CALIFORNIA STATE SCIENCE FAIR
2011 PROJECT SUMMARY

Name(s)

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Project Number

31546

Project Title

Comparing Environmental Pollution across the Coachella Valley

Abstract

Objectives/Goals

Two prominent feature of the Coachella Valley are golf courses and naturally occurring oases along the San Andreas Fault. I will test six bodies of water for biological (E. Coli and general coliform) pollutants and chemical contaminants to test if golf courses are more polluted than a natural oasis.

Methods/Materials

Select three sample sites at the natural oasis and three sample sites at the golf club. The sample sites were selected to represent standing water and running water for each location. Using test kits and a test meter for Dissolved Oxygen (DO), test six different bodies of water for Dissolved Oxygen saturation, nitrates, nitrites, turbidity, pH, alkalinity, hardness, phosphates. Filter samples and culture for total coliform, and E coli. Measure latitude, longitude, elevation for each sample. Repeat tests over a four month period of time to see if any significant differences occur.

Results

I took a total of 27 samples and performed 270 tests. Less desirable Dissolved Oxygen, pH, turbidity, alkalinity, and general coliform levels were measured at the natural oasis. E.coli samples were similar between the similar water body types at each location. Nitrate levels were minimally higher at one water source at the golf club, but within acceptable limits.

Conclusions/Discussion

When properly managed, a golf course may not be a major source of pollutants; in fact, it may be more conducive to a favorable environment for life than a naturally occurring spring.

Summary Statement

Are golf courses by their nature, a source of environmental pollution?

Help Received

Dad took me to collect water samples; Mom helped with graphs; access to water samples provided by Tradition Golf Course.