



APPALACHIAN
LANDSCAPE CONSERVATION COOPERATIVE

Outline

- I. LCDs – evolution / understanding, practices, lessons learned
- II. AppLCC's LCDs

Reference: (<http://www.journals.elsevier.com/landscapeandurbanplanning>)

I. LCDs – evolution / understanding, practices, lessons learned



Landscape conservation design and the iCASS Platform:
An adaptation pathway for social transformability in sustainability planning

Campellone, R. M., Choumard, T. M., Fischell, N. A., Gallo, J. A., Lujan, J. R., McCormick, R. J., Mieswald, T. A., Murry, B. A., Piarco, D. J., Slavely, D. R. (in review).

Manuscript Summary August 2016

Introduction

Single-institution planning is typically atomistic, rigid, and incapable of addressing more than incremental adjustment to existing conditions that develops the technical blueprints and specification documents that guide the manufacture of resilient and sustainable landscapes. We assert that design constitutes an adaptation pathway—a

Rob Campellone, Policy NWR System

iCASS *provides framing*

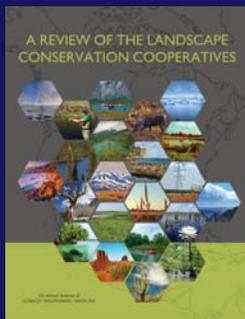
- i innovation** ———(vary geography, socio-ecological systems)
- C Convening** ———stakeholders => shared goals { articulate }
- A Assessment** ——— current & future conditions
- S Spatial** ———— develop design [what will success look like]
- S Strategy** ————(map) how do we implement it...acting collectively

Ben Thatcher, National Landscape Conservation Cooperative

I. LCDs – evolution / understanding, **practices**, lessons learned



Is this project an LCD?
7 Characteristics



<https://lccnetwork.org/sites/default/files/LCC-Network-Definitions-and-Characteristics-of-Design-FOR-WORKSHOP.pdf>

https://lccnetwork.org/sites/default/files/SUMMARY_DRAFTBestPracticesforLCLandscapeConservationDesigns.pdf

<https://lccnetwork.org/sites/default/files/NAS%20Report%20Appendix%20C.pdf>

Definition and Characteristics for LCC Landscape Conservation Designs
DISCUSSION DRAFT
Updated June 14, 2016

The following draft definition and characteristics for LCC landscape conservation designs were drafted by the LCC NAS Design Team in preparation for the LCC Network meeting to be held June 21-24, 2016. The draft definition and characteristics were revised based on feedback from LCC Coordinators and Science Coordinators. The intent is to identify the set of characteristics that LCC practitioners agree should be present in those landscape conservation designs that are supported by the LCCs. They will be used to help address the first component of the Landscape Conservation Design inside topic of the LCC Workshop.

Develop common understanding on conservation design, including the following:

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LCC Network Working Definition of Landscape Conservation Design

Revised definition: Landscape Conservation Design is a goal-oriented conservation planning and implementation process that provides management practices to reach just

Explanatory Text: An effective design is the result of desired future conditions agreed upon by the design change agents (or stewards) that a

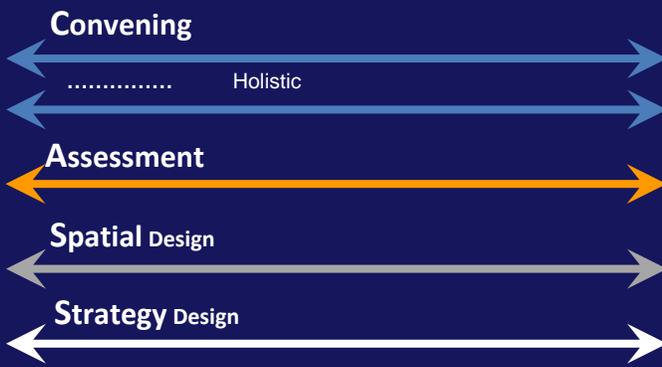
Best Practices for LCC Landscape Conservation Designs
DISCUSSION DRAFT
Updated June 14, 2016

DISCUSSION DRAFT DEVELOPED BY THE LCC DESIGN BEST PRACTICES WORKGROUP IN THE 2014 LCC NETWORK WORKSHOP IN ST. LOUIS, MO

Chapter 1: INTRODUCTION

Landscape conservation design (Design or LCD) – a goal-oriented conservation planning and implementation process – is a central component for achieving the goals of the LCC and requires clear landscape conservation designs to improve the health of the landscape and support the conservation goals. The Best Practices are intended to improve the quality of landscape conservation designs from the conceptual to the implementation stage. The Best Practices represent current thinking and provide a common framework for LCC practitioners to use in the development of landscape conservation designs. The Best Practices also provide a common framework for LCC practitioners to use in the development of landscape conservation designs. The Best Practices are intended to improve the quality of landscape conservation designs from the conceptual to the implementation stage. The Best Practices represent current thinking and provide a common framework for LCC practitioners to use in the development of landscape conservation designs. The Best Practices also provide a common framework for LCC practitioners to use in the development of landscape conservation designs.

