water*
- B. lots of jellyfish*
- C. lots of worms/amphipods*
- D. very few sea turtles*
- E. very few oysters*

4. How can understanding historic ecosystem food webs help us understand today's ecosystems?

The only way to truly understand the health of today's ecosystems is to be able to compare them to what they looked like in the past. It is only possible to understand how ecosystems have changed if we know what the ecosystems looked like originally. The role of oysters in keeping the Chesapeake Bay clean was overlooked because people just assumed that the Chesapeake Bay ecosystem always contained the same composition of organisms and that the only aspect of the Bay that has changed is the additional nutrients added to the Bay by people. Only after accounting for the previous complexity of the Chesapeake Bay ecosystem is it possible to understand that the organisms living in the Bay also played a role in keeping the Bay clean and unpolluted.