Status and Schedule – LCC Science Projects

Scott Schwenk
Science Coordinator
North Atlantic Landscape Conservation Cooperative

May 16, 2014

LANDSCAPE CONSERVATION COOPERATIVES

North Atlantic Landscape Conservation Cooperative

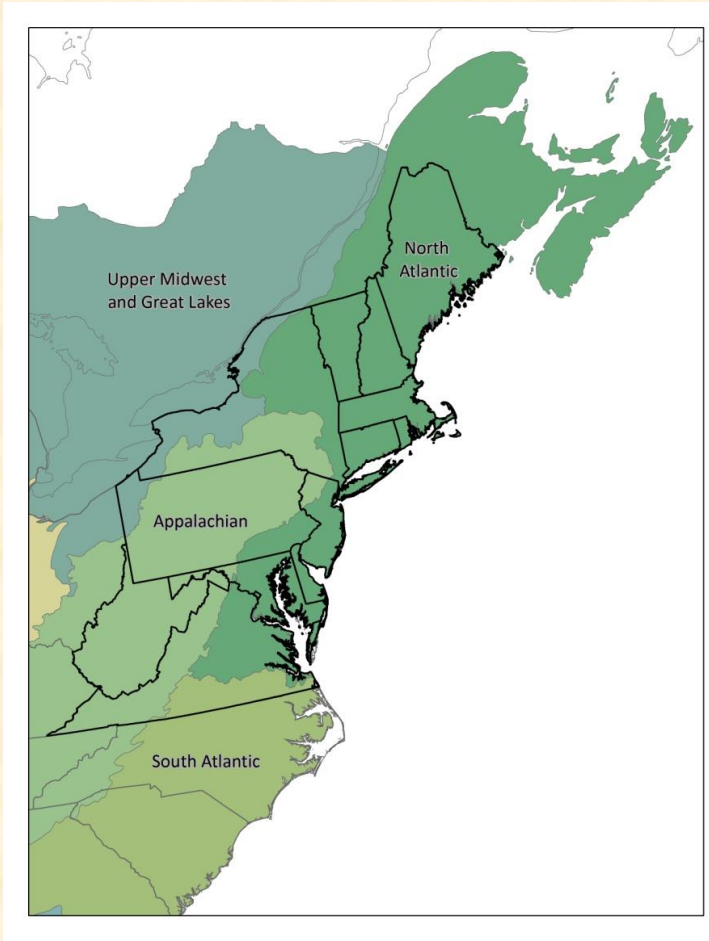
North Atlantic LCC Partnership

Steering Committee – 34 members

Technical Committee

Science Delivery Team

LCC Staff



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North Atlantic LCC Highlights & Budget

- Science Delivery Program
  - Grants to: Chesapeake Conservancy, Open Space Institute, Highstead Foundation, Wildlife Conservation Society
- Hurricane Sandy Resiliency Projects
- Connecticut River Watershed Pilot – Landscape Conservation Design

2014 Budget Status

2014 Proposed Process

Date	LCC Decision or Process
April 2014	Progress Report to Steering Committee
May – June 2014	Technical Committee review of Strategic Plan progress and science needs for: • potential future phases of existing projects • potential new projects
Early July	Steering Committee review and approval of science needs
July – August	RFP / project development
September	Review of proposals (if RFP issued)

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May-June Proposed Timeline

- May 16 – Kick-off review process
- May 19-30 – Webinars on 2-3 ongoing projects
- June 2-13 – sub-team discussions (aquatic; coastal/marine; terrestrial)
- Week of June 16-20 – full-team call
- Week of June 23 – staff complete recommendations

North Atlantic LCC Science Projects – Status Update

North Atlantic Landscape Conservation Cooperative

Northeast Conservation Framework

Albany II 2011

GOAL-SETTING
Which species/habitats to conserve?
At what levels?
Who decides?

CONSERVATION DESIGN
What should landscapes look like to conserve species at goal levels

SCIENCE TRANSLATION
How do we make science solutions useful?

CONSERVATION ADOPTION
How do we get communities and landowners engaged in conservation?

CONSERVATION DELIVERY
How will we most efficiently put conservation on the ground?

MONITORING, EVALUATION AND RESEARCH
What new information will we gather to support conservation?

PRIORITIES
Which species and issues demand immediate attention?

BIOLOGICAL ASSESSMENT
What do we know about the status of priority wildlife?

INFORMATION MANAGEMENT
How will we manage the demand for and creation of data?

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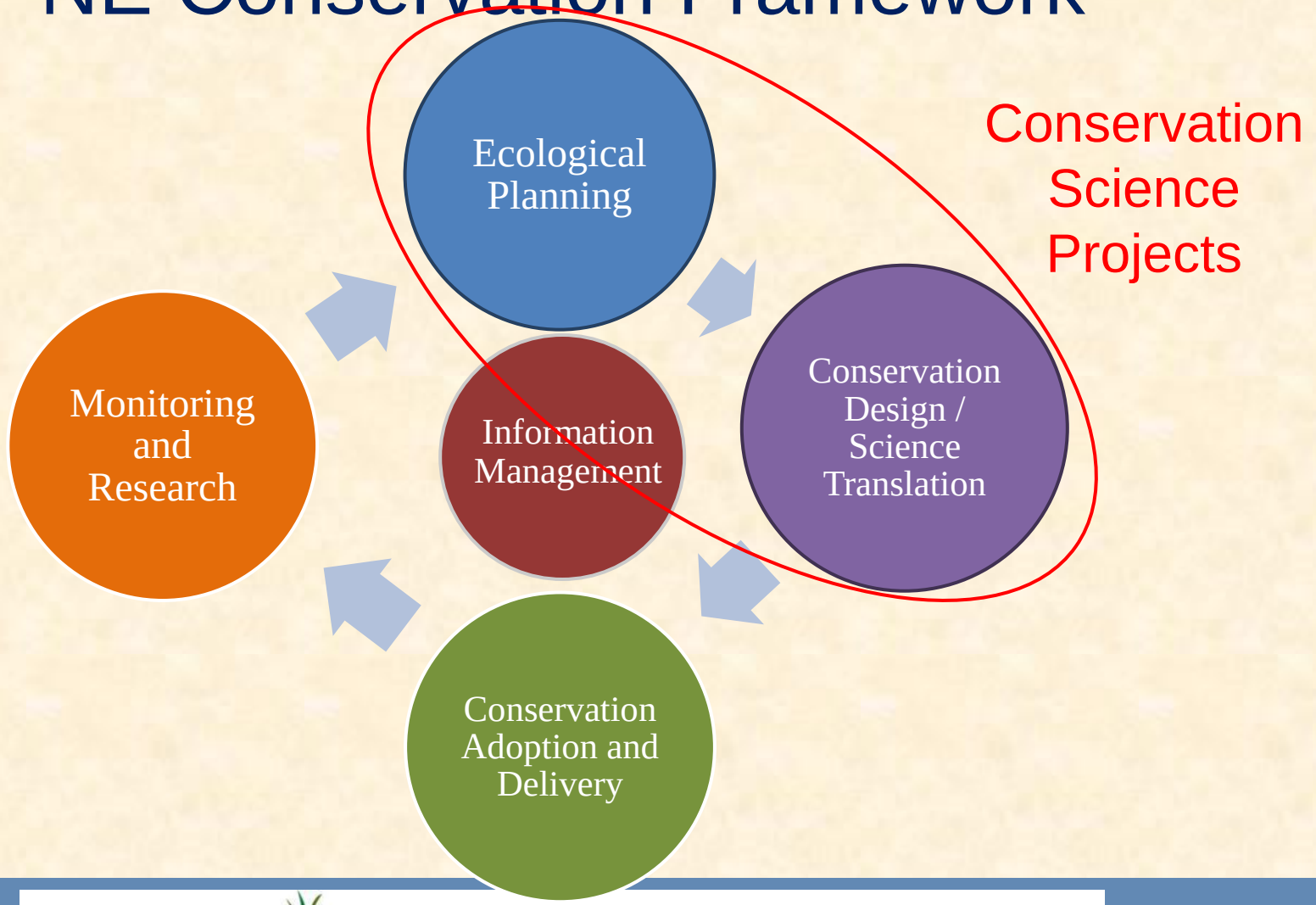
LCC Strategic Plan / NE Conservation Framework



