QUARTERLY PROGRESS REPORT

Quarter: (circle one) ⬭2019__ 1st⬭ 2019__ 2nd 2019__3rd 2019_X_4th

Grant Program, Number and Title: RCN 2017-03 GSA 00029 – Amendment 1

Contractor: Terwilliger Consulting, Inc.

Project Leader: Karen Terwilliger

1. Abstract: Habitat for Pollinators: Improving Management of Regionally Significant Xeric Grasslands, Barrens and Woodlands in the Northeast

Goal: To improve the ability of Northeast states to implement cost-effective habitat management for the benefit of native pollinators and RSGCN that depend upon priority habitat types.

Objectives:
(1) Documentation, sharing, and refinement of management best practices that have already been developed by partner states;

(2) Implementation of multi-state, large scale, experimental adaptive management at select sites designed to address specific, unanswered questions about management techniques (e.g. prescribed fire timing and frequency, combinations of prescribed fire and mechanical management); and

(3) Development of standardized vegetation and pollinator monitoring protocols tied to the experimental management sites, but also applicable to other managed grasslands and barrens throughout the NE region.

Were planned goals/objectives achieved last quarter? Yes

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

- Establishment of a regional network of experimental adaptive management sites will lead to management improvements; improving habitat for other RSGCN; lowering management costs and treatment frequency to the greatest extent practical;
- Improved coordination and sharing of early successional habitat management expertise among states;
- Standardized, regional vegetation and pollinator monitoring protocols that enable more effective pooling of data and provide a framework for informed, science-based management decisions;
- Improved understanding of the abundance and distribution of select, vulnerable pollinator taxa (e.g. bees and butterflies), and how these species respond to habitat management over time; and
- Improved on the ground management of at least 500 acres of habitat at regionally significant sites included in the new regional adaptive management network.

- Development and pilot of vegetation and pollinator sampling protocols (completed)

- Site prioritization and selection of adaptive management pilot sites and treatments (on-going)
    - Survey completed in May/June; evaluated site characteristics, target species, current habitat management, constraints on management, planned management
    - Nineteen sites selected nine NEAFWA states, New sites in CT and PA are joining the project.
    - Targeted species include 140 Lepidoptera, 178 Hymenoptera, and 25 Odonata and Coleoptera. Data from last years' collections at sites increased known bee species by 49 species. At this time, 31 RSGCN butterflies and moths are known to occur collectively at the sites. In addition, 5 RSGCN Bumble Bees and 4 RSGCN native solitary bees occur at the sites. Key species requirements are being researched and curated to inventory important larval host plants, nectar or pollen for adults, where species overwinter and in what form (a consideration in habitat management), when adults are in flight to improve monitoring protocols, and known information about co-occurring species.
    - Identified nine treatments being applied across these sites (prescribed fire (dormant and growing seasons); mowing (dormant and growing seasons); canopy trimming; chemical control of invasives; chemical control of woody plants; seeding; harrowing)
    - Identified perceived management constraints (financial; technical and research; societal/public use)

- Collection and dissemination of information about on-going best management practices in individual states (on-going)

- In 2019 we are on track to: implement experimental adaptive management; prepare first best practices report; continue vegetation and bee monitoring; develop web tools; prepare "Xeric Habitats of the Northeast" white paper

- In general, staff affiliated with the project are working hard to overcome the challenge of a study with little experimental control over a wide geographic area. Also, many response variables may not be possible to measure in the short time period of the study. However, using statistical methods from the field of landscape ecology we are optimistic we will be able to draw conclusions from the vegetation and bee data we will collect over a total of 4 years.

Difficulties Encountered in Meeting Goals and Objectives:

This project has been difficult to staff from state fish and wildlife agencies because of general lack of expertise, but we feel strongly that state agency participation is critical to ensuring that outcomes are as expected. The workload of managing contracts in so many states, and at so many sites, continues to over-extend wildlife diversity staff.