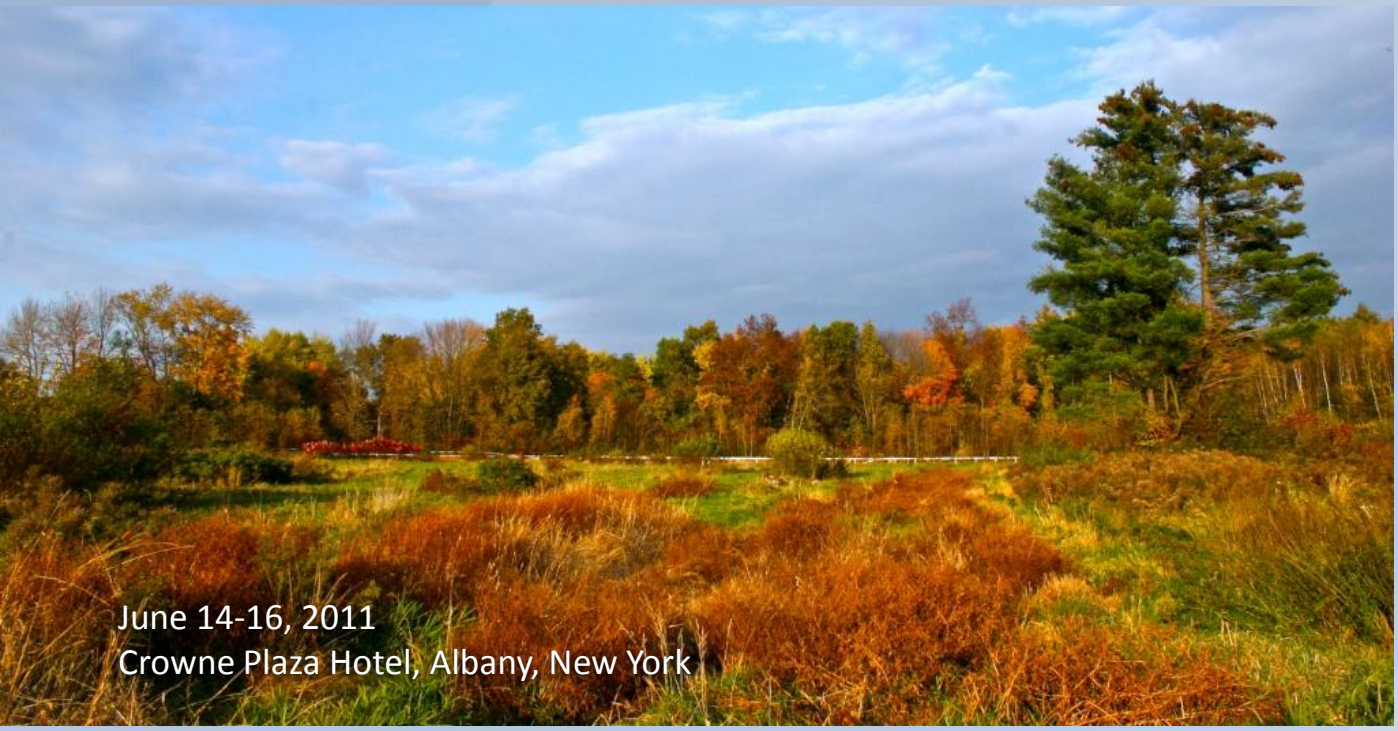
Northeast Regional Conservation Framework Workshop

"Albany II"



Hosted by

Northeast Association of Fish & Wildlife Agencies

North Atlantic Landscape Conservation Cooperative

Photo Credit: James Weliver/USFWS

Session 5: Monitoring and Research

Session Hosts

Dee Blanton, USFWS

Dan Rosenblatt, NYSDEC

Presentations by

Tracey Tomajer, NYSDEC

Chris Burkett, VDGIF

Session 5: Monitoring and Research

Objectives:

1. Understanding of monitoring, evaluation and research projects and the results/data/tools produced by each of them can be used, and how they fit into the framework;

2. Identification of priority monitoring, evaluation and research needs; and

3. Input on how to improve the effectiveness of monitoring.

4. Participants gain an understanding of how performance measures line up with monitoring results

5. Participants contribute ideas on how to improve the effectiveness of monitoring

6. Build consensus for a strategy to utilize existing data in a meaningful way and to design future monitoring programs to guide conservation decisions and evaluate the effectiveness of conservation actions

Assessment/Monitoring/Research

- **Surveys for species distribution**
- **Establishing baseline information in order to:**
  - **Detect trends**
  - **Determine response to management action**
  - **Understand/test causality**
- **Social science surveys**

- **Monitoring is an essential component of conservation planning, decision making, and performance evaluation.**

Session 5: Monitoring and Research

Northeast Conservation Framework

GOAL-SETTING

Which species/habitats to conserve, when, how much, and who will work on it?

BIOLOGICAL ASSESSMENT

What do we know about the status of priority wildlife?

•Development of Noninvasive Monitoring Tools for NE cottontail (RCN 2009-4)

CONSERVATION DESIGN

Where are the best places to conserve the most species and habitats?

•Identification of tidal marsh bird focal areas (Comp. SWG & RCN)

•Regional Indicators and Measures: Beyond Conservation Land (RCN 2008-5)

•Conservation Status of Key Habitats and SGCN in the Eastern Region (RCN 2007-5)

INFORMATION MANAGEMENT

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

Northeast Monitoring and Performance Reporting Framework (Duke)

TRIAGE

Which issues demand immediate attention?

•Conservation Status of Key Habitats and SGCN in the Eastern Region (RCN 2007-5)

SCIENCE TRANSLATION

How do we maximize the utility of science?

CONSERVATION ADOPTION

How do we get the right people in the right places to adopt prescribed conservation actions?

MONITORING, EVALUATION AND RESEARCH

What new information will we gather to support conservation?

ACTION DELIVERY

How will we most efficiently put conservation on the ground?

Northeast Monitoring & Performance Reporting Framework

Wildlife Action Plan: Monitoring Requirements (Element 5)

How the #^!!**%!! are we going to monitor all these species?

Just count nests!

- **Status** of Species of Greatest Conservation Need
- **Status** of SGCN Habitats
- **Effectiveness** of Conservation Actions

Northeast Monitoring & Performance Reporting Framework

Who: NE Association of F&W Agencies (13 states +DC)

Funding: 2006 NFWF Regional Implementation Grant

Project Leader: NYSDEC

Goal: Enable NEAFWA states to report, at a regional scale, on the status of SGCN and their habitats and measure the effectiveness of conservation actions to meet State Wildlife Grants/Action Plans

Focus: Terrestrial and freshwater SGCN and habitats

Vision of the Regional Framework

Develop standardized monitoring and measurement protocols that:

- Are suitable, practical, and cost-effective indicators of effectiveness of SGCN conservation
- Use existing data sets and monitoring programs
- ID data gaps and data collection & management standards

Who Are the Framework's Audiences?

- Decision makers (e.g., Congress, Fed Agencies)
- State program directors and managers

We are explicitly **NOT** targeting managers of specific projects and sites.

Two Types of Information Needs: Status and Effectiveness

Status Questions

1. How is the wildlife we care about doing?
2. How are threats to fish changing?

Effectiveness Questions

3. Are our conservation actions having their intended impact?
4. How can we improve our actions?

Status Measures: Our Initial Eight Targets

1. Forests
2. Freshwater Stream and River Systems
3. Freshwater Wetlands
4. Highly Migratory Species
5. Lakes and Ponds
6. Regionally Significant SGCN
7. Unique Habitats in Northeast (caves/karsts, rocky habitats, barrens, alpine, waterfalls)
8. Managed Grasslands & Shrublands

Proposed Status Measures: 1. Forests Target

Indicator	Existing Data Sources
Areal extent (by type & reserve status)	USFS FIA
Forest composition & structure by seral stage	USFS FIA
Forest fragmentation index	LU/LC product (e.g., NLCD)
Forest bird population trends	Breeding bird surveys
Acid deposition index	Acid deposition modelers

Status Measure Report for Targets

Squirrels

Why are Squirrels Important?

