# APPALACHIAN LANDSCAPE CONSERVATION COOPERATIVE GRANT 2013 PROGRESS REPORT

Quarter: (circle one) **2013 1st** 2013 2nd 2013 3rd 2013 4th

Grant Program, Number and Title: APP LCC Cooperative Grant 2013-03 Riparian Restoration Prioritization to Promote Climate Change Resilience in Eastern US Streams (USFS NRS CO-11242307-026)

Organization: USDA Forest Service Northern Research Station

Project Leader: Keith H. Nislow, Research Fisheries Biologist and Team Leader, Amherst, MA

Abstract: 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 purpose of this project is to conduct mutually beneficial research to assess status and trends in riparian forest cover, composition and condition in watersheds with the current native distribution of the Eastern Brook trout Salvelinus fontinalis, with the goal of identifying and prioritizing areas for riparian conservation and restoration to maintain and improve resilience to predicted changes in regional climate.

Accomplishments: See Progress Achieved

Future Plans: As outlined in Scope of Work

Completion Date: Jan 1 2014

Were planned goals/objectives achieved last quarter?

Yes, with some caveats (see Progress Achieved)

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

Task 2 (Data Visualization and Download Tool):
To date, we have acquired 12 of the 18 data layers assembled by the Eastern Brook Trout Joint Venture, with inquiries out for the remaining six. We have also obtained data layers containing variables from these layers summarized at the HUC 6-12, NHD+ catchment (both local and network), and brook trout patch levels. For the data visualization component, we conducted an assessment of available open-source web mapping software, and concluded that web mapping services would be performed using Geoserver, graphical display with OpenLayers, and raster geoprocessing with postGIS. We are currently implementing the buildout in the Appalachian LCC's cloud server space.

Task 3 (RPCCR Tool):
We acquired the remainder of the solar gain layer created by Mark Hudy and Bruce Wiggins, and

merged it with the existing partial layer to cover the complete range of the Eastern Brook Trout Joint Venture (EBTJV). We then clipped this layer by the buffered NHD+ stream layer in order to remove unnecessary cells from the solar gain distribution. We added an impervious surface layer to the tool upon its suggestion by an end-users group after giving a presentation at the EBTJV annual meeting on 6/12/13. The visualization component of the tool will expand upon the framework already being created for Task 2.

Difficulties Encountered:

We could not officially begin work on this project until we had a signed agreement, which pushed us back a bit. The need to integrate and coordinate efforts with a wide range of groups working on related problems and issues also slowed progress, but is essential to the overall success of the project.

Activities Anticipated Next Quarter:

Completion of Tasks 1, 2, and 3 begin work on Task 5.

Expected End Date:

Jan 1, 2104

Costs:

Total life to date expenses (include this quarter): $6992.59

Total Approved Budgeted Funds: $35,000

Are you within the approved budget plan and categories? Yes

Signature: /Keith H. Nislow/ Principal Investigator

Date: 7/20/2014