

# Comparison of Bellingham Beach Bluffs

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SALI 201 Intro to Salish Sea

## What are the Characteristics of Locust Beach and Cornwall Beach Bluffs?

For our research project we decided to study and compare some characteristics of the Locust Beach bluffs and the Cornwall Beach bluffs. Major factors we took note of were the soil types, diversity of vegetation and presence of shoreline armoring.

It's important to note that these beaches, while both in Bellingham, have a different context behind them. Locust Beach is an established trailhead for people with a generally undisturbed waterfront and lush vegetation.

Cornwall Beach, recommended to be renamed "Salish Landing", is still undergoing clean up after industrialization. Its bluffs were separated from the beach by shoreline armoring, roads, and railway tracks. They are very different so we thought characterizing them would be interesting.

## Methods

### Materials & Location

For the process of surveying and collecting data for this experiment the materials required are a long measuring tape at least 15 meters long, a notebook, and a writing utensil.

Surveys took place at Locust Beach and Cornwall Beach (soon to be named Salish Landing) in Bellingham. Data was collected June 6th, 2023 and June 7th 2023 at respective beaches in the afternoon.



fig. 1 locust beach map

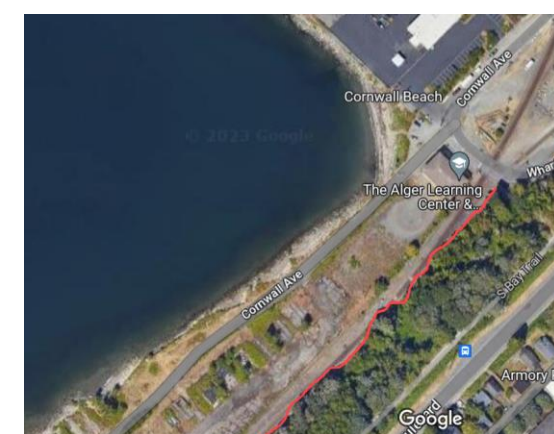


fig. 2 cornwall beach map

### Procedure

We picked a random spot at the base of the bluffs then in a circle with a radius of about a foot we logged vegetation and soil type. This was in a transect of 50 meters, with measurements taken at the start, at 25 meters, and at the end of 50 meters. Plants were identified via the apps "Picture This-Plant Identifier" then were verified using our book and by the internet. The app should be available on the app store.

