



# Conservation Priorities in New York

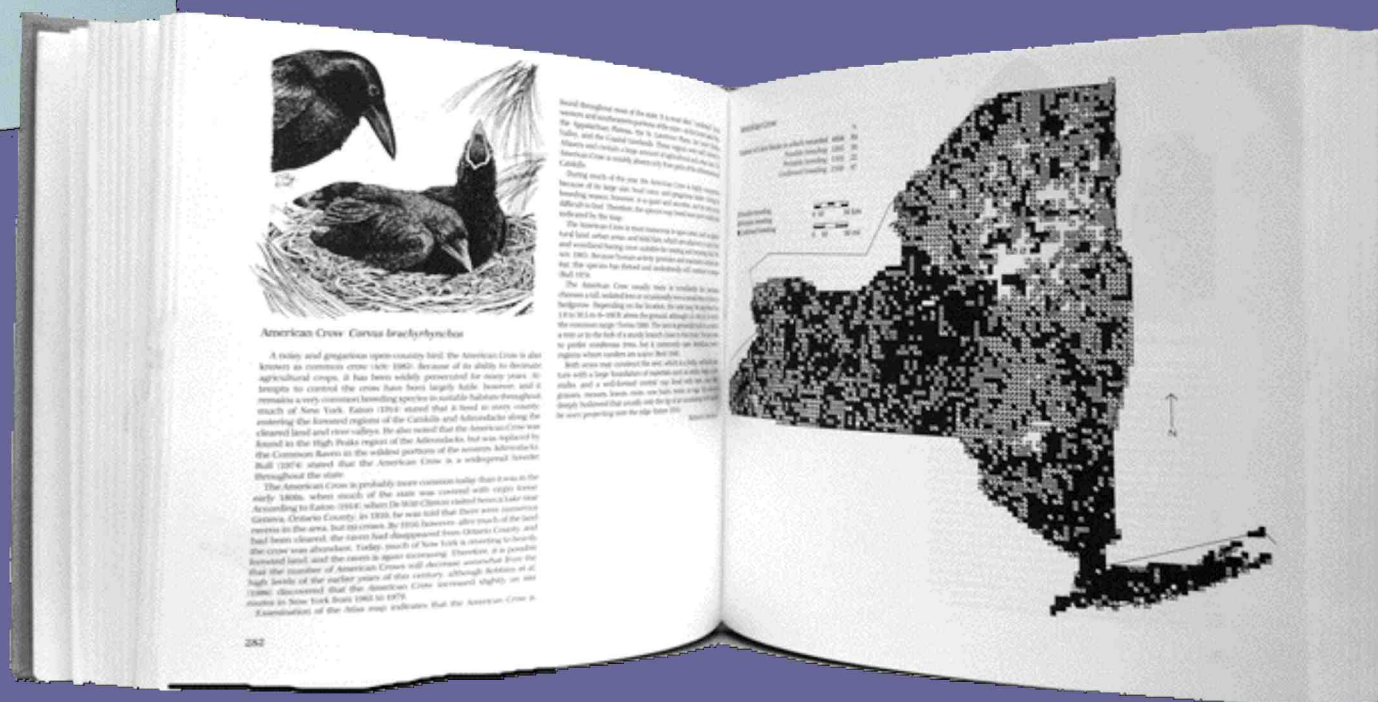
## *What can we learn from the Breeding Bird Atlas?*

**Kimberley Corwin**  
NYS Dept. of Environmental Conservation

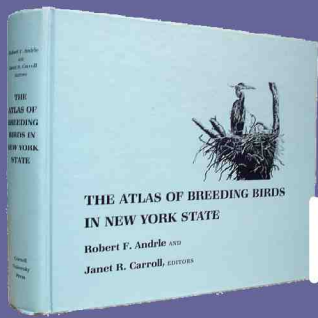
New York State Conference on the Environment  
17-19 October 2008