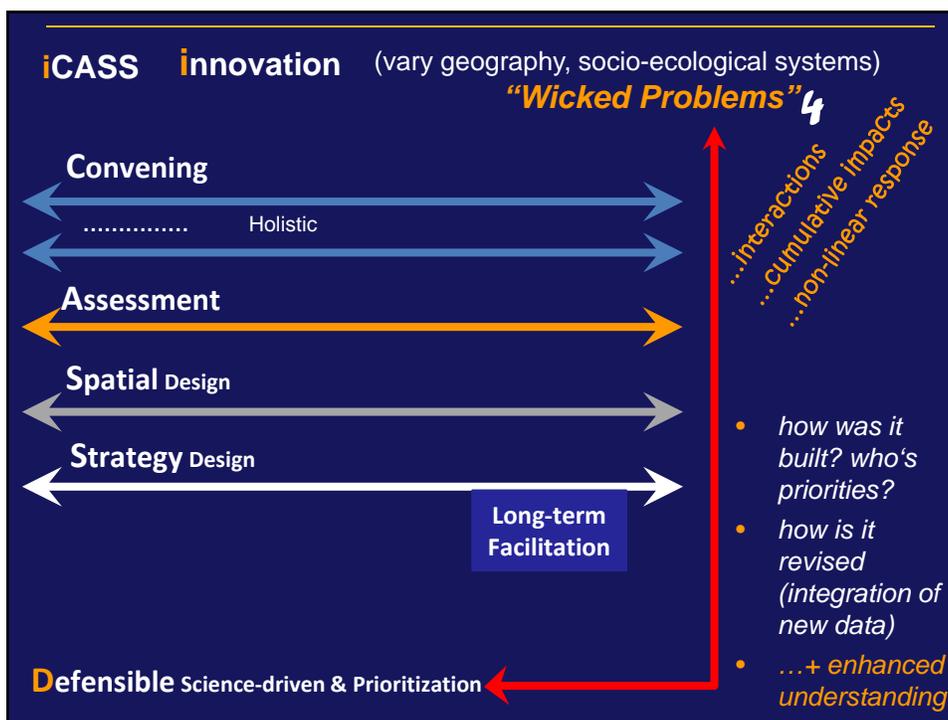
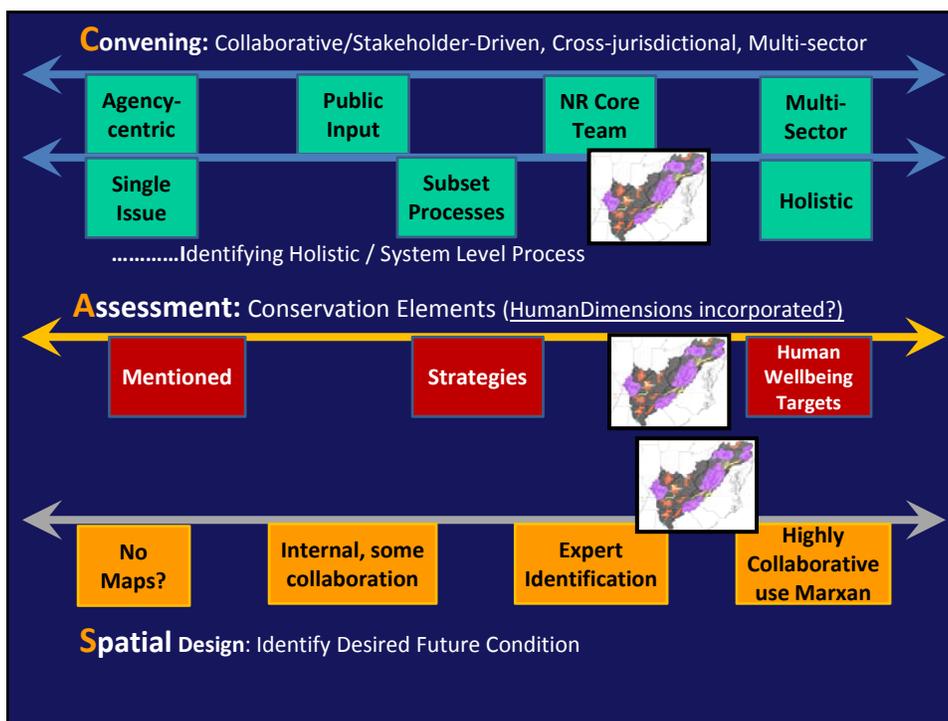
iCASS innovation (vary geography, socio-ecological systems)
“Wicked Problems”



iCASS **3**
...a continuum



Tom Miewald, North Pacific LCC Science Applications, NWR System



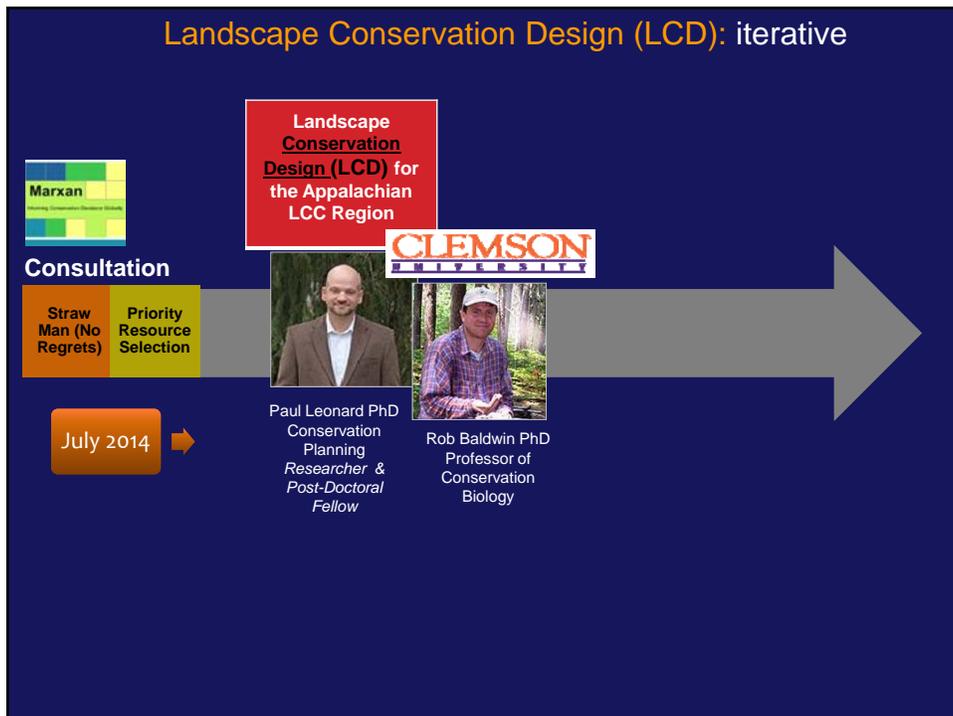


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Landscape Conservation Design (LCD): iterative



The diagram illustrates the iterative process for Landscape Conservation Design (LCD) for the Appalachian LCC Region. It features a large grey arrow pointing right, with various components and logos integrated into the flow.

- Marxan** logo (top left)
- Consultation** box (left side) containing:
 - Straw Man (No Regrets)
 - Priority Resource Selection
- July 2014** box (bottom left) with an arrow pointing right
- Paul Leonard PhD** (center left): Conservation Planning Researcher & Post-Doctoral Fellow
- Rob Baldwin PhD** (center right): Professor of Conservation Biology
- Clemson University** logo (center top)
- Landscape Conservation Design (LCD) for the Appalachian LCC Region** (center top, red box)

Partner Prioritization (...desired outcome) (...science-driven)

What will success look like?

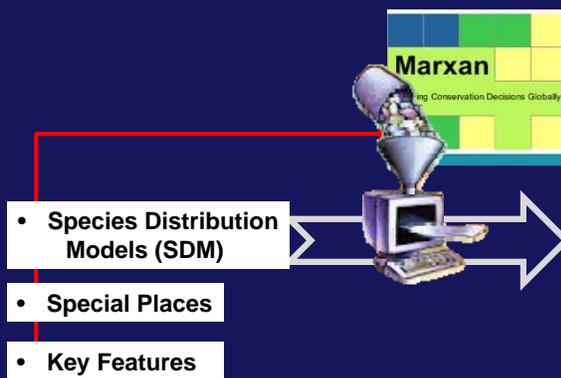


Priority Resources / Ecosystems+

1. Unfragmented forest
2. High-elevation forest
3. Mature lowland forest
4. Early successional habitats
5. High-elevation streams [mid- high]
6. Low-elevation streams [mid-low]
7. Cave/Karst Systems
8. Forested Wetlands

