

Austin Jefferson
ANTH 204: Archaeology

Introduction

Littering is a common and profound issue in modern society. As we are aware of within archaeology, humans have always left behind various remnants of the lives we lead wherever we have gone. But in today's climate we are simultaneously inundated with a larger amount of "things" to leave behind, while also facing social pressure to dispose of our "things" properly. This project aimed to investigate how the locations of local beaches relative to cities and towns or more populated areas affect the amount and type of litter that is left behind.

Research Question & Background

In my research I wanted to gain some insight on how social pressure and proximity to other humans affects the amount and type of litter that is left behind on local beaches. Research has shown that over 90% of people believe that littering is a problem in their state(1), but also that there were 152 pieces of litter left behind for every person in the USA in 2021 alone(2). In my research I tracked the amounts of litter left behind at three local beaches, organized into two categories, plastics and others. I also organized them by the location of the beaches relative to their proximity to town.

Methods

Materials & Location

Equipment - trash collection tool

Locations - Glass beach, Teddy Bear Cove, Larabee State Park

Procedure

I spent 1 hour at each location carefully picking up litter. Starting about 25ft below the tideline of the beach at low tide after a rain, and zig-zagging back across the beach making my way away from the shoreline in increments of 2 paces or about 6ft. As I go I separated them into 2 bags for each beach. One for the plastics and one for others. I then separated and counted all of the trash and organized the data into a table that I can make graphs and statistics out of.



Figure 1. An example of the type of path I followed on a section of the beach at Larabee State Park while collecting trash, and a picture of me a few minutes after I started at Glass Beach.

