

NORTHEAST REGIONAL CONSERVATION NEEDS GRANT 2013 PROGRESS REPORT

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

Grant Number: 2009-02

Grant Title: Geospatial Condition Analysis of Northeast Habitats based on the Northeast SGCN Habitat Maps

Grant Receipt: The Nature Conservancy

Grant Contact Name: Mark Anderson

Report # (April 1 2013 through June 30, 2013)

Were planned goals/objectives achieved last quarter? Yes

Regional Conservation Need Addressed: Priority #10 Geospatial Condition Analysis based on Northeast SGCN Habitat Maps

Progress Achieved:

Goal 1) Review and prioritize attributes with broader F&W group.

We had several internal meetings to review the metrics that were prioritized from Albany F&W meeting. From this information and our previous discussion with the steering committee we finalized a set that included the addition of several new metrics related to forest condition, plus a reconfirmation of the previous metrics for forest, streams, and non-forested terrestrial habitats.

Goal 2) Make substantial progress calculating the prioritized attributes.

This was the bulk of the work completed this quarter. To date we have calculated and reported on securement, connectedness/fragmentation, dams, species occurrences, habitat patches and patch statistics. New datasets compiled for this research include:

Forest Condition: Stand Age, Canopy density, Canopy Height, and Biomass

- We compiled a **stand age** map for the region and intersected it with the habitat types to generate information on the age distribution for each habitat. We summarized this into a chart for the habitat guide and are now adding it to the terrestrial road bounded blocks. The forest age information was compiled from the age of forest stands at a resolution of 250 m cells using imputed FIA data. The maps was created by B. Tyler Wilson of the USDA-FS, Northern Research Station, using methodology described in Wilson BT, Lister AJ, Riemann RI : A nearest-neighbor imputation approach to mapping tree species over large areas using forest inventory plots and moderate resolution raster data. Forest Ecology and Management 2012, 271:182-198.

- We compiled **biomass and canopy height** data for the region and intersected it with the habitat types to generate information on the distribution of these attributes for each habitat. We summarized this into a chart for the habitat guide and are now adding it to the terrestrial road bounded blocks. Biomass and Canopy Height datasets (National Biomass and Carbon Dataset for the year 2000, NBCD2000) were developed by scientists at the Woods Hole Research Center and is the first spatially explicit inventory of its kind.
- We compiled **canopy density** data for the region and intersected it with the habitat types to generate information on the distribution of these attributes for each habitat. We summarized this into a chart for the habitat guide and are now adding it to the terrestrial road bounded blocks. Canopy density estimates come from the NLCD National Land Cover Database 2001 (NLCD2001) a 16-class land cover classification scheme that has been applied consistently across all 50 United States and Puerto Rico at a spatial resolution of 30 meters.
- We continued with the compilation of condition information for streams by developing a stream buffer grid by NHD COMID and began overlaying data and generating statistics for each buffer areas

Units: To facilitate the use of condition analysis information in the prioritization and selection of places we calculated information on three types of units: Major road bounded blocks, minor road bounded blocks and wetland complexes.

- Major and Minor road blocks: We calculated the number and types of habitat types in the block (average patch size, the number of patches and the max and minimum size patch for the block). We also calculated basic condition information for the block: connectedness, fragmentation, size of core area, land cover index, biomass, age class distribution, species present, etc. We are still in the process of calculated and adding attributes to the blocks so they can be queried by condition and habitat type.
- Wetland complexes. We ran condition information on the wetland complex unit: Securement, amount in each state, zonal statistics on resistant kernel and landscape complexity index, count of wetland types per habitat type. This information was compiled into a single table

Goal 3) Continue meeting with LCC staff

We had one in-person meeting with Steve Fuller and Karen Terwilliger on the status and use of the condition data. We will need a full group meeting in August where we can demonstrate the querying methods and get feedback.

Difficulties Encountered: None over this time period.

Activities Anticipated Next Quarter:

- Host steering committee call to demonstrate queries and get feedback
- Revise and Finalize all data sets.
- Create pages summarizing each condition attribute
- Finalize and distribute final products.

Costs:

Funds Expended Previous to this Report: \$35,263.60
 Amount of RCN Funds Requested within this Report: \$ 2,109.85
 Total Approved Budgeted RCN Funds: \$60,167
 Are you within the approved budget plan? Yes

Are you within approved budget categories? Yes

A handwritten signature in black ink, appearing to read "Mark Anderson". The signature is fluid and cursive, with a long, sweeping horizontal stroke at the end.

Signature: Mark Anderson, Director of Conservation Science

Date: July 30, 2013