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Urbanization is a buzz kill

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Urbanization is a buzz kill : pollinator resources in an urban landscape

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Introduction

The University of Central Florida has approximately 46.5 acres of landscape beds. My mission was to assess the quality of these beds as pollinator resources by assigning cover classes and pollinator scores to the plants in them. This will allow me to assess the quality of pollinator resources available, and will help determine ways that we could improve pollinator habitat on campus.

Hypothesis

I hypothesize that the University of Central Florida has low pollinator activity due to the lack of diversity in our landscape beds as well as the lack of plant types that provide good resources for pollinators.

Methods and Materials

Using the GIS system we randomly selected 50 landscape beds that were greater than or equal to 400 square feet and resided inside of the Gemini loop. Consideration was taken to eliminate landscape beds that no longer existed. A table was constructed that included the following sections; bed number, plant type, cover class, pollinator score, and notes. Cover class was determined by grouping common plants together visually and determining how many groupings would fit in the entirety of the bed. Dividing 100 by that number gives a percent that falls within a cover class. Pollinator score is a number 1 to 5 that is defined below. Data collection spanned over 4 days in no particular order. Each landscape bed was given a randomized number and accompanied by pictures to aid in the plant identification process.

Important Terms

Cover Class: A number representative of a percentage amount a plant species occupies in a landscape bed.
- 1= 1-10
- 2=11-25
- 3=26-50
- 4=51-75
- 5=76-95
- 6=96-100

Pollinator Score: An index based on the plant species' attractiveness to pollinators and length of the bloom period.

1. Non-attractive, has no pollinator support.
2. Non-attractive due to management practices (cut into bushes/shrubs, removing flowers)
3. Somewhat attractive, has pollinator support but resources are selective to specific pollinators and/or lacks strong attractiveness to pollinators.
4. Very attractive for a short season.
5. Very attractive for majority of the year.

