

Calculating Biodiversity

Kelp Forest Complexity

Objective: Calculate and compare the biodiversity of different sites.

Procedures:

1. Choose two or more sites to compare (there is room for four on the datasheet). Record the **name** of the site on the datasheet below.
2. Provide a **description** for each site and record below. Consider important abiotic features of the site.
3. **List all the species** in your sample area, even unknown species. In the case of unknown species, provide a descriptive name. Ex- “unknown pale green kelp” or “yellow-flowered herb.”
4. Count the number of species found in your plot. The total number of species in your plot is the **species richness**. Record in your data table.
5. Look at the relative abundance of the different species in your plot to rate the **species evenness**. A rating of high species evenness should be given if species are relatively equal in abundance. A rating of low species evenness should be given if one species has a much higher abundance than the others. A medium rating should be given if the relative abundance of species is somewhere in between.
6. Calculate the Biodiversity Index for each site using the simple equation below.

$$\text{Total number of species} \div \text{total number of individual organisms} = \text{Biodiversity Index}$$

7. Finally, answer the three questions at the end of this worksheet.

Site Name	Site Description	Species List	Species Richness	Species Evenness (high/medium/low)	Biodiversity Index

Questions:

1. Which site had the highest biodiversity? Support your claim with evidence.

2. Why do you think this site was more biodiverse than the others? Provide reasoning to support your argument.

3. Why is calculating biodiversity important?