



Activity A: Interpreting Graphs

Kelp Forest Complexity

Interpreting graphs: Role of currents in algal community structure

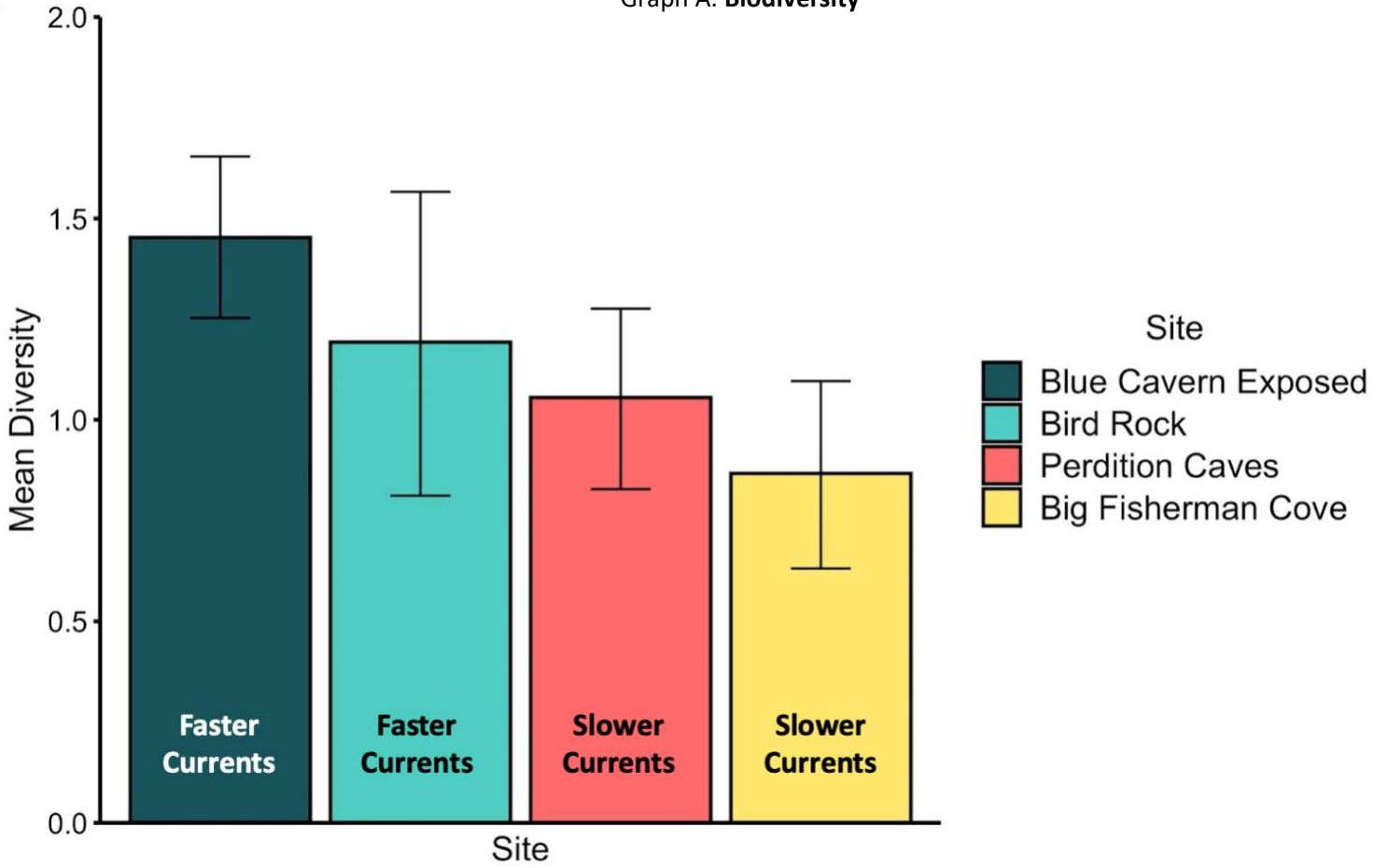
The understory of a kelp forest is made up of a diverse community of smaller algae. In areas with different amounts of light or water flow, these communities are different as a reflection of the different abiotic factors. The following graphs represent the understory algal community at four different sites on Catalina Island.

Graph A shows the **average biodiversity index** and graph B shows the average **species richness** at each of our four sites. In addition, each site is labeled according to how “exposed” it is, or how fast the **currents** are in that area. Think about why this **abiotic** factor might influence seaweed communities!