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Current Status of Squirrels in the Northeast

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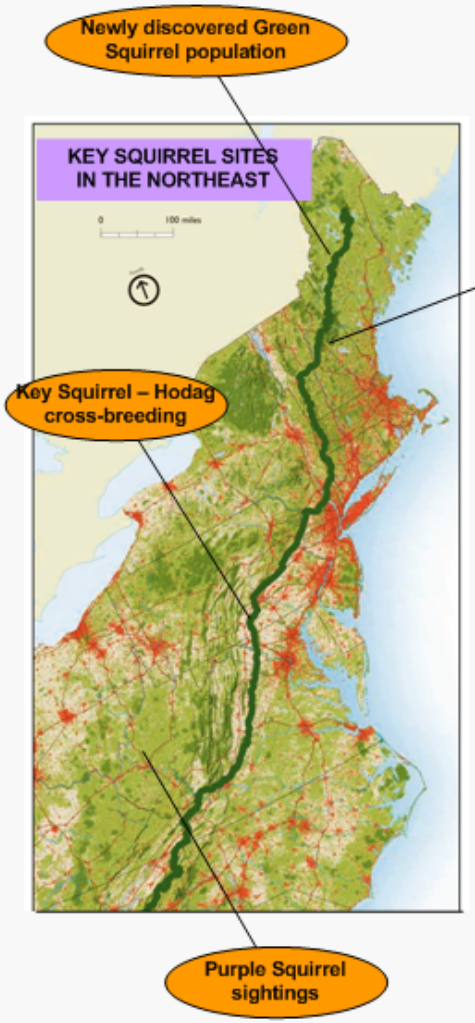

Key Example: Changes in NH Squirrel Populations

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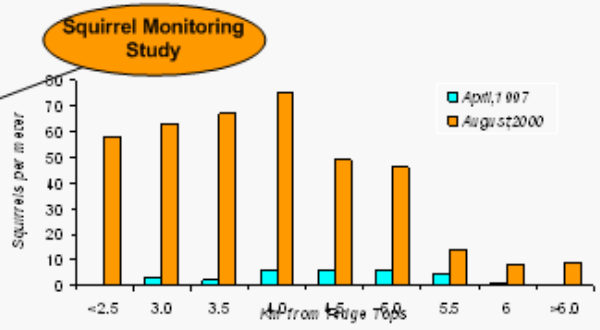

Implications for the Broader Region

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Future Conservation Needs for Squirrels

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For more information and detail, go to www.xxxxxxx.gov

Two Types of Information Needs: Status vs Effectiveness

Effectiveness Questions

3. Are our conservation actions having their intended impact?

4. How can we improve our actions?

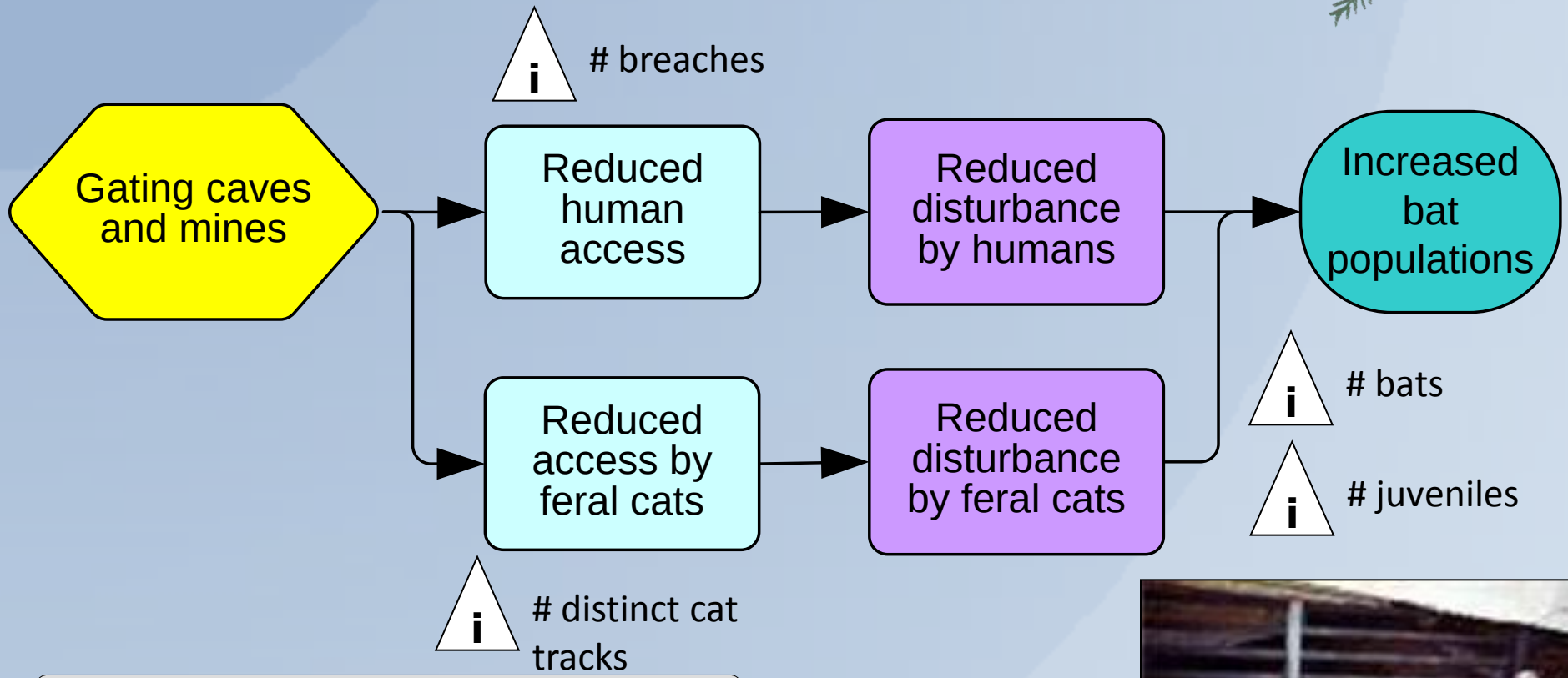
Our Recommendations

1. Adopt **results chain tool** for, at a minimum, a select set of actions and use these to show how results roll up across the Northeast
2. Adopt a set of **common data standards** so that projects collect and share a common set of data, using standard field names and standard classifications

Why Results Chains?

- Results chains lay out assumptions about how a team believes an action will help them achieve their conservation target
- These assumptions provide a basis for measuring effectiveness
- Making assumptions explicit helps teams identify appropriate indicators of not only ultimate impacts, but also interim outcomes

Results Chains Examples: Gating Bat Caves



Mockup of Effectiveness Report

Assessing the Effectiveness of State Wildlife Grants

What is Effectiveness?

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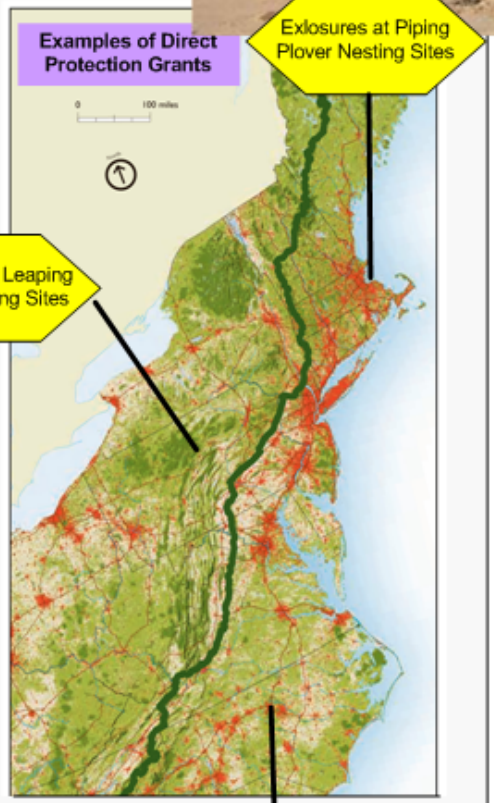

How Do We Measure Effectiveness?

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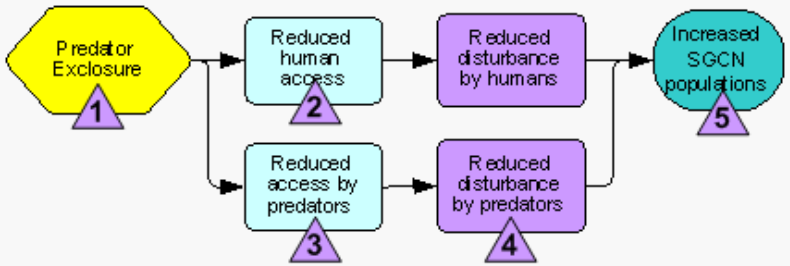
A Focus on Direct Protection



37 grants averaging $70,000 were made for direct protection work in 7 states with species including piping plover, spotted bats, and leaping lemurs. The teams reported the following results based on the above indicators:

1. #'s of exclosures established = **245**
   Avg cost per exclosure = **$8,475**
2. Rate of human access = **78%** avg reduction after exclosure built
3. Rate of predator access = **34%** avg reduction after exclosure built
4. Rate of predator distrubance = Data not yet available
5. Relevant SGCN populations have increased by 7% at key sites

Go to www.swgdatabase.org/directprotect for full details including state-by-state info

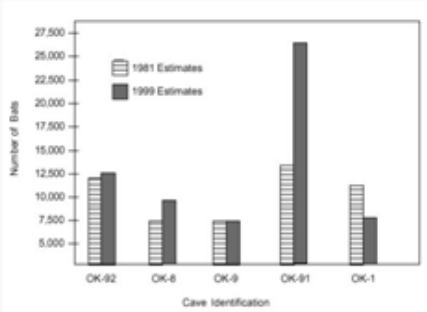


Figure 1. Population estimates of gray bats at five caves before and after they were protected by internal gate/grill systems in Oklahoma. Pre-gating estimates (1981 estimates) are from Grigsby and Puckett (19). Cave OK-1 is inhabited by a bachelor colony. The remaining caves are inhabited by maternity colonies.