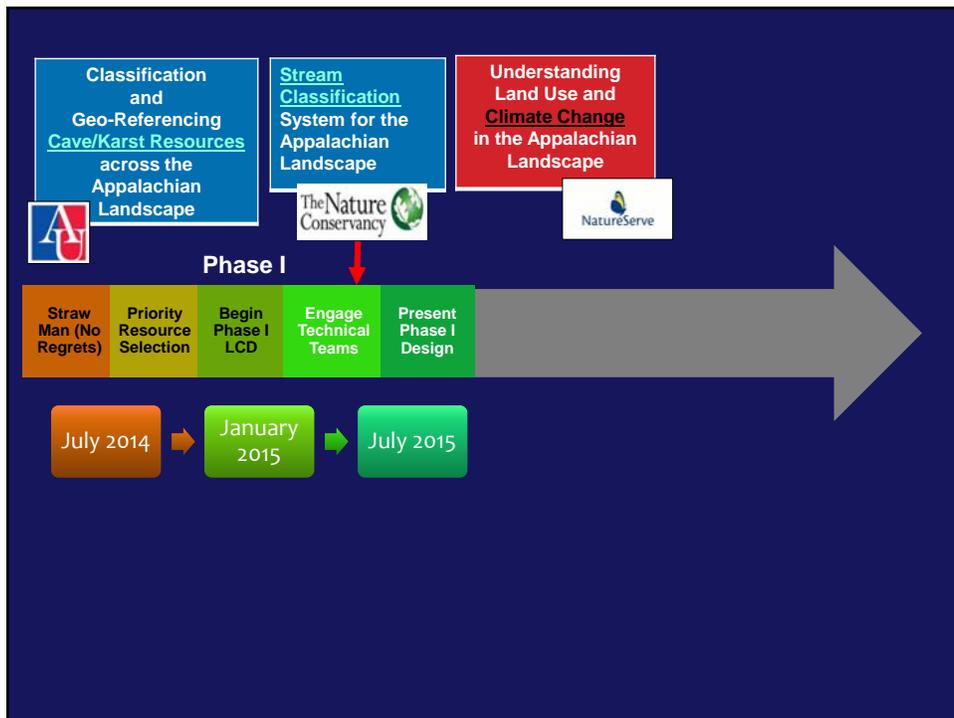
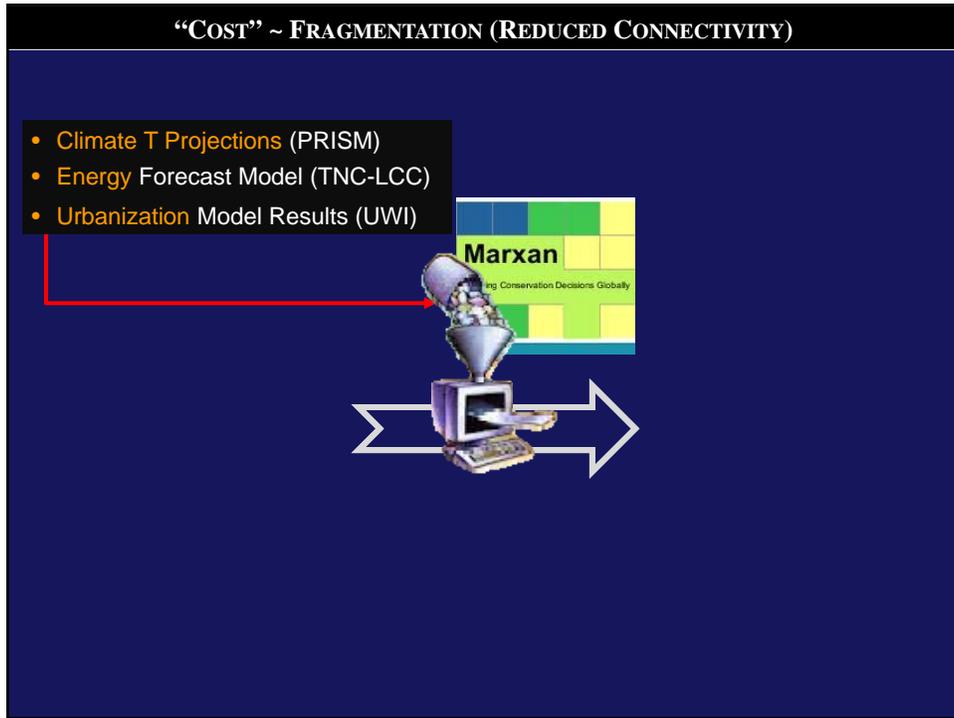
SPATIAL TARGETS → “BENEFIT” IN THE MODEL OUTPUT SOLUTION

