CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY

Name(s)
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Project Number
J0902

Project Title
To Surf or Not to Surf? That Is the Question

Abstract

Objectives/Goals
My objective or goal in my project was to understand which surfing beaches in my area would be more likely to be unsafe due to the presence of E.coli bacteria.

Methods/Materials
I took water samples from five seperate popular surfing beaches on the same day on four seperate occassions. I tested on hightide on a clear day , lowtide on a clear day and i tested on hightide during a storm and on lowtide during a storm. I would also test the creeks that would runoff into the beaches. For my procedure I would acquire a 100 mL sample of ocean water from each surfing beach in a sterilized container. Then I would add my Colilert P/A testing kit and would let it sit overnight. Then i would compare my results to a positive and negative sample of E.coli.

Results
The highest measurable concentrations of E.coli bacteria were found after periods of storm activity and during hightides and always in areas of creek or drainage discharge.

Conclusions/Discussion
No matter what the variables, storm activity, no storm, hightide or lowtide, the beaches with the highest measurable E.coli concentrations for any given time period, were always those beaches that had creek or drainage discharge.

Summary Statement
Testing for the presence of E.coli bacteria in five popular surfing beaches in San Mateo County, Northern California.

Help Received
A teacher assisted in determining the type and acquisition of the test kits. Mother also helped type report.