

Student Data Sheet

Save the Reef!

Something is wrong in the town of Wando on a small river in the Chesapeake. This small town lies just on a river of the Chesapeake Bay not far from where the river reaches the Bay. There are about 4,000 people in the town.

The big event in town, held annually since the Revolutionary War, is the annual oyster roasts that bring tourists to town in the fall. The economy of Wando depends on oysters and tourists. Over the past 20-30 years, oyster harvests have declined deeply affecting the local economy.



For the first time ever, local residents had to order oysters from hundreds of miles away to use in their traditional oyster roasts.

Upriver is the town of Hamburg with a population of 10,000 residents. Hamburg is surrounded by heavily forested land, but there is a lot of new development occurring near the river.

Can you help the good folks of Wando decide what regulations and actions that are needed to lessen the decline in their local oyster reef populations?

An understanding of what oysters need to reproduce and thrive may hold the key to bringing back the oyster reefs, allow sustainable harvesting again, and improve the local economy. The town is depending on you!

You will work in small groups assigned by your instructor. The data table below has records of selected water quality readings from the river at Wando and from Hamburg on June 1. Use the information that you have learned from previous activities and the records on your data sheets to review the water quality data below. Note whether the readings are within the ranges that oysters need to reproduce and grow. In the Comparison/Observation column, note possible reasons why the readings are different.

Water Quality Measurements on June 1

Water Quality Measurements	Wando	Hamburg	Comparison/Observations
Salinity	12 ppt¹	8 ppt	
Water Temperature	70^o F	65^o F	
Dissolved oxygen	6.9 mg/L¹	4 mg/L	
pH	7.9	8.6	
Turbidity	High	Very high	

¹Measurements

ppt	Parts per thousand
Mg/L	Milligrams per liter

1. Is the water quality in Wando adequate for healthy oysters?

Your evidence:

2. Is the water quality in Hamburg adequate for healthy oysters?

Your evidence:

3. Which water quality measurements might be harmful to oysters or prevent oyster spawning?

Your evidence:

Management Plan

In your small group list the potential management practices that could be put into place to improve water quality in Wando or Hamburg according to the parameters that you determined are a problem.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

Discuss each potential management practice, and determine which ones would make a significant difference in the water quality and improve oyster populations. Then choose your top (2) or two practices, and write a regulation for each one. Be prepared to share your regulations with the rest of the class providing evidence of your decision. You can use images, video, or other multi-media to help your presentation.

Regulation I.

What is the action?

Who will vote on this?

Who will enforce the regulation?

Regulation II.

What is the action?

Who will vote on this?

Who will enforce the regulation?