

CHALLENGE 4: PLANT COMMUNITIES & YOU

Part A: Site Data Sheet

Site #: _____

Name of Site: _____

General Location: _____

Ecological Factors:

Sunlight: _____

Water: _____

Space: _____

Canopy: _____

Vegetation Layers: _____

Soil Texture: _____

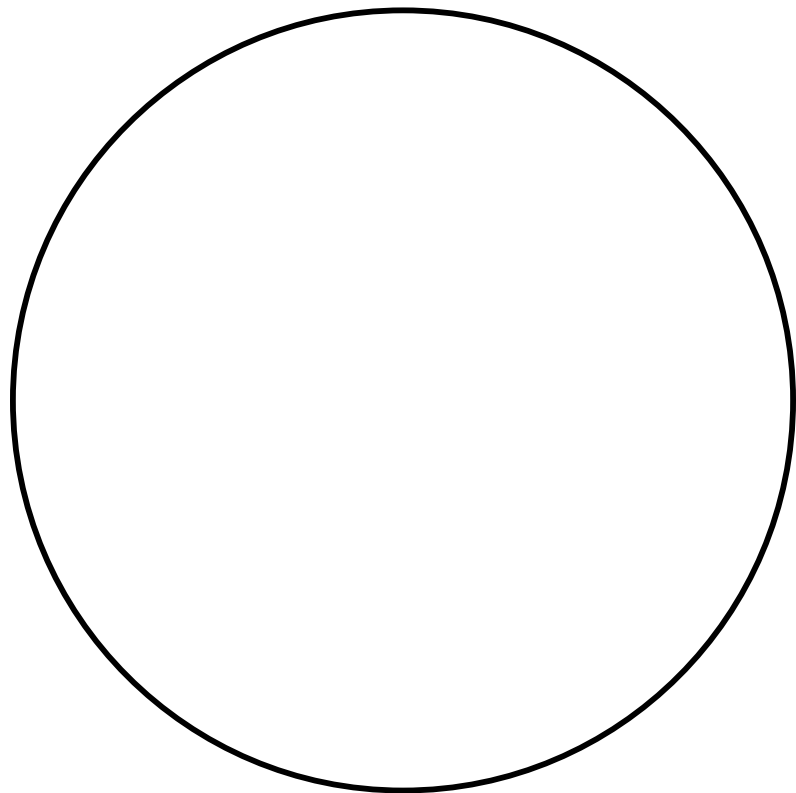
Organic Matter: _____

Evidence of Disturbance: _____

Ecosystem Name: _____

Other Notes: _____

Sketch Your Sample Plot



Species	# of individuals	Species	# of individuals

Site Analysis:

Q. What is the plant Species Richness (total # of species) of your site?

Q. Species Abundance – Which species are most abundant? Why do you think that is?

Q. Species Evenness – Do all species have roughly the same abundance, or are there a few species that dominate the ecosystem? Why would this happen?

Q. Using your knowledge of all the species in this sample plot, explain why these particular species occur here.

Q. What adaptations do the most common species have that make them successful in this ecosystem?

Q. Are there any species that you found that you did not expect to find? Why could they be present?

Q. What are some kinds of disturbance that you might expect in this ecosystem? What affects would these disturbances create in the ecosystem?

Part B: Comparing Sites:

Review all information that your team has gathered from your different sites. Discuss the ecological themes and principles present in your observations with your advisor and teammates.

Use the following open-ended questions to explore the relationships and trend that you noticed among the different ecosystems. You may answer on your own or work as a team.

1. How ecologically similar were your sites, based on observed biotic and abiotic factors?
 - a. What ecological factors varied the least?
 - b. What ecological factors varied the most?
2. What do you think are the top three ecological factors that helped you easily differentiate one ecosystem from another? Why are these three factors important?
3. How did the similarities and differences among your observed sites affect which species were found there?
4. What species were found at both sites? Were there any? Why do you think these species were so common?
5. Were there any species unique to one site?
 - a. What factors do you think limited the range of this species?
 - b. What are its habitat requirements?
6. Define the terms generalist species and specialist species. Using your answers from questions 4 and 5 above, answer the following:
 - a. Which species identified were generalists?
 - b. Which were specialists?
 - c. Were any species in between?
7. What adaptations were common among species found at both sites, if any? Why do you think organisms with these adaptations thrive in these ecosystems?
8. Which site had the greatest plant species diversity? Which had the least? Why do you think that is?
9. Which ecosystem was your favourite, and why?
10. Was there anything unexpected that you observed?
 - a. (Optional) Independently research the unexpected observation and share with your teammates why you think you observed it during your investigation.