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Project Title: Virginia's Climate Modeling and Species Vulnerability Assessment

Headline Title (2-5 words): Virginia Climate Change Vulnerability Assessment

Brief Summary (Abstract): A collaborative effort to better understand the changes predicted for Virginia's climate and the impacts those changes could have on regional wildlife and habitat resources.

Project Location: Models cover all of Virginia, Maryland, Delaware, and most of West Virginia.

Partners: The Virginia Department of Game and Inland Fisheries, The National Wildlife Federation, Virginia Tech's Conservation Management Institute, and Kutztown University.

Background: During 2009, the Virginia Department of Game and Inland Fisheries, the National Wildlife Federation, and the Virginia Conservation Network initiated a collaborative planning process to develop a strategy to safeguard Virginia's species of greatest conservation need from the effects of climate change. This process involved scores of partners and stakeholders and identified 10 implementation strategies. Virginia's climate modeling and vulnerability assessment was designed to address the most important data and modeling need and provide guidance for addressing the remaining strategies.

Project Goals: The project was designed to provide a detailed examination of how dozens of climatic factors are likely to change during the coming century considering two different green-house gas scenarios. These local models were applied to describe how 20 plant and animal species are likely to be impacted as conditions change. A series of workshops were held with conservation and partners and stakeholders to determine how models could be best presented and distributed to the conservation community.

Strategy Goals Implemented:

Goal 5.1 – Identify knowledge gaps and define research priorities via a collaborative process among Federal, State, Tribal, and private conservations, academic resource managers, and research scientists.

Goal 5.2 – Conduct research into ecological aspects of climate change, including likely impacts and the adaptive capacity of species, communities, and ecosystems, and their associated ecosystem services, working through existing partnerships and new collaborations as needed.

Goal 5.3 - Advance understanding of climate change impacts and species and ecosystems responses through modeling.



NATIONAL *fish, wildlife & plants*  
CLIMATE ADAPTATION STRATEGY

Climate Impacts Addressed:

Lack of information regarding the predicted changes and the impacts those changes are likely to have on wildlife and habitats.

Status of Project Implementation (Timeline, Milestones, Next Steps):

This project was completed during 2013 and efforts are underway to make the climate modeling data publicly available.

Data resulting from this project are being used to update Virginia's Wildlife Action Plan including local conservation strategies for wildlife and habitats impacted by climate change and other threats.

A follow-up project has been initiated to describe how climate change is likely to impact the conservation and recreation values of currently conserved is likely to be impacted by climate change and provide management agencies with tools to help evaluate the future value of potential acquisitions with regards to climate change.

Project Outcomes:

This project resulted in two specific outcomes. First, it produced a more detailed and geographically specific of climate models for Virginia, West Virginia, Maryland, and Delaware than were previously available. This effort also produced a series of 20 species specific models designed to describe how each species is likely to respond to changing climatic conditions. Half of the species evaluated were trees representing an assortment of important forest types in the region. The animal species included a combination of species identified in Virginia's Wildlife Action Plan and one invasive species.

Funding Sources:

Funding for this project was provided by the U.S. Fish and Wildlife Service's State Wildlife Grants program and the Doris Duke Charitable Foundation.

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