

NORTH ATLANTIC LANDSCAPE CONSERVATION COOPERATIVE GRANT 2012 PROGRESS REPORT

Quarter: (circle one)

2012 1st

2012 2nd

2012 3rd

2012 4th

Grant Number and Title: 2011-02; Use of a vulnerability index to assess species most likely to be impacted by climate change

Grant Receipt/Organization: NatureServe

Grant Project Leader: Lesley Sneddon

Were planned goals/objectives achieved last quarter?

Yes.

NALCC Conservation Need Addressed: Evaluating the Vulnerabilities of Ecological Resources to Climate Change in the Northeast

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

1. Convene a team of collaborators to select 60 species to be assessed using the CCVI. The set of species will include a mix of Federal Trust species of high responsibility by the NALCC, foundation species selected from habitats currently being assessed for climate change vulnerability by Manomet, and species of greatest conservation need as identified by the Northeast Association of Fish and Wildlife Agencies.
Planned: None
Actual: Completed last quarter
2. Using the NatureServe network's extensive literature and spatial databases and other pertinent sources, assemble natural history and distribution information on the species selected for assessment.
Planned: Compile natural history and distribution information
Actual: Natural history information is being compiled as species are assessed; three subregional assessments were completed for *Quercus alba* and one for *Abies balsamea*. Natural history information for birds has begun.
3. Identify and assemble the downscaled climate predictions and other GIS data, including range maps of the selected species.
Planned: Assemble GIS map project consolidating Canada and US climate information
Actual: Subregions of assessment were finalized: a) Northern Appalachian and maritime Canada; North Atlantic; Mid-Atlantic. Disparate data sets of climate data from Canada (coarser resolution) have been compiled, adjusted to the same map legend across the border and assembled into a single map project. Where there are minor consistencies, we have read the climate data as it appears on the map, with the caveat that there is a greater margin of error in the northern Appalachian and maritime Canada than in the other two assessment regions. GIS analyses of animal species is in progress.
4. Apply the CCVI and document in detail the assumptions used in the assessment.
Planned: document assumptions for each factor used in the assessment for each species

Actual: A new tab was inserted in the CCVI spreadsheet to document the literature sources and justifications for rankings in each factor, and this was applied in the assessments completed to date.

- Using CCVI results, produce a final report that translates the results into language accessible to the educated lay public. The report may include, as appropriate, potential geographic areas of relatively lower vulnerability to guide conservation decisions, and possible adaptation strategies and monitoring recommendations for individual species or guilds of species.

Planned: none

Actual: none

- Post the CCVI assessment results on the climate change section of NatureServe's web site (<http://www.natureserve.org/prodServices/climatechange/ccvi.jsp>).

Planned: none

Actual: none

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

We have assembled the downscaled climate data sets for Canada and eastern US from Climate Wizard, begun the compiling of natural history information on each species, and completed four subregional assessments to date. The startup phase of the GIS work accounts for the slower than expected progress in the assessments, but we expect to make up the time now that we have the climate GIS data assembled into a single map project.

Difficulties Encountered: Assembling GIS data across the Canadian border has proved to be somewhat of a challenge, given the different scales of resolution in available data in Climate Wizard. Several data sets yield some discrepancies across the border as a result of the different resolutions. We have opted to simply note the discrepancies in our report.

Activities Anticipated Next Quarter: Complete at least half the plant assessments and all animal assessments.

Expected End Date:

March 30, 2013*

*We anticipate requiring an extension beyond our currently contracted deadline of December 31, 2012 due to the slower-than-anticipated species selection process.

Costs:

Funds Expended to Previous to this Report: \$27,791.66

Amount of NALCC Funds Requested within this Report: \$12,699.13

Total Approved Budgeted NALCC Funds: \$100,399

Are you within the approved budget plan? Yes

Are you within approved budget categories? Yes

Signature:

Date:

