Conclusions from a IV Year Research Study: Ocean Acidification in Prince William Sound, Alaska

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Ocean acidification is the ongoing decrease in the pH of the Earth's oceans, caused by an increase in carbon dioxide (CO_2) from the atmosphere. The more CO_2 produced, the more oceans absorb. Prince William Sound (PWS) is important not only to Alaskans for its commercial and subsistence fisheries, but to the world as a pristine ecosystem and home to many endangered marine species. The purpose of this experiment is to test the waters of PWS over the course of four years to see if there is a decrease in pH, which will affect areas including shell growth, coral development, and salmon populations. Experimental Procedures: • Obtain equipment • Arrive at the test site(s) • Test area- follow experimental procedures list • Repeat procedures at every test site • Record data • Compare new data to base line data and look for any changes I gathered a varied range of data at every test site, including: depth, barometric pressure, ocean pH, salinity, water hardness, longitude, latitude, specific gravity, tidal conditions, and the time. Over the course of four years I have tested fifty-two samples from nineteen locations throughout Prince William Sound, and can draw some preliminary conclusions because this was the final year of testing. There were five specific areas that I sampled that had a decrease in pH over the course of four years. The test locations in southern PWS, closest to the Gulf of Alaska, do show a decrease in pH. Unfortunately, my studies show ocean acidification is occurring in this important body of water.

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