

Journal of Student Research *on* Puget Sound



Glacier Peak High School
11th & 12th Grade
Snohomish, WA



Developing curiosity and confidence through student-led
scientific research on the waters of the Salish Sea

Counting Anemones



Background and Information

Aggregating Anemone-a flowerlike cnidarian with a green tube shaped body, topped with pink tentacles.

- **Trophic level**-the Aggregating Anemone is a secondary consumer.
- **Predators**-Leather Starfish, Shaggy Mouse Nudibranch, Mosshead Sculpin.
- **Habitat**-Typically found in the mid inter-tidal zone, it requires a solid surface to cling onto (cobble, boulder). It spends part of the day exposed to air, so it chooses to live in shaded areas or tide pools.

Research Question

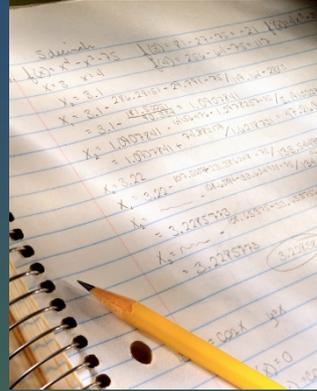
- How does the substrate and habitat affect the population of Aggregating Anemones?

Hypothesis

- The population will increase in rockier substrates and in low tide zones because it needs a place to adhere and avoid dessication.

Materials

- Quadrat squares
- Pencil
- Paper
- Camera
- Tidal line
- Level markers



Location

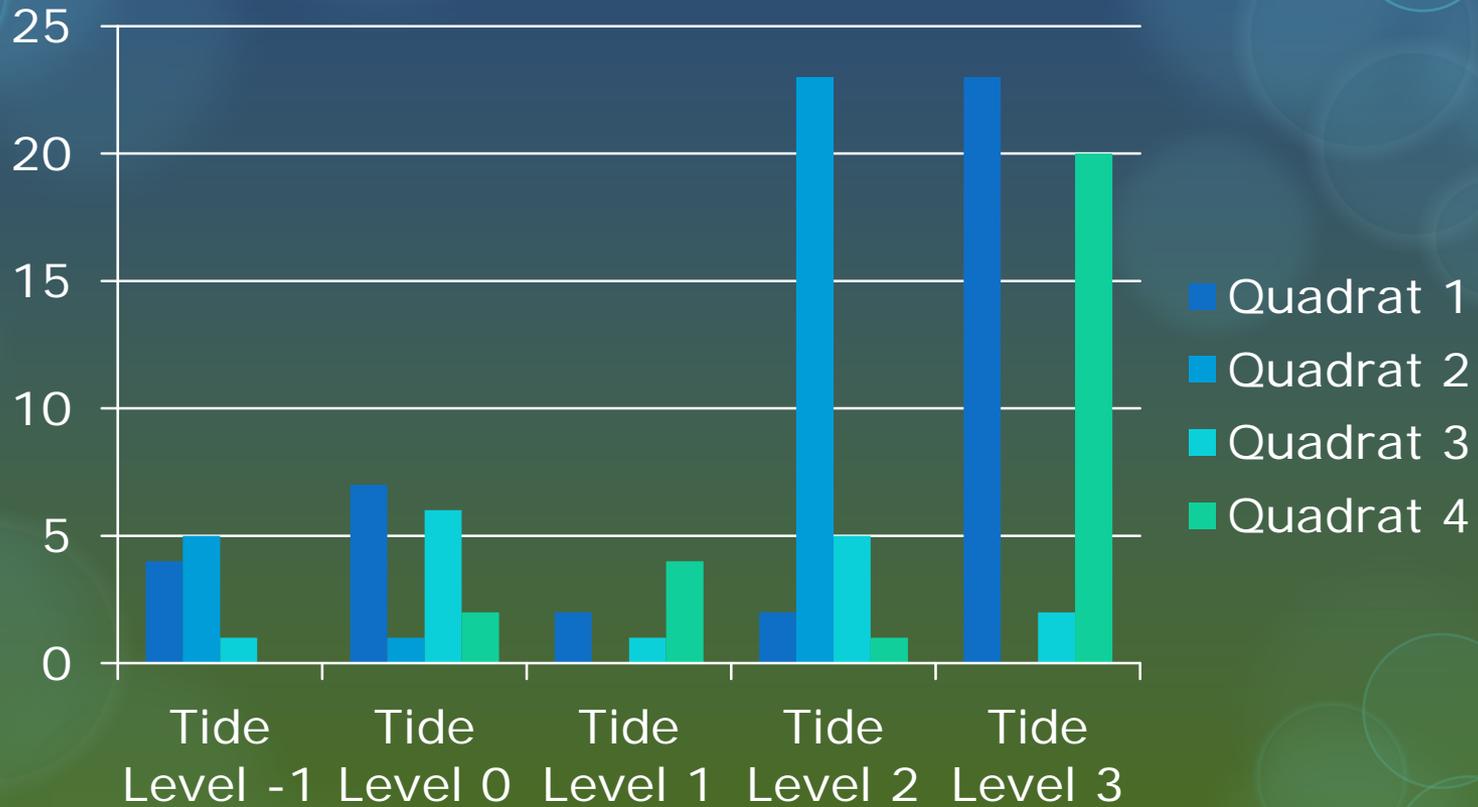
- Mukilteo Beach
- Weather: Sunny
- Tide Levels: -1.6



