

# CALIFORNIA STATE SCIENCE FAIR 2011 PROJECT SUMMARY

Name(s)

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**Project Number** 

**Project Title** 

Men with a Lot of Mussels

31099

## **Objectives/Goals**

Our goal is to explore the biodiversity of the Davenport Landing tide pools along the property of the Davenport Landing tide pools along tide tide pools along the D vertical transect. Our investigative question is: How will biodiversity of organisms change along the vertical transect as sea mussel population increases? Sea mussel population is predicted to rise due to decreased level of predation from the dwindling number of sea start and sea offers, and should impact biodiversity along the rocky intertidal. We predict that the sea massels will crowd out other organisms and decrease the biodiversity of the area.

**Abstract** 

#### Methods/Materials

- 1. Collect the abiotic factors of temperature and wind speed using an anemometer and thermometer.
- 2. Line tape through eye bolts, which descend perpendicular to the ocean
- 3. Center quadrats over the transect tape every 3m at: 9m (A) 3m (B) 6m (C), 9m (D), 12m (E), 15m (F), 18m (G), and 21m (H).
- 4. Record Species abundance within each quadrat as instructed on the LiMPETS data sheet (see LiMPETS website for sheet and additional information). For algae, only the quare(s) that contain the holdfast should be recorded. Count only living organisms. his may require some close investigation.

#### **Results**

Site Biodiversity(1-4)% mussel coverage

- 2.03778843 25.45%
- 2.16186264 80%
- $\mathbf{C}$ 2.11935829 100%
- 92.36% D 1.85974718
- 1.90388058 79.64%
- F 2.33233991 42.55%
- 1.99515944 G
- 0%
- 1.99881546 0%

Conclusions/Discussion

We have found that there is an reportional relationship between a site#s mussel presence and the site#s biodiversity according to the Shannon Wiener index. At sites C and D where mussel presence increases, the biodiversity becreases, while at sites A, B, E and F, where mussel presence is lower, the This shows an inversely proportional relationship between mussels and biodiversity biodiversity is higher along the vertical transect.

### **Summary Statement**

The expansion of Sea Mussel abundance and its effect on the other noted creatures in the tidepools.

## **Help Received**

Counting equiptment was given to us and we were taught how and were to collect data, but have been on our own for most of the project.