Challenges Ahead

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Next Steps To Implementation

1. **Seek approval** from Directors
2. **Identify** and support staff to lead state efforts
3. **Implement** the Framework
4. **Secure** needed resources
5. **Develop** data collection instructions
6. **Determine** data management structure
7. **Complete** Framework components
8. **Review** and **Modify** target indicators if necessary
9. **Adapt** the Framework & continue implementing

Conservation Status of Habitats and Species in the Northeast and Mid Atlantic Region

(Implementation of the NE Monitoring Framework)

Mark Anderson and

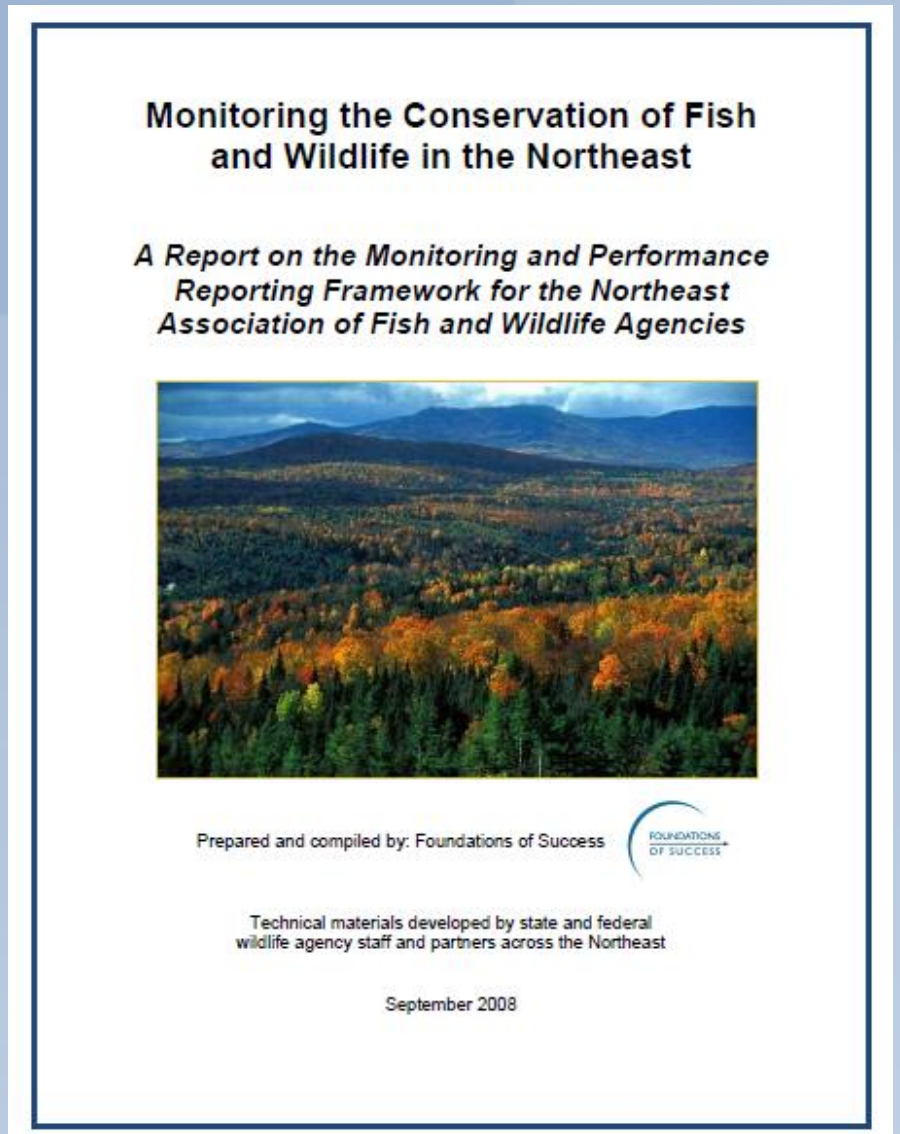
Arlene Olivero Sheldon, TNC

Albany II Workshop

June 14-16, 2011

Tracey Tomajer, NYSDEC

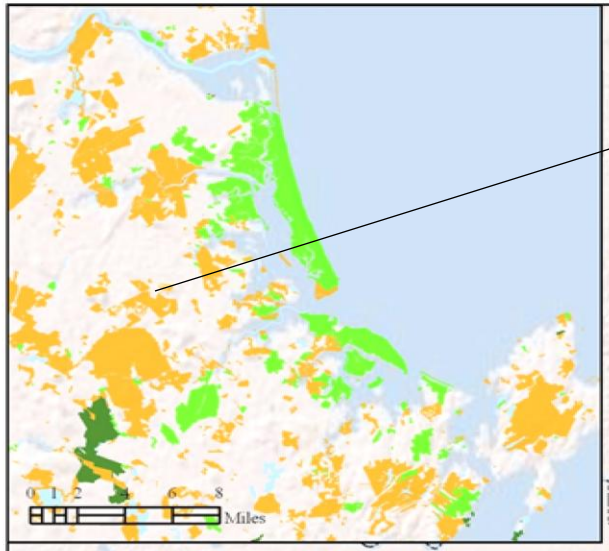
Project Overview



- Guiding Document
- Advisory Committee
- Secured Lands
- Habitats & Species
  - Forests
  - Freshwater Wetlands
  - Unique habitats in NE
  - FW Rivers and Streams
  - Lakes and Ponds
  - Regionally significant SGCN

Secured Areas: Data Set

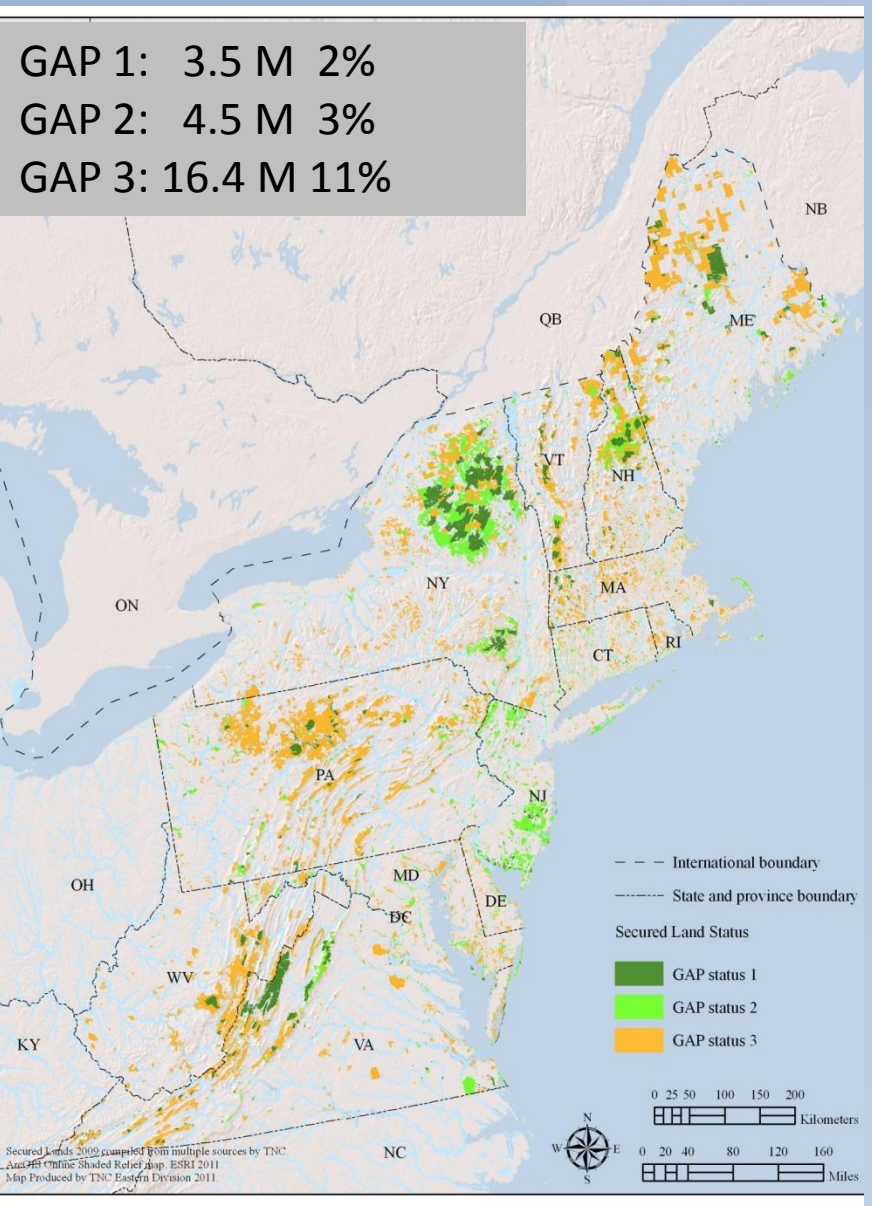
Detailed map of all permanent conservation ownerships and easements, public or private.



