Hopping Down the Bunny Trail: Spatial Distribution of Lepus americanus Tracks

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The purpose of Hopping Down the Bunny Trail: Spatial Distribution of Lepus americanus Tracks is to test if Lepus americanus tracks are distributed randomly in a survey area. This year, the previously collected dataset from the student's in-class biology project was used to mathematically analyze L. americanus movement and behavior. This data was recorded on a map of the area which had a grid overlaid on it. Each quadrat that had a track received an X. This data was used to calculate the occupancy values of tracks in a quadrat for the duration of the study. The chi-square test for goodness of fit was used to compare the observed values to the expected values for a random distribution according to Poisson's expression. The observed p-value of 2057.20604 was greater than the projected critical value of the chi-square distribution table of 11.07. The null hypothesis for the spatial distribution of L. americanus tracks being random was rejected.This study was conducted to better understand the ways ecosystems function. Testing what spatial distribution L. americanus uses allows more informational experiments to be conducted, such as determining why they are distributed in such ways. Besides the scientific applications for this experiment, its methodology could be used to develop an approach for citizen scientists to record information on L. americanus. There is a rise in number of apps for citizen science like iNaturalist. Citizen science data could provide crucial data for future experiments.

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