# Lab 5 Response: Exploring the Tallgrass Prairie Ecosystem

## Part 1: Habitat Characteristics

### Notes and sketches of your study area

|  |
| --- |
| Include notes on the site’s land use history, restoration, and current features of the landscape. |
|  |

## Part 1: Habitat Characteristics

### Map of the study area

|  |
| --- |
| Include the study site’s area, notable habitats, trails, and other features |
|  |

## Part 2: Analysis of the Plant Community

### Abundances of Grasses and Forbs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Observation date | | | | Observer name(s) | | |
| Study site name, transect location | | | | | | |
| Weather | | | | | | |
|  | **Quadrat at 0 m** | **Quadrat at 10 m** | **Quadrat at 20 m** | | **Average across quadrats** | **Minimum and maximum** |
| **Number of grass species** |  |  |  | |  |  |
| **Number of forb species** |  |  |  | |  |  |
| **% cover of grass species** |  |  |  | |  |  |
| **% cover of forb species** |  |  |  | |  |  |

## Part 2: Analysis of the Plant Community

### Presence of invasive woody plants

|  |  |
| --- | --- |
| Number of woody stems in transect = | |
| **Woody species name** | **Number counted** |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

## Part 3: Analysis of the Animal Community

### Prairie tour data

|  |  |  |  |
| --- | --- | --- | --- |
| Observation date | Observer name(s) | | |
| Study site name, transect location | | |
| Weather | | |
| **Animal sign or observation (insert pictures as relevant)** | | **Number counted** |
|  | | |

## Part 3: Analysis of the Animal Community

### Transect Data for Animals

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Observation date | | | | Observer name(s) | | |
| Study site name, transect location | | | | | | |
| Weather | | | | | | |
|  | **Quadrat at 0 m** | **Quadrat at 10 m** | **Quadrat at 20 m** | | **Sum across quadrats** | **Proportion**  **(divide sum by TOTAL)** |
| **Number of invertebrate animals seen**  (include descriptions, images) |  |  |  | |  |  |
| **Number of invertebrate animal signs**  (include descriptions, images) |  |  |  | |  |  |
| **Number of vertebrate animals seen**  (include descriptions, images) |  |  |  | |  |  |
| **Number of vertebrate animal signs**  (include descriptions, images) |  |  |  | |  |  |
| **TOTAL of all signs and observations in the transect** =  (Add the s**ums across quadrats** for **TOTAL**) | | | | | | |

## Part 4: Analysis of the Abiotic Environment—Soil Characteristics

|  |  |  |  |
| --- | --- | --- | --- |
| Observation date | | Observer name(s) | |
| Study site name, transect location | | | |
| Weather | | | |
|  | **Description of Location and Habitat Characteristics** | | **Soil Texture Type** |
| **Sample 1** |  | |  |
| **Sample 2** |  | |  |
| **Sample 3** |  | |  |
| **Sample 4** |  | |  |

## Questions

### Questions for Part 1 on Habitat Characteristics

1. Describe the types of habitats currently present at your study site.
2. Research and describe the historical land cover and land use of your study site. Decide how far back in time to go and explain this in your response. Cite the source(s) you used.
3. Describe the landscape surrounding your study area. Address the presence of human and natural habitats and the challenges of plants and wildlife in colonizing these areas.

### Questions for Part 2 on Plant Community

1. How did the average number of grass and forb species compare to the percent cover of grass and forb species identified in your quadrat? How did these averages compare for other transects sampled in the prairie?
2. Based on the quadrat data collected by the class across multiple transects, do grasses or forbs constitute the matrix (dominant or most abundant plants) of the prairie? Explain if there were any inconsistencies. Relate to similarities or differences of the prairie environment.
3. Compare the data collected by the class on woody species. Describe the types of woody species encountered and where in the study site they were most common.
4. Describe which of these woody species are considered invasive in the prairie and what efforts are being or will be used to manage them.

### Questions for Part 3 on Animal Community

1. Describe your most surprising or interesting animal-related observation.
2. Looking at your data, what animal signs or observations were the most common? How do you think this relates to the abundance of certain animals in the prairie?
3. Explain how time of day, the season in which you sampled, and the methods you used could influence your observations of animals and their signs. Provide suggestions for improvement.

### Questions for Part 4 on Soil Characteristics:

1. What part(s) of the soil texture analysis did you find easy to perform? Was there any part that seemed challenging? Explain how this could affect the reliability of your texture results.
2. Describe the similarities and differences in texture among your soil samples. Compare the soil textures to the locations and habitat characteristics where each was collected (e.g., north vs. south side of prairie; low area vs. on a hill or slope).
3. Based on your summary of soil texture and habitat, describe whether the area you sampled was mostly homogeneous (uniform) or heterogeneous (patchy). Explain how this could affect plants and animals.