SPECIES TO BE ASSESSED FOR CLIMATE CHANGE VULNERABILITY

Species	Common Name	Habitat
<i>Botaurus lentiginosus</i>	American Bittern*	Laurentian-Acadian Wet Meadow-Shrub Swamp
<i>Anas rubripes</i>	American black duck	Freshwater marshes; coastal marshes
<i>Haematopus palliatus</i>	American oystercatcher	Coastal beaches and mudflats
<i>Alosa sapidissima</i>	American Shad	Medium-sized to large rivers
<i>Sorex palustris</i>	American water shrew	Streams to small rivers
<i>Salmo salar</i>	Atlantic salmon	Medium-sized to large rivers
<i>Acipenser oxyrhynchus</i>	Atlantic Sturgeon*	Medium-sized to large rivers
<i>Chamaecyparis thyoides</i>	Atlantic white cedar	Swamps
<i>Abies balsamea</i>	Balsam fir	Acadian Low-Elevation Spruce-Fir Forest and Flats
<i>Catharus bicknelli</i>	Bicknell's Thrush**	Acadian Low-Elevation Spruce-Fir Forest and Flats
<i>Nyssa sylvatica</i>	Black gum	Swamps
<i>Picea mariana</i>	Black spruce	Boreal-Laurentian Bog
<i>Setophaga striata</i>	Blackpoll Warbler	Spruce-fir-hardwood forests
<i>Callophrys lanoraieensis</i>	Bog elfin	Bogs
<i>Alasmidonta varicosa</i>	Brook Floater*	Streams to small rivers
<i>Salvelinus fontinalis</i>	Brook Trout	Streams to small rivers
<i>Setophaga cerulea</i>	Cerulean Warbler*	Oak-hickory-pine forests
<i>Sterna hirundo</i>	Common Tern*	North Atlantic Intertidal Mudflat
<i>Malaclemys terrapin</i>	Diamondback terrapin	Coastal marshes
<i>Alasmidonta heterodon</i>	Dwarf Wedgemussel	Medium-sized to large rivers
<i>Cicindela dorsalis</i>	Eastern beach tiger beetle	Coastal beaches and mudflats
<i>Cryptobranchus alleganiensis</i>	Eastern Hellbender**	Medium-sized to large rivers
<i>Tsuga canadensis</i>	Eastern hemlock	Northern hardwood-hemlock forests
<i>Lasiurus borealis</i>	Eastern red bat	Oak-hickory-pine forests
<i>Callophrys irus</i>	Frosted elfin	Pine barrens
<i>Callophrys hesseli</i>	Hessel's hairstreak	Swamps
<i>Limulus polyphemus</i>	Horseshoe Crab	Coastal beaches and mudflats
<i>Somatochlora incurvata</i>	Incurvate emerald	Bogs
<i>Ambystoma jeffersonianum</i>	Jefferson Salamander*	Northern hardwood-hemlock forests
<i>Ixobrychus exilis</i>	Least Bittern	Laurentian-Acadian Wet Meadow-Shrub Swamp
<i>Sterna antillarum</i>	Least Tern*	Northern Atlantic Coastal Plain Sandy Beach
<i>Mustela nivalis</i>	Least weasel	Pine barrens
<i>Chamaedaphne calyculata</i>	Leatherleaf	Bogs
<i>Seiurus motacilla = Parkesia motacilla</i>	Louisiana Waterthrush*	Streams to small rivers
<i>Cistothorus palustris</i>	Marsh wren	Freshwater marshes
<i>Alces americanus</i>	Moose	Spruce-fir-hardwood forests
<i>Sylvilagus transitionalis</i>	New England Cottontail**	Ruderal Shrubland & Grassland

<i>Scirpus ancistrochaetus</i>	Northeastern Bulrush	Ponds and lakes
<i>Accipiter gentilis</i>	Northern Goshawk	Appalachian (Hemlock)-Northern Hardwood Forest
<i>Pituophis melanoleucus melanoleucus</i>	Northern pinesnake	Pine barrens
<i>Parkesia noveboracensis</i>	Northern waterthrush	Laurentian-Acadian Alkaline Conifer-Hardwood Swamp
<i>Thuja occidentalis</i>	Northern white cedar	Swamps
<i>Seiurus aurocapilla</i>	Ovenbird	Northern hardwood-hemlock forests
<i>Pontederia cordata</i>	Pickerelweed	Freshwater marshes
<i>Charadrius melodus</i>	Piping Plover	Coastal beaches and mudflats
<i>Pinus rigida</i>	Pitch pine	Northeastern Interior Pine Barrens
<i>Sarracenia purpurea</i>	Purple pitcher plant	Bogs
<i>Picea rubens</i>	Red spruce	Spruce-fir-hardwood forests
<i>Buteo lineatus</i>	Red-shouldered Hawk	Oak-hickory-pine forests
<i>Ammodramus caudacutus</i>	Saltmarsh Sparrow*	Northern Atlantic Coastal Plain Tidal Salt Marsh
<i>Acer saccharinum</i>	Silver maple	Floodplain / riparian forests
<i>Isotria medeoloides</i>	Small whorled pogonia	Northern hardwood-hemlock forests
<i>Spartina alterniflora</i>	Smooth cordgrass	Northern Atlantic Coastal Plain Tidal Salt Marsh
<i>Lanthus vernalis</i>	Southern pygmy clubtail	Streams to small rivers
<i>Clemmys guttata</i>	Spotted Turtle*	Laurentian-Acadian Wet Meadow-Shrub Swamp
<i>Falci pennis canadensis</i>	Spruce Grouse	Spruce-fir-hardwood forests
<i>Acer saccharum</i>	Sugar maple	Northern hardwood-hemlock forests
<i>Vallisneria americana</i>	Tapegrass	Streams to small rivers
<i>Quercus alba</i>	White oak	Central Appalachian Dry Oak-Pine Forest
<i>Pinus strobus</i>	White pine	Oak-hickory-pine forests
<i>Lithobates sylvaticus</i>	Wood Frog	Ponds and lakes
<i>Hylocichla mustelina</i>	Wood Thrush	Central Appalachian Dry Oak-Pine Forest
<i>Glyptemys insculpta</i>	Wood Turtle	Streams to small rivers
<i>Scirpus cyperinus</i>	Woolgrass	Freshwater marshes