FIELD	EXAMPLE
Fee Owner	Smith
Fee Owner Type	Private
Interest Holder	TNC
Interest Organization Type	PNP
Interest Type	Easement
Conservation INTENT	1: Biodiversity
Conservation TENURE	1: Permenent
Conservation MANAGEMENT POTENTIAL	1: High
GAP_ Status	GAP 1
IUCN	IUCN I
State of Province	MA
Designation	Nature Reserve
Acquisition/Establishment date	4/14/1951
Acres	3,500 acres
Data Source	MA dept int
Name	Buckbean bog

Secured Areas

GAP 1: 3.5 M 2%
GAP 2: 4.5 M 3%
GAP 3: 16.4 M 11%

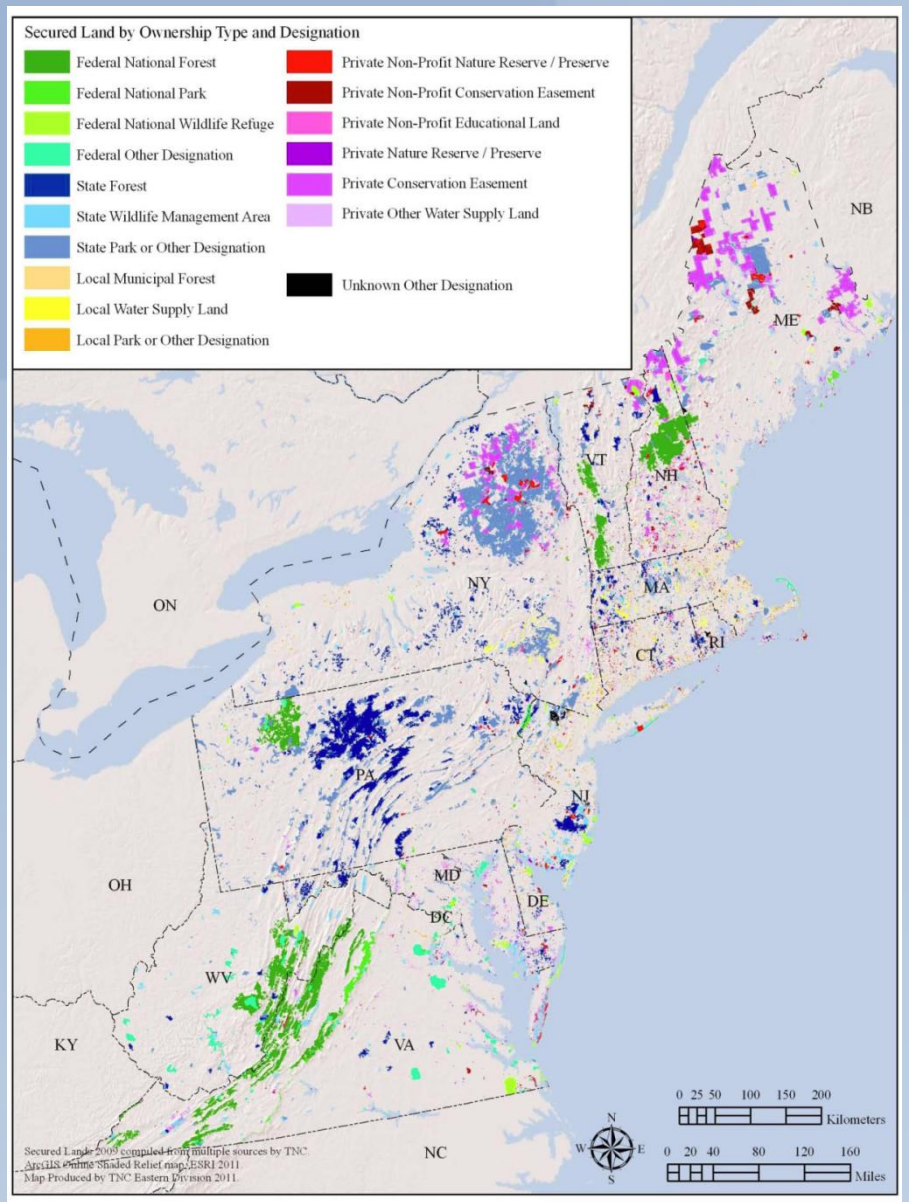


Secured:
GAP status 1-3
An area with permanent securement against conversion to development

Protected:
GAP status 1 or 2
a secured area intended for biodiversity or nature conservation
(Wildlands ?)

Secured for multiple uses:
GAP status 3
A secured area intended for multiple uses such as forest management and recreation
(Woodlands?)

Secured Areas: Ownership



Eastern Secured Lands at a Glance	
Total Acres	24,429,606
Percent of the Region	16%
Number of Fee Owners	6,129
Average size of Ownership	10,025
Number of Easements	2,431
Average size of Easement	1,254
Number of Individual Tracts/Polygons	136,789

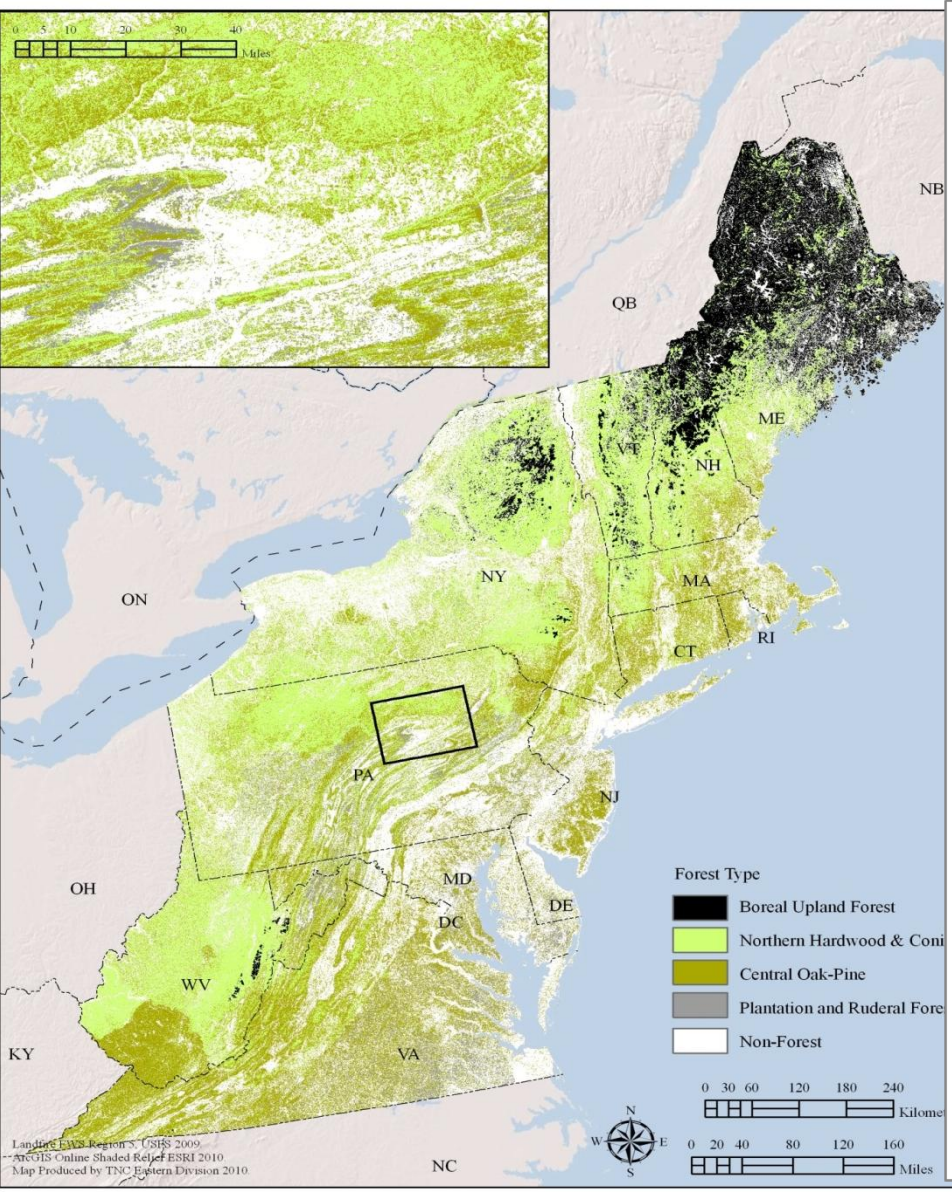
Private Easements: 3 M acres
Private Fee: 1.3 M acres
State: 12 M acres
Federal: 6 M acres
Local: 1 M acres

