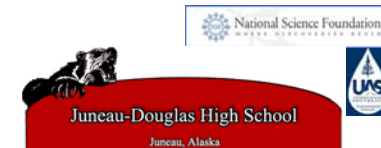


# The Effects of Fresh Water Exposure on the Length and Population Density of Clams

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## Introduction

I've always been interested of marine biology, but because the science fair application made it very difficult to study vertebrate animals. Since clams are invertebrates it made it much easier to study them and I still was involved with marine biology. My hypothesis was that the clams on the fresh water beaches would be smaller and less populous because the salinity level would have a wider range of variance. This would make it harder for the clams to adapt.

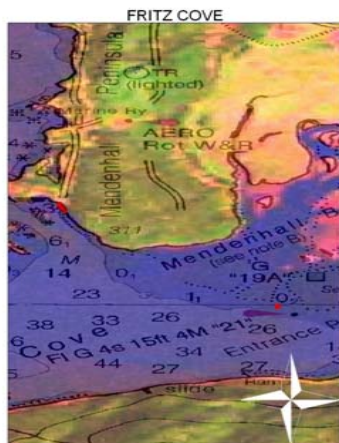
## Materials and methods

First, I visited the four beaches that I selected (Fritz Cove, Sandy Beach, Auke Recreational Area, and Auke Bay). At these beaches I started at the end of the beach that was closest to the fresh water source and placed a meter by a meter quadrat right next to the inlet. In this quadrat I dug into the ground about half a meter and collected all the clams I could. I put all the contents inside a sieve and washed it out with water so I could find them. I put them in a Ziplock bag that was labeled with the location they were retrieved from. I repeated this process five times on each beach, at 10 meter intervals. I took GPS waypoints at every testing site, where I placed the quadrat.

Once I brought them home I measured and counted each clam, I then recorded these numbers in my lab log. I then returned each of these clams to their correct beach. I used the data that I collected and made a conclusion. When I graphed the information I used a few simple bar graphs, one compared the number of clams to the beach it was found on, another compared the average length of clams found on the beach to the beach.



Legend  
• auk bay



Legend  
• sandy beach



Legend  
• auk REC



## Conclusion

After I analyzed the data that I collected it only proved my hypothesis half correct. The clams on the beaches with the fresh water inlets were more populous but the clams on salt water beaches were larger.

Two projects that could further develop my research are, how the salinity of the water affects the number of clam offspring, and another project that compares the average length of clams to the water temperature.

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