**Cigarette Butt Pollution**

**Abstract**

**Introduction**

Previous cigarette butt collection projects have focused on collecting cigarette butts near beaches. On average, there were about 600 collected each week at beaches in Pacific Grove. As a result, a new ordinance had been passed in Pacific Grove in response to the abundance of littered cigarette butts. Since this ordinance was passed at the end of the year 2019, very few people are aware of the new smoking regulations. For this capstone project, the objective is to investigate whether the no smoking sign has been effective and to predict the number of cigarette butts in targeted commercial areas. To start, this capstone group will collect cigarette butts in commercial areas in Pacific Grove. The purpose of this project is to bring awareness to cigarette butt pollution, that the harm is not just done when smoking but the afterwards as well.

**Methods**

Our data collection will consist of the capstone group physically going to the designated areas in Pacific Grove on a weekly basis and collecting cigarette butts that are littered on the community’s sidewalks. The targeted areas include Safeway and Lucky’s as well as the intersection on Lighthouse Avenue and Forest Avenue. This group will have several variables they will be considering and including in their model, which are the following: segments, distance, non-smoking signs, average temperature, and rain. Segments were assigned by breaking down the covered area by blocks or segments in this case, count the number of non-smoking signs in that segment, the average temperature will be calculated weekly, and rain will get scaled on (0-7) by how many days out of the week it rains. Model used for this research will be built on a poisson regression.

The capstone group consists of four members. Each member is provided a glove, safety vest, and bag. The members are split into two groups and each group is responsible for counting the cigarette butt as it is being picked up. At the end of each location, the two groups will meet together to share and record the results.

**Results**

**Discussion**