CORRELATION BETWEEN THE PRESENCE OF EDIBLE PLANTS AND BIRDS

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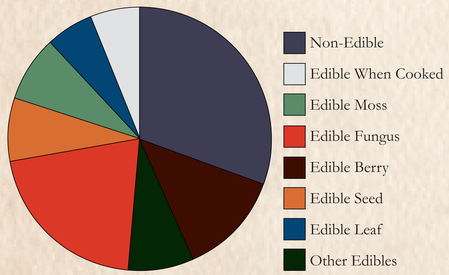
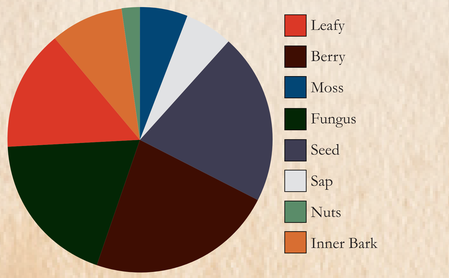
SIGNIFICANCE

- Our experiment takes root in the world of agriculture, where the location of crops in relation to the abundance of bird diversity is of utmost importance.
- The correlation that exists in the Bronx area of New York City exhibits the possibility of of other correlations worldwide that farmers and scientists must be wary of when growing and experimenting with new crops and pesticides.

EDIBLE VS. NON-EDIBLE PLANTS



TYPES OF EDIBLE PLANTS



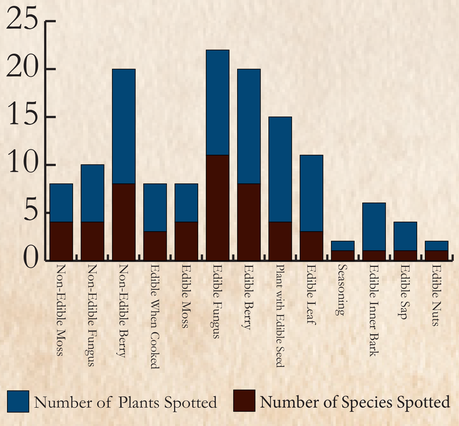
BACKGROUND

- Botanical gardens are tracts of land set aside for the cultivation of a diversity of plant species.
- The NYC Botanical Gardens is 250 acres, that includes both plants native to the northeastern region of the United States and exotic plant species.

NATIVE VS. NONNATIVE

- 68.75% of the edible plants identified in the BioBlitz data were plants native to the New York region.
- Exotic plants rarely provide the fruit nectar, or leaves upon which native wildlife rely.
- Native plants play a vital role in our ecosystems, for example by providing food for birds and wildlife. Native plants are becoming increasingly threatened b habitat destruction, climate change, and competition with invasive, non-native, or exotic plant species

TYPES AND AMOUNT OF PLANTS SPOTTED

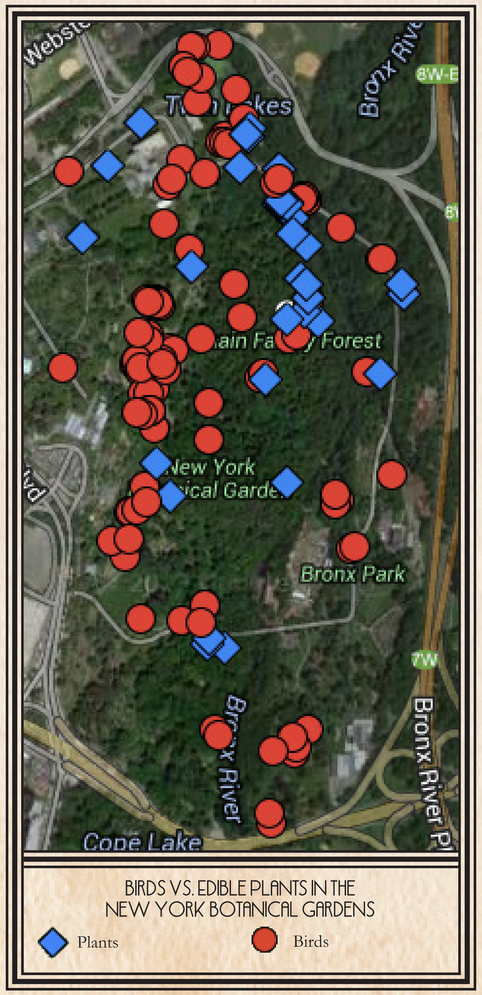


HYPOTHESIS

Bird Population is more dense where edible plants are located in the New York Botanical Gardens.

- Null Hypothesis:

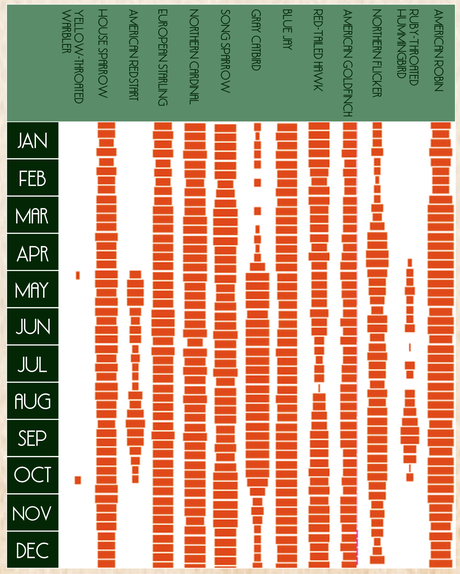
There is no correlation between the location of edible plants and the abundance of birds in the New York Botanical Gardens.



METHODOLOGY

1. In order to conduct our experiment, first certain variables must be standardized, such as the location (Botanical Gardens) and the month in which the plant and bird data were collected.
2. Upon arriving to the Botanical Gardens in the Bronx, certain groups were to observe and record plant species and bird species in various zones throughout the garden, taking into account the amount of birds spotted in a single species and their descriptions.
3. After the data were collected, our group converted the data regarding the latitude and longitude of the birds to a Google map that indicates the location of birds with a blue circle and indicates the location of edible plants with a purple triangle.
4. This data in conjunction with our first hand observations taken at the Botanical Gardens was analyzed to reach our conclusions.

FREQUENCY OF BIRD SPOTTING



CONCLUSION & FURTHER STUDIES

- After analyzing our data, No correlation between the abundance of birds and the presence of edible plants was found. There was not enough evidence to reject the null hypothesis. Further data must be collected in order to have a more conclusive study.
- Sources of error include: human intervention in the natural feeding process of birds, the possibility of human observations causing the birds to hide and in turn not be recorded, and the accuracy of the data collected.
- The data collected and the correlation found may be due to chance spotting of certain birds throughout the Botanical Garden. In order to further our experiment and portray a more accurate correlation between the birds and location of edible plants, we need a larger sample size as well as a more precise method of recording the types of birds and plants seen in the garden.

REFERENCES & ACKNOWLEDGEMENTS

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