







Conservation Design at Multiple Spatial Scales in the North Atlantic LCC

Andrew Milliken, Steve Fuller, Scott Schwenk North Atlantic Landscape Conservation Cooperative



LCC Steering Comm. Meeting April 16, 2014



COOPERATIVES

Building on a Strong Science Foundation, We Are Increasing Focus on: Information Management

Science Delivery

Conservation Design

 Conservation designs are being facilitated to assess how much of what conservation actions are needed where to sustain natural and cultural resources across the region and landscapes within the region

Landscape Conservation Design

- A planning process
 - a collaborative effort among partners, which includes agreeing on common priorities
- A product
 - a spatial plan for conservation decisions in an adaptive framework





Vision for Landscape Conservation Design

An interconnected, resilient network of lands and waterways has many benefits for society:

- Fish and wildlife populations
- Clean water
- Flood and erosion control
- Storm protection
- Forest and farm products
- Recreation and tourism
- Quality of life
- Employment





Key (conservation) Questions to be answered by Landscape Conservation Design

- Where should we invest in land protection, and how much?
- How should we manage protected lands?
- Where should we invest in ecological restoration?
- Where and how should we influence local land use / open space planning?







North Atlantic 🕅 Landscape Conservation Cooperative

5





NATIONAL *fish, wildlife* & *plants* climate adaptation strategy



Strategy 1.1: Identify areas for an ecologically-connected network of terrestrial, freshwater, coastal, and marine conservation areas that are likely to be resilient to climate change and to support a broad range of fish, wildlife, and plants under changed conditions.

ACTIONS

1.1.1: Identify and map high priority areas for conservation using information such as species distributions (current and projected), habitat classification, land cover, and geophysical settings (including areas of rapid change and slow change).

Best Practices for State Wildlife Action Plans

Voluntary Guidance to States for Revision and Implementation





Best Practices

Mapping and Modeling

1. Identify and spatially depict priority areas on the landscape that offer the best opportunities and potential for SGCN conservation as determined by each state, and use the generic term Conservation Opportunity Areas (COAs) for these focal areas.

November 2012

TAKING ACTION TOGETHER: NORTHEAST REGIONAL SYNTHESIS FOR STATE WILDLIFE ACTION PLANS **Conservation Opportunity Areas** A next step for utilizing regional conservation planning information and tools developed

through the RCN program and LCCs in the Northeast.

Albany, New York June 14-16, 2011 Northeast Regional Conservation Framework Conservatio Workshop (Albany II) Summary Report August 5, 2011 DRAFT Final Report Developed by: Workshop Planning Team Draft Report Developed by: Dave Case Gwen White, PhD D.J. Case & Associates 317 E Jefferson Blvd Mishawaka, IN 46545 574-258-0100 (Dave) dave@djcase.com 317-281-9445 (Gwen)

Overall priorities

Expedited delivery of the right actions in the right places (focus areas, conservation design)

Multiple Scales of Conservation Planning

- Spatial scales that match the decisions being made
- Ability to have scales inform each other
 - Regional context for watershed, state and local actions
- Plan based on both current and projected future conditions
 - Climate change
 - Urban growth





*Projected for 2010, RCP8.5 *Projected for 2080, RCP8.5 Ps are Representative Concentration Pathways of greenhouse gas concentration. Levels 4.5 and 8.5. respectively represent lower and higher levels of concentration, as within the IPCC 5th Assessment Report

| Type of Unit | Administrative | Watersheds | Terrestrial Ecological | Coastal/Marin |
|--------------|---|---------------------|------------------------|-----------------|
| Scale Extent | | | Regions | e Ecoregions |
| Regional | Northeast | Drainage Area (e.g. | Bird Conservation | Realm: Cold |
| | Region (13 | Northwest Atlantic) | Regions, Landscape | Temperate |
| | northeast states, | | Conservation | Northwest |
| | could include | | Cooperative areas, | Atlantic |
| | provinces) | | TNC Ecorogions | |
| Sub-regional | LCC facilitate | d process to apply | y science and tools | vinces, e.g. |
| | in collaborativ | ve conservation de | esign process at | adian, |
| | these scales ar | nd apply learning | to future efforts | ginian |
| | states) | Bay Watershed) | Broadleat Forest) | |
| Landscape or | State or | Large watersheds | EPA/Omernik Level | Large |
| State | Province | (HUC level 4), e.g. | IV USFS/Bailey | Estuaries, e.g. |
| | | Connecticut River | Provinces | Narragansett |
| | | watershed) | | Bay |
| Sub- | Constru | Tributany ash | Maine common at of a | S-11 estuary |
| Landscape or | LCC information management and science delivery | | | |
| State | support for pa | rtner networks to | deliver translate ar | nd |
| Local | help partners a | apply science and | tools at these scale | and or |
| | | 12 | road-bounded block | beach complex |
| Site | Landholding | Stream reach | Habitat patch or small | Tidal wetland |
| | $(v, \varepsilon, v, f_{1}, \varepsilon)$ | | | |

