# CALIFORNIA STATE SCIENCE FAIR
## 2017 PROJECT SUMMARY

**Name(s)**
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**Project Number**
**J2201**

**Project Title**
## Effects of Oil Spills on Aquatic Plants

**Abstract**

**Objectives/Goals**
The objective is to find the rate of photosynthesis in aquatic plants during oil spills. I believe oil will not let the sunlight pass through and reduce the rate of photosynthesis.

**Methods/Materials**
In this project there are 2 experiments. In the first experiment, a small sprig of Elodea densa (aquatic plant) is kept in a test tube filled with sodium bicarbonate solution ($CO_2$ source for photosynthesis). The bubbles produced by the cut end of the plant are counted. The same experiment will be repeated with 5 ml of oil on top. In the second experiment, small pieces of Elodea are kept in a funnel inside a 2 liter bottle filled with $NaHCO_3$ solution. A test tube is inverted on top of funnel to collect oxygen evolved during photosynthesis. Another setup is made with 50 ml of oil added on top. Both setups were wrapped with foil to block the sunlight from entering through sides and left in the sun. The amount of liquid displaced in the test tube will be measured to find how much oxygen has been produced by photosynthesis.

**Results**
In the first experiment, the plant with oil on top generated less than half the number of bubbles when compared to control. In the second experiment, the plant with oil on top produced half the amount of oxygen as control.

**Conclusions/Discussion**
Both experiments showed that rate of photosynthesis is reduced by half when oil is present. Limited amount of sunlight available to aquatic plants during oil spills can cause detrimental effects to ocean ecosystem.

**Summary Statement**
My project is focused to find out the rate of photosynthesis in aquatic plants during oil spills.

**Help Received**
I would like to thank my mom for helping me with the experimental setup and Dr. Cecelia Zurita-Lopez from Cal State LA for providing the glassware.