

Name: \_\_\_\_\_ Section: \_\_\_\_\_ Date: \_\_\_\_\_

**EXERCISE H: GREGORY CANYON FIELD TRIP:  
VEGETATION-ENVIRONMENT RELATIONSHIPS**

**REFERENCE:** Textbook: Geosystems: An Introduction to Physical Geography  
Ch.19 Ecosystem Essentials.

**PURPOSE:** A habitat is the environment in which an organism lives. Habitats are described by many micro-environmental variables such as topography, temperature, humidity or soil characteristics. Plants adapt to cope with environmental conditions in their habitats. This lab will explore native Boulder habitats including riparian (streamside) and lower montane (mountainous low elevation) environments. Your lab instructor will lead the field trip, pointing out different environmental features of Gregory Canyon and discussing characteristics of the vegetation. Together, you will collect data to interpret the micro-environment and vegetation in three habitats found in Gregory Canyon.

**INSTRUCTIONS:** The following questions should be completed after the field trip and turned in during next week’s lab. Take field notes so you can write coherent short essays to each of the questions. Use only the space provided for your answers.

**KEY TERMS AND CONCEPTS:**

\*Hint: Be able to define and compare-contrast each of these terms for your exams!

habitat	xeric	macro-environment	physiognomy	native species
riparian	mesic	micro- environment	dominant species	exotic species
montane	hydic	limiting resource	tolerant/intolerant	invasion

**Summary of the environmental and vegetation characteristics of Gregory Canyon.**

Variable	North-facing Slope	Riparian	South-facing Slope
Air Temperature			
Relative Humidity			
Soil Temperature			
Soil pH			
Slope Aspect			
Slope Angle			
Physiognomy			
Dominant Species			
Fine/Coarse Fuels			

**Field Notes: Gregory Canyon**

## QUESTIONS

1. Briefly describe micro-environmental differences, biotic and abiotic, among the three habitats.

2. There are substantial differences in the dominant species and the vegetation physiognomy of the north-facing and south-facing slopes of Gregory Canyon. Describe these differences. Define limiting factor, and discuss these micro-environmental factors that are important in explaining the differences in distribution of the vegetation.

3. Which of the three habitats appears most likely to be invaded by exotic tree species? Are the invading species needle-leaf evergreen or broad-leaf deciduous trees? Reconsider the natural distribution of needle-leaf evergreen or broad-leaf deciduous trees in North America (see Figure 2, p.52, Lab G). Discuss the morphology of the exotic species in relation to the micro-environmental characteristics of the three different habitats in Gregory Canyon.

4. We have collected fuel data for the north and south facing slopes in Gregory Canyon. From the fuel characteristics, what can you infer about the fire regimes of these environments?

5. Make a general statement about the relationship between fire frequency and fire intensity.