Initial LCC Strategy for Cons. Design

- Facilitate collaborative conservation designs at key scales to both support planning at those scales and apply lessons learned to future efforts
 - Initial focus at the regional scale should be a collaboration with state fish and wildlife agencies to support the development of regional Conservation Opportunity Areas (COAs) for State Wildlife Action Plan Updates
 - Initial landscape scale conservation designs should be focused on in large watersheds or other similar scale ecoregions where there are active partnerships working with an initial pilot in the Connecticut River Watershed

Regional COAs

- Targeted to RSGCN and the terrestrial and aquatic habitat types in the region;
- Led by the NEFWDTC, SWAP Planners and state GIS staff;
- Results should not only support the identification of regional COAs but also inform the identification of state-level COAs

Regional COAs

The guiding purpose of Regional Conservation Opportunity Areas is to identify and spatially depict priority areas at the Northeast regional landscape scale that offer the best opportunities and potential for RSGCN conservation, considering the **location and relative condition of their habitats.**



With consistent data on species distributions, we can begin to identify areas of risk and opportunity.



NE Terrestrial Habitat Map A consistent classification and map across 13 states



INDIAL ALIANAL VI LANASCAPE Conservation Cooperative



Landscape Scale Conservation Design (large watersheds)

- Initial pilot is a facilitated process in the Connecticut River Watershed
- Provide information and support through partnerships for other landscape-scale efforts
 - e.g. Chesapeake Bay/Envision the Susquehanna

Landscape Conservation Design in the Conn. River Watershed

- November 2013, LCC Steering Committee: initiate pilot conservation design effort
- Also in November, USFWS Northeast Regional Directorate agreed – Refuges program leadership



FWS and LCC Objectives for Landscape Conservation Design Pilot

 Collaboratively prioritize places, strategies, and actions to conserve ecosystems and the fish, wildlife, and plants they support

 Establish a process for conducting landscape conservation design that can be applied and adopted elsewhere

"Core Team" Participants

- 5 state (4 agencies)
- 9 NGO / private
- 17 FWS and LCC staff (including 'observers' from other areas)
- 5 other federal (3 agencies)



Process and Progress

- 1st Core Team Meeting 2/24/14
 - Introduce project
 - Established overall goals
 - Aquatic and terrestrial subteams
- 2nd Core Team Meeting 3/28/14
 - Introduction to tools by 3 P.I.'s
 - Discuss decisions and process
- Aquatic & terrestrial calls scheduled for April
- 3rd Core Team Meeting 4/25/14



Multi-species Multi-ecosystem



















Support for Connecticut River Watershed Pilot



Relating Design Back to Benefits



An interconnected, resilient network of lands and waterways has many benefits for society:

- Fish and wildlife populations
- Clean water
- Flood and erosion control
- Storm protection
- Forest and farm products
- Recreation and tourism
- Quality of life
- Employment

Additional Considerations

- Regional and landscape scale efforts should work from common scalable spatial data and tools to the extent possible
 - e.g. representative species, rare species, ecological integrity, resiliency, connectivity
- This information would likely be summarized with different units of analysis such as 30-m cells for landscapes vs. road-bounded blocks for region
- State and local higher resolution information and local knowledge can added to regional and landscape scale information

Recommendation: LCC supports Integrated Conservation Planning at Multiple Scales in the Northeast Region

- Making information and simple tools easily available for any partner to access and use;
- Supporting a science delivery network that reaches multiple scales (including local), provides assistance and demonstrates applications of information and tools at those scales; and
- Facilitating collaborative conservation designs at key (regional and landscape) scales to both support planning at those scales and applies lessons learned to future efforts

Next Steps

- Regional COA methodology by fall NEFWDTC meeting
- Initial Connecticut River watershed pilot results, summer 2014
- Other landscape-scale efforts underway through science delivery grants
- Ongoing training and network building
- Consider additional science project phases to refine these efforts
- Establish regional conservation design team?
- Host Albany III meeting to pull it all together and discuss results in June 2015?