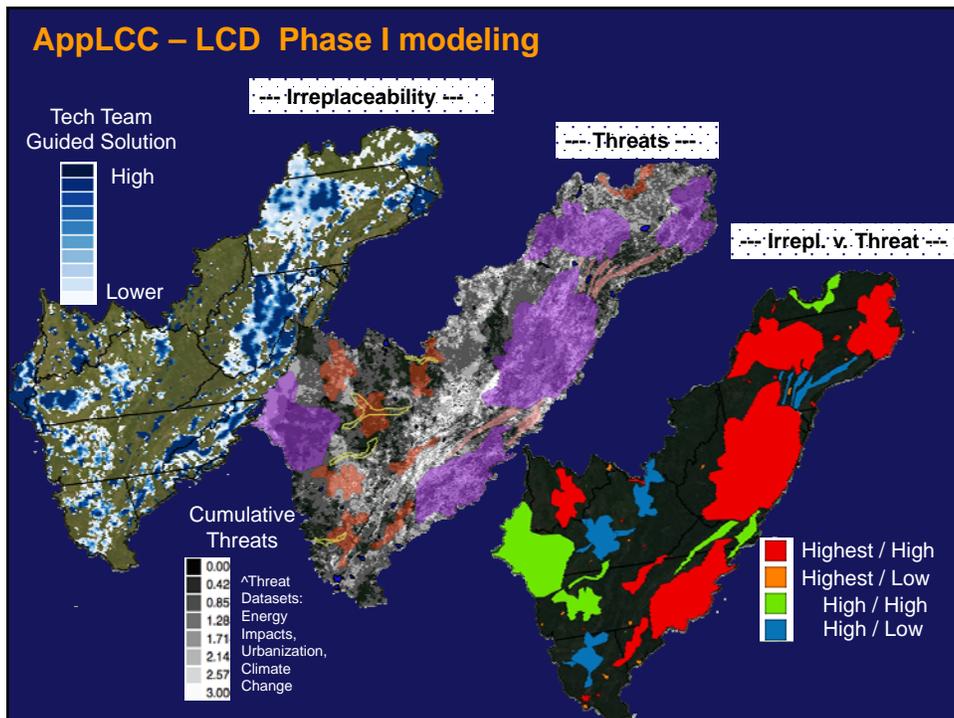
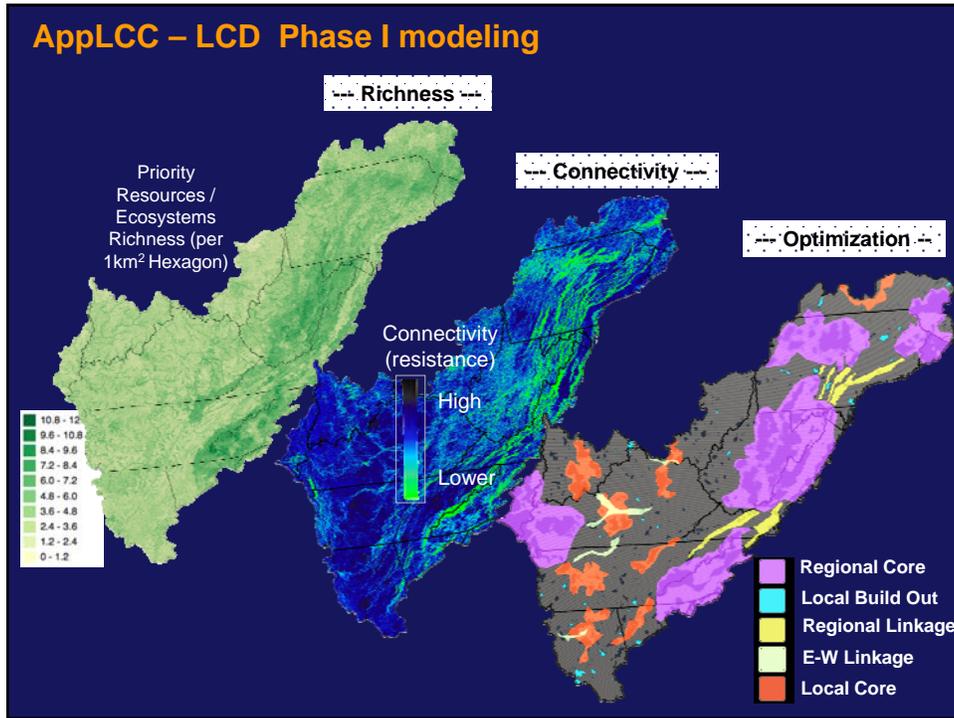
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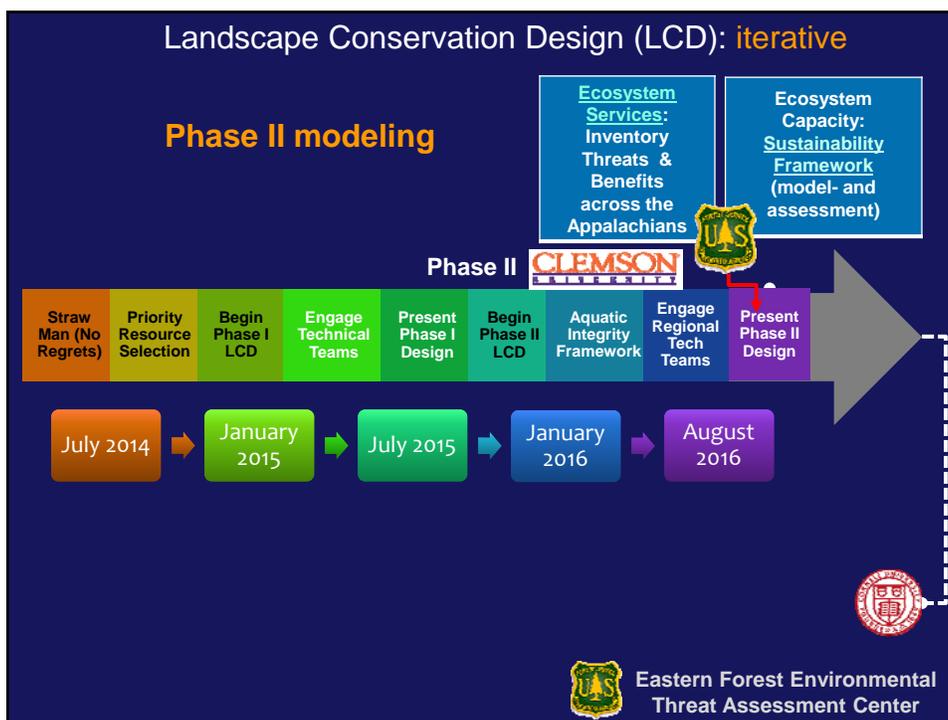
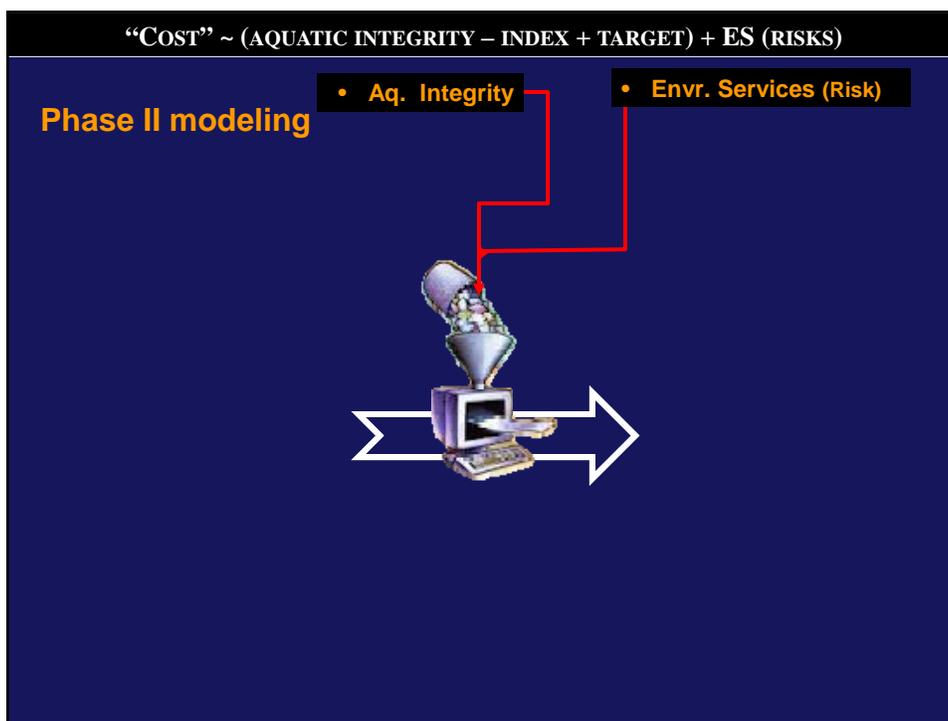


