Habitat Loss Lab

When habitat is destroyed, species become extinct. By observing how the number of species changes with area, conclusions can be proposed regarding the number of species, which will be exterminated when an area of habitat is destroyed.

The class will be divided into 2 groups to collect data on the number of species in a given area of habitat. Your individual job will have one of the following job descriptions.

Surveyor(4)–Works as a member of the team, which measures and marks the area of survey, divides the entire survey area into 13 numbered quadrants as shown in the diagram. Surveyors will be reassigned as collectors after the survey is complete.

Collector(3)–Works as a member of the team, which collects one sample of each species occurring in their assigned area. Once their area has been surveyed, collectors in smaller areas will be reassigned to help collectors in larger areas and/or identifiers.

Identifier(3)–Works as a member of the team, which identifies, names, and records data. The data will include the identity and location of species found by collectors.

Materials

- ☑ 64 m^2 area
- ☑ String
- ☑ Tape Measure
- ☑ Stakes

Procedure

1. It will take 4 students, working together to survey and mark the area of study. This needs to be done quickly.
2. While the area of study is surveyed, identifiers will examine species outside the surveyed area and begin to assign names to each species.
3. Once their assigned quadrant is surveyed, the collectors will collect an example of each species in their survey area and take them to the identifiers. Walk carefully, to avoid trampling unique species.
4. The identifiers will examine and identify each species, then record which quadrant it was found in by checking the appropriate box in the data table. The first specimen of each species will be denoted with an "X" in the data table and will be named by the identifiers.
5. Once all of the species in a quadrant have been collected and identified, the collectors must move to other quadrants to help the collectors in the larger areas.
6. Record all of the data that was collected for your class.

Postlab

1. Graph the average number of species present vs. the area surveyed. Use an entire piece of graph paper. Include a data point for the entire area surveyed. There will be five data points on your graph.
2. Draw a smooth curve through the data points. Species v. area.
3. Draw a graph of the log species v. log area (Should be a straight line).
4. Write a thoughtful, reflective discussion of the results and their application to the study of biodiversity.

Sample Data Table

Species Name	1	2	3	4	5	6	7	8	9	10			
Name 1	X			X	X	X			X	X			
Name 2		X		X			X	X	X				
Name 3	X		X	X				X	X	X			
Many Rows Required													
Totals	2	1	1	3	1	1	1	2	3	2			
Averages	1 m^2 quads				4 m^2 quads			16 m^2 quads					

Diagram of the Survey Area