

### Red Tide

Disgusted by the complexities of San Diego sewage, you have moved to a small town on the coast of Maine and now run a restaurant catering to tourists. Tourists seek out seafood, and after a day exploring the Maine coastline, almost everyone craves a bowl of your homemade clam chowder.

However, shellfish have been unavailable recently because a red tide (or harmful algal bloom, as the technical name goes, usually abbreviated as HAB) is in progress along your stretch of coast. The HAB is made up of a particular species of dinoflagellate, which is not harmful to the shellfish that consume it but can accumulate in their muscle tissue and cause paralytic shellfish poisoning in humans. As a result the shellfish grounds have been closed, the local fishermen are morose, the because of the wide-spread publicity, the yachting crowd has sailed on to more hospitable spots, and your business is down.

This afternoon, however, several busloads of tourists are arriving at the bed & breakfast next door to your restaurant. Your brother-in-law the fisherman comes to see you saying that he's got a boatload of mussels and clams gathered this morning. He says he saw no evidence of HAB in the water when he was gathering shellfish, he doesn't think fishing was ever banned in this particular location, and he's sure these are safe. Moreover, he says, he's been talking to the researchers who run the fisheries monitoring station. Some of the shellfish beds have already been reopened, and he thinks that they're about to reopen shellfishing everywhere in Maine. Should you buy his boatload of seafood? It sounds like just what you need to revive your business.

In your groups, identify a new spokesperson, recorder, discussion leader, and fact checker. Answer the following questions as best you can today, and assign each group member something to research so that we can reach firmer conclusions the next time we discuss this topic.

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- (1) What is a harmful algal bloom (HAB)? What types of marine organisms are affected by it?
- (2) What are the consequences of consuming shellfish that have been exposed to a HAB? What specific concerns should you have about paralytic shellfish poisoning?
- (3) What issues should you consider in deciding whether to buy the mussels and clams and how much to purchase?
- (4) What menu are you willing to offer to this boatload of tourists who are about to arrive in your town?
- (5) Are there any strategies that your community could pursue to try to reduce the number of harmful algal blooms?
- (6) What topics do you, as a restaurateur, need to research more completely in order to decide whether to buy shellfish today?