CALIFORNIA STATE SCIENCE FAIR
2016 PROJECT SUMMARY

Name(s)
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Project Number
36059

Project Title
Effects of Ash Contamination on Water pH in Moving and Still Water Systems

Abstract

Objectives/Goals
The objective of this experiment is to discover the effects of ash contamination on California water systems. I am testing this due to the ash left over from recent forest fires up in the mountains of California which are now polluting our waters. The moving water, such as streams or oceans, are cleansing the high level of ash pH. However, still water such as lakes are keeping the ash floating in the water. My goal is to help prevent pollution not only in the aquatic life but also in the water systems themselves as used to irrigate fields in the central valley.

Methods/Materials
Materials:

6 cups of gravel, 480 cups of water, 2 wave makers, 1 gallon Crystal geyser water, 2(42.9 cm x 29.2 cm x 23.5 cm) plastic tubs, 12 tablespoons of ashes, environmental ph Tester, metal strainer

Procedures:
Setting up the experiment:
Place 3 cups of gravel at the bottom of your plastic tubs. Fill each tub with 40 cups of water. In one of the tubs put the two wave makers on the side of the tub. Turn on the wave makers.

Conducting the experiment:
Set your timer for five minutes and put one tablespoon of ash in each plastic container at the same time. Before the timer runs out take your pH tester and pour a little bit of Crystal Geyser water over the top to set the pH level to the regular setting. Place the tip of the tester into the water and write down the results for each tub. Clean out the gravel by straining it out and rinsing it. Repeat the previous two step until 60 minutes has been reached.

Results
My tests found that the Ash additive from the California fires are doing a great amount of damage once they get into our still water systems. Fortunately, for us over time, the pH in our moving water systems will regulate the pH down enough so that no aquatic life will be harmed and our irrigation systems may or may not be as effected.

Conclusions/Discussion
I learned that our aquatic life could be in danger if we do not properly clean up ash residue from fires. The

Summary Statement
This project tests the ash additive exposed to moving and still water systems with moving water having better pH results over an hour period.

Help Received
Craig Jones, Kjirsten Humphrey, Carl Gong, Casey Cooper