Before you start:

1. Briefly define **biodiversity** and **species richness** and explain how they are different.
2. Do you think that **biodiversity of algae** will be higher in areas with faster currents or slower currents? Explain your answer.
3. Do you think that there will be more species (higher **species richness**) in areas with faster currents or slower currents? Explain your answer.

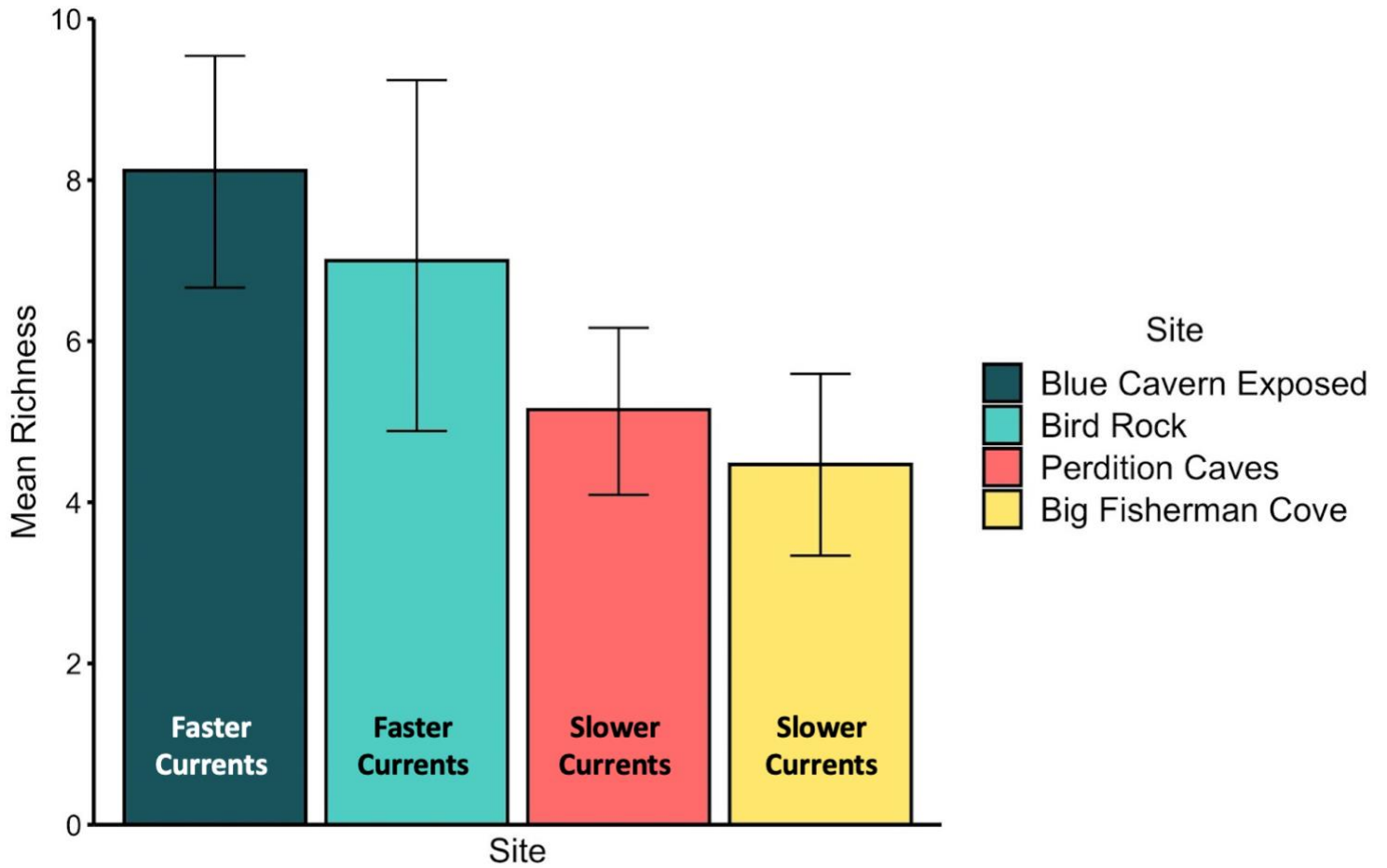
Graph A: **Biodiversity**



4. Which site has the highest mean **diversity**? Which one has the lowest?

5. Do you see any patterns between **diversity** and **current speed**?

Graph B: Species richness



6. Which site has the highest **species richness**? Which one has the lowest?

7. Do you see any patterns between **species richness** and **current speed**?

Summary questions:

8. Look back at your answers to questions 2 and 3. Were your predictions correct? Why or why not?

9. Provide one explanation for why you think these patterns emerged. How do you think **currents** impact algal communities?