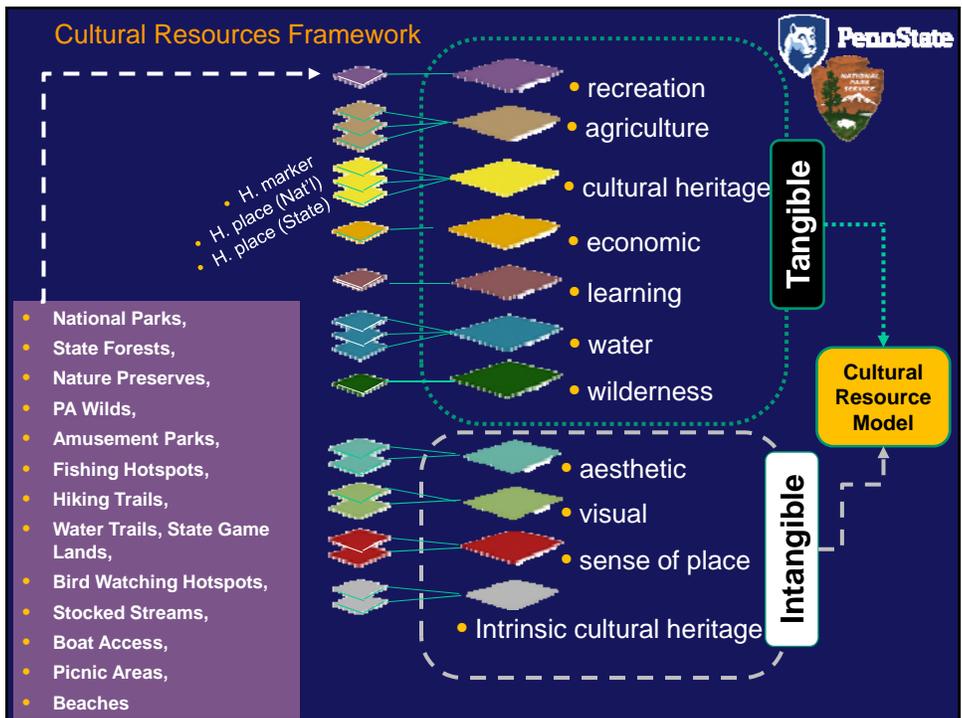
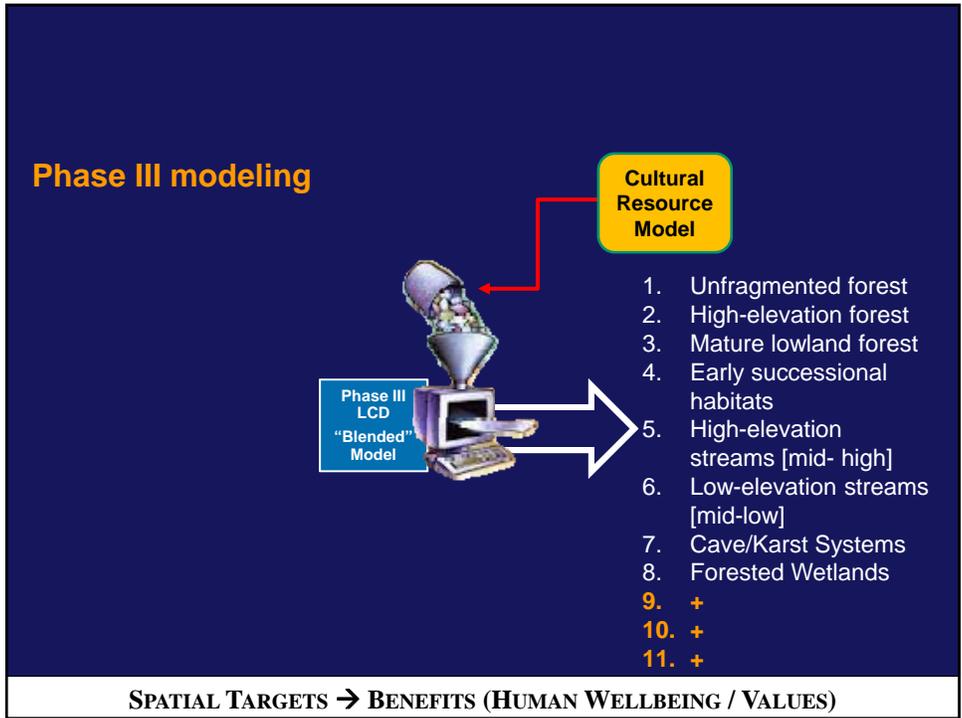
- Species Distribution Models (SDM)
- Special Places
- Key Features
 - Resilient sites - TNC Top 10%
 - Soil deficit: least likely to depart historical climate regime

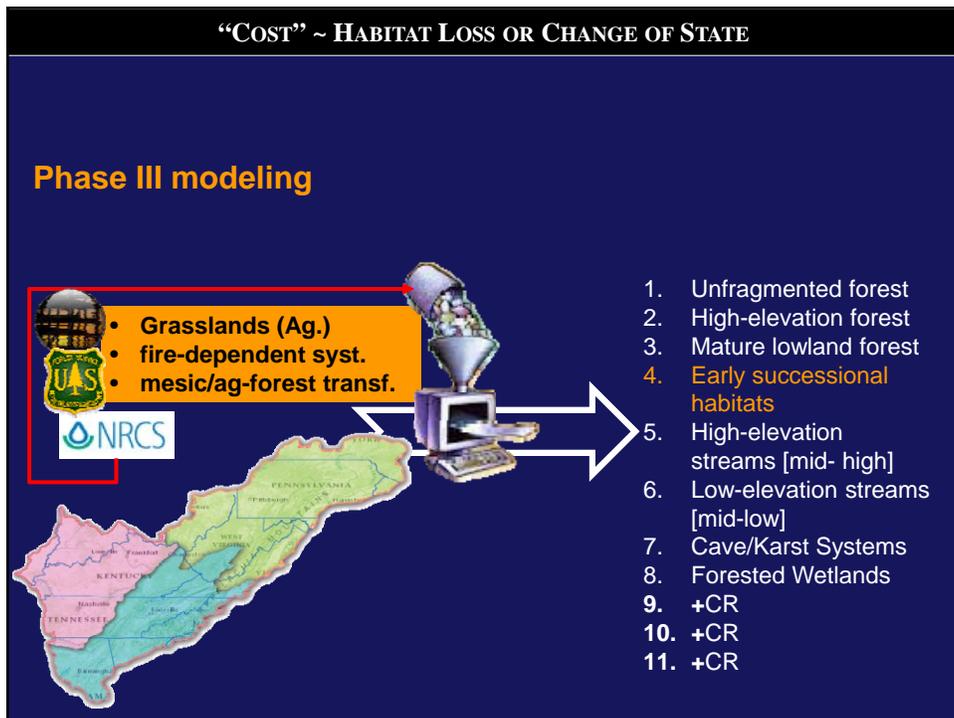
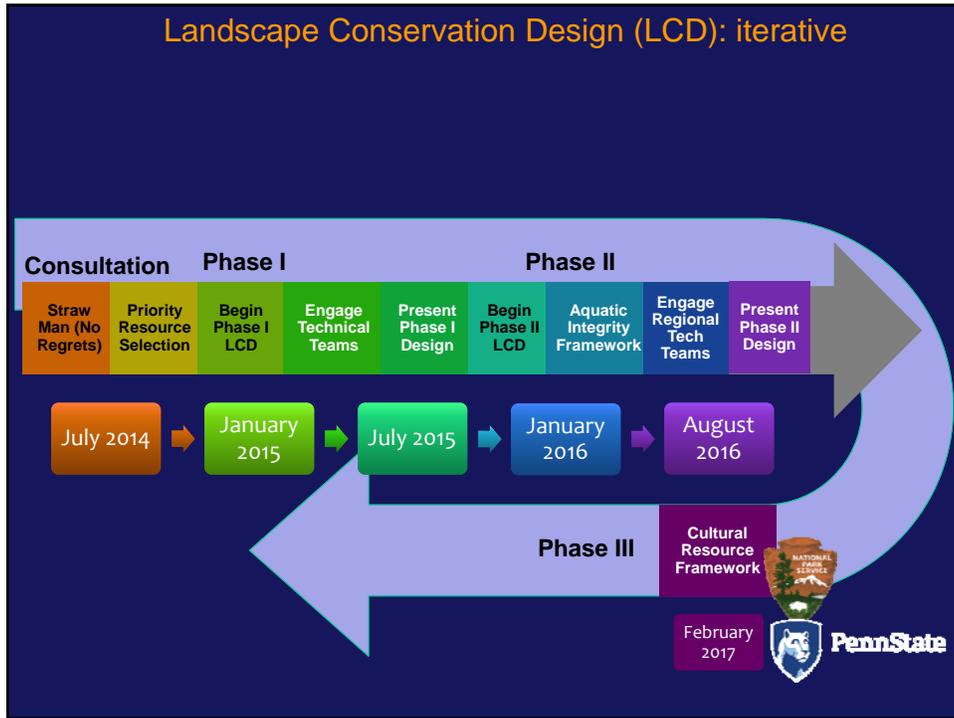
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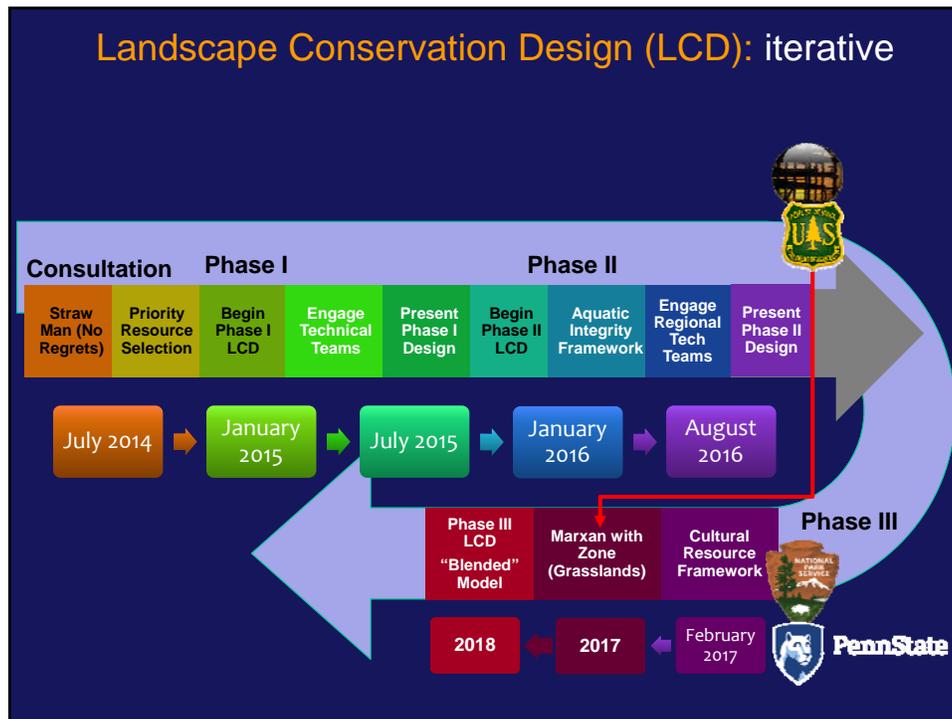












