

## Introduction and Objectives

Mourning Doves were the subject of this study because their adaptability to urban environments and reliance on artificial food sources, Mourning Doves were selected as an ideal species to investigate urbanization's impact on avian populations (Abu Baker & Brown, 2009).



Fig.1 Picture of rural site location 7

Are Mourning Doves found in more urbanized areas? The null hypothesis was that there is no correlations and the difference between urban and Rural areas does not correlate. The hypothesis is that there will be more Mourning Doves in urbanized areas than in Rural areas.

## Methods

The sample size for the project was 10 urban and 10 Rural areas, randomly selected from a grid over the town of Gilbert. The size of the served areas was 50-meter radius points randomly selected through the grid. Allowing a space buffer of 250 meters, each site was monitored for 15 minutes rotating slowly to make sure the full radius is observed. Bird identification was through sight and call only. The bird data was submitted after the 15 minutes of observation are concluded. A t-test was used to compare means after data collection.

## Results

Mourning Doves in Urban and Non-Urban Areas

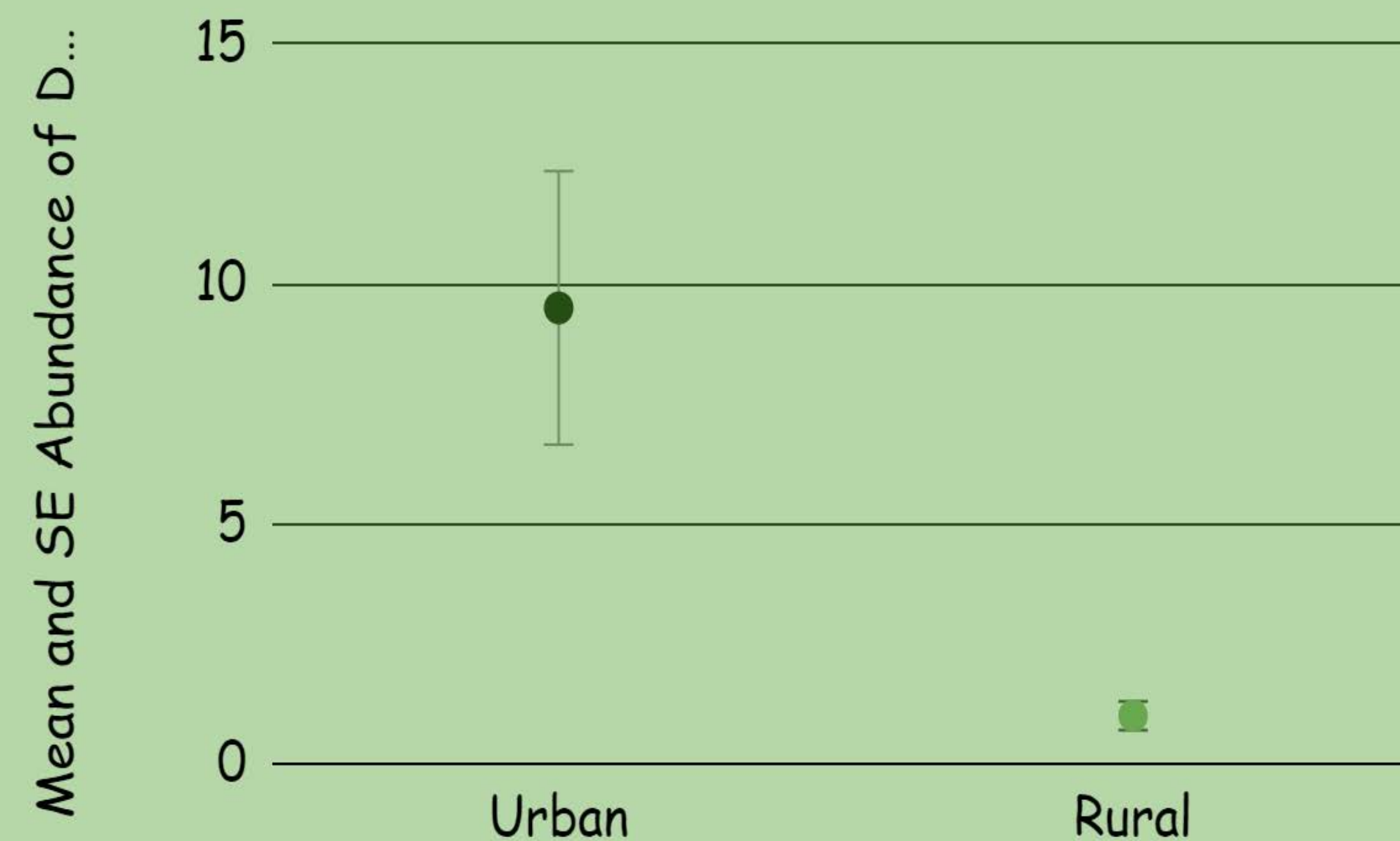


Fig. 2 Mean difference to support rejection of null hypothesis

Mourning Doves

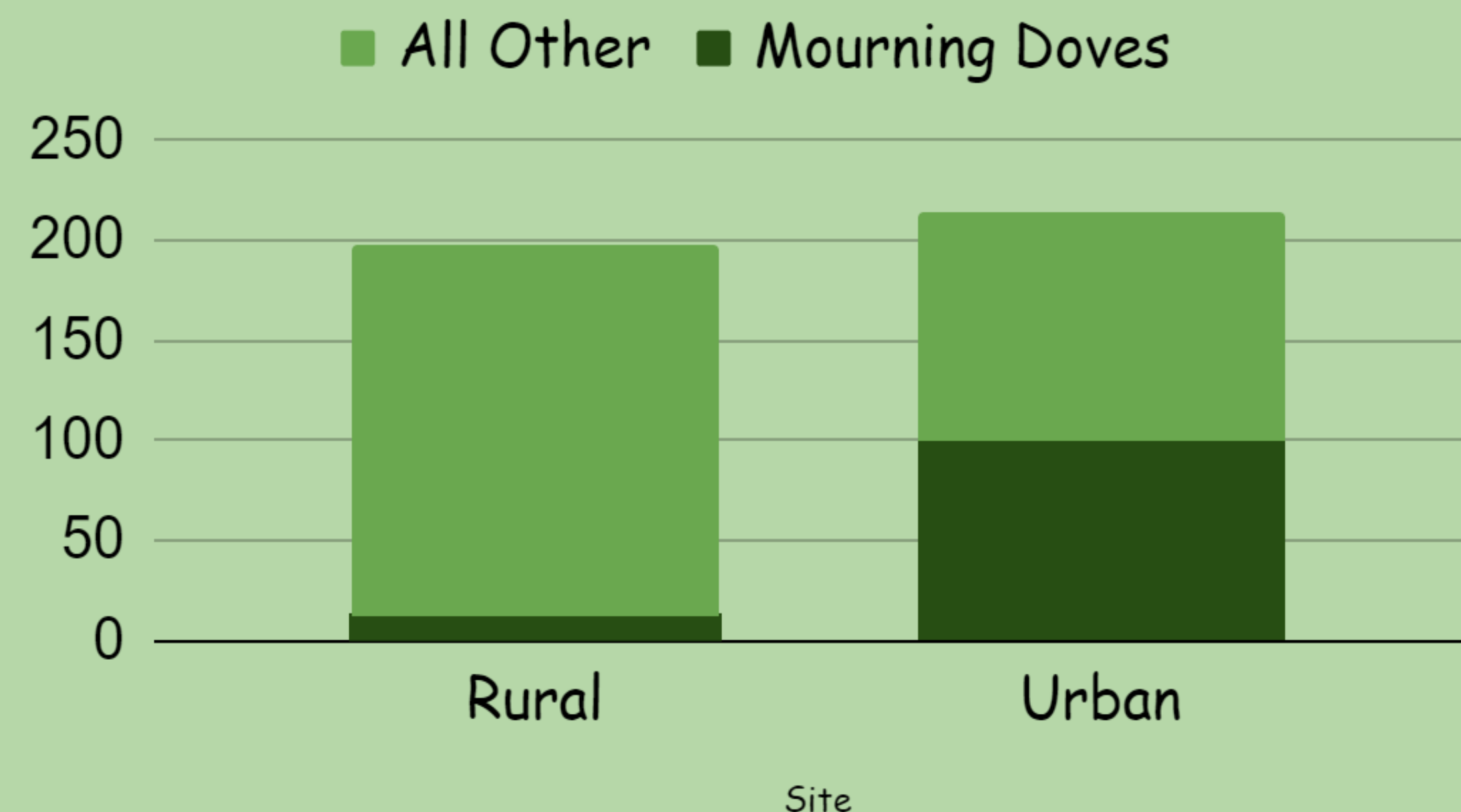


Fig. 3 All birds counted and Mourning Doves within the bird count

