

NORTH ATLANTIC LANDSCAPE CONSERVATION COOPERATIVE GRANT 2012 ABSTRACT

Quarter: (circle one)

2012 1st

2012 2nd

2012 3rd

2012 4th

Grant Number and Title: Grant 2011-07; **ASSESSING PRIORITY AMPHIBIAN AND REPTILE CONSERVATION AREAS (PARCAS) AND VULNERABILITY TO CLIMATE CHANGE IN THE NORTH ATLANTIC LANDSCAPE**

Grant Receipt/Organization: Association of Fish and Wildlife Agencies, University of Maine (USGS MCFWRU), University of Georgia

Grant Project Leader: Priya Nanjappa

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.

The objectives of this project are fully elaborated upon in the Progress Report. In short, our overarching goal is to identify PARCAs within the NALCC and evaluate their long-term vulnerability to climate change.

Objective 1: *Work directly with state fish and wildlife agency personnel throughout the NA-LCC states to gather data toward PARCA criteria review and proposed conservation area identification.* To address this objective, **AFWA and UGA** continued to contact state fish and wildlife agency personnel in the NA-LCC to follow-up regarding data acquisition and/or data-sharing agreements as part of facilitating data transfer for the project. These data will be used to locate potential PARCAs and to assist with mapping climate change vulnerability for target species (and simultaneously, long-term PARCA viability). **UGA** is also in consistent contact with the PIs leading an effort in the South Atlantic LCC to identify PARCAs in that region. **UMaine** interviewed 2 final Post-Doctoral candidates at the end of April 2012. Dr. Allison Moody was offered the position, and she will begin employment at the University of Maine on August 20.

Objective 2 (*Providing maps and other tools related to climate change vulnerability*) is also underway. **UGA** has completed models for species with sufficient available data, and is continually working to increase the number of modeled species (anticipated finish date, mid – 2013).

Objectives 1 and also 2 will continue to be addressed in Q3-4 (2012) and Objectives 3-4 will be addressed during 2013, with these and Objectives 5-6 being finalized in 2014.

NORTH ATLANTIC LANDSCAPE CONSERVATION COOPERATIVE GRANT 2012 PROGRESS REPORT

Quarter: (circle one)

2012 1st

2012 2nd

2012 3rd

2012 4th

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Were planned goals/objectives achieved last quarter? **YES** (as described in “Progress Achieved” section below)

NALCC Conservation Need Addressed: Progress was made toward addressing the final goal of establishing PARCAs within the North Atlantic LCC and evaluating their long-term vulnerability to climate change.

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

Objective 1: *Work directly with state fish and wildlife agency personnel throughout the NA-LCC states to gather data toward PARCA criteria review and proposed conservation area identification.*

AFWA: Nanjappa continued to follow-up with state fish and wildlife agency personnel in the NA-LCC to begin to initiate data sharing agreements/facilitate data transfer for the purposes of climatic suitability modeling and PARCA criteria review. Additional follow-ups will continue in the next two quarters.

UGA: Barrett has continued to maintain close contact and discussions with the PIs tasked with identifying PARCAs in the South Atlantic LCC. This collaboration helps to ensure continuity between our NA-LCC efforts and their efforts in the south. Data sharing agreements or data transfer have been initiated in several states.

UMaine: Loftin advertised the vacancy for a Post-Doctoral candidate to begin to review PARCA criteria and identify proposed conservation areas. She interviewed 2 final candidates at the end of April. Dr. Allison Moody was offered the position, and she will begin employment at the University of Maine on August 20.

Objective 2: *Provide spatially-explicit maps of current and future climatic suitability for priority amphibians and reptiles in the NA-LCC region, and then use these data a) to rank species vulnerability to climate change based projected losses in the species’ ranges, and b) to identify areas within the NA-LCC where either there are high losses of vulnerable species or there is high potential for climatic refugia for priority species, and c) identify species for which this Objective cannot be completed due to gaps in current known distributional data and thus identifies priorities for species data acquisition.*

UGA: Barrett and colleagues are continuing to build and refine the species locality databases, which are essential for generating products associated with Objective 2. For some species, data have been obtained in sufficient quantity and quality to initiate model development (Fig. 1 provides an example of a completed forecast).