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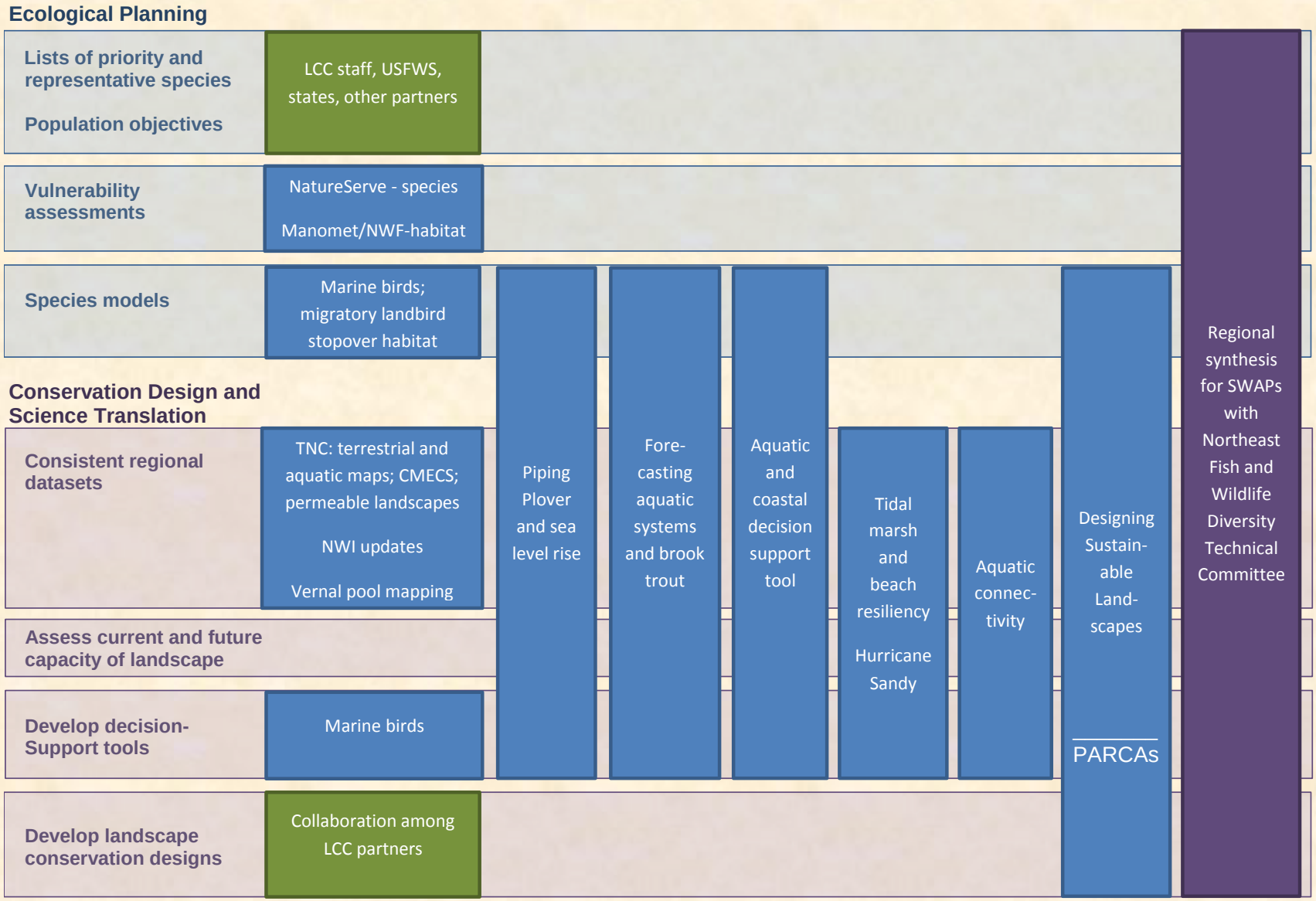
Northeast Conservation Framework (Ecological Planning, Conservation Design) and North Atlantic LCC Science Projects



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Connecticut River Watershed Pilot in Landscape Conservation Design

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FWS and LCC Objectives for Landscape Conservation Design Pilot

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

   [Within a Northeast regional context]

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

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Connecticut River Pilot Participants

- USFWS Staff
- Other federal agencies (EPA, USGS, USFS)
- 4 state fish & wildlife agencies
- NGOs (Audubon, TNC, TPL, Highstead, CT River Watershed Council)

