

Notes on Science & Strategic Conservation Planning

Session 1: The CT River Watershed Landscape Conservation Design: A Network of Linked Cores to Conserve

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Nancy McGarigal:

Why landscape-level conservation?

- An interconnected, resilient network of lands and waterways has many benefits for society including healthy fish and wildlife populations, clean water, flood and erosion control, forest and farm products, recreation and tourism, and quality of life benefits.
- “Landscape” conservation design is a collaborative planning process where partners agree on common priorities after considering the best information available.

What is different from past efforts?

- Collaborative planning not driven by one organization’s agenda.
- Includes an adaptation strategy incorporating climate change, urban growth, etc.
- Bigger in scope and multi-scaled.
- The database we are using covers the Northeast and we are using unusual models/tools.
- New models and tools are being developed for this project.
- Complementing and integrating past and existing efforts and local knowledge.
- Most interesting is that we now have a complex database to observe the Northeast with.

Why the Connecticut River Watershed?

- Its geography is great: it includes four states, mountains, salt marsh, and tidal areas.
- Good place to be challenged and see if the design works in the multiple areas and habitat types.
- Some species and habitat work has been done here in the past so we had baseline information.
- The states have been working together within the watershed already.

Who is participating on the CT river pilot project team?

- Leadership team includes North Atlantic LCC staff, USFWS staff, Kevin McGarigal of UMASS and core team of more than 30 partners including four state fish and wildlife agencies
 - Cornell has asked to observe the project.

Objectives for the Pilot Process

1. Collaboratively prioritize places and the strategies and actions necessary to conserve ecosystems, fish, wildlife, and plants they support into the future.
2. Deliver information, maps and tools to the public.
3. Establish a process for conducting landscape conservation design that can be applied and adopted elsewhere.

Pilot Project

- Selecting Species and Ecosystem Objectives
 - Identified 14 different species and used them to model the different types of species found in the area. Added rare species to make sure we were encompassing all habitat needs.
 - We looked at what objectives others had set and species lists used in similar projects.
 1. Decide on species.
 2. Consider existing national/regional/state resources objectives.

- 3. Consider importance of resources to watershed and region.
- 4. Consider current and future capabilities.
- Combined Conservation Design Elements
- Communications
 - Extensive project webpage
 - Grow workspace on conservation planning atlas
 - Presentation and posters
 - North Atlantic LCC newsletters
 - Survey of participants

Scott Schwenk:

Conservation is both a product of planning and the work that goes into it. A couple points I want to make before the lecture, are that the Connecticut River is much more than a watershed. The watershed also provides great habitat for black bears. We also want these tools and products to be able to be used outside the Connecticut watershed and in different areas and habitats.

Space-Regional Context

- Looking at current and past climate of the area and projecting it into the future to determine whether that habitat will still be suitable for the species we are looking at.
- Looking at different species can give you, a different perspective on an area and allow you to see things that you might have missed otherwise.
- If you look at what the species needs throughout the year, you will be looking at a much broader range of features than if you are just looking ecologically at the area.

Selecting Representative (surrogate) Species

- Criteria
 - Species typify life cycle or habitat requirement for a larger group of species
 - All major ecosystems
 - Sensitivity
- We are looking at 15 species now and will expand to 30 species in the Northeastern region.
 - Habitat capability models are based on “known” habitat association and effects of stressors, as well as actual field data,
 - Not all species can fit into the 30 represented species so we are adding rare species.
 - Ex: Bats use caves that would not normally be picked up by other species.

Ecosystems: Terrestrial Resiliency (The Nature Conservancy)

- “Conserving the stage” approach: the underlying stage species use dictates what is conserved.
- If you look at the different stages, the landscape it will last longer and be healthier.
- You need a complex ecosystem for a healthy and diverse ecosystem.
- Landform Variety + Wetland Density + Elevation Range = Landscape Complexity
- Also taking ecological integrity into account (UMass)
 - Intactness + Resiliency = Ecological Integrity
 - Intactness means freedom from human impairment and stressors.
 - Resiliency is the capacity to recover from or adapt to disturbance and stress.
- Rare natural communities and intact flood planes are areas that would not be picked up normally by the sampling so we are adding them in.

Integrating Ecosystems Components

- Identify highest priorities for conservation (core area).
- The most important part of the design is that these core areas are not the only thing and you need to put them with the rest of the habitat because that’s what highlights them.

Where We are Now

- We have drafts for species areas and core areas.
- In our next meeting will focus on putting the two together.
- We are very aware that we need to form a connection between the core areas.
- Another important area is to increase habitat for species through restoration.

Next Steps

- Incorporate landscape, climate change, and urban growth into the project.
- Finalize design.
- Communicate and distribute results and tools.
- Foster implementation.
- Monitoring and evaluation of plans.

More Information on <http://northatlanticlcc.org/groups/connecticut-river-watershed-pilot>.

Q&A:

You didn't seem to add botany into it, and it doesn't talk about the estuary, and tidal wetlands?

Scott: We don't have individual plant species in it, that is something we would like to do in the future, but we do have core areas, like bogs that hold different species and we want to make sure that we are including all the ecosystem types that we can.

Can you speak a little bit more on the implementation? Who? What would that look like?

Nancy: I don't have much to say about that; that is something we are going to do as a team. I thought we would have done that by now. We meet monthly and everyone comes, we also have sub-team meetings. So we are meeting 3 to 4 times a month. We are trying to work through major hiccups in the design first.