Jessica Bonin

Analysis of Environmental Data

Week 5 Reading Questions

October 3, 2021

Worked with Juliana Berube, Sonya Glasser, Julia Vineyard

1. What is the size of the sample space?

**6**

1. Given the scenario description, how many ways are to there to collect two acorns of the *same species*?

**3**

1. Given the scenario description, how many ways can you collect two acorns of *different species*?

**3**

1. What is the probability that the acorn in your *left pocket* is *Q. alba*?

**1/3**

1. What is the probability that the acorn in your *right pocket* is *Q. macrocarpa*?

**1/3**

1. If you already know that the acorn in your left pocket is *Q. alba*, what is the probability that the acorn in your *right pocket* is also *Q. alba*?

**1/3**

1. What is the probability that both acorns are *Q. rubra*?

**1/9**

1. What is the probability that you collected exactly one each of *Q. alba* and *Q. rubra*?

**2/9**

1. What is the probability that the acorn in your *left* pocket is *Q. alba* and you have an acorn of *Q. rubra* in your *right* pocket?

**1/9**

1. Which of the following is the size of the sample space of this distribution?

**Infinity**

1. Which of the following is the size of the sample space of this distribution?

**11**

1. Which common characteristics of the Binomial and Poisson distributions make them good models for counts?

**They both use whole integers, using discrete count variables.**

1. Describe a scenario in which a Binomial distribution may be a better count model than a Poisson distribution

**When you have a fixed number of trials or when you have only 2 possible outcomes (success or failure). For example, presence/absence sampling.**