## Results

The results show the Mourning Dove population is more prevalent in Urban areas. The total number of Mourning Doves counted in urban areas is 100, whereas in Rural areas, it's only 13. This suggests that Mourning Doves are more abundant in urban environments compared to Rural ones. Comparing the calculated t-value to the critical value from the t-distribution table. Showed the t-test was  $p < 0.05$ , therefore the null hypothesis was rejected.

The standard deviation for Urban areas was 5.28, The standard deviation for the Rural areas was 1.05

## Conclusions

In conclusion, The study conducted in Gilbert suggests a higher prevalence of Mourning Doves in urban areas compared to Rural areas. The data, gathered from randomly selected sites with controlled observation parameters, indicates a significant difference in Mourning Dove populations between the two types of areas. This finding supports the hypothesis that Mourning doves largely have been restricted to human-developed areas, where artificial food sources (e.g., backyard bird feeders, feedlots, and grain storage facilities) are available (Mohr et al., 2022). Given the rejection of the null hypothesis and the calculated t-value exceeding the critical value, there's strong evidence to conclude that urban areas indeed harbor a greater number of Mourning Doves compared to rural areas.

Reference Material: Abu Baker, M., & Brown, J. (2009). Patch area, substrate depth, and richness affect giving-up densities: a test with mourning doves and cottontail rabbits.

Mohr, A., Basile, A., & Sweazea, K. (2022, August). An urban diet differentially alters the gut microbiome and metabolomic profiles compared with a seed diet in mourning doves. Regulatory, Integrative and Comparative Physiology