CALIFORNIA SCIENCE & ENGINEERING FAIR
2018 PROJECT SUMMARY

Name(s)
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Project Number
38643

Project Title
The Effect of Proximity to Roadway on Water Quality

Abstract

Objectives/Goals
Determine how proximity to a roadway affects the water quality of bodies of water by measuring water quality at various different sites.

Methods/Materials
Bought and used Tetra brand water quality test strips that test the pH, nitrite, and nitrate levels of water and six 4 ounce glass jars. Water samples from several sites around each water body were collected and then their water quality was tested using the test strips.

Results
Water quality (as measured by pH, nitrite, and nitrate levels) worsened the closer a water body was to a roadway. pH was lower and nitrite and nitrate levels were higher (all of which are signs of bad water quality) the closer a water body was to a roadway.

Conclusions/Discussion
This experiment concluded that water quality worsens the closer a body of water is to a roadway due to vehicle emissions and roadway runoff that contaminate the water with various different toxins. The information found in this experiment is important as water is necessary for life and if water is contaminated by pollution, it can have detrimental effects on aquatic life, wildlife, and humans.

Summary Statement
I tested the water quality of various bodies of water to determine how proximity to a roadway affects water quality.

Help Received
I designed and performed the experiment myself. My science teacher reviewed my experiment and lab report.