

NORTHEAST REGIONAL CONSERVATION NEEDS GRANT

2016 PROGRESS REPORT

Quarter: (circle one)

2016 1st

2016 2nd

2016 3rd

2016 4th

Grant Program, Number and Title: Distribution and Conservation Status of the Newly Described Species of Leopard Frog in the Coastal NE

Organization: New York Natural Heritage Program

Project Leader: Matthew Schlesinger

Abstract: The objectives of our project are to define the distribution, status, field characters, and habitat use of the newly described species of leopard frog (*Rana kauffeldi*) in comparison to that of the southern (*R. sphenoccephala*) and northern leopard frog (*R. pipiens*). Hundreds of person-nights of calling surveys were conducted across the region in late winter and early spring 2014 and 2015. These resulted in detections putatively of the new species, as well as southern and northern leopard frogs, in many locations. Follow-up sampling to photograph frogs and collect tissue for genetic analysis was conducted into fall 2014 and 2015. We had hoped for the genetic analysis to be completed by December 2015, but the analysis proved complex. We presented preliminary results of the project at the NEAFWA meeting in Annapolis, MD on April 5, at the New Jersey Pinelands Commission on April 6, and at the NatureServe Biodiversity without Boundaries conference in San Juan, Puerto Rico April 18-22. We received the final genetic analysis in June 2016, which genotyped 294 leopard frogs from this and our previous study. In the remainder of 2016 we will finish compiling all project data, conduct data analysis, and write the final report and journal manuscript. Owing to these unforeseen delays in the genetic analysis, we requested and received an extension to the project, which is now scheduled for completion by April 30 2017, with the final report delivered by May 30, 2017.

Were planned goals/objectives achieved last quarter?

Our original project schedule had genetic analysis final in December 2015, with data analysis and writing in winter and early spring 2016. Initial genetic analyses led to confusing results, however, and the analysis was not completed to everyone's satisfaction until June 2016. Therefore, we requested and received a project extension until spring 2017.

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

Field sampling (calling surveys, visual surveys, specimen collection, photography) proceeded as expected and was completed in 2015 as documented in earlier reports. These surveys partially satisfied objective 1, which was to determine which states had which species (the genetics were the other important piece). We present this simply for now in Table 1, to be replaced with estimated range maps this fall.

The remaining objectives rely on the final genetic results and the match to the other data, to be addressed this summer and fall.

- 2) Refine the northeastern distribution of the new species relative to the two other leopard frogs;
- 3) Refine the conservation status in areas where the new species is already known to be of concern;
- 4) Contrast multi-level habitat associations among the three species; and

- 5) Refine the separation of species via field characters (calls, morphology) to facilitate future inventory, monitoring, and status assessments of the new species without reliance on genetic testing.

Table 1. Occurrence of leopard frog species by state: "x" = present currently; "h" present historically.

State	<i>Rana kauffeldi</i>	<i>Rana pipiens</i>	<i>Rana sphenoccephala</i>
MA		x	
RI		h	
CT	x	x	
NY	x	x	
PA	x	x	
NJ	x		x
DE	x		x
MD	x		x
VA	x		x
NC	x		x

We held project conference calls on January 12 and February 9 to review preliminary genetic results. Further calls were postponed until September pending the final genetic analysis and other results.

Difficulties Encountered:

No additional difficulties were encountered last quarter. One big one was plenty.

Activities Anticipated Next Quarter:

In July through September 2016 we will begin the analysis of field characters (as determined from photographs) with knowledge of each frog's genetic identity, and start writing the final report and journal manuscript. Team conference calls will be held monthly or as needed.

Expected End Date: April 30, 2017 (with the final report delivered by May 30)

Costs:

Total life to date expenses (include this quarter): \$105,590

Total Approved Budgeted Funds: \$105,764

Are you within the approved budget plan and categories? Yes

Signature: 

Date: September 8, 2016