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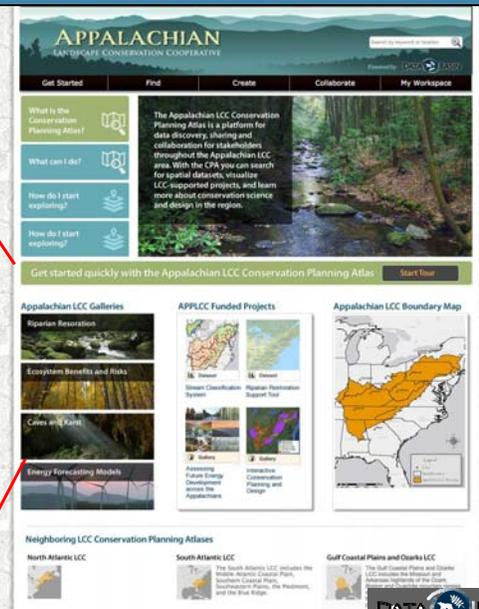
Outline

- I. LCDs – evolution / understanding, practices, lessons learned
- II. AppLCC’s LCDs – [science investment to inform the science-based design] to begin the discussion &
- III. *Next Steps...* strategy development for implementation
 - *passive (access), active (engagement)*

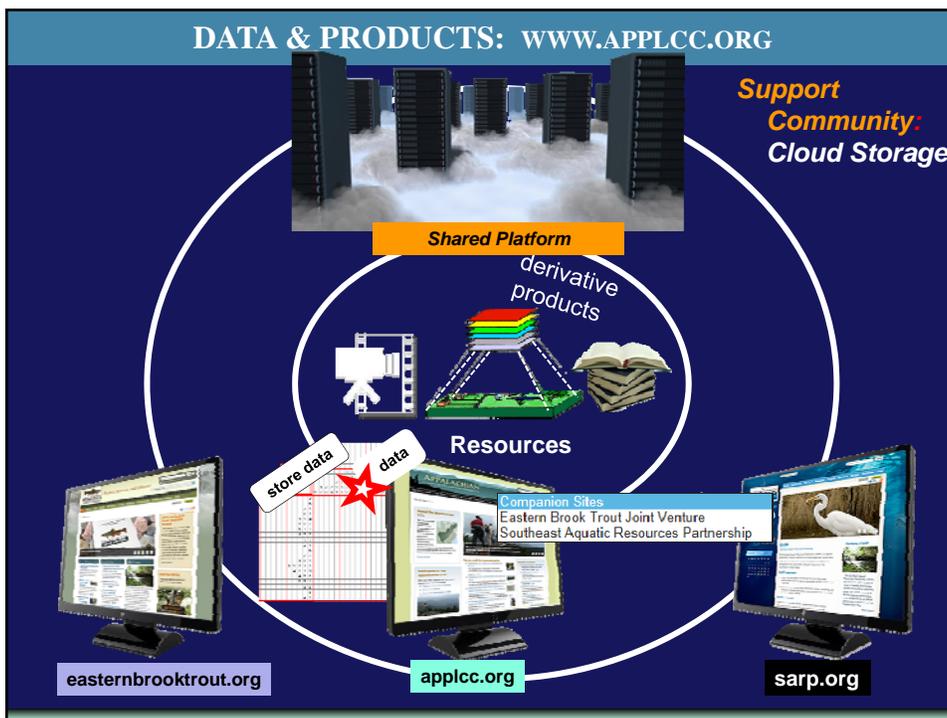
MAPS: CONSERVATION PLANNING ATLAS (CPA)

Appalachian LCC Galleries

-  Riparian Resoration
-  Ecosystem Benefits and Risks
-  Caves and Karst
-  Energy Forecasting Models



The screenshot shows the website interface with sections for 'What is the Conservation Planning Atlas?', 'What can I do?', 'How do I start exploring?', 'Get started quickly with the Appalachian LCC Conservation Planning Atlas', 'Appalachian LCC Galleries', 'APPLCC Funded Projects', 'Appalachian LCC Boundary Map', and 'Neighboring LCC Conservation Planning Atlases'.



TRAINING: SCIENCE APPLICATIONS

Enter Our Courses Login

Riparian Restoration to Promote Climate Change Resilience

This user-friendly tool allows managers and decision-makers to rapidly identify and prioritize areas along the banks of rivers, streams, and lakes for restoration, making these ecosystems more resilient to disturbance and future changes in climate.

[Learn More](#)

Energy Forecast Modeling

Models of wind, shale gas, and coal development for the entire study area have been created to predict potential future energy development and impacts to natural resources within the Appalachians. Models and data from all development projections populate a web-based mapping tool to help inform regional landscape planning decisions.

