

North Atlantic Landscape Conservation Cooperative

Providing Science and Tools in Support of the North Atlantic LCC: Designing Sustainable Landscapes for Wildlife

A Project of the North Atlantic LCC

The North Atlantic Landscape Conservation Cooperative (LCC) provides a partnership in which the private, state, tribal and federal conservation community works together to address increasing land use pressures and widespread resource threats and uncertainties amplified by a rapidly changing climate.

The partners and partnerships in the cooperative address these regional threats and uncertainties by agreeing on common goals for land, water, fish, wildlife, plant and cultural resources and jointly developing the scientific information and tools needed to prioritize and guide more effective conservation actions by partners toward those goals.

The Designing Sustainable Landscapes project is a foundational part of this larger set of tools to guide conservative decisions in the face of change. The University of Massachusetts Amherst, working with a broad coalition of LCC partners, is leading this project. Specifically this project will:

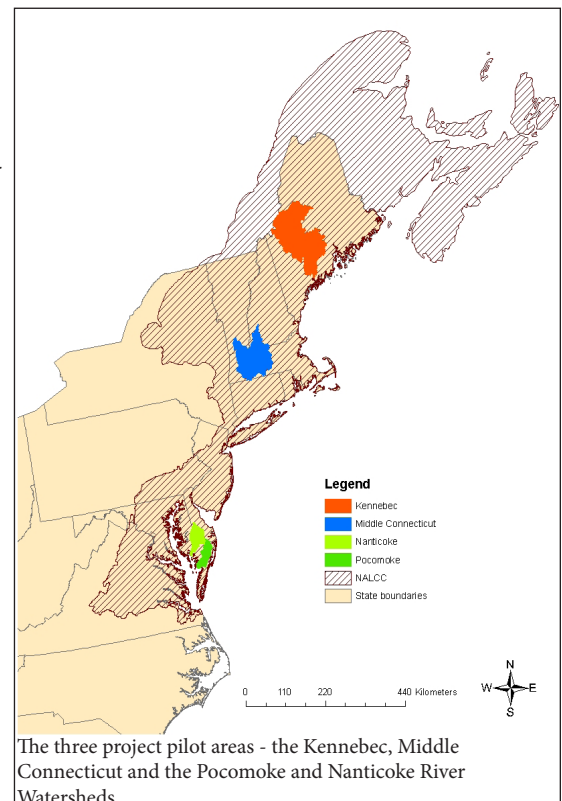
1. Assess the current capability of landscapes to provide integral ecosystems and suitable habitat to sustain populations of wildlife;
2. Predict the impacts of landscape-level changes – including those from climate change and urban growth - on the future capability of these landscapes to provide integral ecosystems and support wildlife populations;
3. Help conservation programs target their work to effectively and efficiently achieve objectives; and
4. Enhance coordination among partners during the process of designing conservation plans, implementing conservation actions and evaluating the success of those conservation actions.

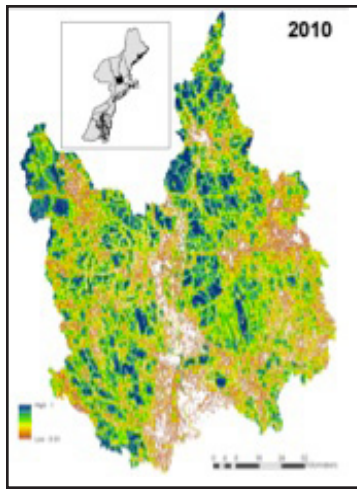
Designing Sustainable Landscapes builds upon and incorporates existing information for the Northeast such as consistent habitat classifications and maps of all the habitat types in the Northeast, as well as climate data and wildlife population data.

With these tools, conservation managers will be able to make more informed conservation decisions about where and how much land protection and habitat restoration and other conservation actions are needed to sustain wildlife populations in the face of predicted changes to the landscape.

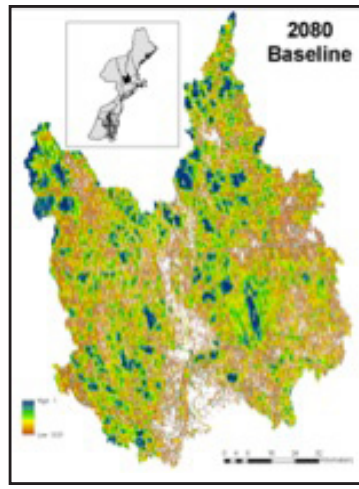
This project was initially developed and tested with partners in three pilot areas – the Kennebec River watershed in Maine, the middle Connecticut River in Vermont, New Hampshire, and Massachusetts and the Pocomoke and Nanticoke River watersheds in Delaware and Maryland. It will be extended to the entire Northeast Region in the next two years.

For more information on Designing Sustainable Landscapes, please visit the project website at:
<http://www.umass.edu/landeco/research/nalcc/nalcc.html>.





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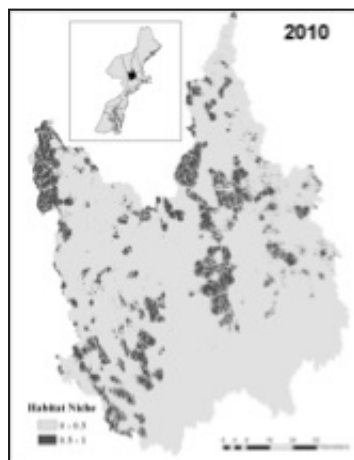
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Ecological Integrity of Habitats

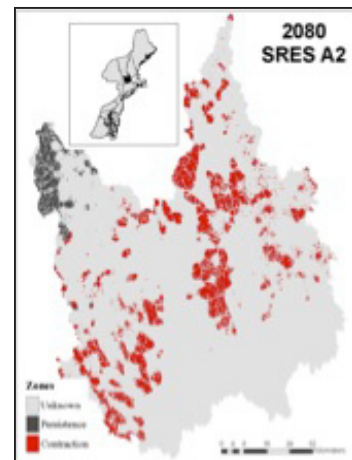
The map on the left shows a relative measure of the current ecological integrity of habitats in the middle Connecticut River watershed.

The map on the right shows the predicted future ecological integrity of habitats.

The blue areas on both maps represent the habitats, or that with the highest ecological integrity at those points in time.



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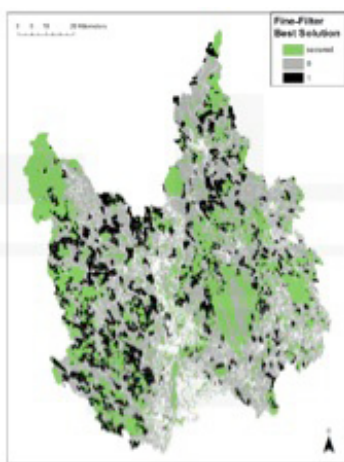
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Climate Suitability for a Representative Species

The map on the left shows the Blackburnian Warbler's habitat in the middle Connecticut River watershed under the current climate conditions.



The map on the right shows the predicted future climate suitability of the warbler's habitat due to projected changes in climate. The areas in red represent habitat that may no longer have suitable climate for the warbler.



Prioritizing Land Protection Using Representative Species

This map shows a potential conservation design decision support tool for prioritizing land protection in the middle Connecticut River watershed.

Priority areas for land protection, based on predicted future habitat capability for multiple representative species, are in black.

Areas that are already protected are in green.



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Visit the North Atlantic LCC website: <http://www.northatlanticlcc.org/>

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