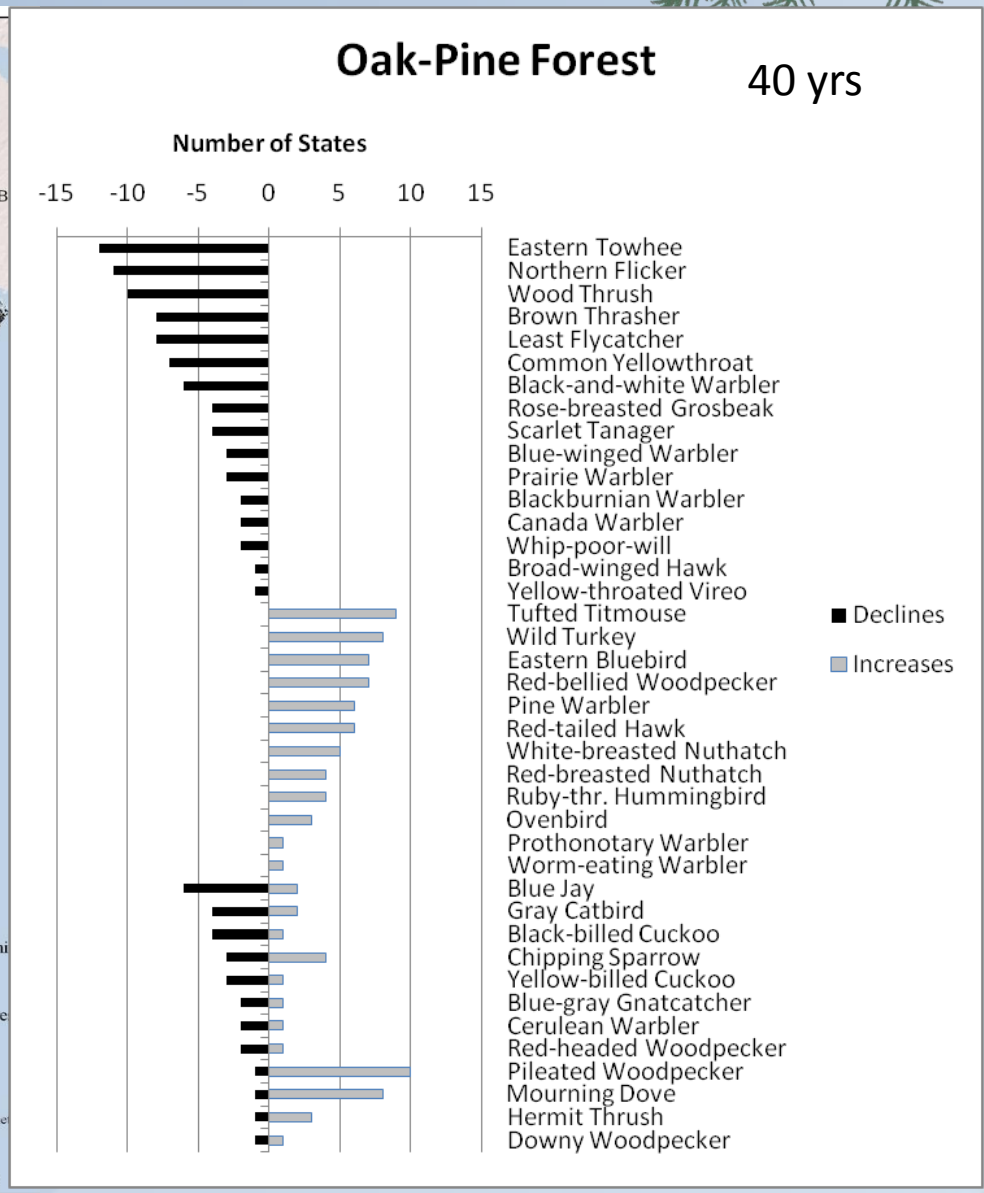
Eastern Forests

Proposed Status Measures: 1. Forests Target

Indicator	Existing Data Sources
Areal extent (by type & reserve status)	USFS FIA
Forest composition & structure by seral stage	USFS FIA
Forest fragmentation index	LU/LC product (e.g., NLCD)
Forest bird population trends	Breeding bird surveys
Acid deposition index	Acid deposition modelers

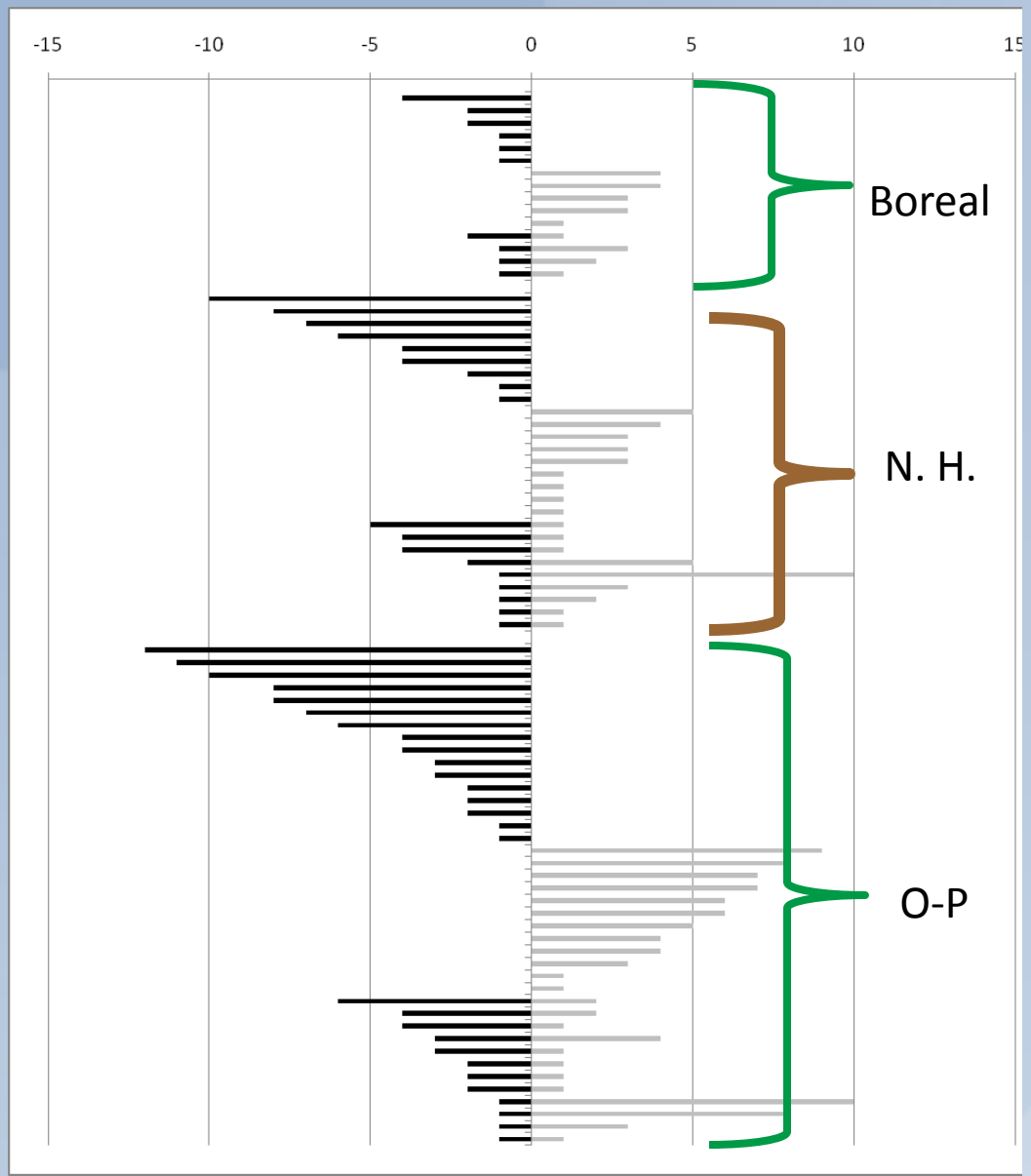
Forests: Breeding Birds (BBS)