Sample Landscape Beds

GIS Map of Landscape Beds
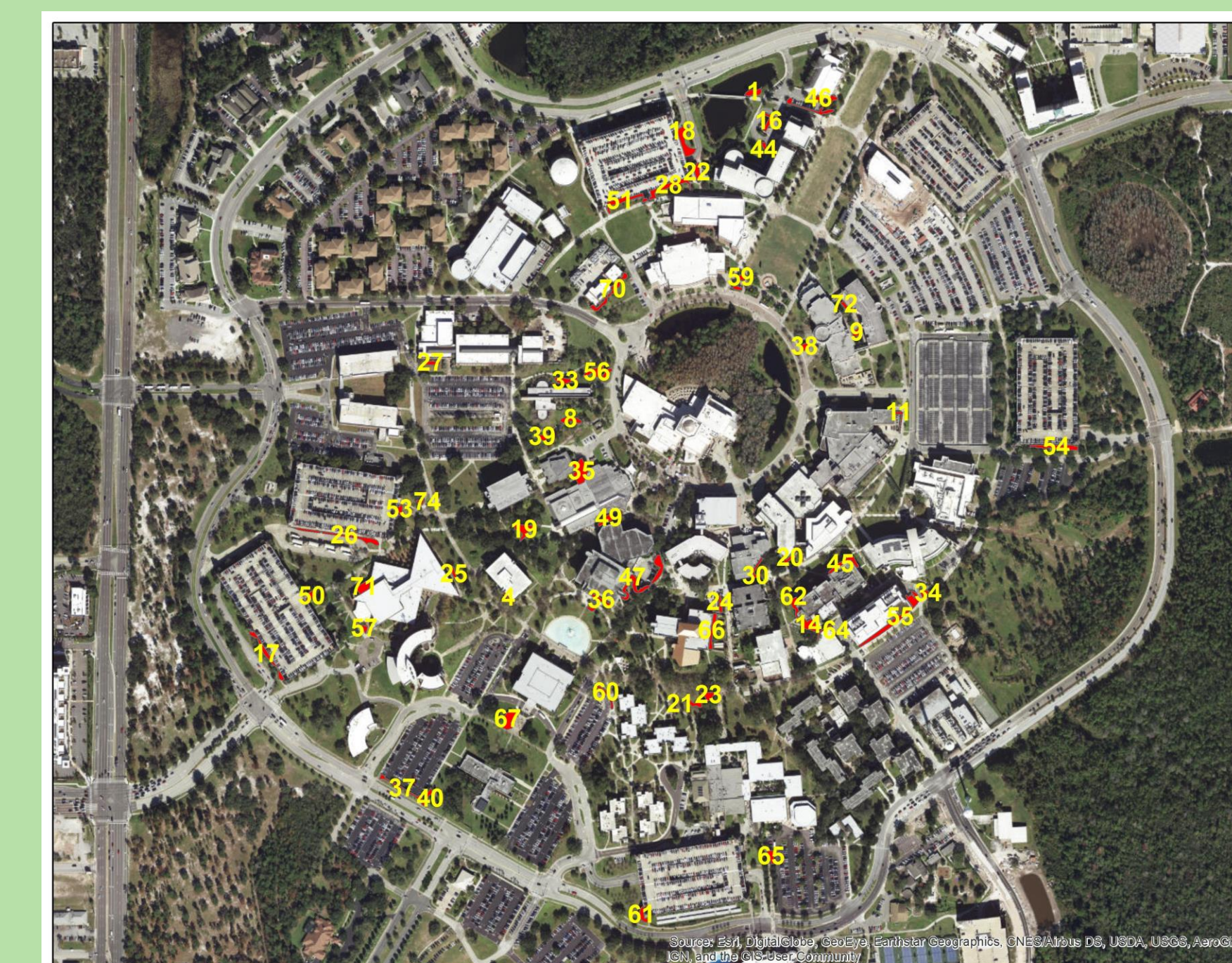
Results

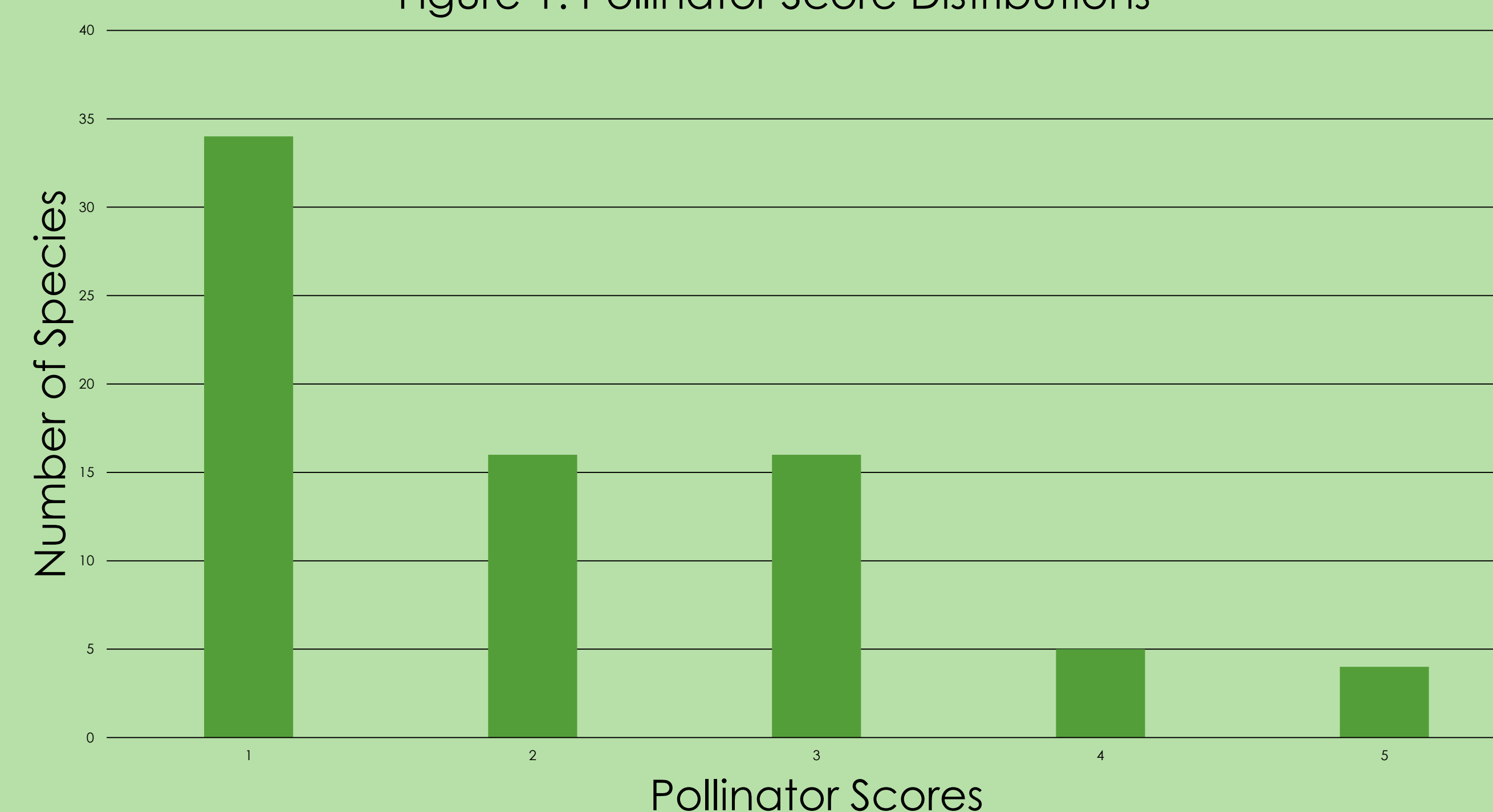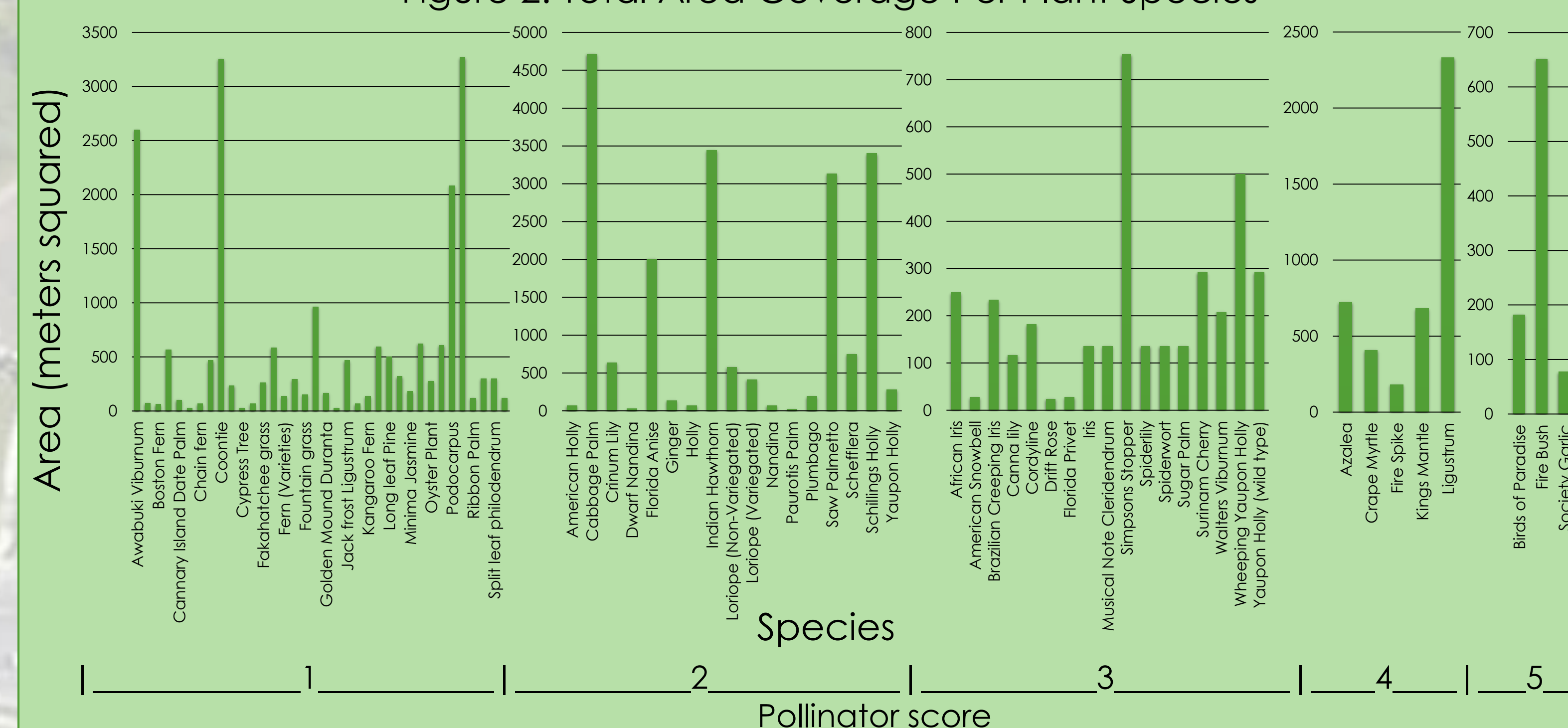Figure 1. Pollinator Score Distributions

Figure 2. Total Area Coverage Per Plant Species

Conclusion

Sampled landscape beds contained a total of 75 different plant varieties. The majority of plants surveyed had low pollinator scores, and few species had a high pollinator score (Fig. 1). Most of the area of landscape beds was covered by Cabbage palms, Coontie, Indian Hawthorn, and other species with a relatively low pollinator index score of 1 or 2 (Fig. 2). Firebush (*Hamelia patens*) covered the most area among species with the highest pollinator score. These data indicate that campus landscape beds do not contain a large number or area of species that provide strong support for pollinators, and are unlikely to support abundant diverse pollinator communities, relative to natural habitats.

Next steps

My next step is to measure pollinator activity across campus and determine the distribution and diversity of campus bee species. These data will be used to determine what plants provide the best pollinator support on campus. That information can help inform future landscape designs for areas designated to support pollinators and increase pollinator diversity on campus.

Works Cited

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