2022 PROGRESS REPORT

Quarter: (circle one) 2022 1st 2022 2nd 2022 3rd 2022 4th

Grant Program, Number and Title: GSA 00096

Organization: Poulos Environmental Consulting

Project Leader: Helen Poulos

Abstract: Please provide a short (1-2 paragraphs) abstract that addresses EACH of the following: the objectives of your project, accomplishments to date, future plans and timelines with an estimate for when the project will be completed.

Were planned goals/objectives achieved last quarter? Yes.

Progress Achieved: (For each Goal/Objective, list Planned and Actual Accomplishments)

Data Management

We entered all remaining/missing vegetation data, and cleaned, aggregated, and organized the data on bees, lepidoptera, vegetation, and site treatments and environmental characteristics. All of the proposed activities below are complete for this contract.

- Quality control of the data
- Data entry, synthesis into a master database, formatting and management

Statistical analysis

We have also begun to statistically analyze the data to address the following questions.

- Apart from management, what are the relationships among environmental site variables (climate, ecoregion, soils, topography, preserve), vegetation, and bees and lepidoptera?

We have built a matrix of the bee data through 2020 of counts by species for each bee bowl sampling interval. Bees have been classified into a range of different functional groups (family, RSGN list, barrens obligate, etc.), and we are exploring how the different sites and habitats in the study vary. We also worked with Elizabeth Chrisfeld to build a database of environmental site conditions for each bee bowl transect. We are starting our statistical analyses this week, and we have created a number of figures and tables about the bee data in preparation for writing our final report.

Difficulties Encountered:

The databases are very messy so it's taking a lot of time to aggregate and generate quality vegetation, bee, and moth data that can be analyzed as a whole.

Activities Anticipated Next Quarter:

We will continue to work with these data to answer the following questions:

Statistical analysis

We will statistically analyze the data to address the following questions.

- How did management affect vegetation composition and % cover?
- What is the relationship between vegetation and bees (and lepidoptera)

- What are the relationships among management, vegetation, and bees (and lepidoptera)
- Statistical analysis will include R scripts, outputs, and graphical illustrations

Expected End Date: Jan 21, 2023

Costs:

Total life to date expenses (include this quarter): Reimbursed cost=$22,273, Match=$12,621

Total Approved Budgeted Funds:

Are you within the approved budget plan and categories?

Signature: Helen Poulos

Date: 07/06/2021