

2021 PROGRESS REPORT

Quarter: (circle one)

2021 1st

2021 2nd

2021 3rd

2021 4th

Grant Program, Number and Title: RCN 2 Project 2 Job1 GSA 00133 Nocturnal moth surveying, specimen identification and data management

Organization: Lloyd Center for the Environment, 430 Potomska Road, Dartmouth, MA 02748

Project Leader: Mark J. Mello, Director Emeritus

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

Nine field trips were planned for April – June (Albany pine bush-3; Katama 2; Nantucket-2; Nicholas/Pratt farms, RI -3, all of which occurred. All macro-moths and selected micro's from these samples have been sorted, and counted; and vouchers saved and spread. All appropriate field data (temperature, humidity, vegetation, weather conditions has been recorded, and data entered on Excel spreadsheets.

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

The nine field trips produced 2,598 macro-moths of which 605 were saved as vouchers covering 271 species, all of which have been pinned and spread. Data entry as per agreed upon format is complete through June. Micro-moths from the six designated families were treated as the macros. Selected, but not necessarily comprehensive individuals of other micro-moths were saved and either pinned by me or frozen for delivery to Jason Dombrowski for identification. Penitrometer soil data was collected in May, and will be sampled again in August. Vegetation data is complete through June except for a few species that need confirmation,

Two species protected by the Massachusetts Endangered Species Act, *Cynia collaris* and *Heterocampa varia* were recorded from the Katama site on Martha's Vineyard, and the larvae of *Cingilia catenaria* were observed at Head of the Plains on Nantucket. No species of formal Conservation Concern were found at either the Albany or Rhode Island sites, however several shrubland/heathland macro-moth species were present. Although not necessarily rare, an interesting find was a single mole cricket in one of the Albany Pine Bush traps.

Difficulties Encountered: Early season (April/May) trapping produced meager results for the Rhode Island and Albany sites, Despite temperatures in the upper sixty degrees when the traps were set (1 – 2 hours before dusk) the temperatures dropped into the mid-thirties at night (~10 degrees cooler than predicted). Sampling on Nantucket and Martha's Vineyard was especially problematic, as the Ferry, especially to Nantucket has to be booked way in advance, By April, few spaces were left for end of June, and July-August ferry reservation were completely booked. I eventually did get my wait-list dates, but the May trip to Nantucket was impacted by extremely windy conditions so that setting traps at Head of the Plains was impossible, and those at Linda Loring Preserve produced fewer than expected numbers of moths.

Activities Anticipated Next Quarter:

Trap samples have been collected in July at all 4 sites, and will be collected in August/September to complete the five field trips contracted by this project.

All macro-moth specimens will be sorted, pinned and labelled,

Vegetation data will be finalized.

A second round of soil sampling with the penetrometer will be undertaken in August.

Expected End Date: 31 October 2022 but 2021 field work and reporting submitted by November 30, 2021

Costs:

Total life to date expenses (include this quarter): \$15,841

Total Approved Budgeted Funds: \$15,841

Are you within the approved budget plan and categories? Yes

A handwritten signature in blue ink, appearing to read "Mark J. Mello". The signature is written in a cursive style with a large initial "M".

Signature:

Date: July 28, 2021