April 2021

Student Pages - Analyzing Your Bird Biodiversity Data

Center for Urban Resilience

Name: _____ **Date:** _____ **Class/Period:**_____

Lesson 11: Analyzing your bird biodiversity data

In this section, you will calculate the biodiversity of your study sites and construct graphs to help you analyze the data.

1. For each day you collected data and for each site, calculate the following. If you have access to a computer, you may use this to calculate the biodiversity indices:
    a. Species Richness (or the number of different species you recorded each day)
    b. Abundance (or the total number of birds you saw each day)
    c. Shannon-Weaver Biodiversity Index

    Look back at lesson 2 if you need to remind yourself how to use the Excel sheet or calculate biodiversity.
2. Fill these data in the chart below: (or create an excel spreadsheet which matches the columns below and record your data into Excel)

Site/Transect 1: _____ (describe location)

Date	Species Richness (total # of species)	Abundance (total # of birds)	Shannon-Weaver Biodiversity Index

Site/Transect 2 (or other point of comparison): _____ (describe)

Date	Species Richness (total # of species)	Abundance (total # of birds)	Biodiversity Indices	
			Shannon-Weaver	Simpson's

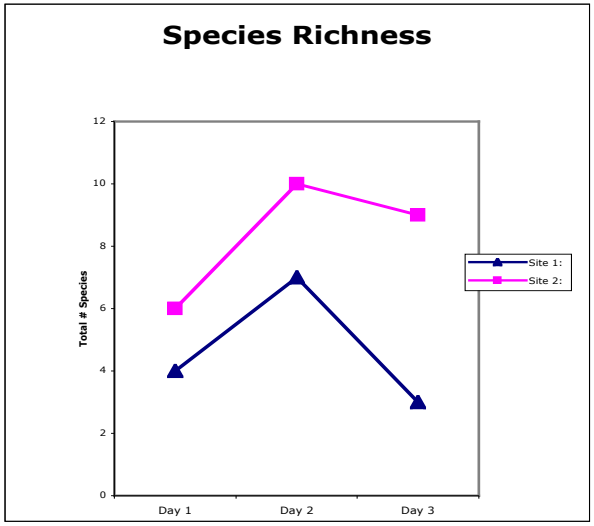
3. Create a graph for each of the four measures of biodiversity. You want to create a line graph for each site. For example, graph the species richness for site 1 and site 2.

For example, let's say the data you found looks like the following:

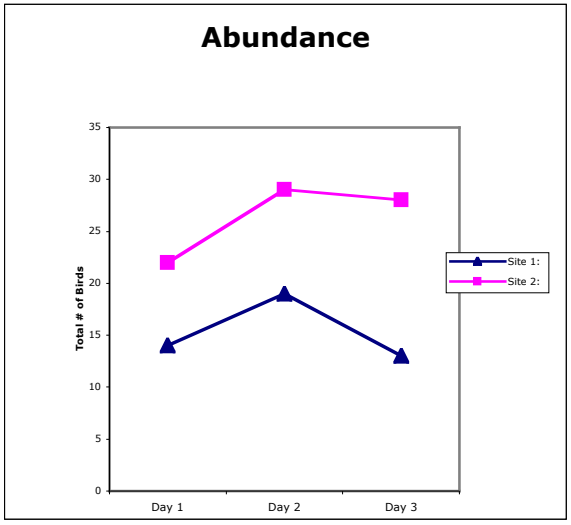
Date	Site 1:			Site 2:		
	Species Richness	Abundance	Shannon-Weaver Index	Species Richness	Abundance	Shannon-Weaver Index
Day 1	4	14	1.31	6	22	1.7
Day 2	7	19	1.80	10	29	2.2
Day 3	3	13	1.01	9	28	2.04

Below are examples of the types of graphs you should create.

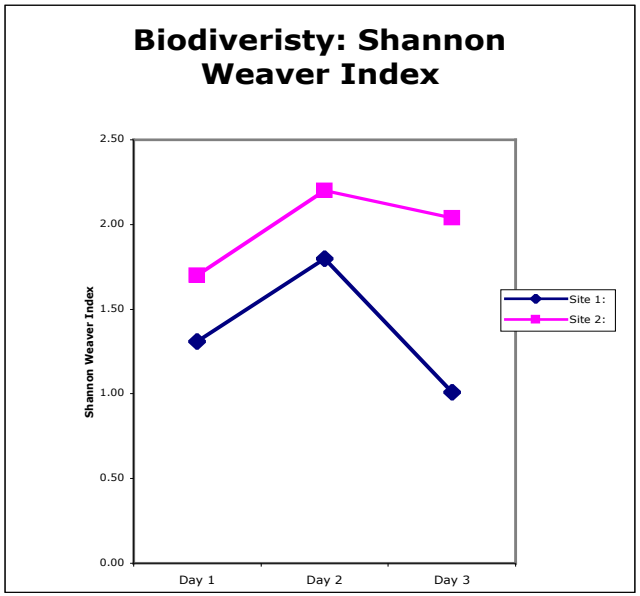
A. Comparing species richness between both sites:



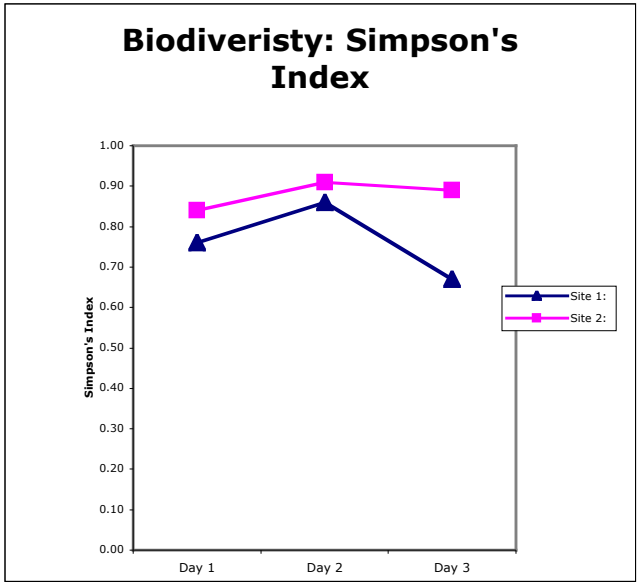
B. Comparing abundance of birds between sites:



C. Comparing Shannon-Weaver Indices between sites:



D. Comparing Simpson's Indices between sites



4. Now that you've graphed your data, look at each graph. Consider how you would answer your original research question for your field study. Write a scientific argument answering your research question where you support the claim that you are making with appropriate evidence and reasoning.