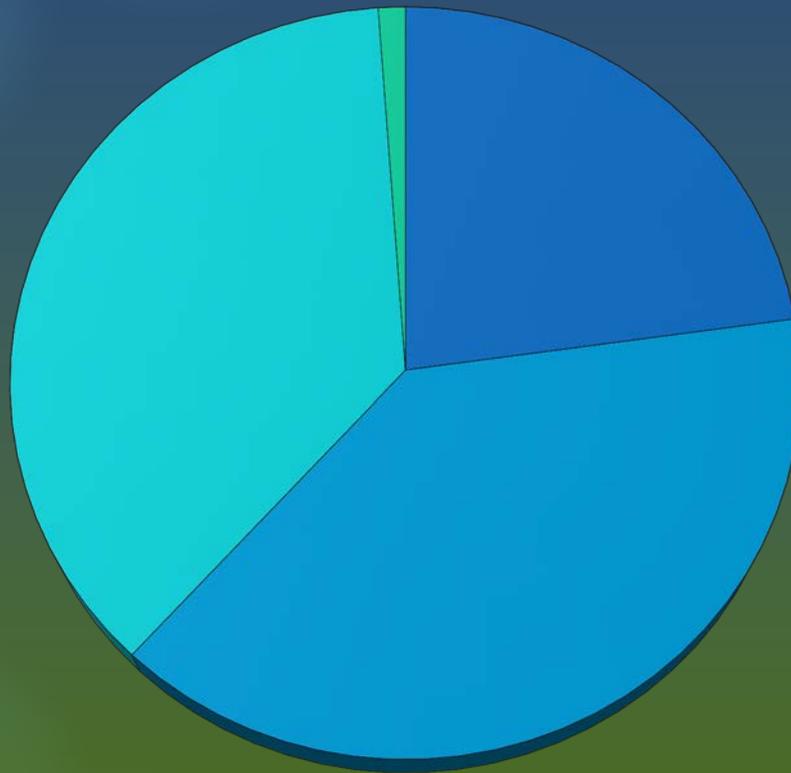
Procedures

1. Set up quadrats starting from the +2 tide line.
2. Placed quadrats where we saw the first anemone off of the tidal level line.
3. Record the habitat and substrate within the quadrats.
4. Count the number of Aggregating Anemones in the quadrat.
5. Move down and repeat the process every ten feet until reaching the -2 tide line.

Anemones in Quadrats at different tide levels



Anemones in Substrates



- Sand
- Gravel
- Cobble
- Boulder

Conclusion

The majority of the Aggregating Anemones lived in tide levels 2, and 3. There were 39 anemones in tide level 2, and 45 anemones in tide level 3. Out of the total Aggregating Anemones 39% lived on substrates made of gravel, and 37% lived on cobble.

The substrates became almost entirely sand in the negative tide levels. Without the cobble or gravel from the higher tide levels the anemones wouldn't have a sturdy surface to grip onto leaving them vulnerable to the tide. Our data doesn't show the importance of boulders, which provide shade during low tide and a large sturdy surface for anemones to attach to.

This is important because Aggregating Anemones are a staple in the food web of the Puget Sound and the west coast of America. They're the primary food source of the Leather Starfish, Shaggy Mouse Nudibranch, and Mosshead Sculpin. If the population of anemones declines these other species will also suffer decline as well. By monitoring the population of Aggregating Anemones, researchers can monitor a major food source in the Puget Sound.

References

Monterey Bay aquarium: [//www.montereybayaquarium.org/animal-guide/invertebrates/aggregating-anemone](http://www.montereybayaquarium.org/animal-guide/invertebrates/aggregating-anemone)

Seattle Aquarium

Wikipedia: http://en.wikipedia.org/wiki/aggregating_anemone