

The work we as a conservation science community do is terrifically important. And we undertake it in very meaningful ways, in really important places. If it weren't, we wouldn't do it, right? We are convinced that we are making a difference, and we are making a difference in most cases. But is our work having a lasting impact? Important as it is, is our work well enough aligned across geographic scales and time scales to be sure that it is sustainable in the face of accelerated ecological stressors like climate change, energy exploration and exploitation, population growth and land use development?

We have a chance now to develop landscape science tools and community – scientific community, conservation community, and communities in the traditional sense – to protect, restore and conserve enough of the right kinds of habitat, in connected configurations throughout landscapes, to support sustainable populations of most of the species of fish wildlife and plants that people value.

So we have been devoting thought to the opportunities we see in the Chesapeake watershed to align the ground-breaking science of LCCs, the organizing power of Joint Ventures and Fish Habitat Partnerships, and the capacity of Regional AFWA Associations and NGO's to address our mutual priorities. We are hoping to bringing new thought leadership, tools and resources to bear on these priorities we share.



We have been engaging with partnerships in the Susquehanna watershed. There are many reasons why it makes sense. I work closely with the Chesapeake Bay Program, and the Susquehanna makes sense, both in terms of ecological influence, and the strength and capacity of partnerships working here. It's predominantly in the AppLCC geography. But it's also significantly in the NALCC geography and the NALCC has funded some work here already. So it is here that we are considering a rivershed-wide conservation design exercise for the Chesapeake. This doesn't mean we won't be working to build foundations of support in other systems. We already are doing that and will continue to do it: Choptank Complex, Nanticoke/Pocomoke, James, Rappahanock, Southern Maryland Rivers.

There is a lot of local conservation capacity already organized here, and we are getting prepared to focus new attention and direct support here as a priority, if the groups welcome it. And they do seem receptive.

A group of FWS Project Leaders has also been meeting to determine how best to align the resources and capabilities of our Programs and Field Offices in support of a Susquehanna-wide habitat conservation planning and design effort in the basin. FWS looks forward to serving the networks of conservation networks doing work in the basin, offering our convening power, thought leadership, coordination, science, decision support, alignment of operations, and more. We are meeting with our Regional Directorate Team in August to brief them and to gain their further support and engagement.

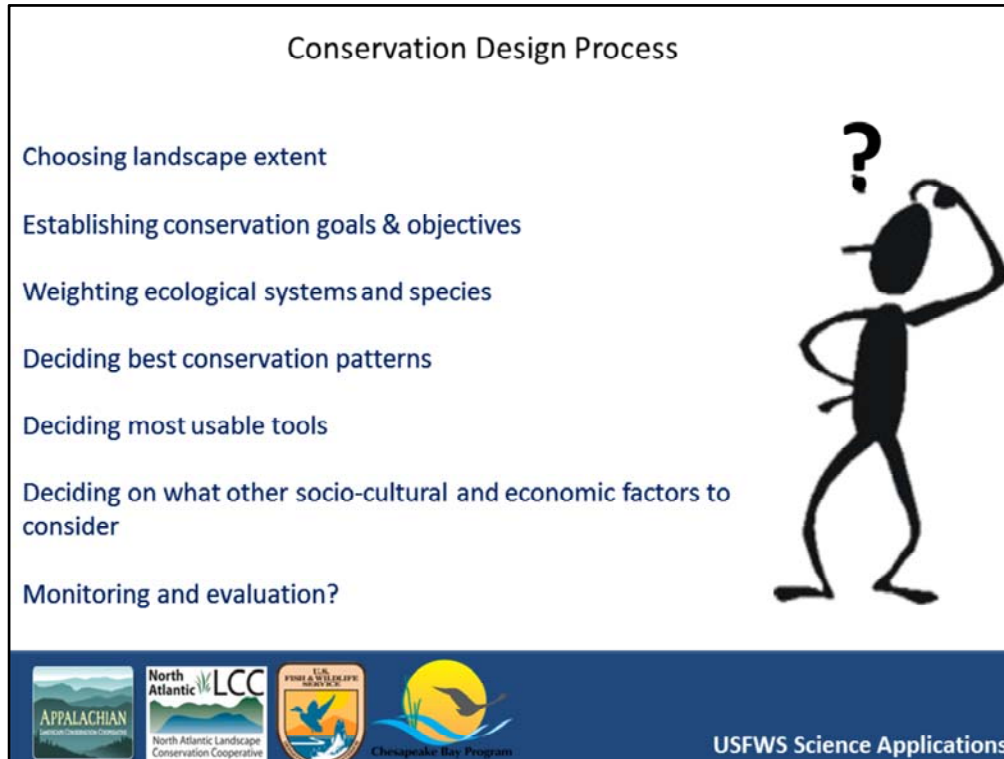


NALCC Science Delivery team awarded a grant to Chesapeake Conservancy and Envision the Susquehanna this year to carry out a demonstration project as part of the community based, large landscape conservation effort, *Envision the Susquehanna*.

