

**PROGRESS REPORT 10 (April through June, 2012)**  
**ACCOMPLISHMENTS AND FUTURE OBJECTIVES OF**  
**NEAFWA/NALCC REGIONAL VULNERABILITY ASSESSMENT**  
**PROJECT**

**Objectives of the project.** The overarching goal of the project is to provide vulnerability and adaptation information that will help the North Atlantic LCC and the northeastern states to plan their conservation of fish and wildlife under a changing climate. It has three specific objectives:

1. To quantify the vulnerabilities to climate change of fish and wildlife and their habitats across the region and thereby identify those habitats and species that are likely to be more or less vulnerable, and how these vulnerabilities vary spatially.
2. To project how these habitats and species will change their status and distributions under climate change.
3. To work with states to increase their institutional knowledge and capabilities to respond to climate change through educational and planning workshops and other events.

**Accomplishments (1) – Terrestrial Habitat Vulnerability Assessment.**

Major accomplishments were achieved during this reporting period:

*Runs of Vulnerability Model.* The predictive vulnerability model has now been run on 13 major habitat types:

- Alpine tundra
- Acadian-Appalachian Montane Spruce-Fir Forest
- Northern Hardwood Forests
- Oak-Hickory forests
- Pine Barrens
- Atlantic White Cedar swamps
- Southern high elevation Spruce-Fir forests
- Boreal-Laurentian Bog
- Boreal-Laurentian-Acadian Acidic Basin Fen
- Laurentian-Acadian Wet Meadow Shrub-Swamp
- Laurentian-Acadian Freshwater Marsh
- North Central Interior and Appalachian Acidic-Peatland
- Central and Southern Appalachian Spruce-Fir Forest

Together, these habitats comprise about 60-65% of the 184,000 miles<sup>2</sup> of northeastern land surface that provides fish and wildlife habitat (excluding urban and agricultural croplands).

The results of the model runs were submitted to the forest and wetlands habitat workgroups for review and comment. The comments elicited have now been incorporated into the vulnerability assessments and the vulnerability accounts finalized.

## **Accomplishments (2) – Cold Water Fish Habitat Vulnerability**

### **Assessment.**

Galbraith of Manomet has written a 40-page review of the likely vulnerability to climate change of **cold water fish habitat** in the Northeast. This was submitted for review to John O’Leary of MADFW, Eric Palmer of VT Fish and Wildlife, and Ben Letcher of the USFWS Conte Lab. We have now received favorable comments from all three reviewers. Our next task is to finalize the report.

## **Accomplishments (3) – Tidally-Influenced Habitat Vulnerability**

### **Assessment.**

Galbraith of Manomet has begun a review report on the vulnerabilities to climate change of tidally influence habitats in the Northeast. We expect this to be completed in draft form by September. It will then be submitted for review, finalized and sent to NEAFWA and the NALCC through WMI.

## **Accomplishments (4) –Wider Use of the NEAFWA Model, and Providing Support on State Vulnerability Assessments**

Given their history of assessing regional and state vulnerabilities to the changing climate, and the work ongoing with the NEAFWA regional project, Manomet and NWF have been invited to provide support on 6 state vulnerability assessment projects: Maryland, Vermont, New Hampshire, Maine, New Jersey, and New York. The NEAFWA habitat model and the results from the NEAFWA project are being used in all of these. We are working with the project leaders in all of these states to ensure that the results of the NEAFWA project continue to be included in the state assessments.

Also, the NEAFWA Habitat Vulnerability Assessment Model has been an important component of various training courses in vulnerability assessment. Organized by a consortium of parties, including NCTC, NWF, Manomet and others, these 3-day courses seek to train state and federal and NGO practitioners in the science of habitat and species vulnerability assessment. Thus far, six such training courses have taken place at NCTC in West Virginia, Anchorage (Alaska), St. Petersburg (Florida), Eaton (Washington), Ft. Collins (Colorado), and Phoenix (Arizona). The NEAFWA model has been used at these courses to teach students about habitat vulnerability assessment. This has resulted in the use of the model spreading geographically and has been successfully used to evaluate habitat vulnerabilities by the National Park Service in the South Dakota Badlands NP.

## **Accomplishments (5) – Scoring SGCN Vulnerabilities**

As described above in “Accomplishments (3)”, the North Atlantic LCC has offered to put additional funding into the project. One of the tasks that they want to support is species (SGCN) vulnerability scoring. Given that we now have additional funding for this task, we can now carry it out with greater rigor and scope than was originally intended. NatureServe is now under contract with the NALCC to apply their species vulnerability model to approximately 60 SGCNs. Manomet will work with NatureServe to accomplish this task. Our responsibilities will include:

- Working with NatureServe and the LCC to select the species to be modeled
- Helping to run the model on the selected species
- Reviewing the results of the model runs
- Peer reviewing any product that is produced by NatureServe for the NEAFWA/LCC collaboration.

Work on this task has recently begun.