NALCC and other Tools in Connecticut River Watershed Pilot

USFWS
UMass
USGS

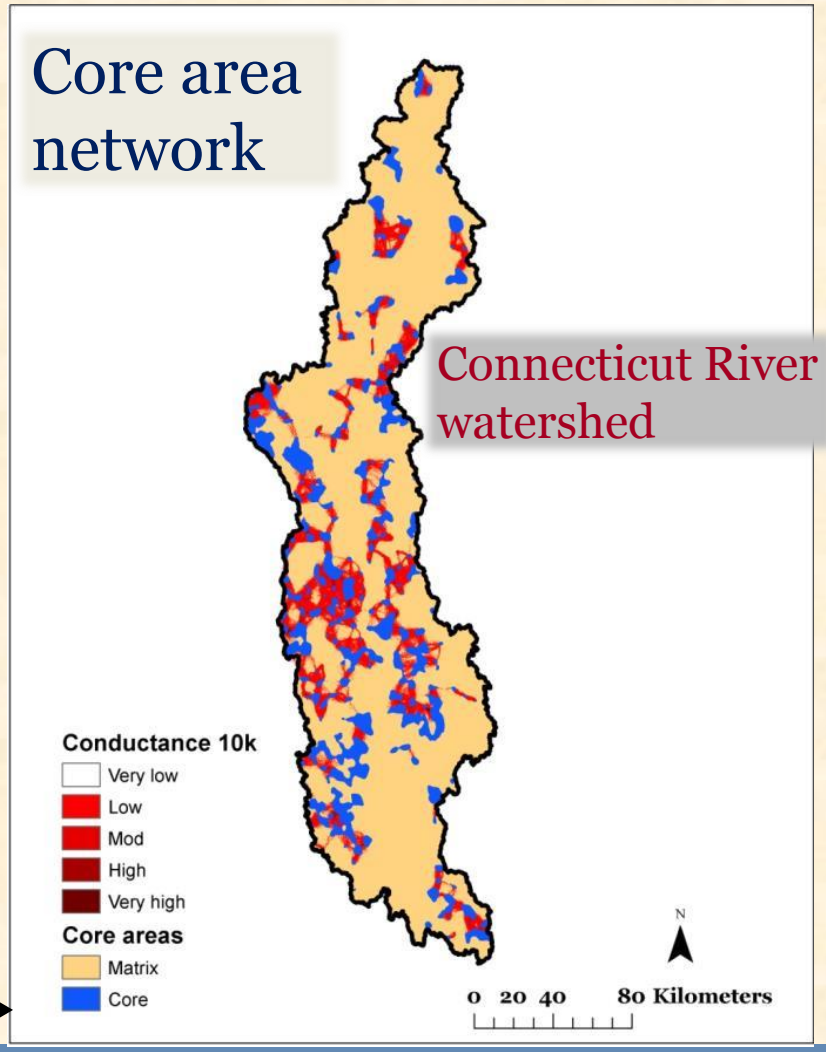
Surrogate Species

Rare and Unique Species

States
NatureServe
LCC

Ecological Integrity and Resilience

UMass
TNC



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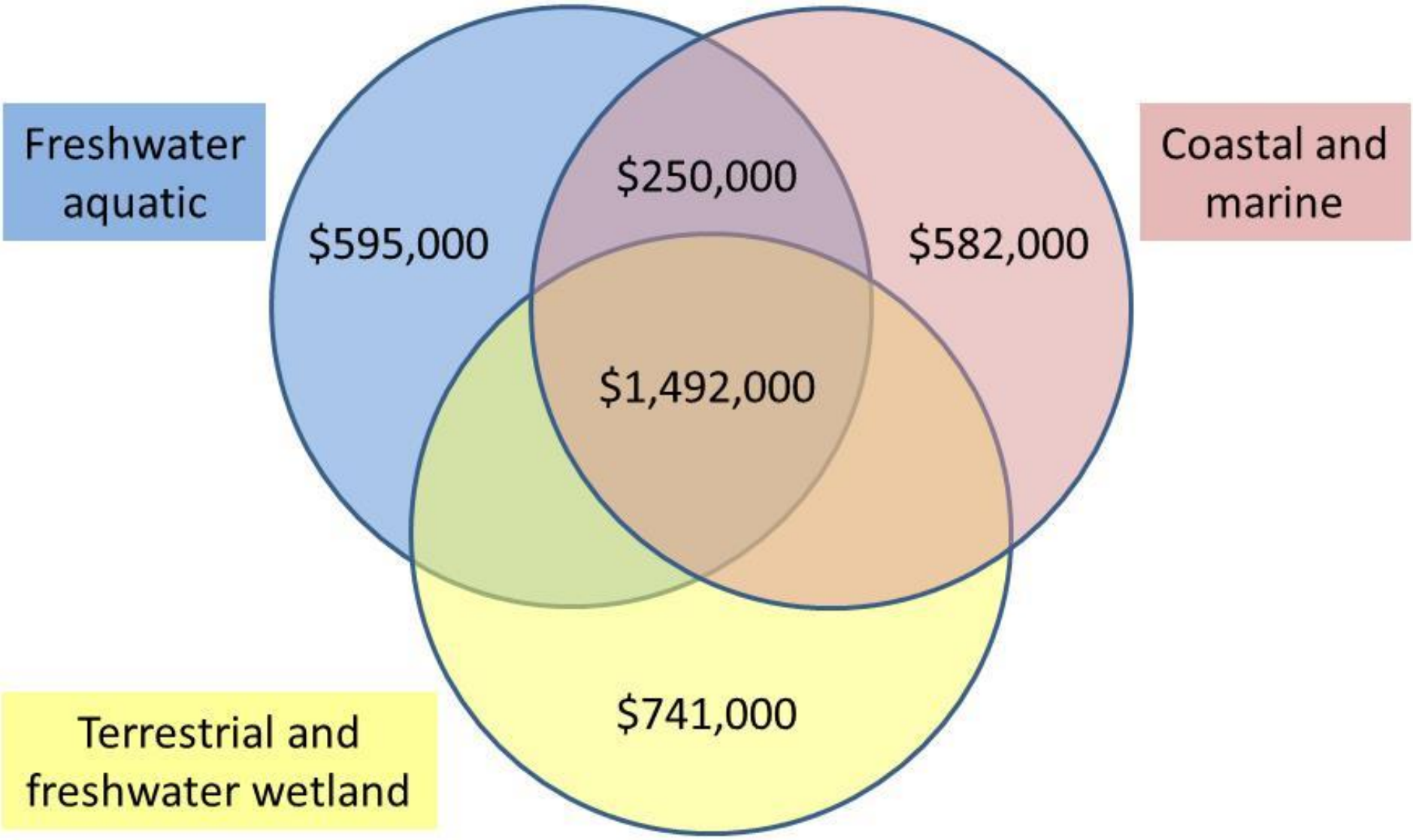
North Atlantic LCC Science Project Investments, 2010-2014



