

## **Conservation Design in the North Atlantic LCC: Status of Review Process and Consideration of Alternatives**

### Background

At the October 2015 North Atlantic LCC Steering Committee meeting, participants discussed current progress in conservation design. This document provides additional information about one of the topics of discussion, which was the need for a parallel review of the conservation design work and consideration of alternatives.

One of the four goals of the Landscape Conservation Cooperative Network, as identified in the Network's 2014 Strategic Plan, is "*an ecologically connected network of landscapes and seascapes adaptable to global change—such as climate change—with the ability to sustain ecological integrity and health to meet the needs of society at multiple scales.*" The Strategic Plan identifies "Landscape Conservation Design" as one of the primary mechanisms for achieving this goal through an inclusive, collaborative process. The North Atlantic LCC has long embraced this vision, with "Conservation Design" being identified as one of the eight key components for action in its 2012 Conservation Science Strategic Plan. Since then, the LCC has invested considerable resources and gained substantial experience in collaborative conservation design. The LCC's collaborative design work began in earnest in 2014 with what became known as *Connect the Connecticut*, a pilot watershed-scale conservation design for the Connecticut River watershed, and continues with the current regional work on Regional Conservation Opportunity Areas (RCOAs) for the full Northeast U.S.

### Consideration and Review of Approaches and Alternatives

The processes for reviewing conservation design elements and considering alternatives have been multifaceted. In terms of considering alternative approaches for conservation design and its major components, there have been three major phases:

- 1) Partnership evaluation of conservation design for the Connecticut River watershed, 2014-2015. The team of more than 30 individuals from state, federal and nongovernmental organizations reached a number of decisions on the conservation design process, building on LCC-supported tools (and in particular the Designing Sustainable Landscapes project) but also incorporating tools and datasets from other sources. This design is being implemented and tested by a range of partners in the watershed.
- 2) Phase 1 of RCOAs, 2015. The initial RCOA team conducted a structured evaluation of over 30 alternatives and approaches, culminating in the approval of a detailed methodology by the Northeast Fish and Wildlife Technical Diversity Committee in October 2015. Alternatives favored by partners will be tested and compared.
- 3) Phase 2 of RCOAs, 2016. New partners have been brought into the process, particularly those with aquatic expertise, with new and more fully-defined alternatives considered, building upon the 2015 methodology. More than 60 people have been involved in this process. Both Phase 1 and 2 have drawn from the approaches and lessons learned of *Connect the Connecticut*, and have added numerous components specified by states and other partners.

An additional review phase is planned when RCOA Version 1.0 is completed and available for implementation, testing and feedback starting in July 2016.

These processes have led to general agreement among participants about feasible, realistic approaches to conservation design for our geography. As can be expected in a large partnership effort, there have been situations where partners would have preferred that additional data were available for various resources of concern, and cases where certain partners preferred alternatives that the group as a whole did not select.

### Review of Individual Design Inputs and Components

The consideration of approaches and alternatives has involved review of individual design components to ensure they meet their intended purposes within the designs, with an overall intention to use the best available scientific information. Additionally, many of the components have been subjected to separate reviews and verification steps. The following table summarizes some of those review processes for selected design components. There are known uncertainties and limitations that are and should be clearly stated for users.

<b>Design element</b>	<b>Intended use within designs</b>	<b>Completed and planned review steps</b>	<b>Known uncertainties or limitations</b>
Terrestrial and aquatic habitat classifications (TNC)	Input in identifying best examples of ecosystem types	Multi-state oversight committees; rigorous statistical analysis	Have not been comprehensively field verified, post-analysis
SGCN occurrence data (states / NatureServe)	Input to determining high priority locations	Assembled by natural heritage programs through vetted protocols	Biases and limits in sampling; locational uncertainties
Index of Ecological Integrity (UMass)	With habitat classifications, identifying high integrity ecosystem locations	Multi-stakeholder review for initial versions (Mass.). Regional review is a goal for 2016	Depends on habitat classifications; limitations in other regional inputs
Terrestrial resilience (TNC)	Another approach used to determine high priority locations for conservation	Based on statistical analyses, peer reviewed publication	Typical regional limitations like lack of invasive species data; concept not subject to field verification
Representative species models (UMass)	Another approach used to complement ecosystem approach to determine high priority locations for conservation	Based on literature and expert input; statistical verification used (most spp.); expert review received for black duck, scheduled for wood thrush; goal for more reviews in 2016	Questions on representative species concept; depends on habitat classifications and other regional data with limitations
Sea level rise data (NOAA)	Used to identify potential marsh migration zones	Oversight and input by multiple organizations; update and review as better elevation and models become available.	Limitations in elevation data and uncertainties about potential dynamic response by coastal ecosystems
Dam and culvert prioritization tools (TNC, NAACC)	Used to identify restoration priorities	Multi-stakeholder teams and oversight in development of assessment protocols and prioritizations; input and addition of new data continuing	Limited data on structures and aquatic passability for many locations