Central NY Farmlands by Susan Bull Riley

# 1980-85





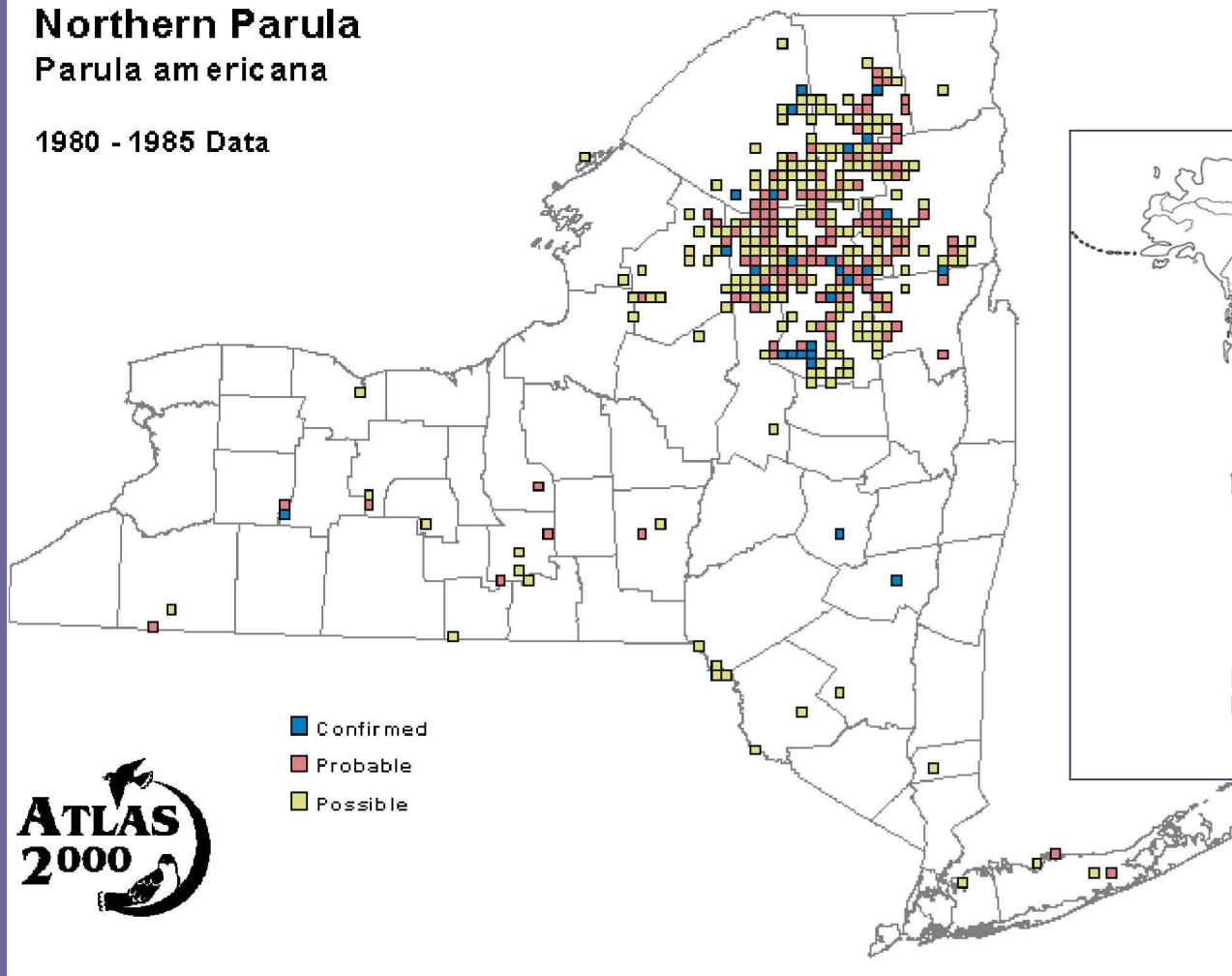


# New York State's First Breeding Bird Atlas

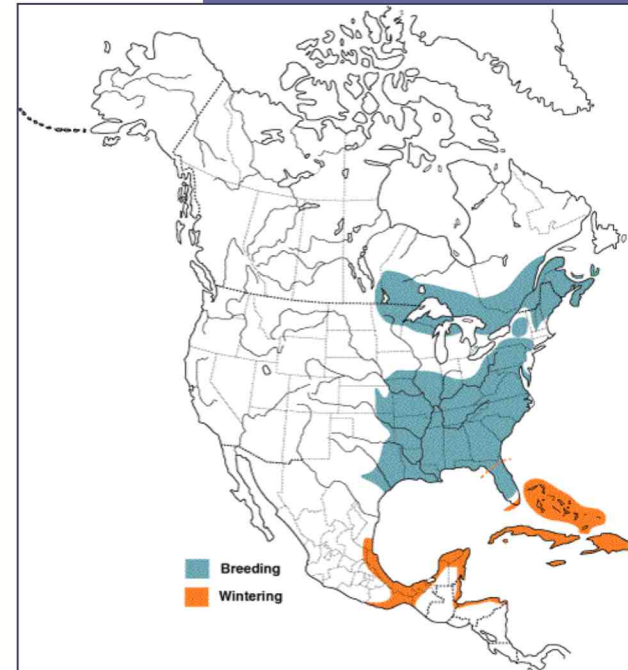