Research Sites

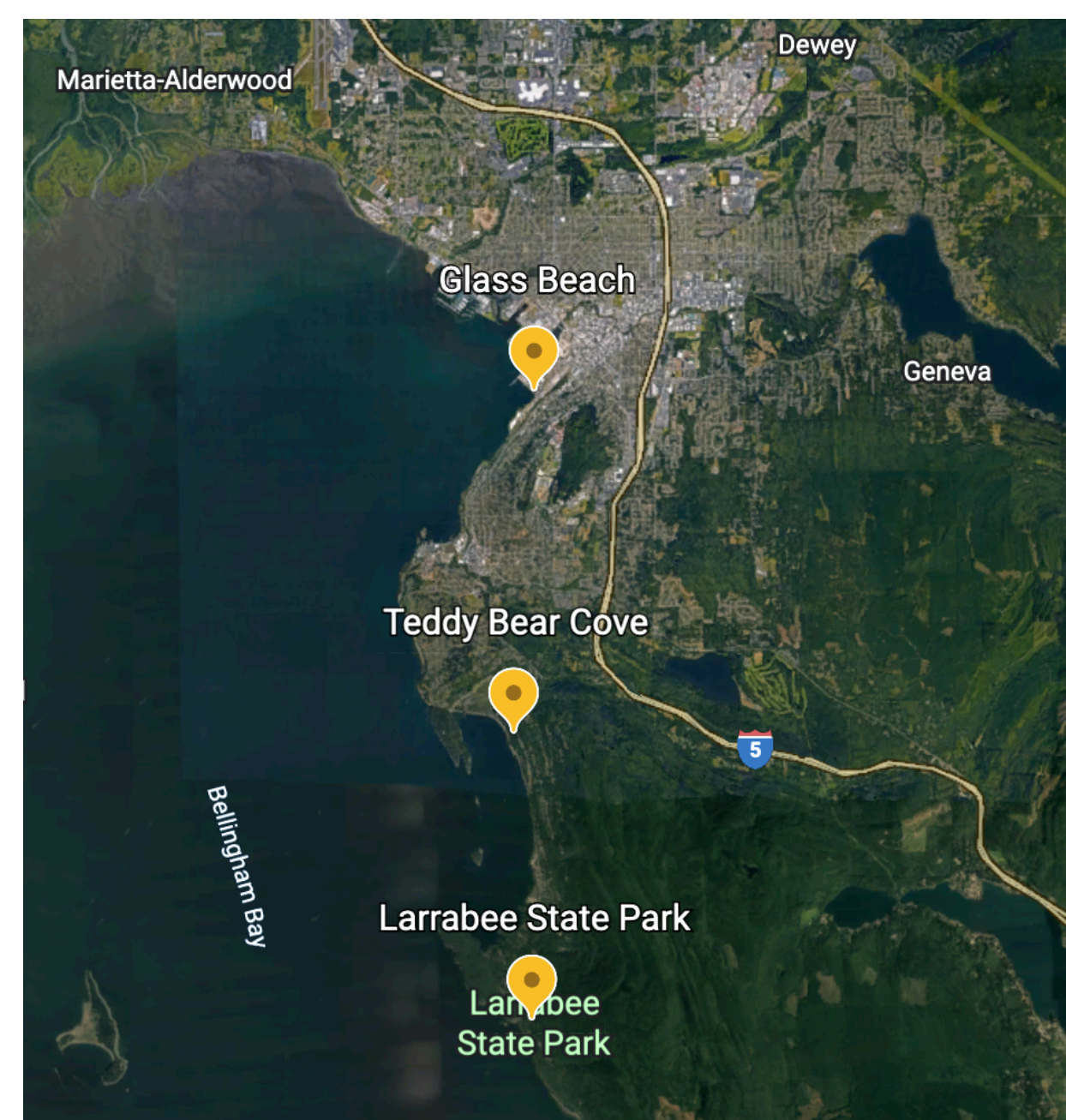


Table 1. A map of the different beaches I surveyed marked with Yellow Pins and labeled, showing a varying proximity to town.