## **Accomplishments (6) – Capacity-Building and Outreach**

Over the last three months we have accomplished the following:

- Met with Virginia Department of Game and Inland Fisheries staff across the state to provide information on the vulnerability assessment for species of greatest conservation need that has been conducted over the last year and a half. Meetings were also designed to get feedback from staff on the assessment as well as input on its application.
- Worked with Virginia DGIF to plan summer workshops for agency staff and other stakeholders on the vulnerability assessment results and its application to management and conservation across the state.
- Submitted a proposal to the Competitive State Wildlife Grants Program that included Pennsylvania to conduct on-the-ground climate-smart project with NWF playing a capacity-building and advisory role.
- The deCoizart Trust has supplied \$75,000 to fund additional vulnerability assessment and adaptation strategy planning and implementation work at the Parker River National Wildlife Refuge at Parker River, MA.
- Submitted a proposal to the Wildlife Conservation Society with the Delaware Division of Fish and Wildlife to conduct a climate-smart coastal impoundment project with NWF helping with sharing lessons-learned and application to other states.
- Participated in three New Hampshire Wildlife Action Plan Implementation Team (WAPIT) meetings.
- Attended three stakeholder workshops hosted by NHFG focused on identifying habitat-specific adaptation strategies based upon the recently completed New Hampshire habitat vulnerability assessments (other states in the northeast are eager for their work to be informed by this innovative process).
- Submitted team-oriented thesis project proposals to University of Michigan graduate students focused on identifying opportunities for cross-sector SWAP implementation in the northeast.

- Attended two meetings in Albany, NY with NY DEC, Cornell University, and Hector Galbraith, Ph.D. to integrate and align the NY Vulnerability Assessment, the regional Vulnerability Assessment, and a Cornell project identifying future NY habitat climate envelopes.
- Worked with NY Audubon to identify 2012 outcomes for the ongoing collaboration to advance, and support the NY SWAP revision process.
- Began background research on a report that catalogues current Federal, State, and local policies and regulations that facilitate climate adaptation in the northeast and identifies opportunities in Federal, State and local regulatory and policy frameworks to further “mainstream” climate adaptation.
- Submitted a proposal to the Regional Conservation Needs program seeking \$100,000 for a project that would identify regionally significant coastal sites in the northeast to implement the Parker River approach.
- Held an internal retreat in Washington, DC to identify 2012 goals and outcomes for targeted adaptation capacity-building in the northeast.
- Planned, coordinated, and carried out multi-event release of An Enduring Place, a publication highlighting climate change adaptation principles in a Vermont landscape that is a regionally significant wildlife linkage.
- Worked closely (conference calls, meetings, and document preparation) with state (VT, NY, NH, and ME) fish and wildlife officials to enhance understanding of the impacts of climate change on wildlife movement throughout the northern Appalachian eco-region.
- Participated in national-level NWF-led calls with state agency staff focused on capacity building and SWAP revision process. We featured the importance of making the SWAPs climate smart.
- Participated in national-level NWF-lead calls with DFW TWW coalition leaders focused on state-level funding. We featured the importance of enhanced funding to ensure that the SWAPs could be amended to be climate smart.
- Contributed to a broader national NWF effort to identify climate-smart conservation criteria.
- Worked closely with state fish and wildlife and transportation officials in Vermont to enhance understanding of the impacts of transportation system on wildlife impacted by climate change.
- Helped draft a report capturing the proceedings of a one day workshop in Vermont designed to increase the capacity of state fish and wildlife and agency of transportation staff to work together to help wildlife adapt to the impacts of climate change – Best management Practices for Transportation and Wildlife.
- Launched a partnership with the University of Vermont designed to encourage citizens to participate in municipal decisions that impact the safety of the state’s transportation system for wildlife. The partnership is called Safe Roads for Wildlife and includes the state’s Departments of Fish and Wildlife and Agency of Transportation, Vermont Natural Resources Council, Green Mountain National Forest, and Wildlands Network.
- Attended three meetings in Concord, New Hampshire with NHFG administrators and Natural Heritage Administration staff focused on revitalizing NH’s Teaming with Wildlife Coalition.

- Held a kick off meeting with Parker River staff and other regional coastal experts to lay the foundation for northeast coastal adaptation planning and implementation work.
- Provided feedback on the Metropolitan Washington County of Government's Communities Adaptation Guidebook.
- Attended 2012 National Workshop on Landscape Conservation Cooperatives in Denver, Colorado.
- Met with local fish and game club to discuss the impacts of climate change on game species and determine if outreach to hunters would support SWAP implementation efforts.
- Participated in three strategy conference calls with Tetra Tech, Vermont Agency of Natural Resources staff to align and integrate various ongoing Vermont adaptation initiatives including the work currently led by NWF to conduct the wildlife vulnerability assessment for the State of Vermont.
- Participated in numerous webinars and workshops to increase our institutional capacity to provide support for northeastern states to pursue adaptation planning including
  - Global Warming Impacts of Natural Gas Fracking- Cornell University webinar
  - Climate Change Effects on Coldwater Stream Ecosystems (DOI webinar)
  - Legal Solutions to Coastal Climate Change Adaptation in Connecticut (Conference Sea Grant)
  - Digital Coast Webinar (NOAA Coastal Services Center)
  - TNC presentation on Landscape Resiliency & Permeability (Montpelier, VT)

**Future Plans and Timelines.** Over the next two months our main goals will be to:

1. Finalize and issue two reports describing the vulnerability results for the 13 habitats and the cold water fish habitat.
2. Continue the work on evaluating the vulnerabilities of tidally-influenced habitats, then issue a major report describing the results.
3. Work with NatureServe and the LCC to move forward work on the SGCN vulnerability task.
4. Continue the capacity-building and outreach work that we have pursued over the last two years.