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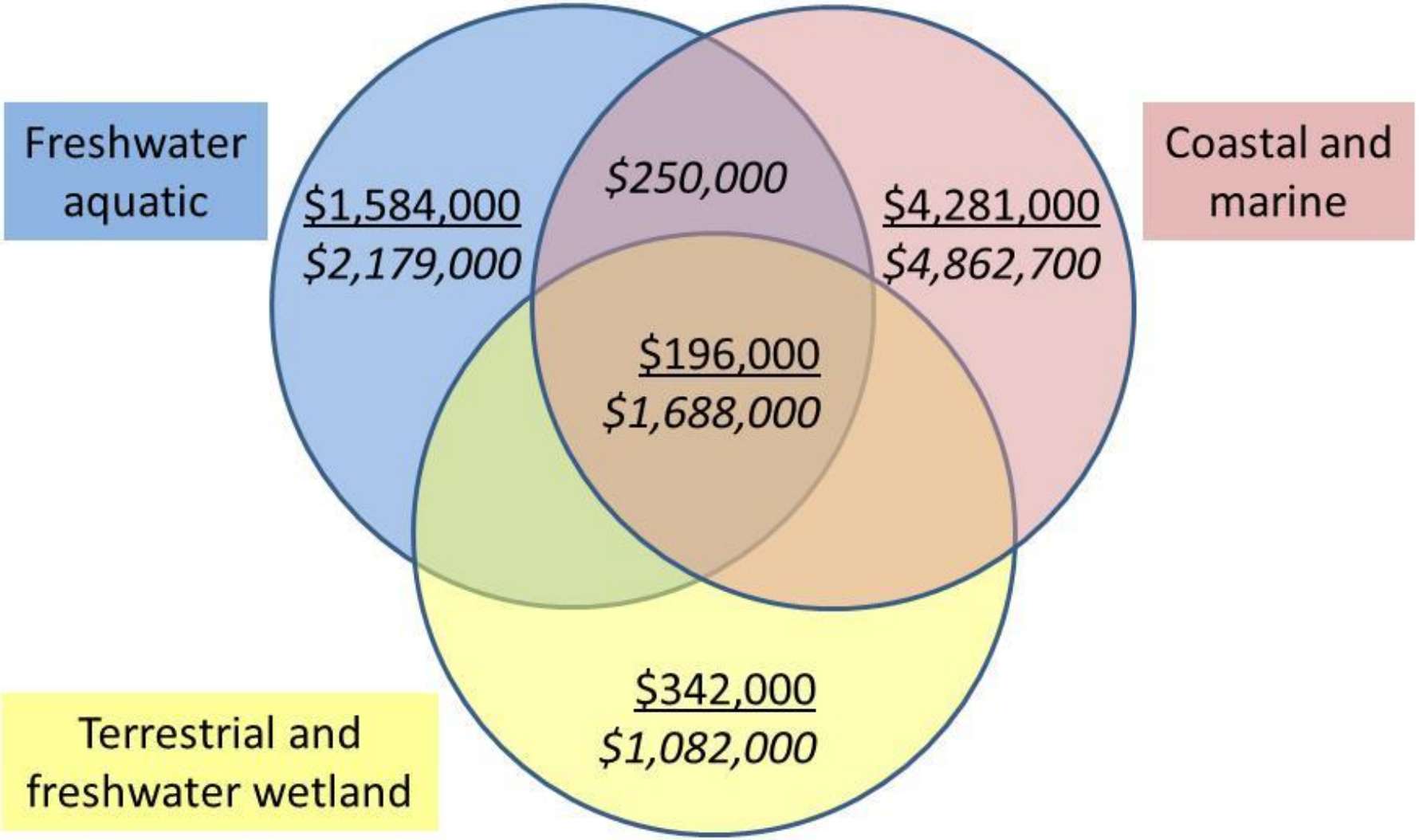
Additional Leveraging and *Total* of LCC Science Investments, 2010-2014 (includes DOI Hurricane Sandy funds)



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2012-2013 Science Needs

(see detailed handout)

- Coastal & aquatic highlights: stream connectivity; species-habitat assessment; aquatic classification; marsh and beach resiliency
- Terrestrial & freshwater wetland highlights: vernal pool mapping, Designing Sustainable Landscapes, extending land cover to Canada, migratory landbird stopover

Science Project Timelines

	Projected Completion Date																				
Current North Atlantic LCC Science Projects	2014							2015												2016	
	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1st half	2nd h
Completed except final reviews:																					
Coastal and Marine Ecological Classification																					
Climate Change Vulnerability Index																					
In progress:																					
Designing Sustainable Landscapes, Phase 2																					
Marine Bird Mapping and Assessment																					
Revisions to Aquatic Classification																					
Piping Plover and Sea-level Rise																					
Forecasting Aquatic Systems and Brook Trout																					
Priority Amphibian & Reptile Conservation Areas																					
Permeable Landscapes for Wildlife																					
Decision Support Tool - Aquatic and Coastal																					
Extending Terrestrial Habitat Map to Canada																					
Migratory Landbird Stopover Habitat																					
Vernal Pool Mapping and Conservation																					
Aquatic Connectivity (2 projects)																					
Beach Resiliency (Hurricane Sandy)																					
Tidal Marsh Resiliency (Hurricane Sandy)																					

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Overall Project Summary

- Results and deliverables: all we've asked for, and more
- Schedule challenges
  - Technical
  - Partnership

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Foundational Mapping: Coastal Update to National Wetlands Inventory

North Atlantic LCC Role	Sponsoring update to NWI for coastal areas
Products	Updated wetland mapping in 162 coastal areas in 7 states
Available Now	Project is complete (Sept. 2013); incorporated into Northeast Terrestrial Habitat map by UMass
Available within 3-6 months	Results fully integrated into the National Wetlands Inventory
Longer Term	

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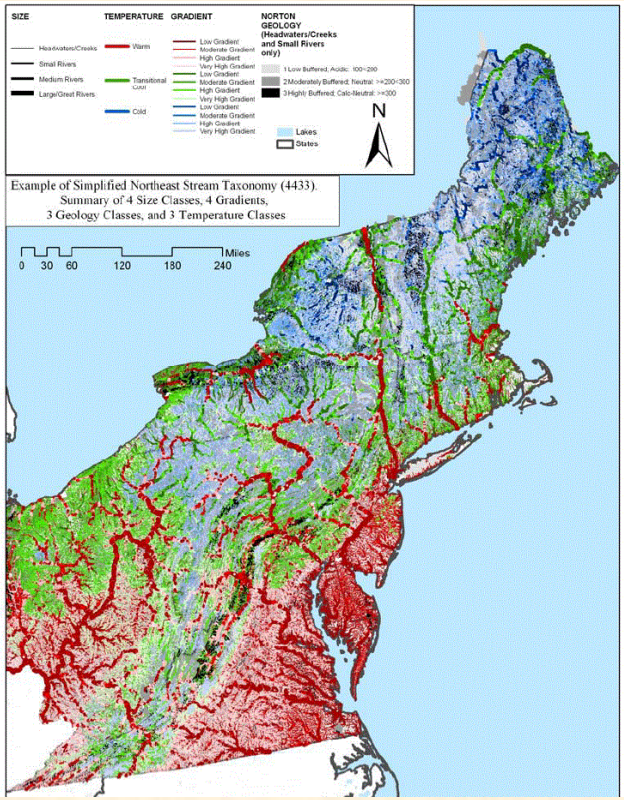
Foundational Mapping: Northeast Aquatic Classification