Led by the Chesapeake Conservancy, the core team of organizations working to carry out *Envision the Susquehanna* includes the Susquehanna River Heartland Coalition for Environmental Studies, Wildlife Management Institute, Susquehanna Greenway Partnership, and Pennsylvania Department of Conservation and Natural Resources. The team has also established a 25-plus member advisory council that includes environmental and historic nonprofits, American Indian interests, private enterprises, and state, federal, and local departments.

With this funding, the Conservancy and its partners will identify community needs and priorities related to conservation to create a common platform for decision making throughout the Susquehanna watershed. They are using landscape science products created by the North Atlantic LCC to identify and prioritize locations that will best address both the regional conservation contributions necessary and the local needs identified by these communities. As part of the initiative, the Conservancy will share and promote the NALCC landscape conservation design products with its network of over 25 participating organizations and institutions in the watershed.

But as I said earlier, our intention will be to make AppLCC tools available, as well, as part of a more integrated conservation design effort.








So what next? Here are the general steps in conservation design according an adaptive management framework we have found useful in the Northeast.

We've moved through these steps somewhat based on opportunity and need (not strategically), and with some success. We have an Executive Order and a Watershed Agreement – a Compact – that include outcomes for brook trout and black ducks, stream health, wetlands, fish habitat and sustainable fisheries. But an overarching context, designed to sustain fish and wildlife habitat, at a scale that is practical but large and ambitious (like the Susquehanna), to generate connectedness across both geographic scales and time, is needed.

Ideally, conservation design work would be underway simultaneously at many, nested scales. Different groups have different ideas about composition/delineation of different scales of analysis, and there are differences in composition of partnerships. I don't think there is one right answer. But we can aim for more consistent, intentional, thoughtful alignment of our work, based on shared priorities. These are steps in a general process we have proposed to partners across the Susquehanna Basin (and Chesapeake watershed). It is really a standard adaptive management framework.

Species Appearing on Multiple Lists

North Atlantic LCC Representative Species List	202g Species Matrix	Northeast SWAP Synthesis RSGCN List
Terrestrial Species		Aquatic Species
<ul style="list-style-type: none"> •American Black Duck •American Woodcock •Diamond-backed Terrapin •Grasshopper Sparrow •Louisiana Waterthrush 	<ul style="list-style-type: none"> •Prairie Warbler •Prothonotary Warbler •Bog Turtle •Wood Thrush •Worm-eating Warbler 	<ul style="list-style-type: none"> •Brook Trout •American eel •Shad •River herring •Freshwater mussels









Good start! Mention saltmarsh sparrow, surf scoter, striped bass, etc. Not identified by ALL SWAPs, but for most. Could be considered for addition to a list.

Next Steps

Chesapeake Habitat Conservation Design

- Identify Landscape(s) – *Chesapeake/Susquehanna*
- Assemble Conservation Design Team
- Recommend priority species and habitat conservation targets
- Recommend priority species for future data collection (data gaps)
- Set Objectives for Species/Habitats
- Develop decision support tools to (A) identify specific Conservation Opportunities Areas and (B) guide adaptive management efforts to help land managers and policymakers monitor progress
- Identify Limiting Factors to reach objectives (habitat - non-habitat)
- Prioritize Limiting Factors (scope – severity – irreversibility)
- Prioritize Conservation Actions to address limiting factors (contribution to outcome – feasibility – leverage – public values)
- Organize agency expertise and capacity (who does what best?)
- Develop Integrated Landscape Implementation and Annual Work Plans & Monitoring






USFWS Science Applications

Science ARD Ken Elowe and I have been making the rounds with state Fish and Wildlife Directors. We have met with MD, VA, WV, and PA and Ken scheduling a conversation with NY leaders. The reception is enthusiastic and positive.

Are attempting to engage the agency and organization leaders who already serve on the LCC Steering Committees, and represent the Chesapeake Bay states, as a Chesapeake Conservation Design Team. How much, of what kinds of habitat, where and in what configurations across the landscape, is needed to support sustainable populations of MOST of the fish and wildlife people value.



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"Once there were brook trout in the streams in the mountains. You could see them standing in the amber current where the white edges of their fins wimpled softly in the flow. They smelled of moss in your hand. Polished and muscular and torsional. On their backs were vermiculate patterns that were the maps of the world in its becoming. Maps and mazes. Of a thing which could not be put back. Not made right again. In the deep glens where they lived all things were older than man and they hummed of mystery."

- Cormac McCarthy, *The Road*



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Questions?