Dangerous Waters Case Study

There are bacteria adaptedto survive in every kind of habitat. There are marine bacteria and

freshwater bacteria —and even some that thrive only in brackish waters, which are part marine and part fresh. Lately, bacteria that live in brackish waters have been causing serious wound infections, and even some deaths, in humans.

In 2006, a mortgage broker in his 30s fell into a harbor in Hawaii 6 days after a sewage pipe failure had allowed 48 million gallons of sewage to flow into the harbor water. The man was admitted to the hospital, and within days he died from massive organ failure caused by septicemia with *Vibrio vulnificus*. You may be familiar with *Vibrio cholerae,* the diarrhea agent. Its relative, *V. vulnificus,* tends to invade breaks in the skin and then proliferate in the bloodstream, often causing massive infections necessitating amputation, and sometimes

even leading to death.

* Once the man was admitted to the hospital, what steps would you take to determine what was making him ill?
* If you were a public official in charge of Hawaii’s recreational waters, how would you determine when the waters were safe again?