CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY

Name(s)
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Project Number
22205

Project Title
San Elijo Lagoon Water Quality Study

Abstract

Objectives/Goals
What is the water quality of the San Elijo Lagoon, and how is it impacted by the bacteria in the water?

Results
I found that with the increase of bacteria, there was a decrease in the oxygen level in the water in the five-day reading. The bacteria also seemed to do well in the higher air temperatures and water temperatures. The rain before my first collection seemed to not only increase the pH of the water, but also decrease the amount of bacteria in the water greatly. After reviewing the stained lagoon water bacteria, I discovered that the gram positive, or darker bacteria, was only found in the water with the highest oxygen levels and only in water with the pH level of 8.5. However, the gram positive rods did not consumed nearly as much oxygen after five days as the gram positive circles. The gram positive circles consumed almost all of the oxygen in the water by the fifth day. The circle type for a gram negative bacteria was only found in the lower oxygen levels.

Conclusions/Discussion
I concluded that based on the data gathered in this experiment, it is very difficult to find any clear-cut conclusions correlating temperature, turbidity, oxygen levels, pH, and bacteria. Not surprisingly, the more bacteria present in the water, the less oxygen there was in the five-day reading. This is because the bacterium consumes oxygen and in these samples there were no new sources to oxygenate the water.t Also the data I have collected indicates that the bacteria level has a correlation with both the air and water temperatures.

Summary Statement
Looking at the Water Qualities of the San Elijo Lagoon and how the effect the Bacteria in the Water.

Help Received
My dad took me to and from my sample sites in the lagoon, Mrs. Gushwa and Mrs. Ramos, my instructors, provided a water quality testing kit, sterol equepment, and there supervision.