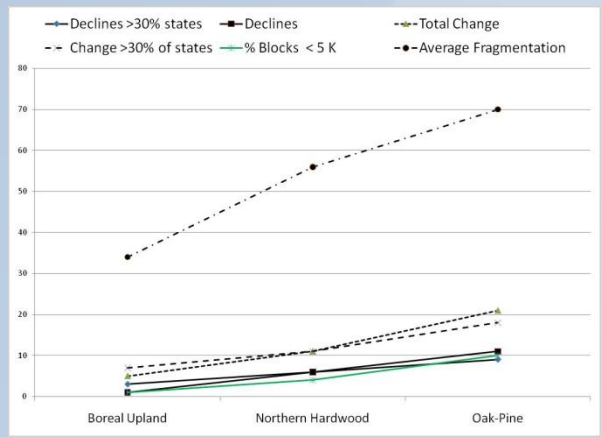
Forests: Breeding Birds

Declines # of States : Increases # of States



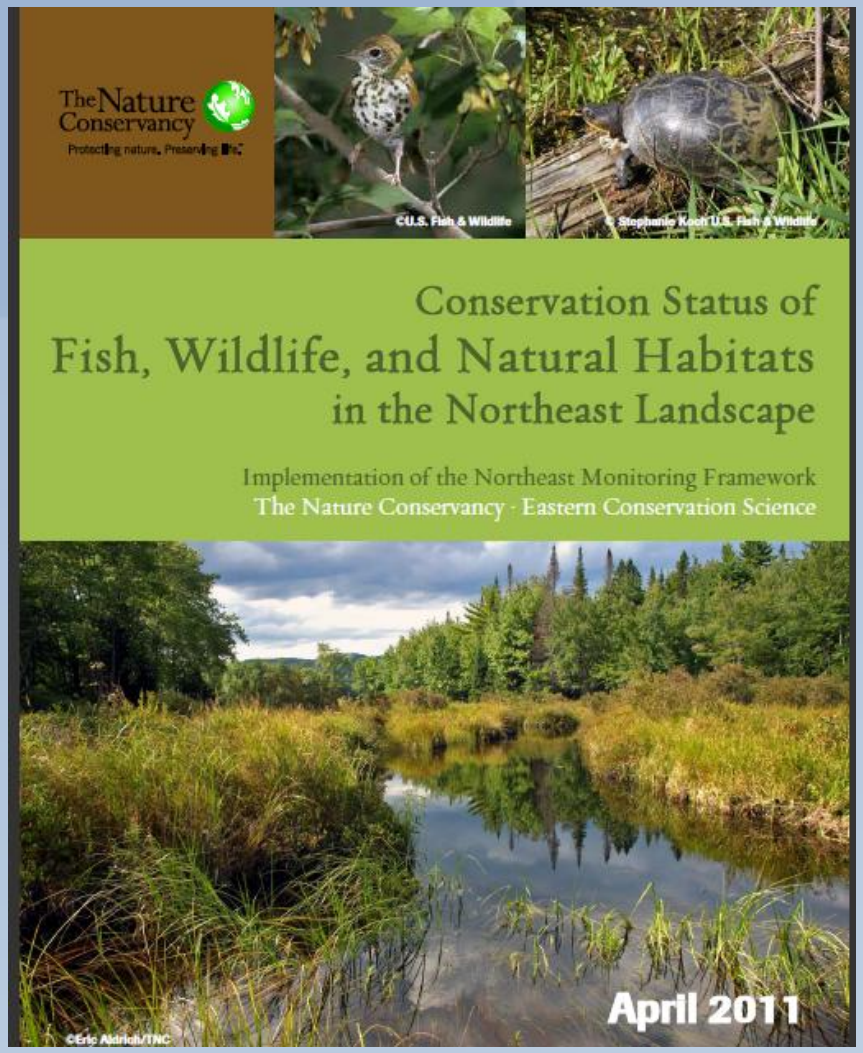
Number of Declines and Total Change

Highly correlated with:
+ Degree of fragmentation
- Number of large blocks
+Number of small block



Less correlated with
-Average stand age
-Degree of cutting

Summary



Take home points

- Private conservation easements and fee ownerships now account for 4.3 Million acres of land.
- Forest are composed of small young trees, but securement seems to work, bird compositions changing in concert with roads and fragmentation
- We have secured about as much wetland as was converted (2-3 M acres). Alluvial wetlands are the most converted and least protected (5:1)
- Securement and protection is strongly biased towards high elevation, slopes, granite. Divers productive low elevation limestone, sands, silts are largely unprotected.
- Rivers were once hugely connected systems now none are over 5000 miles and one quarter are under 25 miles.
- Lakes are largely accessible by roads with 69% less than 1?10th of a mile from a road.
- Species conservation has focused more on low responsibility species than high responsibility species.

Measuring the Effectiveness of State Wildlife Grant Projects

Albany II Meeting
June, 2011

Chris Burkett,
Virginia Dept. of Game and Inland Fisheries





Working Group

STATES

- Dana Baxley (KDFWR)
- Faith Balch (MNDNR)
- Tara Bergeson (WIDNR)
- Chris Burkett (VDGIF)
- Wendy Connally (TPWD)
- Jenny Dickson (CDEP)
- Mike Harris (GDNR)
- Eric Rickerson (ODFW)
- Tracey Tomajer (NYDEC)

CONSERVATION PARTNERS

- Karl Hess (USFWS)
- Ron Essig (USFWS)
- Connie Young-Dubovsky (USFWS)
- Amielle DeWan (DOW)
- Tess Present (NAS)
- Shelley Green (TNC)
- Mary Klein (NatureServe)
- Mathew Birnbaum (NFWF)
- Terra Rentz (TWS)

AFWA

- Mark Humpert
- Priya Nanjappa

FOUNDATIONS OF SUCCESS

- Nick Salafsky
- Caroline Stem

SWG at Risk? Yes

- February 2011, the U.S. House of Representatives voted to eliminate the State Wildlife Grants program from the FY2011 Continuing Resolution.

This was a surprise.
But there were warning signs.

Prior Notice

- Congressional Element 5 of action plans
- OMB – 2005: "Results not Demonstrated"
- House Appropriations Language – 2007 and 2008: Comments related to effectiveness, monitoring, and funding
- OMB/Administration – 2010: "…target programs that are not the best use of taxpayer dollars."

OMB – 2010: Specific to SWG Effectiveness

"States should have done this five years ago."

"…expecting progress and need data within one year."

The Report's Three Essential Parts

1. Set of 11 standard actions
2. Process to develop and test measures for actions
3. Discuss mechanisms for reporting and maintaining data

11 Common Conservation Actions Funded through SWG

Conservation Area Designation	Acquisition/Easement/Lease
Data Collection & Analysis	Management Planning
Direct Management of Natural Resources	Species Restoration
Create New Habitat/Natural Processes	Training & Technical Assistance
Outreach	Land Use Planning
Environmental Review	

Conservation Actions

Data Collection & Analysis

Collecting and analyzing data about species, habitats, and threats

Virginia Example:

Determine species distribution and population status of Virginia crayfish.

Crayfish Sampling Efforts:

- ID sample priorities
- Recruit Partners
- Provide Training and Supplies
- Collect samples, take notes
- Enter data into Collections database/report to partners
- Revise maps and watershed prioritization per new data
- Evaluate SGCN status

Project Outcome Measures:

- Specify the research question(s).
- Are data answering the research question?
- Who are the intended users of this data?
- Are users receiving this information?
- Evidence of data being used?

Roll Up Measures

Similar Projects Generating Similar Data

- % of projects that answered research questions
- % of projects where data reaching target audiences
- % of projects leading to other management actions

Demonstrate That These are More Than "Counting" Projects

Balance

Working for Balance between Concise and Comprehensive

Wildlife TRACS

1. **Collecting data is not sufficient.**
2. **Data must be reported in a centralized system.**

- **Wildlife TRACS**
  - Partial Replacement for FAIMS
  - Focused on project descriptions and performance reporting
  - Will include effectiveness measures
  - State and public components

TRACS Progress

- **Initial focus on SWG**
- **Design Phase Underway**
- **Programming to begin in June 2011**
- **Prototype system operational end of 2011**
- **FY2012 Expand to other WSFR Programs**
- **11 Pilot states**
- **Goal to have all states on advisory committee**
  - July 26, 2011 – Teleconference

Questions? Comments? Ideas?