North Atlantic LCC Role	NEAFWA Project; support TNC revisions to streams (tidal component) and lakes
Products	Classification of Northeast streams and lakes
Available Now	Stream classification including new tidal component + guide
Available within 3-6 months	Enhanced lake classification including lake depth
Longer Term	



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Foundational Mapping: Coastal and Marine Ecological Classification

North Atlantic LCC Role	Sponsoring project by TNC, Mass. DFG, and U. of RI
Products	Report and maps testing the classification at 3 spatial scales
Available Now	Draft final maps and report
Available within 3-6 months	Peer-reviewed final report
Longer Term	Future phases could include full mapping of North Atlantic with NROC and MARCO

North Atlantic Landscape Conservation Cooperative

Foundational Mapping: Compilation of Regional Vernal Pool Data

North Atlantic LCC Role	Sponsoring project by Vermont Center for Ecostudies and UVM (initiated Jan. 2014)
Products	Regional GIS dataset of locations of potential or documented vernal pools
Available Now	
Available within 3-6 months	Unified database structure
Longer Term	Complete report and dataset on DataBasin; remote sensing demonstration (2015)

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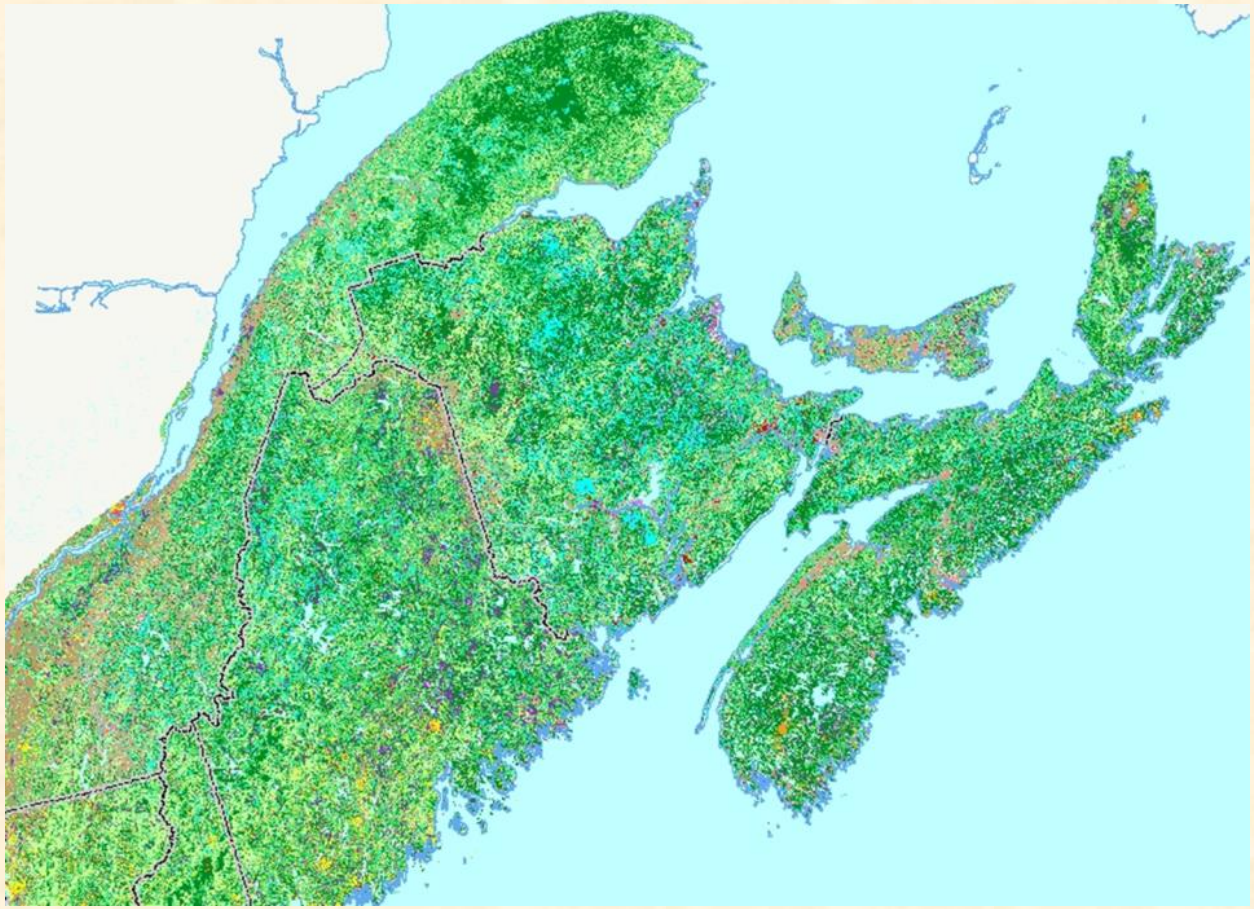
Foundational Mapping: Northeast Terrestrial Habitat Map Extending to Canada



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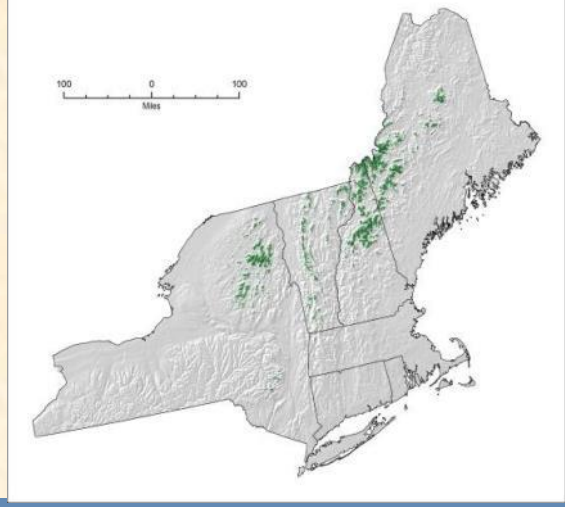
Vulnerability Assessments: Habitat Vulnerability to Climate Change

North Atlantic LCC Role	Completing NEAFWA-sponsored project by Manomet/NWF
Products	3 reports: terrestrial/wetland; cold water; and coastal habitats
Available Now	Reports presented to NEAFWA; northeast climate database (neclimateus.org)
Available within 3-6 months	Revised reports to reflect peer review
Longer Term	



