

QUARTERLY PROGRESS REPORT

Quarter: (circle one)

2021 1st

2021 2nd

2021 3rd

2021 4th

Grant Program, Number and Title: Strategic Implementation of Regional Conservation Priorities for Freshwater Turtles at Risk in the Northeast: RCN Opportunity, Initiative 3. Road Mortality Hotspot Identification, Targeted Road Mitigation Assessment, & Best Management Practices. RCN 17-01 GSA 00033

Contractor: Clarkson University

Project Leader: Tom Langen

Abstract: The purpose of this project is to reduce turtle road mortality through improved mortality “hotspot” identification and mitigation strategies, advancing the goals of the Regional Conservation Priorities for Freshwater Turtles at Risk in the Northeast (Initiative 3), which include: (a) Improving our overall approach to identifying turtle road mortality concentrations, (b) Designing effective mitigation strategies and (c) Assessing the mitigation.

Progress in this quarter included three scheduled presentations on location of mitigation and assessment of mitigation projects, a paper on the impacts of roads on reptiles, a presentation on progress to the work on two Blanding’s turtle hotspot modeling projects (to use as exemplars for others), continued work on the literature reviews. I revised and distributed for comments (1) *General Approaches for Locating Road-kill Hotspots or Other Critical Road Locations for Emydine Turtles*, and (2) *General Guidelines for Evaluating the Effectiveness of Road Mitigation Measures for Emydine Turtles*. (3) The literature review and synthesis *General Guidelines for Surveys of Emydine Turtle Road Encounters and Mitigation Measures* is drafted, and I am now revising with intention to distribute third quarter.

Next quarter objectives include distribution and analysis of results of the survey, continued work on the hotspot models, and completion of literature reviews and best practices on (a) locating optimal sites for mitigation, (b) options for mitigation, and (c) evaluating and monitoring the effectiveness of mitigation. The document for (b) will be distributed for comment.

I also intend to reinstate the monthly presentation to the working group.

The project is funded through 2023.

Were planned goals/objectives achieved last quarter? Some – see below

Progress Achieved:

A literature review *General Guidelines for Surveys of Emydine Turtle Road Encounters and Mitigation Measures* is nearly complete and ready to distribute.

A book chapter *Reptiles and Roads: What We Know and What We Need to Learn* has been drafted and submitted. I will distribute this to the working group.

I drafted and distributed two documents for comment (1) *General Approaches for Locating Road-kill Hotspots or Other Critical Road Locations for Emydine Turtles*, and (2) *General Guidelines for Evaluating the Effectiveness of Road Mitigation Measures for Emydine Turtles*. These have been revised, based on comments from reviewers. I have also prepared talks – one of which was delivered.

I have continued to have regular meetings with collaborator Dr. Eric McCluskey on methodologies for identification of hotspots and on survey monitoring methods. We are initiating a validation of Circuitscape as an approach to predicting road-encounter locations by Blanding’s and wood turtles. As reported last quarter, I continued on two road-encounter hotspot-modeling projects intended for locating critical road segments for mitigation to reduce mortality and maintain connectivity for the priority turtle species.

Difficulties Encountered in Meeting Goals and Objectives: The last presentations were poorly attended, and I have received few comments from the working group on documents that I have distributed. I am awaiting a return of a student in August to aid with distribution of a survey.

Activities Anticipated Next Quarter:

A literature review *General Guidelines for Surveys of Emydine Turtle Road Encounters and Mitigation Measures* will be completed and distributed. This will include an instructional template for pre- and post-mitigation monitoring. A literature review of mitigation options (barriers, passages, signs, habitat management) will be drafted, with the goal of distribution in Quarter 3.

I plan to reinitiate the monthly meetings with the working group. I will also record talks for those who could not make them.

Distribute a survey the survey-monkey survey on road mitigation practices for turtles in September. Follow up with second requests in November, and contacts with informants who want to discuss components of the survey.

Continue to make progress on hotspot modeling projects. Will distribute a template for agencies to do hotspot projects, based on a draft document that has already been distributed for review.

Expected End Date: 31 December 2023

Costs:

Total life to date expenses (include this quarter): \$42,219.87

Total Approved Budgeted Funds: \$137,500.00

Are you within the approved budget plan and categories? Yes

The foregoing information is accurate as of the date set forth below.

CLARKSON UNIVERSITY

By: _____

Name: Tom Langen

Title: Professor, Dept. of Biology, Clarkson University

Date: 28 July 2021