Chris Burkett
Wildlife Action Plan Coordinator
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Richmond, VA 23230
804-367-9717
Chris.Burkett@dgif.virginia.gov

The Conservation of Tidal Marsh Birds:
Guiding action at the intersection of our changing land and seascapes

Greg Shriver, University of Delaware

- provide the information necessary for states in BCR30 to protect regionally important habitats for tidal marsh birds
- provide a regionally consistent platform for tidal marsh bird monitoring
- Funding: state SWG, RCN, and National Comp SWG

www.tidalmarshbirds.org

Objectives

1) Fill gaps in current surveys

2) Produce population estimates and identify regional population centers

3) Repeat historic surveys

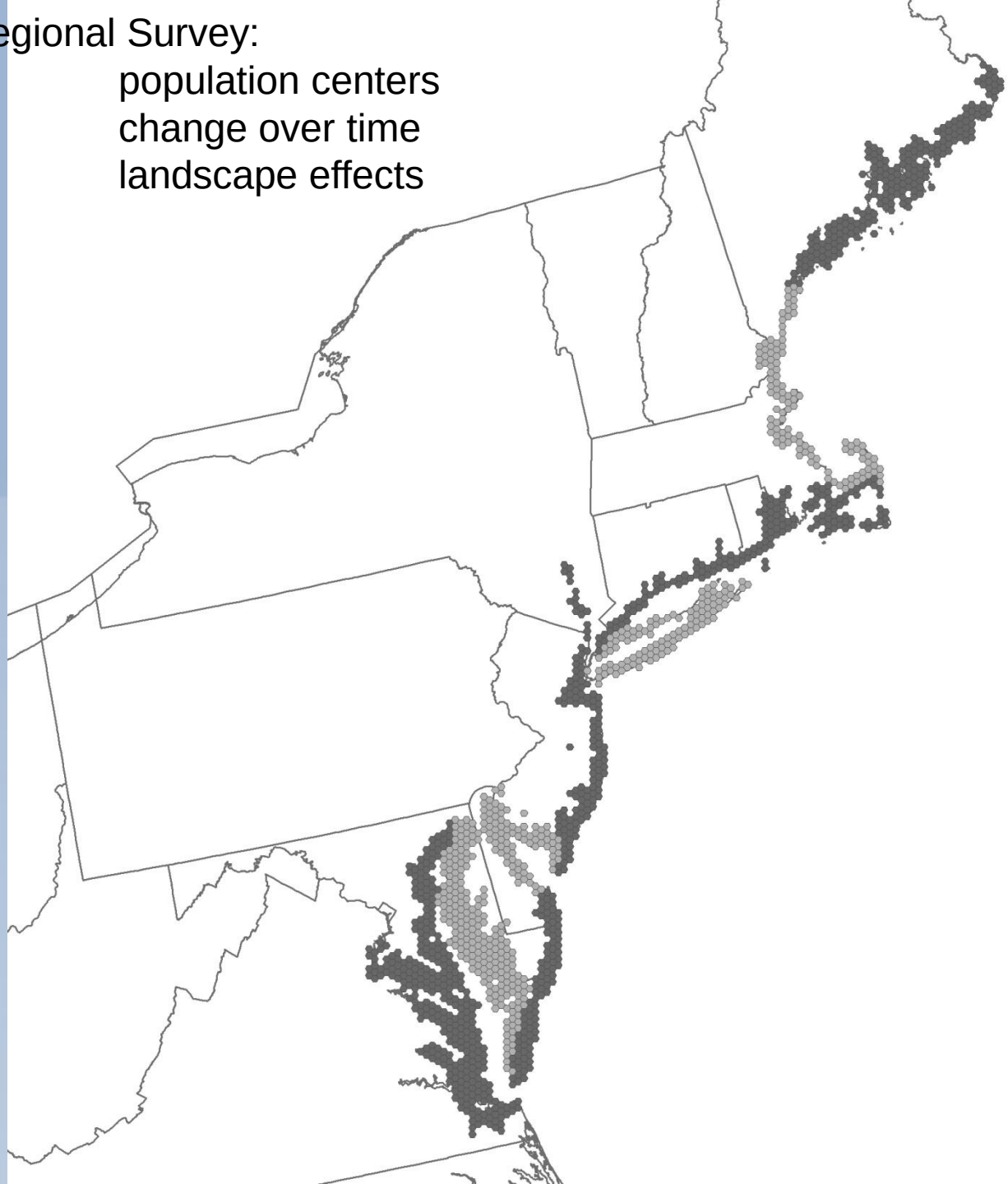
4) Model geographic variation in productivity and survival

5) Provide a detailed description of states regional responsibility

6) Identify the most critical areas for the long-term preservation of the tidal marsh bird community within each state

Regional Survey:

population centers
change over time
landscape effects



REGION

(1) Coastal Maine

(2) Cape Cod – Casco Bay

(3) Southern New England

(4) Long Island

(5) Coastal New Jersey

(6) Delaware Bay

(7) Coastal Delmarva

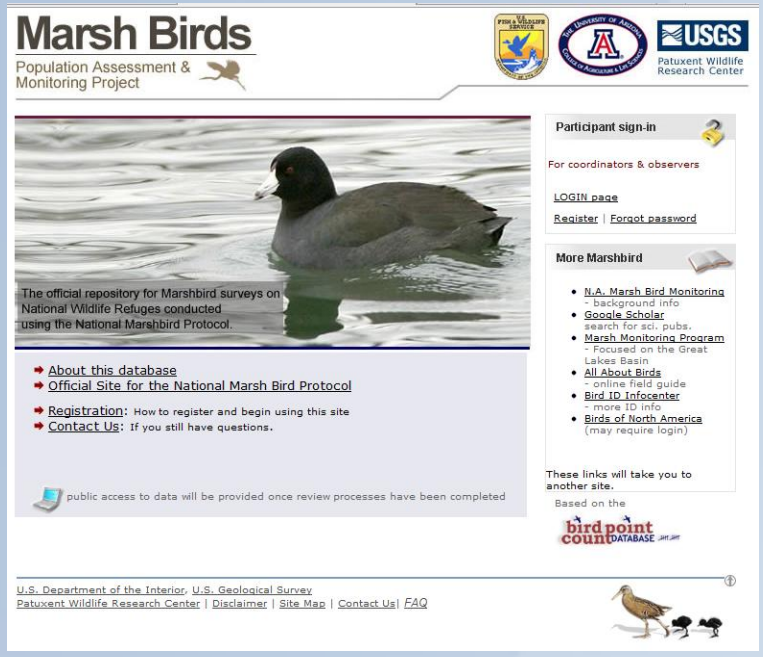
(8) Eastern Chesapeake Bay

(9) Western Chesapeake Bay

Avian data entered into marsh bird point count database

Data-sharing portal at:
www.tidalmarshbrids.org

Communicate results at Annual Northeast Association of Fish and Wildlife Agencies



http://www.pwrc.usgs.gov/point/mb/

Development of Noninvasive Monitoring Tools for New England Cottontail Populations

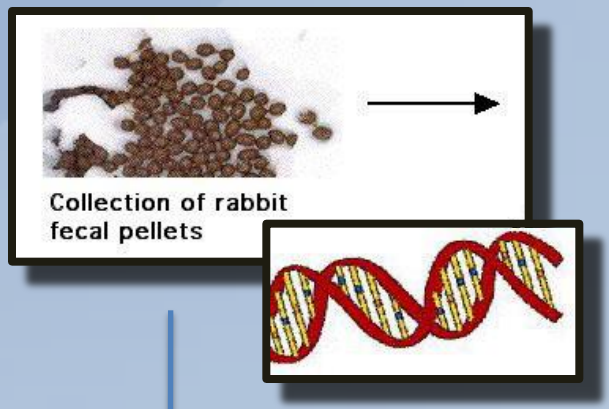
Project Director: Adrienne Kovach, University of New Hampshire

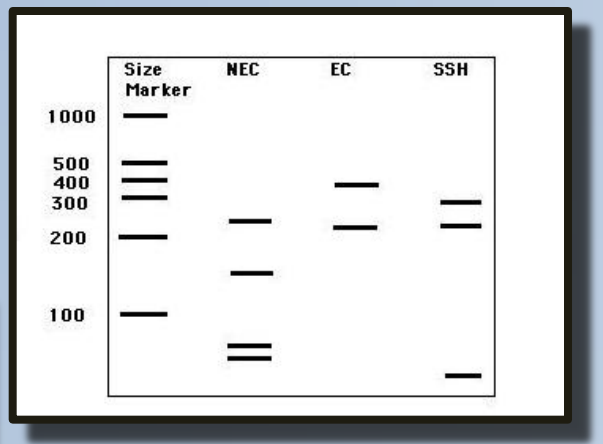
Graduate Student: Daniel Brubaker, University of New Hampshire

Partners: Kate O'Brien, Walter Jakubas, Anthony Tur, Steve Fuller, Kelly Boland, Heidi Holman, Paul Novak, Howard Kilpatrick, Eileen McGourty, David Scarpitti

Goal: Develop optimal monitoring protocols for tracking patch-specific New England cottontail occupancy and abundance and for performance evaluation.