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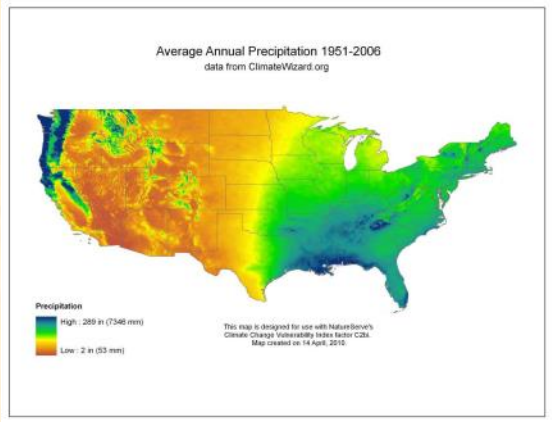
Vulnerability Assessments: Species Vulnerability to Climate Change

North Atlantic LCC Role	Supporting assessment by NatureServe using Climate Change Vulnerability Index (CCVI)
Products	Report on vulnerability of 64 high regional concern, representative, and foundational species
Available Now	Draft final report
Available within 3-6 months	Final report
Longer Term	



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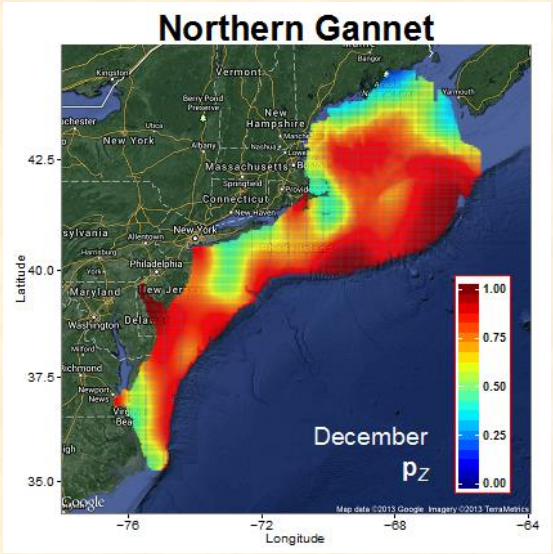
Assessment:
Marine Bird Mapping and Risk Assessment

North Atlantic LCC Role	Sponsoring a project by NC State U., NOAA, BRI, CSI/CUNY
Products	Mapping of seasonal seabird abundance to inform marine planning
Available Now	Initial set of marine bird species maps
Available within 3-6 months	Final report and maps (June 2014)
Longer Term	



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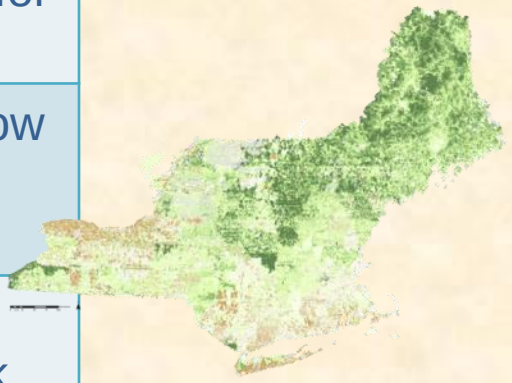
Assessment / Conservation Design: Forecasting Streams and Brook Trout

North Atlantic LCC Role	Sponsoring project led by USGS
Products	Aquatic data and brook trout, forecasts and decision support tools
Available Now	• Prototype web tool for stream conditions and climate change • Brook trout occupancy model for New York to Maine
Available within 3-6 months	• Projections of future stream flow and temperature • Regional brook trout forecasts
Longer Term	Incorporate into conservation design; integrate with other brook trout tools



Brook trout
probability of occupancy

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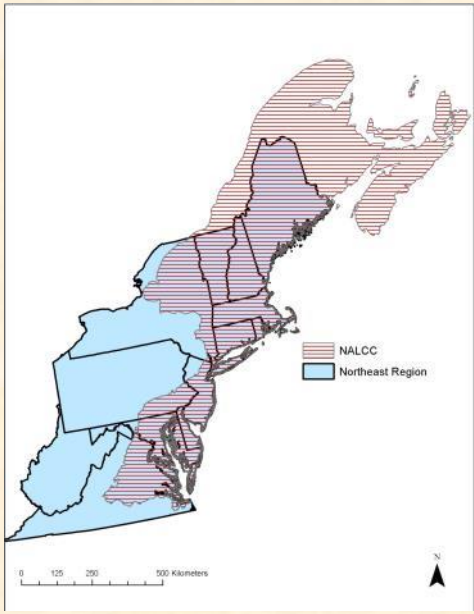
Conservation Design:
Designing Sustainable Landscapes

North Atlantic LCC Role	Sponsoring project led by UMass Amherst
Products	Extensive spatial datasets, current and future species capability and ecological integrity, decision support tool for landscape design (June 2014)
Available Now	Many spatial datasets for entire Northeast, including initial species
Available within 3-6 months	• Additional regional spatial data • Regional models for 30 rep. species • Pilot design effort in CT River watershed
Longer Term	Potential future phase could extend and enhance conservation design work including coastal component



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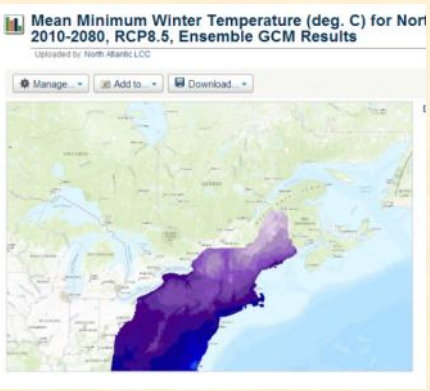
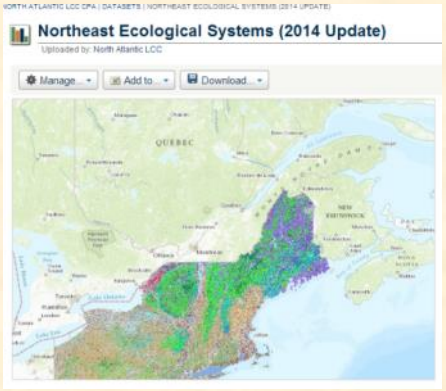
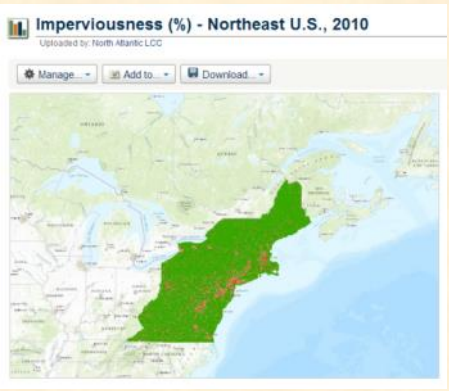
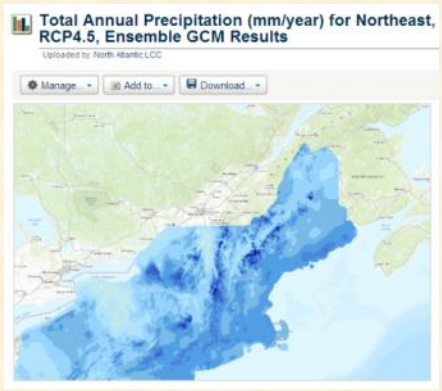
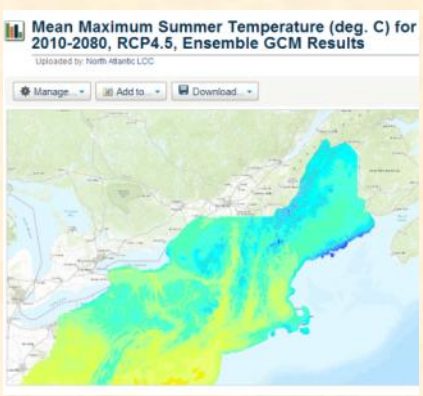
Designing Sustainable Landscapes – Consistent Regional Datasets

