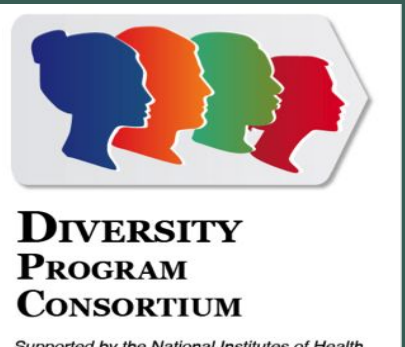


A Comparison of Different Crab Populations in Different Habitats Prior to European Green Crab Presence in Kake, AK

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Introduction

European Green Crabs (*Carcinus maenas*) are an invasive crab species that made their way to Alaska (Davis, 2023). Green crab are a concern for people in Southeast Alaska because they can harm different environments and organisms. Green crab are destroying habitat such as eelgrass, which are important for juvenile salmon and other species (Ens et al., 2022). Green crab also create more competition for food (Ens et al., 2022). While there are not yet green crab present in Kake, the data we collect will help us compare crab populations before and after European Green Crab come to Kake.

Hypothesis

We predicted that the mud flats would have more crab than the Presbyterian Church Beach. This is because there's better crab shelter and the flats are usually always exposed.

Methods

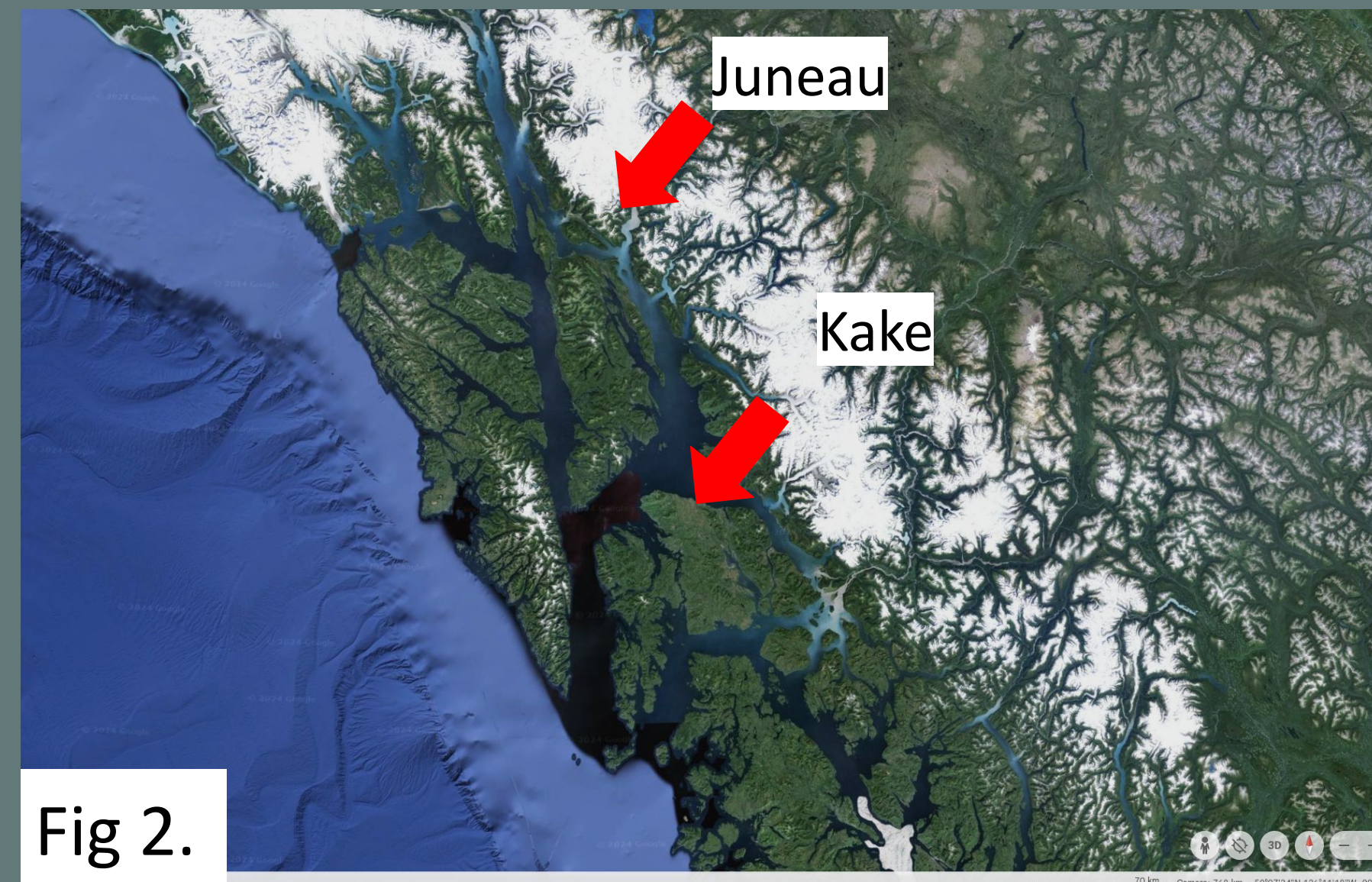
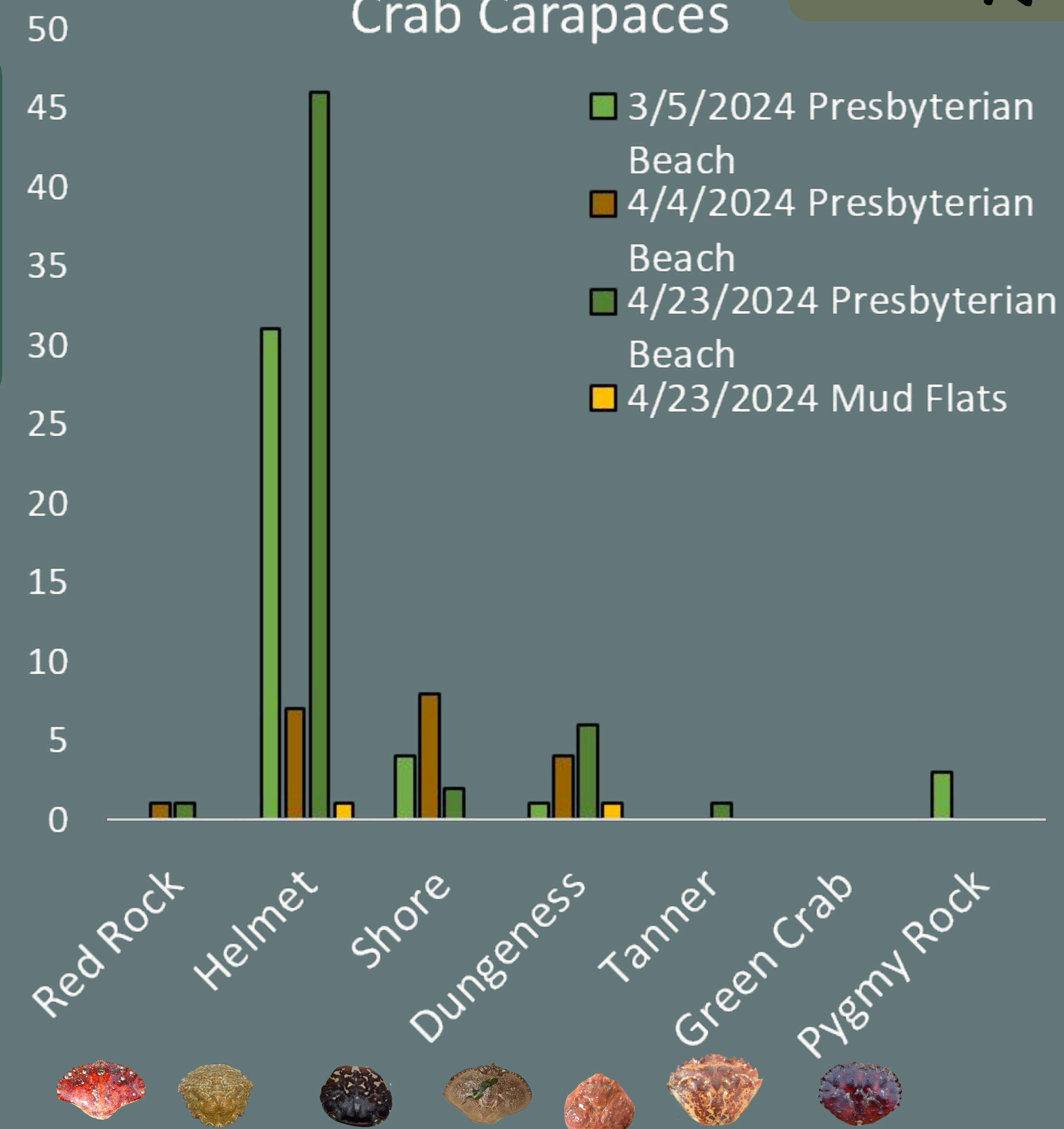


