

NORTHEAST REGIONAL CONSERVATION NEEDS GRANT QUARTERLY REPORT

Grant Number: 2007-01

Grant Title: Creation of Regional Habitat Cover Maps: Application of the NE Terrestrial Habitat Classification System

Grant Receipt: The Nature Conservancy

Grant Contact Name: Mark Anderson

Report #- 2 (July 1, 2008 through September 30, 2008)

Were planned goals/objectives achieved last quarter?

The goal for quarter ending 9/30/08 was to work on regional datasets useful for the whole project, and to have the habitat map for the High Allegheny Plateau (HAL) Ecoregion completed—this was where we hoped to develop the methods that we would then apply to other ecoregions in the Northeast in subsequent quarters. Work on regional datasets (notably an National Wetlands Inventory-informed landcover grid) is proceeding satisfactorily. The High Allegheny map is not done, though a lot has been accomplished and we are well on our way (see below).

Regional Conservation Need Addressed:
Creation of Regional Habitat Cover Maps

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

Two core datasets for the project: 1) compile regional NWI dataset, merge with regional NLCD and make upland and wetland landcover grids; 2) build upland and wetland landscape unit grids based on landform models.

Planned: Make progress on the regional landcover dataset, and complete it for HAL. Test methods for the construction of the landscape unit grids, and build them for HAL.

Actual: We completed this work.

Known occurrences of habitat types to use in the modeling process:

Planned: For HAL, build datasets of known occurrences (EOs, FIA plots, natural community maps, ...), tag them to system/habitat type.

Actual: We have about a thousand actual occurrences of upland and wetland habitat types. The EOs have tags, but these need review. At the end of the quarter we did not have tags for the FIA plots, but have identified a statistical procedure we think will work to do the tagging. We knew this process would take a while as we developed methods in HAL that we could use throughout the region, and it has.

Identify environmental and geographic variables that will be useful in the classification and regression tree (CART) analysis. Attribute the EOs and FIA plot with them.

Planned: think regionally, act in HAL— identified a set of variables that will be useful throughout the Northeast, apply them to the HAL known occurrences.

Actual: we have selected variables we will use, based on similar work we have done before, but we haven't finished attributing all our occurrences. This is in part because we are still sorting out exactly how to configure occurrences-- which come in very different sizes/formats—for the CART analysis (see below). We are standardizing and automating the attributing process as much as we can so that it can be done more quickly as we move through the project.

CART: Build models for upland and wetland habitat types:

Planned: by end of quarter, have developed CART methods and made modeling runs for HAL habitats, and developed draft maps for review.

Actual: we're behind in this, as we need to finish tagging the FIA plots and attributing all of our known occurrences. This done, we can begin the CART work.

Difficulties Encountered:

There are many aspects of this work, some of them quite complicated, and keeping them all moving along in the very limited number of person-hours committed to the work, is challenging to say the least. Developing the upland/wetland landscape unit and landcover grids is time-consuming. More care needed to be taken with the tagging of community Element Occurrences to habitat type than I anticipated—this is a critical step, and a bit of a time sink.

There are wide differences among the known occurrences we will use in the modeling process: from points to small polygons drawn tight to smaller patch occurrences to huge landscape-level polygons for some forested habitats. It's been a bit of an unanticipated problem sorting out how to feed them into the analysis so that we can expect consistent and meaningful modeling results.

Activities Anticipated Next Quarter:

Finish a draft map for HAL and circulate for review.

Try out methods developed for HAL in a larger region in the Central Appalachians and the part of the Western Allegheny Plateau in PA & WV.

Maintain contacts with steering committee and interested partners as we move along.

Costs:

Are you within the approved budget plan? Yes

Are you within approved budget categories? Yes

Signature: Charles Ferree, GIS Analyst

Date: 23 Oct 2008