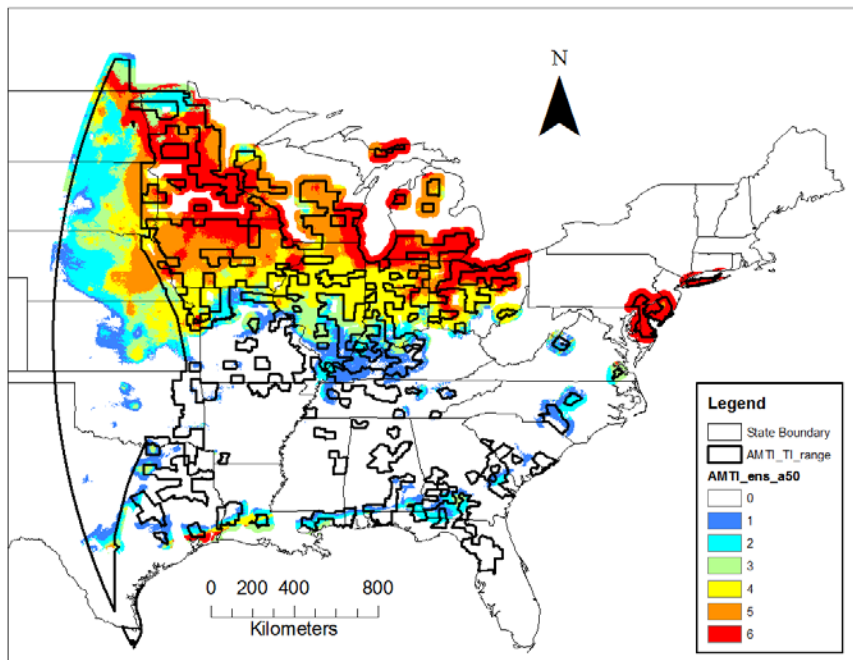


Fig. 1. A forecasted model of climatic suitability for *Ambystoma tigrinum tigrinum* (Eastern Tiger Salamander) under the A2a (high) greenhouse gas emissions scenario. We are also conducted runs of the B2a (moderate) greenhouse gas emissions scenario. These models indicate areas where future climates are (and are not) expected to match the climate envelope currently used by the species. These models do not forecast where the species is facing extirpation. Such models will help to identify the long-term viability of PARCAs.

Objective 3: Summarize these results with respect to species occurring on lands under current state and federal management.

This objective has not been addressed at this time.

Objective 4: Conduct an analysis of candidate PARCAs to help identify those highest priority conservation areas supporting reptiles and amphibians in the Northeast that are not currently protected.

This objective has not been addressed at this time.

Objective 5: Incorporate climate vulnerability projections into final PARCA analysis, including a ranking of high priority current and future conservation areas.

This objective has not been addressed at this time.

Objective 6: Communicate results to key state, federal, and NGO partners via publications and a Northeast regional workshop.

This objective has not been addressed at this time.

Summary of Progress: (Provide a paragraph describing progress, work to come, and timelines)

UGA: Barrett and colleagues are continuing to collect locality data required for generating models described in Fig. 1 from NA-LCC states. For states that have requested a NatureServe jurisdictional request, we have initiated that process. We are still awaiting a final quote on NatureServe regarding the cost of such a wide-scale,

multispecies request. We continue to be in contact with the group identifying PARCAs in the South Atlantic LCC to ensure our efforts are parallel. We have begun to build climate change vulnerability models for species where the database has been sufficiently developed.

UMaine: Loftin interviewed 2 final candidates at the end of April, and offered the Post-Doctoral position to Allison Moody. Dr. Moody will begin employment at the University of Maine on 20 August. At that time, Loftin and postdoc will establish a quarterly timeline for goals to achieve by December 31, with the focus of compiling the species locality records database and spatial data layers to describe relevant landscape conditions during September-December 2012.

Difficulties Encountered: None

Activities Anticipated Next Quarter:

1. (UGA) Continued climate change vulnerability model construction
2. (AFWA) Continued follow-ups with state fish and wildlife agency personnel and facilitating data transfer.
3. (UGA) Continued incorporation and acquisition of state-held and potentially NatureServe locality data.
4. (U Maine) Postdoc (Moody) will begin work including compilation of locality data, in collaboration with Barrett, as well as spatial/landscape data layers.

Expected End Date: December 31, 2014

Costs:

Funds Expended to Previous to this Report: **\$35,191.31**

Amount of NALCC Funds Requested within this Report: All funds requested as part of the financial reports from individual grant collaborators; we are requesting no additional NALCC funds within this progress report.

Total Approved Budgeted NALCC Funds: **\$315,902**

Are you within the approved budget plan? **YES**

Are you within approved budget categories? **YES**

Signature:



Date: 16 July 2012