[Read more](#)

Ecosystem Benefits and Risk

Ecosystem services are the benefits people receive from nature. These include things from clean drinking water and sustainably harvested forest products to nature based tourism. These essential services are placed at risk by processes driving landscape change in the Appalachians.

[Learn more](#)

Overview

Energy Forecast Modeling

Models of wind, shale gas, and coal development for the entire study area have been created to predict potential future energy development and impacts to natural resources within the Appalachians. Models and data from all development projections populate a web-based mapping tool to help inform regional landscape planning decisions.

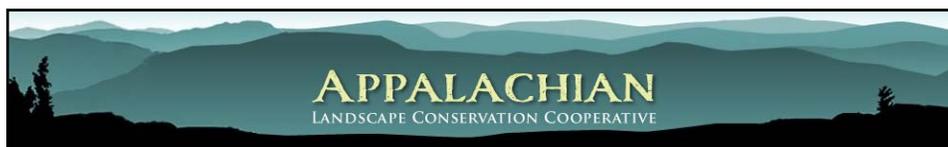
The energy forecast web-based mapping visualization tool combines multiple layers of data on energy development to resource and ecosystem services, to give a more comprehensive energy development could look like in the Appalachians. The development is most likely to occur and indicates areas which intersect with other significant values like intact forests, important ecological services such as drinking water supplies.

Jessica Rhodes
Biologist: GIS & Data Management
Jessica_Rhodes@fws.gov

Rose Hessmiller

Course Elements

- Introduction
- "Science behind the Tool"
- "How-to" Demonstration and Activity
- Case Study Introduction
- Case Study Activity
- Assessment Quiz
- Participant Feedback



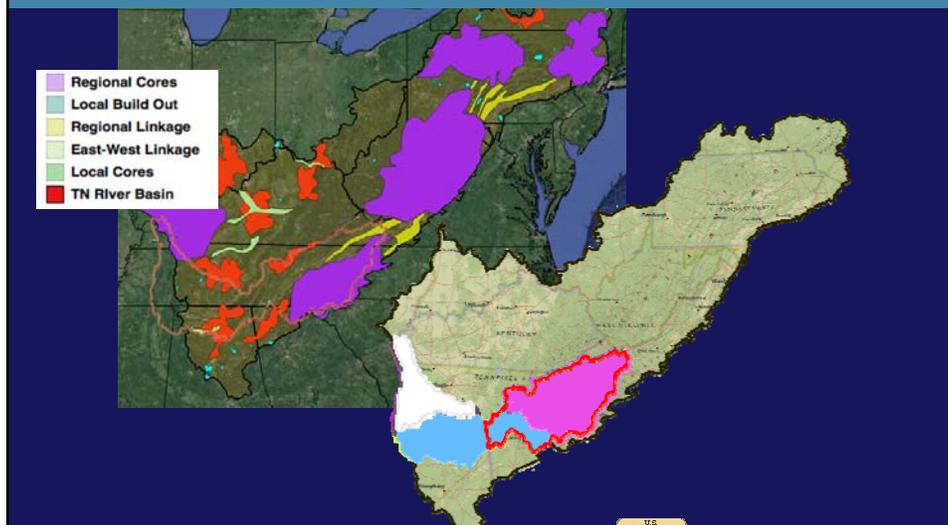
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 - *passive (access), active (engagement)*

IMPORTANCE OF TRB FOR REGIONAL CONSERVATION DESIGN



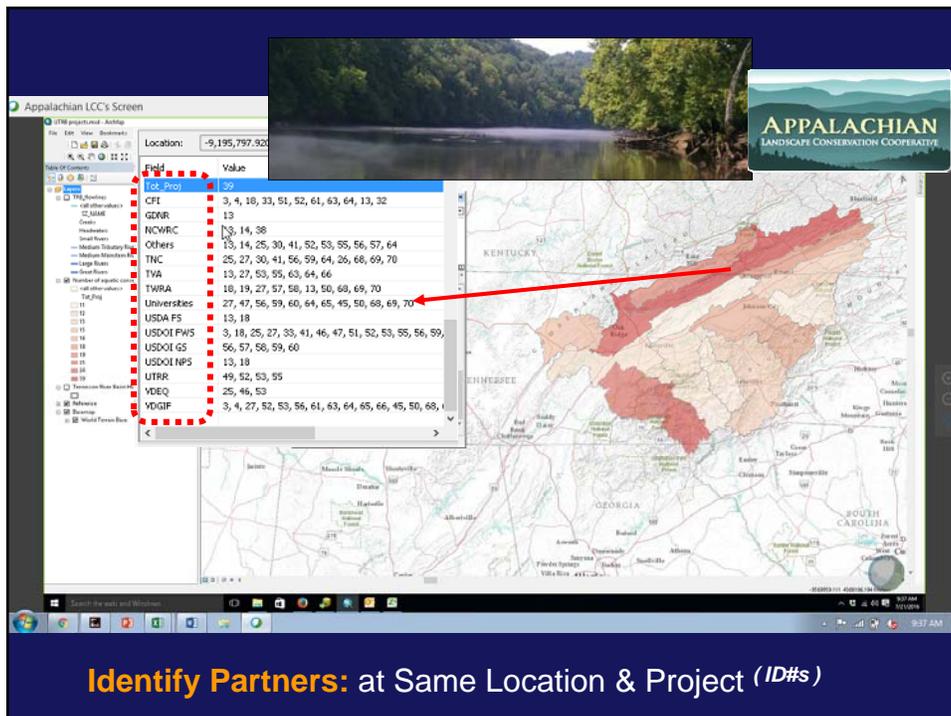
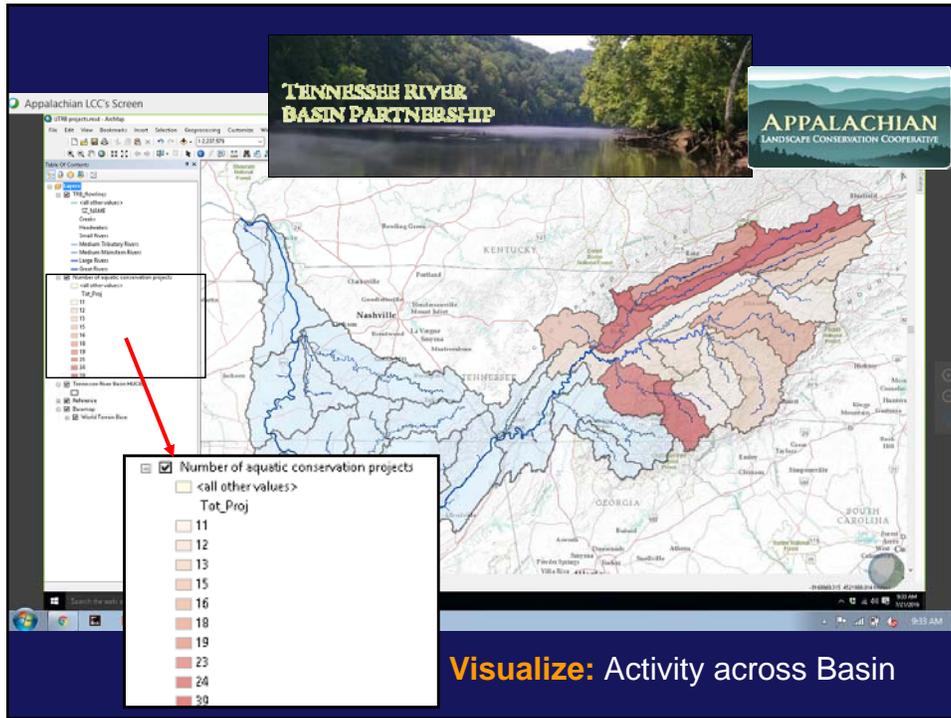
- Regional Cores
- Local Build Out
- Regional Linkage
- East-West Linkage
- Local Cores
- TN River Basin

