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Coreopsis gigantea and Ice Plant Relationship on Point Dume

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Abstract: This study looks to determine the affects of the non-native ice plant on the native Coreopsis gigantea located at Point Dume in Malibu, California. After examining the size of the Coreopsis we were able to identify that they were smaller in height when growing next to the ice plant and greater in height when farther away. We concluded that the Coreopsis does survive next to the ice plant, however its growth is restricted. Through our research we discovered many factors that could attribute to the growth difference, yet further research is necessary to decipher the main one.

Introduction: We hypothesize that Coreopsis will survive despite the disruptive nature of the non-native Ice Plant. Despite the invasive tendency of the ice plant, the Coreopsis plants will still grow normally and thrive whether they are forced to cohabituate with this plant or live individually. Non-native plants, such as the ice plant, are typically viewed negatively and seen as harmful competition to the plants that previously grew and lived in these habitats. Despite the ice plants destructive nature, the Coreopsis has the ability to coexist because of its difference in dormancy. The ice plant and the Coreopsis both go dormant during different seasons. This allows for one plant to thrive while the other is dormant. During the current severe drought in California, scientists are concerned for the well being of the native plants because of the harmful tendencies of the non-native ice plant. According to Vivrette (see sources), the ice plant is extremely invasive. Her studies show that the ice plant increases the salinity of the soil, which can be toxic to pre-existing plants. The entire surface of the ice plant is covered in trichomes which are full of a water solution that includes sodium chloride, thus killing other plants. The sole reason that the ice plant can live where it does and thrive is because of its difference in dormancy. The ice plant and the Coreopsis both go dormant during different seasons. This allows for one plant to thrive while the other is dormant. During the current severe drought in California, scientists are concerned for the well being of the native plants because of the harmful tendencies of the non-native ice plant. According to Vivrette (see sources), the ice plant is extremely invasive. Her studies show that the ice plant increases the salinity of the soil, which can be toxic to pre-existing plants. The entire surface of the ice plant is covered in trichomes which are full of a water solution that includes sodium chloride, thus killing other plants. The sole reason that the ice plant can live where it does and thrive is because of its difference in dormancy.

Methods: We drove to Point Dume to measure the growth of the coreopsis plant. We took measurements of the height of the Coreopsis plant. We measured six Coreopsis plants that are growing adjacent to the ice plant, and six plants that are growing relatively farther away from the ice plant. With the height, of both the near and far Coreopsis, we were able to identify that they were smaller in height when growing next to the ice plant and greater in height when farther away. We were mainly looking to see if the Coreopsis plants growing adjacent to the ice plant, and six plants that are growing relatively farther away from the ice plant. We took measurements of the height of the Coreopsis plant. We measured six Coreopsis plants that are growing adjacent to the ice plant, and six plants that are growing relatively farther away from the ice plant. We were mainly looking to see if the Coreopsis does survive next to the ice plant, however its growth is restricted. Through our research we discovered many factors that could attribute to the growth difference, yet further research is necessary to decipher the main one.

Conclusion:

Discussion:

Works Cited:


Vivrette, Nancy, (1990), “Coastal bluff vegetation change over 25 years on santa cruz island”, In Fifth Channel Island Symposium; schedule of symposium proceedings and events and presentation and poster abstracts.

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