Approach: Genetic Monitoring via Fecal Pellet Surveys

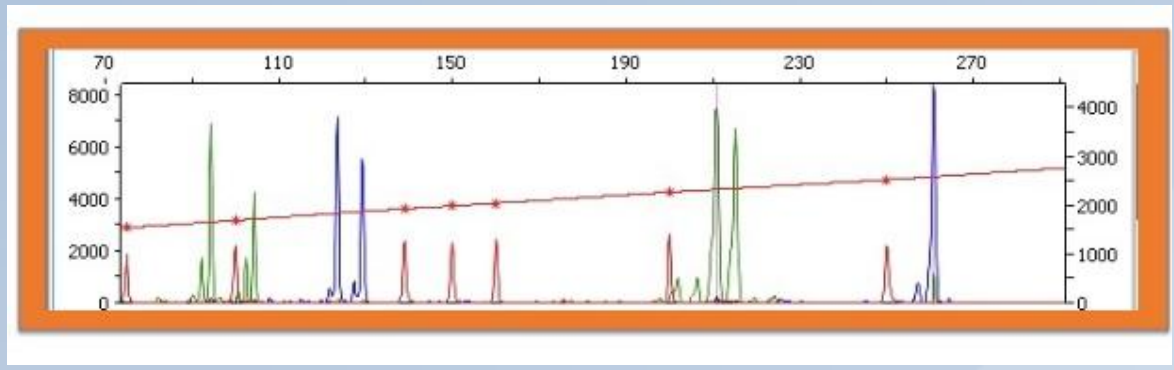




Diagnostic mtDNA test for species id

occupancy

unique genotypes



Genetic mark-recapture

population estimation

Project Status

- 2 field seasons completed (winters 2010 and 2011).
- Genotyping of up to 500 population estimation samples underway; abundance estimates to be completed by December.

Northeast State of the Frogs:

Development of regional analysis for frog call survey data from the North American Amphibian Monitoring Program

Linda Weir & Andy Royle

USGS Patuxent Wildlife Research Center

NAAMP Protocol and Partnership:

- Collaborative program between USGS, State Agencies, and other partners to monitor calling frogs and toad
- Over 20 states participating, including 11 Northeast states
- Use common protocol

USGS

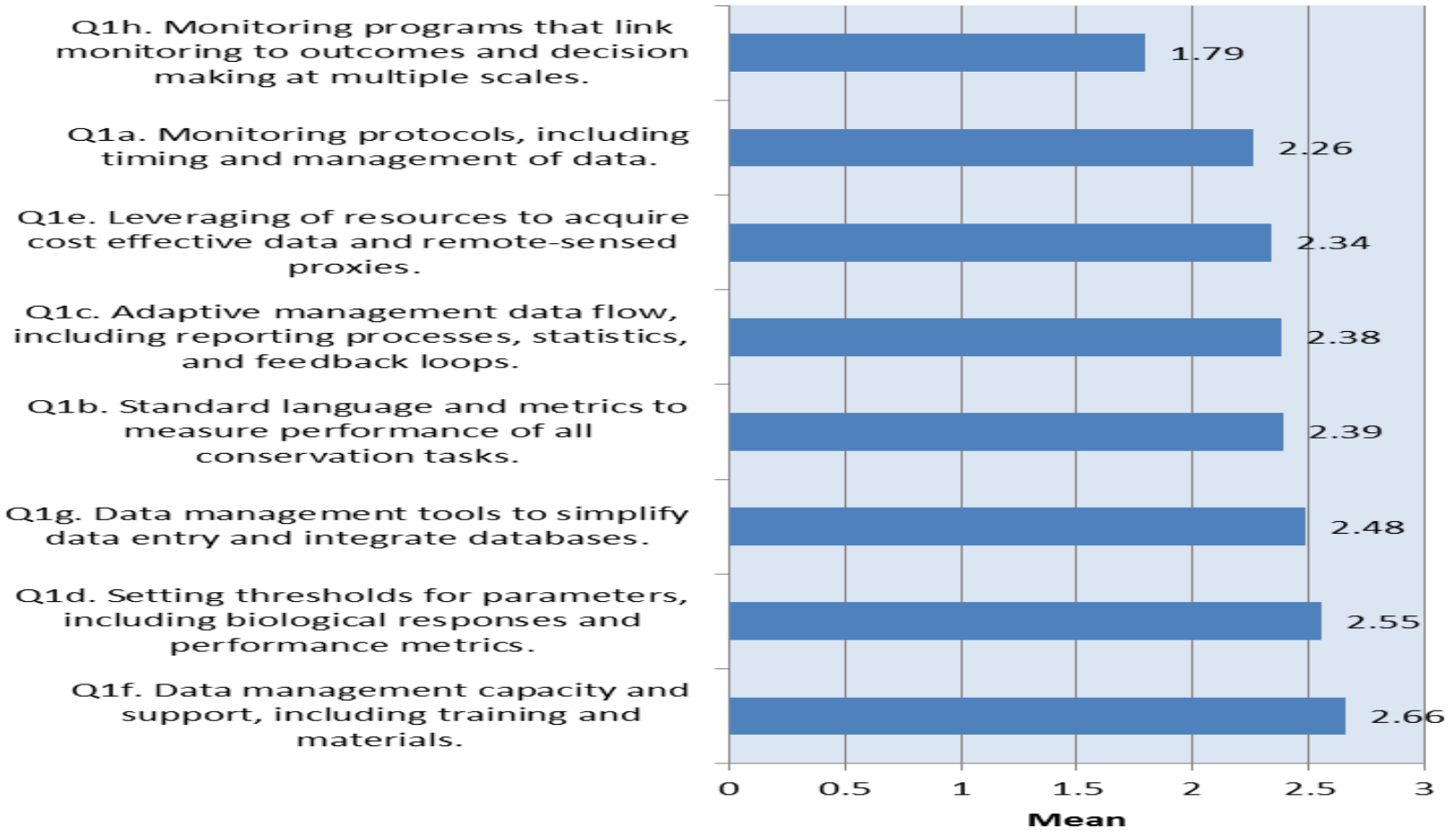
RCN Funding

- Provides ability to hire post-doc to work on Northeast NAAMP data analysis
- Using occupancy modeling approach to:
  - Develop regional model to look at species trends for the Northeast as a whole
  - Incorporate calling index data for species with sufficient data, which will allow for greater sensitivity in detecting change (instead of truncating to presence-absence)
- Products: NEAFWA presentation, publications, regional trends webpage on NAAMP website

USGS

Survey Question: What priority do you think should be given to each of the following *monitoring and evaluation activities* to achieve regional conservation in the Northeast?

Mean scores rank in order where
1.00 to 1.49 = Utmost priority
1.50 to 2.49 = High priority
2.50 to 3.49 = Medium priority
3.50 to 4.00 = Low priority



Survey responses: *monitoring & evaluation*

Purpose (why)

- Need clear picture of current situation on the ground
- Inform decision-making at multiple scales
- Monitoring should be required by funders

Techniques (how)

- Develop infrastructure for monitoring first before protocols
- Systematic, unified, consistent, meaningful approach
- Clear objectives to measure change and monitor targets
- Adapt existing successful data management protocols (e.g., Teaming with Wildlife)

Survey responses: *monitoring & evaluation, cont.*

Barriers/challenges

- Difficult to measure some outcomes, but quantification should be the goal (don't get bogged down)
- Difficult to collect baseline data for unanticipated outcomes
- Standard measures may not work for specific species/community/ecosystem metrics

In Summary –

Monitoring Includes:

- **Establishing baseline information in order to:**
  - **Detect trends**
  - **Determine response to management action**
  - **Understand/test causality**
- **Assessment: surveys for species distribution**
- **Social science surveys to understand public needs/desires**

Monitoring is an essential component of conservation planning, decision making, performance evaluation.

Session 5: Monitoring and Research

Discussion Questions:

1. What are the highest priority projects or needs for advancing monitoring evaluation and research?
2. Who are the key members of the conservation community who can address these priorities and what roles are best suited to RCN and LCCs?
3. What is value added of regional monitoring evaluation and research?
4. Do existing monitoring programs provide what we need to make decisions? If not, what changes need to be made or what additional monitoring is needed?