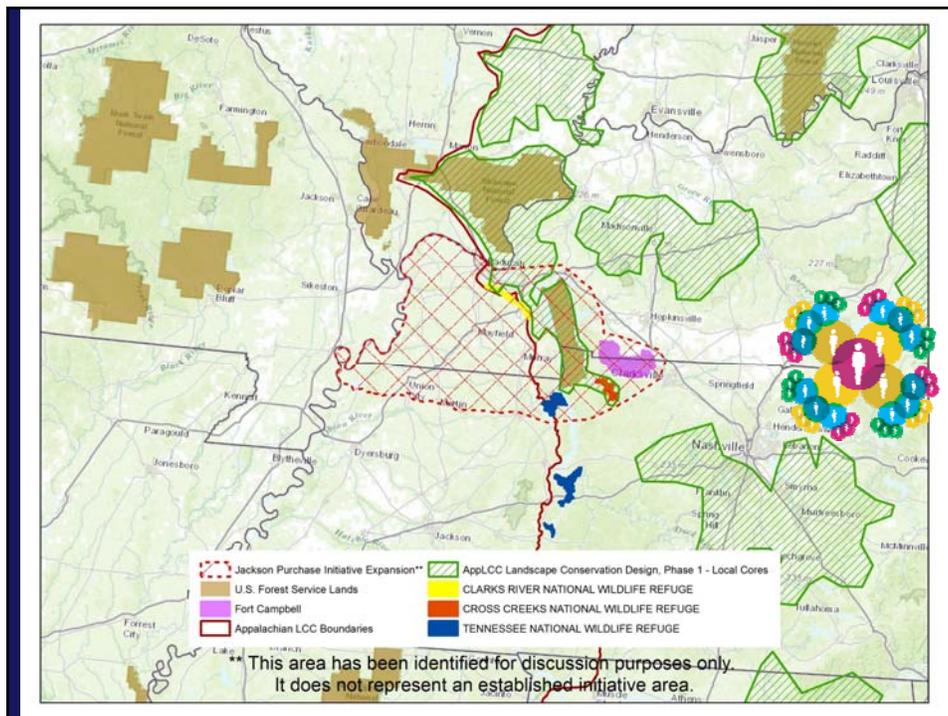
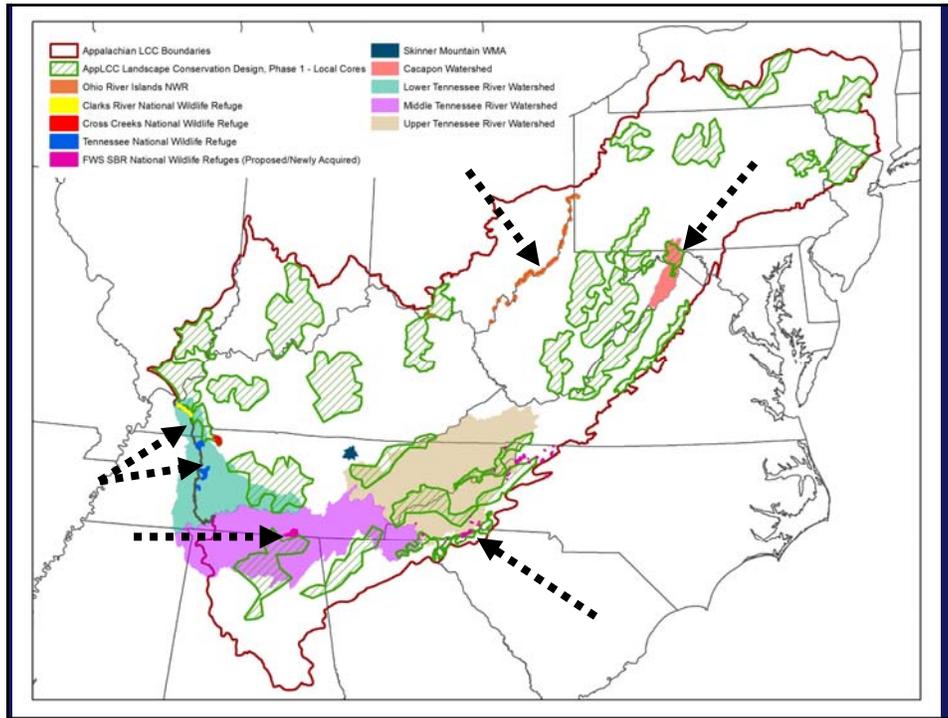
IMPERILED AQUATIC SPECIES
CONSERVATION STRATEGY
UPPER TENNESSEE RIVER BASIN





Ecological Services
Field Offices:
VA, NC, TN





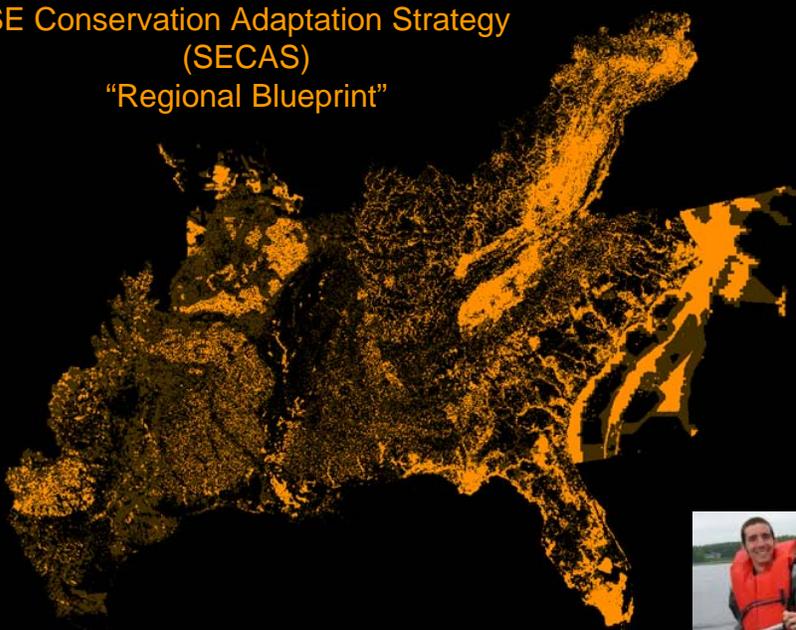


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 - *passive (access), active (engagement)*
 - *regional integration*

SE Conservation Adaptation Strategy
(SECAS)
“Regional Blueprint”



Rua Mordicai, South Atlantic LCC & SECAS