

Northeast Regional Conservation Needs Program: Topic 10

Geospatial Condition Analysis of Northeast Habitats Based on the Northeast SGCN Habitat Maps

Project Summary

We will evaluate and summarize the current condition of terrestrial and aquatic habitats across a region of thirteen states using newly available region-wide habitat maps of streams (Olivero and Anderson 2008) and terrestrial ecosystems (Ferree and Anderson 2011). Each habitat will be described and characterized as to environmental setting and associated species. To evaluate each habitat, we will overlay compatible datasets relative to factors that elucidate the extent, condition and quality of each habitat. The selection of metrics will build on Anderson and Olivero (2011) and Tomajer et. al. (2008). The metrics will be calculated relative to each habitat type, for example, dams, impervious surfaces and toxic release points for stream systems, or road density, patch size, canopy closure and projected housing density for terrestrial forests. The work will be guided by a science steering committee representing the thirteen states. The committee will also review results and help design the format for the final report.

March - May 2012: Prepare data sets

May – June 2012: Establish Team, prepare metric list, Convene steering Committee, Host review call. Begin overlay analysis of terrestrial and freshwater habitats

July –Sept 2012: Develop conceptual framework and agree on metrics with steering committee
Characterize habitats and continue overlay analysis. Agree on report format

Oct –Dec 2012: Calculate Landscape and Human use metrics. Present to committee

January -March 2013: Calculate biological metrics. Present to committee

May - June 2013: Draft and circulate report. Present to committee. Revise and finalize report.

Citations

Ferree C. and Anderson, M.G. 2011. A Terrestrial Habitat Map for the Northeastern United States. The Nature Conservancy, Eastern Conservation Science.

Anderson M.G. and A. Olivero Sheldon, 2011. Conservation Status of Fish, Wildlife and Natural Habitats in the Northeast Landscape: Implementation of the Northeast Monitoring Framework. The Nature Conservancy. Eastern Conservation Science. 289 pp.

Olivero, A., and M.G. Anderson. 2008. The Northeast Aquatic Habitat Classification. The Nature Conservancy, Eastern Conservation Science. 90 pp. <http://www.rcngrants.org/spatialData>

Tomajer T. et al. 2008. Monitoring the Conservation of Fish and Wildlife in the Northeast: A Report on the Monitoring and Performance Reporting Framework for the Northeast Association of Fish and Wildlife Agencies

NORTHEAST REGIONAL CONSERVATION NEEDS GRANT QUARTERLY REPORT

Grant Number: RCN 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 #- 2 (July 1, 2012 through September 30, 2012)

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) Host State-based presentations and discussion

We hosted a presentation from Massachusetts Biomap (Andy Finton), New Hampshire Fish and Game (Emily Brunkhurst), and Maine Beginning with Habitat (Steve Walker) all of which provided interesting models for how this project could be approached. The presentations were followed by a thoughtful discussion about approaches, metrics and the goals of the project. We ended by synthesizing the opinions of the group into a rough workplan

Goal 2) Develop conceptual framework and list of specific metrics. Following the presentations and discussion we prepared a document organizing the analysis into structure that followed the NH fish and game model: Biotic indicators, Landscape Context indicators, Human Modification Indicators and Securement Indicators. For each target habitat (forest, wetlands, stream network etc.) we developed a method of mapping the target and a list of indicators that we could measure using available regional data. This information was put into a document and circulated to the steering committee.

Goal 3) Host a web meeting to present and agree on the revised framework and specific metrics.

We presented the revised framework to the steering committee along with real example of how each target habitat would be mapped and assessed. This led to a complicated discussion among the group as to who is the audience for this information and what exactly is the product. The project is a cooperative between NEAFWA/LCC and TNC with funding split 50-50 between both organizations, so it is important that this project fulfills both organizations needs and project goals. In light of the discussion, we propose two distinct products to come out of this grant:

Datasets: identifying habitat features at the smallest ecologically-meaningful scale possible, with attributes of condition information attached to each feature. The datasets will be distributed to the states and will include the following: Forest Habitat patches, Wetlands (all sizes), Large and small patch terrestrial communities, Stream reaches, Lakes, and Road-bounded blocks. All

datasets will be searchable by state, ecoregion and region.

Report: analyzing the relative condition of habitat features across the region. For this, each feature will be assessed consistently at a standard mapping scale (such as 8 Digit HUCs, matrix habitat patches, and wetland complexes (including density of nearby wetlands), and reported within ecological regions. The report will include queries within the regions for good examples of each habitat. If the team desires we could also summarize condition patterns by state. However, it is not clear from our discussions whether that would be useful, or if alternatively, most states would prefer to summarize things themselves using the data (opinions?)

The team noted that the report will not be a completely standalone product but will be accompanied by the terrestrial and aquatic Habitat Guides that are being developed and funded by separate grants. The guides will provide more information on the habitats, their distribution and associated fauna, their general condition and level of securement. We expect that some of the information for the guide will come directly from the geospatial assessment, but will likely be simplified for a general audience.

Goal 4) Begin calculating simple metrics such as of the amount of each system that is secured from development. We have finished preparing the secured lands spatial database in order to make these calculations.

Difficulties Encountered: Yes: the intended audience and specific products expected from this project have changed during discussions with the steering committee. We will be requesting an extension on the time line and working with the LCC staff to clarify a template for the outputs.

Activities Anticipated Next Quarter:

- Finalize decisions on audience and products
- Finalize conceptual framework and indicators.
- Meet with Steve Fuller to develop template and clarify links to State SWAP revisions and LCC
- Begin calculating metrics for each habitat.
- Host a web meeting on framework and specifics

Costs:

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', with a long, sweeping horizontal stroke extending to the right.

Signature: Mark Anderson, Director of Conservation Science

Date: October 29, 2012