Fig. 1 Crab data was collected from two different beaches in Kake, Alaska
Fig. 2 Where Kake is compared to Juneau, as well as surrounding islands

1. Crab carapaces were collected at both the mud flats and Presbyterian Church Beach in Kake, Alaska on March 5th, April 4th, and April 23rd. To collect the carapaces, two people would walk in opposite directions for 10 minutes picking up all the dead crabs they saw in the wrack line during that time.
2. A key was used which had all the common crabs on it, this was used to identify each crab based on their carapace. Data was counted to determine which beach had the most crabs.

Crab Carapaces



Results



Carapaces found at Presbyterian Church Beach



Sierra Davis in the water at the mud flats

- Very few carapaces found at the mud flats
- No European Green Crab found at either location
- 6 species were identified during this study
- Helmet crabs were the most abundant

Discussion

The data does not support the hypothesis, there were more crab carapaces at the Presbyterian Church Beach than the mud flats. The flats were more difficult to survey because we couldn't find the wrack and elevations varied across the beach. Since the Presbyterian Church Beach has more crabs the size of European Green Crab, we think they would be more likely invade that beach. A reason there might have been less crabs at the mud flats is because there are not any rocks. At the Presbyterian Church Beach, there are many rocks, which the crabs could get caught on. Future research can be done during different seasons like summer, since crab are more abundant then. We could also do the research at other beach locations that have different environments. Trapping live crab could also bring in more data to see in the live crab populations vary from beach to beach. Carapace surveys provide baseline data for future crab research.

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