



## SHORELINE RESTORATION OUTDOOR LAB

**Materials:** Get the following materials from your instructor/assistant:

- Piece of string one meter long and two “popsicle” sticks
- Pencil, clipboard with graph paper
- Lake map (from indoor activity)
- Transplanting equipment - bucket, shovel/trowel
- Marker flag with number
- Calculator

**Directions** (after getting the materials above):

- Go to an area selected by your instructor and make a 2-meter circle.
- Mark your area with the sticks and your marker flag (in middle).
- Count/Estimate the number of plant types within your circle:  
 Wood plants? \_\_\_\_\_ Forbs/wild flowers? \_\_\_\_\_ Grasses/sedges? \_\_\_\_\_  

**Counted/Estimated Plants (5 pts.)** \_\_\_\_\_
- Look up in the sky. What kind of light do you have?  
 Very bright \_\_\_\_\_ Shady \_\_\_\_\_ Very dark \_\_\_\_\_  

**Determined Light (5 pts.)** \_\_\_\_\_
- What kind of soil do you have in your ring?  
 Sand \_\_\_\_\_ Clay \_\_\_\_\_ Loam \_\_\_\_\_ Humus \_\_\_\_\_  

**Determined Soil (5 pts.)** \_\_\_\_\_
- What about the slope?  
 Very steep \_\_\_\_\_ Gradual \_\_\_\_\_ Level \_\_\_\_\_  

**Determined Slope (5 pts.)** \_\_\_\_\_

**Now your instructor will provide a variety of plants for you to plant according to instructions.**

- Select trees and plants provided that you think might live in your selected ring area and plant as directed. Be sure to water after you plant. **Show your instructor.**
  - Put your marker flag number on your map and graph paper. Map the location of your ring area and list the plants on your graph paper.
  - Clean your tools and hand them in with your **map and graph paper.**
- Planted and mapped area successfully (5 pts.)** \_\_\_\_\_
- Total Restoration/Reforestation (25 pts.)** \_\_\_\_\_
- (Optional from pg. 8) Diversity Points (25 pts.)* \_\_\_\_\_

**Teacher Check:** Bucket, trowel, string, pencil, clip board, calculator returned

**Evaluation:** \_\_\_\_\_ (teacher initials) **Followed directions, worked safely.**

**Teacher Comment:**

**OPTIONAL ACTIVITY AS DIRECTED BY INSTRUCTOR (ONLY DO THIS ACTIVITY IF THE INSTRUCTOR DIRECTS YOU TO DO SO):**

***Before planting anything, determine the biodiversity of your circled area.***

**Background:** In this activity you will measure the plant biodiversity (different plants) in your location using a simplified version of the ***Diversity Index***. The closer to 1 (one) the ***diversity index*** is, the more diverse and healthy the habitat is. The number of species in your circle could vary significantly based upon location. You will ***not*** need to know the names of each plant. Instead, you can simply tell which type they are or use visual descriptions or sketches to determine different species/types.

**Directions:** Count/estimate the number of different species **and** the number of each species in your circle and determine the totals for each column. Calculate the ***Diversity Index*** for your area.

Species (name/sketch/detailed description)	Number of individuals of the species
<b>Total # of Different Species:</b>	<b>Total # of Individuals :</b>

**Diversity Index =  $\frac{\text{Total \# of Different Species}}{\text{Total \# of Individuals}}$  = \_\_\_\_\_ (15 pts)\_\_\_\_\_**

**What can you say about the diversity of your quadrant area? (5 pts)\_\_\_\_\_**

**How does your area compare with other checked areas? (5 pts)\_\_\_\_\_**