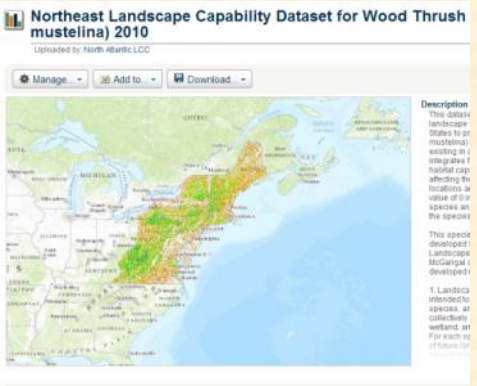












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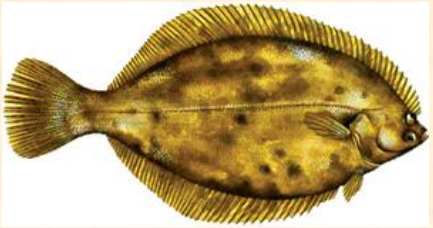
Conservation Design: Aquatic Connectivity and Flood Resilience

North Atlantic LCC Role	Sponsoring 2 related projects (one funded through Hurricane Sandy) led by UMass Amherst, USFWS, TNC, USGS, USFS, Trout Unlimited, DOT/FHA (initiated January 2014)
Products	Comprehensive road-streams crossings database; recommended field survey protocols; prioritization to improve fish passage and reduce flood risks
Available Now	
Available within 3-6 months	Initial survey protocols for first field season
Longer Term	Complete datasets and reports (2016)

North Atlantic Landscape Conservation Cooperative

Conservation Design: Aquatic and Coastal Decision Support Tool

North Atlantic LCC Role	Sponsoring project with Atlantic Coastal Fish Habitat Partnership, led by Downstream Strategies
Products	Aquatic and coastal species models and decision support tools
Available Now	
Available within 3-6 months	Pilot models for winter flounder and for brook trout in the Chesapeake Bay watershed
Longer Term	Multi-species decision support tools for restoration and conservation (2015)



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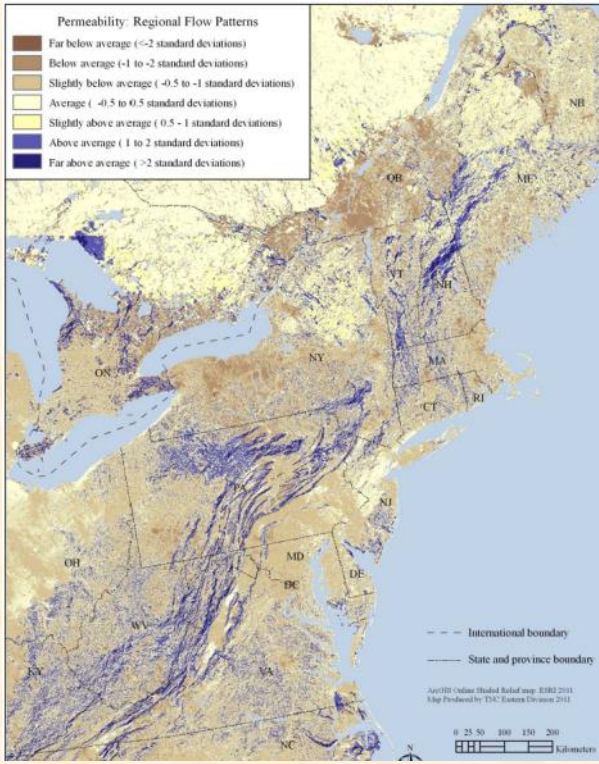
Conservation Design: Permeable Landscapes for Wildlife

North Atlantic LCC Role	Sponsoring project by TNC
Products	Report and dataset on relative permeability (connectivity) of landscape for SGCNs
Available Now	
Available within 3-6 months	Initial datasets and results
Longer Term	Final report and data (January 2015)



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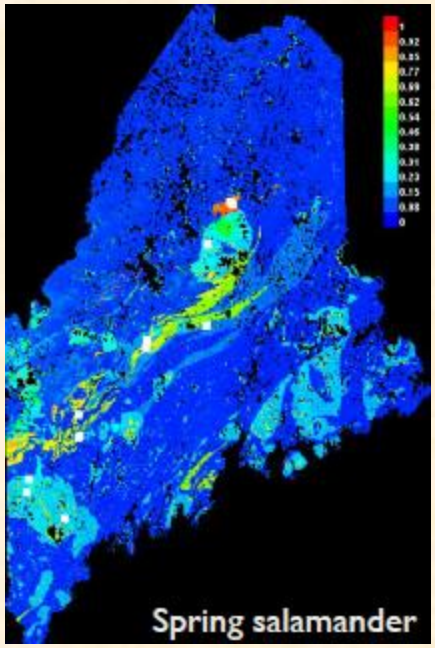
Conservation Design: Priority Amphibian and Reptile Conservation Areas (PARCAs)

North Atlantic LCC Role	Sponsoring project led by State of Maine, U. of Maine, and Clemson
Products	Species models for 60+ priority herp. species; report with priority areas identified
Available Now	Climate niche models for 57 species
Available within 3-6 months	• Projected loss of climate envelope for species • C.C. Vulnerability reviews • Pilot PARCAs for Maine
Longer Term	Full PARCA report and recommendations (Dec. 2014)