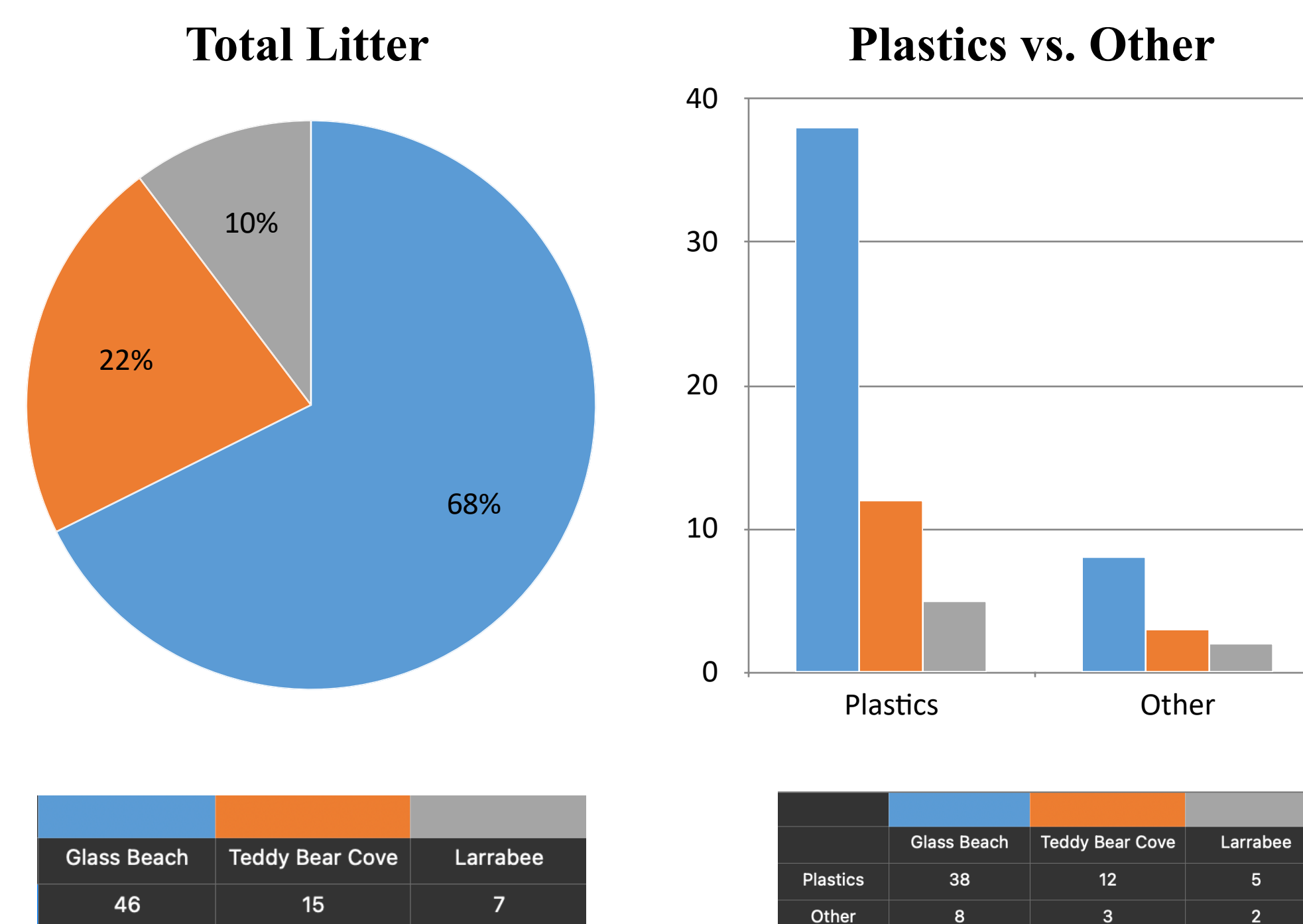


Figure 2. One pie graph plotting the total amount of trash found at each beach, and one column graph plotting the amount of plastics vs other types of debris found at each site.

Interpretations, Implications & Limitations

In my research, I found that my hypothesis that the more secluded sections of a beach would be more populated with litter was false. There appeared to be litter strewn miscellaneous around the beach in secluded areas and not. The identifiable patterns I found were that the farther from town the beach is, the less total litter there is by far (in order from closest to furthest: 46 pieces, 15 pieces, and 7 pieces). I also found that no matter what beach you go to, plastics absolutely dominate as the main source of litter, attributing to just over 80% of the total trash found on all the beaches. I also found that scarily enough for our local sealife, much of that plastic was in the form of different kinds of O-rings and various types of plastic netting.

In my opinion these results seem to point to the fact that much more local cleanup should be funded for beaches that are close to towns. If this is what happens here in our small, fairly eco-friendly town, I can't imagine what a big city with less environmentally aware people must have going on. When I first read the statistics about how many pieces of litter there are per person in the U.S.(152), I was slightly skeptical, but after doing this fairly small cleanup project I realize that if anything that is being generous to the sheer amount of garbage us humans produce. I am aware that this isn't by any means a definitive study, being that it was only conducted at three separate beaches for an hour each, but I think it is a fairly telling peek into this issue on a local level. One thing I wish I would have accounted for in my research was the impact that local cleanup initiatives and city management of beaches makes on the amount of trash at beaches, as it wasn't something I really considered when planning my project. I think that taking that into account might have been able to provide a more clear picture on the effect that we as people are able to make on this issue when we put our efforts into it.

I don't think this study makes much of an impact at all on the issue besides possibly offering some education on the problem for people who might not be quite aware of how serious it is, including myself. If I were to do this study again, I would maybe try to pick 2 beaches for each level of proximity to town, and make sure one is maintained by the city and one is not, and see what type of impact our city cleanup and anti-littering initiatives are making.

Acknowledgements

I'd like to acknowledge my incredible high school sweetheart of 8 years Paige Neufeld who is an alumni of the Biology program at Western. She has done many nature cleanup activities in her own free time, and was kind enough help me come up with my procedures and went with me to take pictures of the sites and make sure I was doing everything correctly and eco-friendly(although I don't have much room for the photos she took on this poster unfortunately).

References/ Work Cited

1. *End littering*. Keep America Beautiful. (2021, May 20). Retrieved June 8, 2022, from <https://kab.org/goals/end-littering/>
2. *About*. Wider Caribbean Sea Turtle Conservation Network WIDECAST. (n.d.). Retrieved June 11, 2022, from <https://www.widecast.org/conservation/threats-and-solutions/beach-litter-and-debris/>
3. Phillips, S. (2022, May 11). *Plastic waste on the beach and the poisoning of Ocean Life*. Msingi Afrika Magazine. Retrieved June 11, 2022, from <https://www.msingiafrikamagazine.com/2022/05/plastic-waste-on-the-beach-and-the-poisoning-of-ocean-life/>