

NORTHEAST REGIONAL CONSERVATION NEEDS GRANT

2012 PROGRESS REPORT

Quarter: (circle one) 2012 1st 2012 2nd 2012 3rd **2012 4th**

Grant Program, Number and Title: RCN 2011-2, The Wood Turtle in the Northeastern United States: A Status Assessment and Conservation Strategy

Organization: University of Massachusetts Amherst

Project Leader: Dr. Paul R. Sievert

Abstract:

The U.S. Geological Survey, Massachusetts Cooperative Fish and Wildlife Research Unit, at the University of Massachusetts Amherst (UMass) is coordinating a twelve-state effort to develop a status assessment and conservation strategy for the North American wood turtle (*Glyptemys insculpta*) in the northeastern United States, from Maine to Virginia. Our primary objectives are to (A) gather all available occurrence and population data for this region, and undertake a series of spatial meta-analyses to evaluate region-wide trends in abundance, occupancy, historic habitat loss, threats, and data deficiencies, and (B) to make general and specific recommendations regarding the status and conservation of wood turtles in the Northeast region and at two finer scales. The Conservation Strategy will identify populations of region-wide significance and assess the likely historic and current occurrence of wood turtles. Additionally, through this process we will generate Best Management Practices for multiple land-use scenarios, and develop and evaluate detection protocols for the wood turtle in the Northeast Region. We anticipate that this project will end in December 2013.

From 2009–2012, we identified key collaborators from universities, state agencies, federal agencies and institutions, and NGOs throughout the northeastern region. This team has become the Northeast Wood Turtle Working Group (NEWTWG), and is informally supported by the Northeast chapter of Partners in Amphibian and Reptile Conservation (PARC). The NEWTWG holds monthly conference calls to discuss key aspects of the RCN Conservation Planning process, and uses a variety of web-based interfaces for decision making, data entry, and accessing information. In this way the NEWTWG is able to work effectively to provide critical feedback on project objectives, priorities, and methodology. In 2012, UMass developed a *Coordinated Monitoring Strategy* (CMS) which was implemented in 9 states by 25 lead researchers, and resulted in the establishment of more than 30 long-term research sites with standardized methodology, and nearly 600 wood turtle detections in a standardized framework. Following an expert-driven poll and preliminary data analysis, we have revised and expanded the CMS to include a randomized component, which should allow for greater extrapolative power. In addition to the development and implementation of the CMS, UMass compiled a database of **confirmed wood turtle occurrences** throughout the Northeast Region. This was built from element occurrence information, herp atlas data, literature reviews, expert information, and field survey data. From this layer, we have built coarse predictive models based on stream variables such as gradient and flow accumulation and landscape variables including elevation, aspect, growing degree days, and other climatological data. These models will enable us to select random sites for sampling in 2013, and allow preliminary analyses of historic and projected range contraction. The database building process has allowed us to identify data-deficient regions and data-deficient watersheds, which will be targeted for surveys in 2013 and beyond, where resources allow. Several key components need to be completed in the first quarter of 2013, including a peer review of the populations data layer by working group members, the distribution of model-derived random points to be used in conjunction with site selection in 2013, and the initial implementation of spring surveys. In addition to these

major projects, we have sought feedback on the project through presentations to the World Congress of Herpetology, the Turtle Survival Alliance, Northeast PARC, the New Brunswick Wood Turtle Recovery Team, and other venues. We anticipate that all components of the project will be finished by December 31, 2013.

Were planned goals/objectives achieved last quarter? Yes

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

1. Northeastern Wood Turtle Working Group

Accomplished

- a. Convened a *Regional Working Group* with broad participation from twelve NE states;
- b. Identified *project coordinators* within each of twelve participating state agencies;
- c. Convened a *technical review board* with expert involvement from across the range of the wood turtle, related taxa, and other wide-ranging SGCN turtle species;
- d. Coordinating with Wood Turtle conservation efforts underway in Canadian Maritimes;
- e. Two Wood Turtle Working Group meetings at Northeast PARC in New Hampshire were attended by forty people;
- f. Monthly conference calls among group members began in November 2012;
- g. A regional meeting is tentatively scheduled for July 2013;
- h. Web-based two-way data-sharing portal launched.

2. Gather and standardize available population data

Accomplished

- a. Gathered and standardized confirmed population occurrence data for 12 northeastern states from a variety of sources, including: Natural Heritage Programs, Reptile and Amphibian Atlases, literature records, gray literature, field surveys (led by UMass and described in detail below), expert surveys, rapid assessments conducted by Working Group members, and web-based online data submission;
- b. Completed a fall season of population assessment in ME, NH, VT, MA, NY, PA, NJ, MD, WV, and VA;
- c. Compiled occurrence data into a regional layer of *confirmed wood turtle populations*, now totaling over 900 confirmed locations throughout the range of the wood turtle;
- d. Delineated known and confirmed populations (multiple animals or evidence of reproduction);
- e. Reported population data gathered through novel means to respective state agencies.

Planned

- f. Continue field surveys at two scales (intensive and rapid) in 2013;
- g. Ideally, expand survey effort to include long-term, standardized study sites in CT, RI, DE
- h. Complete analysis of 2012 field data, including detection protocols and abundance estimates.

3. Analysis of occurrence, occupancy, and historic range

Accomplished

- a. Developed a *Coordinated Monitoring Strategy for Wood Turtles in the Northeastern United States*;
- b. Initiated the implementation of a two-year monitoring strategy with Long-Term Intensive Study Sites established in ten northeastern States;
- c. Developed a protocol for the site selection and implementation of randomized *Rapid*

Assessments throughout the Northeast Region in 2013.

- d. Preliminary spatially-explicit predictive models of occurrence using the populations data outlined in 2(b);

Planned

- e. Distribute state-specific predictive models to individual state project leaders;
- f. Complete analyses of historic range and likely range contraction;
- g. Use predictive model as a base layer for randomized rapid assessments in 2013;
- h. Use predictive model as base layer to identify need for surveys in data-deficient areas.

Difficulties Encountered: None

Activities Anticipated Next Quarter: Framework of status assessment submitted to NEWTWG members; complete literature review; begin process of soliciting demographic data from partners; complete the predictive models for random site selection in 2013; initiate 2013 field surveys at “long-term” and “rapid”/random sites, initiate surveys in data-deficient areas identified through database building.

Expected End Date: **December 31, 2013**

Costs:

Total life to date expenses (include this quarter): \$29,771.30

Total Approved Budgeted Funds: \$100,000

Are you within the approved budget plan and categories? Yes

Signature: 

Date: 15 February 2013