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Conservation Design:
Increasing Resiliency of Beach Habitats and Species in the Face of Storms & Sea Level Rise

North Atlantic LCC Role	Coordinating overall project among P.I.s, LCC and CSC partners and with P.I.s USGS, FWS, Virginia Tech, Rutgers, TCI
Products	Regional decision support models for coastal beach management and restoration for beach habitats and species in the face of storms and SLR; evaluation of the effectiveness of beach restoration and management
Available Now	
Available within 3-6 months	Pre-hurricane survey results of inlets and beaches
Longer Term	Complete models and results delivered to partners (2016)

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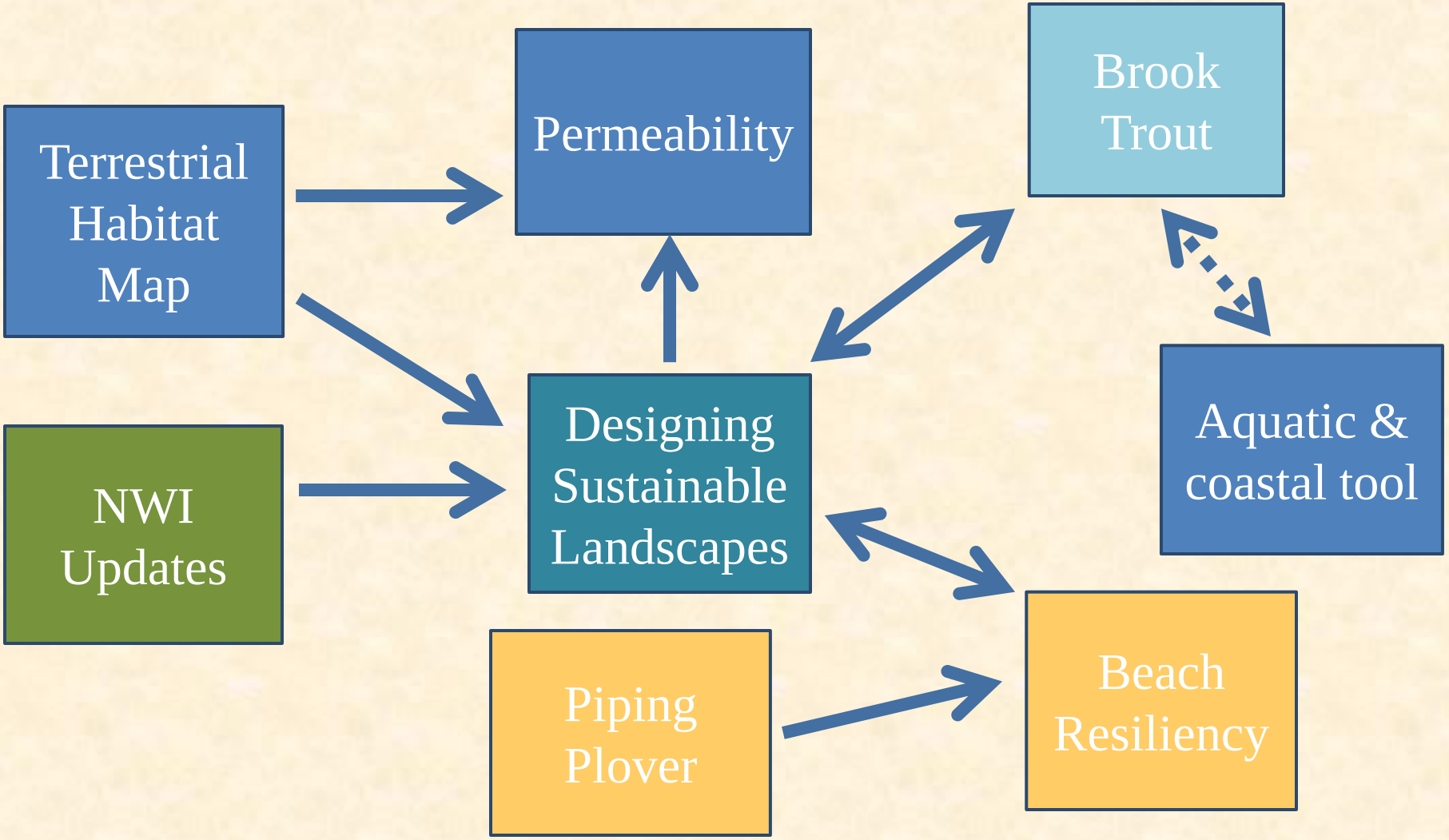
Exs. Of Project Coordination & Data Sharing



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Staff Experience with Science Projects

Characteristics	Foundational Science Projects	Decision-support Tools and Conservation Design
Application to conservation	Indirect, requires incorporation into other tools	Direct and high

Ex. NWI Mapping
Terrestrial Habitat Map

Aquatic Connectivity
Designing Sustainable Land.

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Staff Experience with Science Projects

Characteristics	Foundational Science Projects	Decision-support Tools and Conservation Design
Application to conservation	Indirect, requires incorporation into other tools	Direct and high
Required active role of partners	Variable (low to high)	High

Ex. NWI Mapping
Terrestrial Habitat Map

Aquatic Connectivity
Designing Sustainable Land.

North Atlantic Landscape Conservation Cooperative

Staff Experience with Science Projects

Characteristics	Foundational Science Projects	Decision-support Tools and Conservation Design
Application to conservation	Indirect, requires incorporation into other tools	Direct and high
Required active role of partners	Variable (low to high)	High
Required LCC staff time and coordination	Low to moderate	High

Staff Experience with Science Projects

Characteristics	Foundational Science Projects	Decision-support Tools and Conservation Design
Application to conservation	Indirect, requires incorporation into other tools	Direct and high
Required active role of partners	Variable (low to high)	High
Required LCC staff time and coordination	Low to moderate	High
Time to success	Variable; short (6-12 months) to long	Long (>18 months to multiple years)

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Northeast Climate Science Center Projects

Exs.:

- NorEaST – Stream Temperature Web Portal (Jana Stewart)
- Consistent land cover / ecosystem mapping (Dave Diamond; meeting June 13 in Hadley)
- Sea level rise decision support tool (Rob Thieler)
- Changes in forested landscapes (Frank Thompson)

Conclusions and Looking Forward

- 2014 science project budget outlook
  - Hurricane Sandy resiliency projects
  - Limited LCC science project funds
- Decision Support Tool and Conservation Design Projects
  - Choose new projects with care
  - Maintain momentum on existing projects (future phases)
- Technical Committee focused review on progress and critical needs

Next Steps

- This presentation and other materials will be posted to Technical Committee webpage
- *Your role: critical review and critical thinking on science projects and needs*
- Scheduling webinars
- Scheduling calls