## Diversity of Plant Species Compared

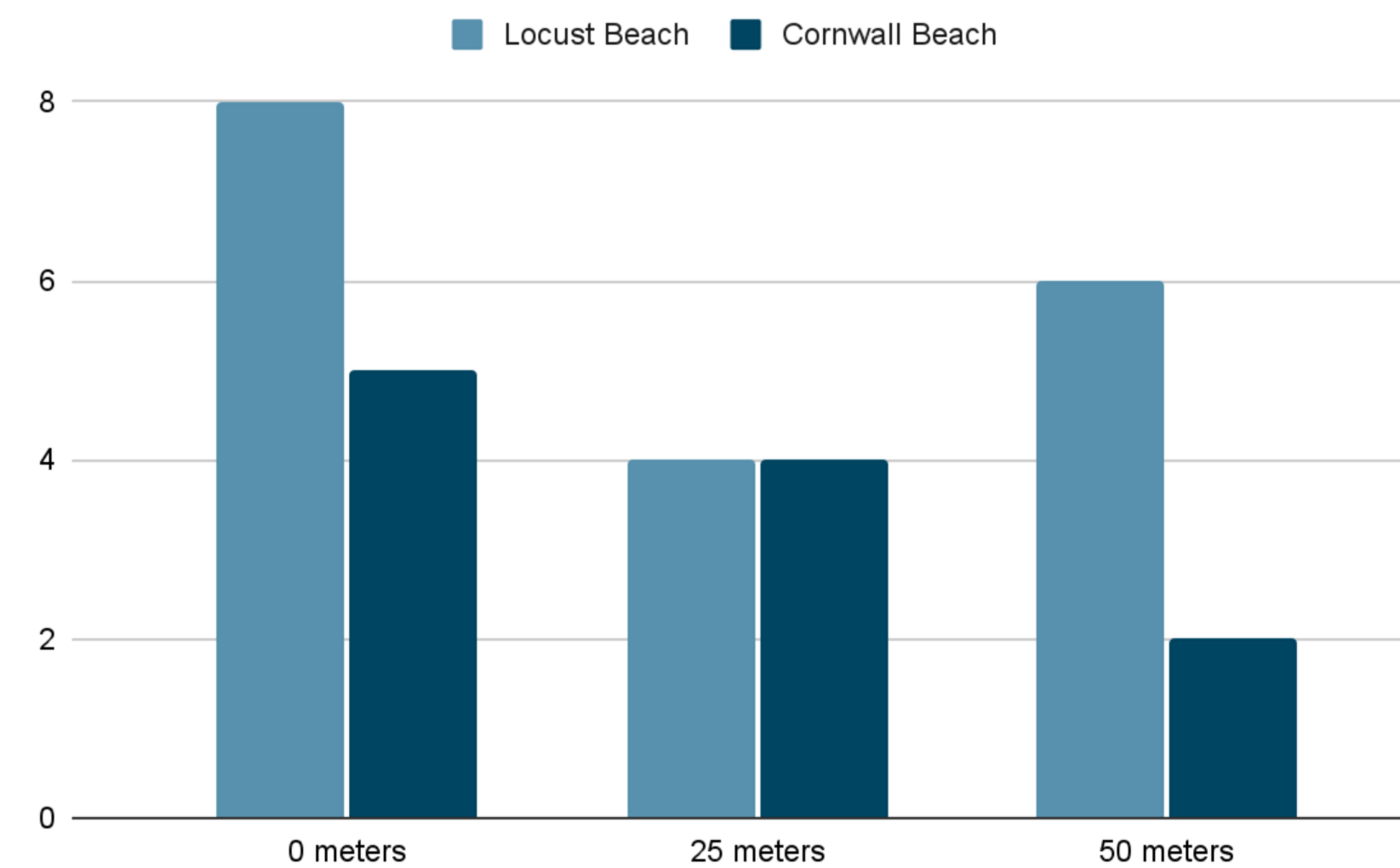


Table 1. This table shows the number of different plant species at a sample site at both beaches then compares them. At the 0 meter mark for example, there were 8 different plant species in the survey area at Locust Beach and 5 species in the survey area at Cornwall Beach.



These images depict bluffs present at Cornwall Beach (right) and Locust Beach (left). The amount of vegetation present on the bluffs indicates how recently a mass wasting event took place with more vegetation indicating that significant time has past and allowed regrowth on the bluff.

## Results and Discussion

At the start of the transect, 8 different plant species were found at Locust, 4 different species at the 25 meter mark, and 6 different species at the 50 meter mark. While the soil varied at each site, all three sites had silt or a silty texture.

For Cornwall there were 5 plant different species at the start, 4 at the 25 meter mark, and 2 at the 50 meter mark. For the first two sites soil was cobbly and/or gravelly, with ground concrete and till mixed in heavily. At the last site, soil was dried together and platelike, we suspect it was clay.

The beach itself at Cornwall had trash and glass mixed into the rocks, with little seaweed present. Shoreline armoring and a road blocked the bluffs from the beach. Unlike Cornwall beach, Locust beach had a wide area of tidal mudflats and bluffs connected to the beach.

One of the potential reasons why Cornwall Beach doesn't have the same mudflats could be the separation of the bluffs from the beach, therefore not allowing sediment to wash freely into the shore. Another potential reason is the industrial area and ship traffic blocking sediment from coming in, or other artificial reasons.

Shortcomings of this study are clear. Due to time constraints and a rush, several parts of the experiment are not as controlled as they should've been, with some key microclimate data about temperature, tidal charts, and wind were not properly researched. Also, there was the issue of a small range of data being sampled along the transect line.

While our research focused on the bluffs, there is a potential for future research focusing on the Salish Landing/Cornwall Beach. Specifically, comparing the future presentable waterfront beach for people to enjoy to the current beach that is still in the process of being cleaned up.

## Work Cited

"Locust Beach Trailhead." City of Bellingham, 3 Dec. 2020, cob.org/project/locust-beach.

"Salish Landing." City of Bellingham, 29 Mar. 2023, cob.org/project/locust-beach.