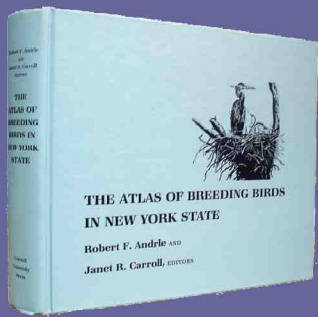
## Northern Parula *Parula americana*

1980 - 1985 Data



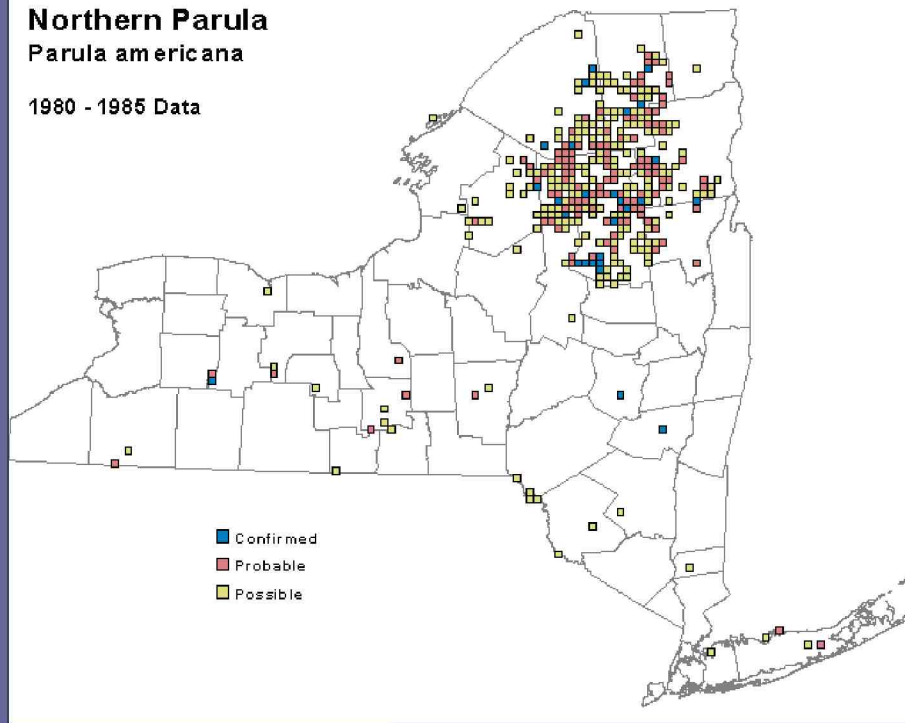
■ Confirmed  
■ Probable  
■ Possible



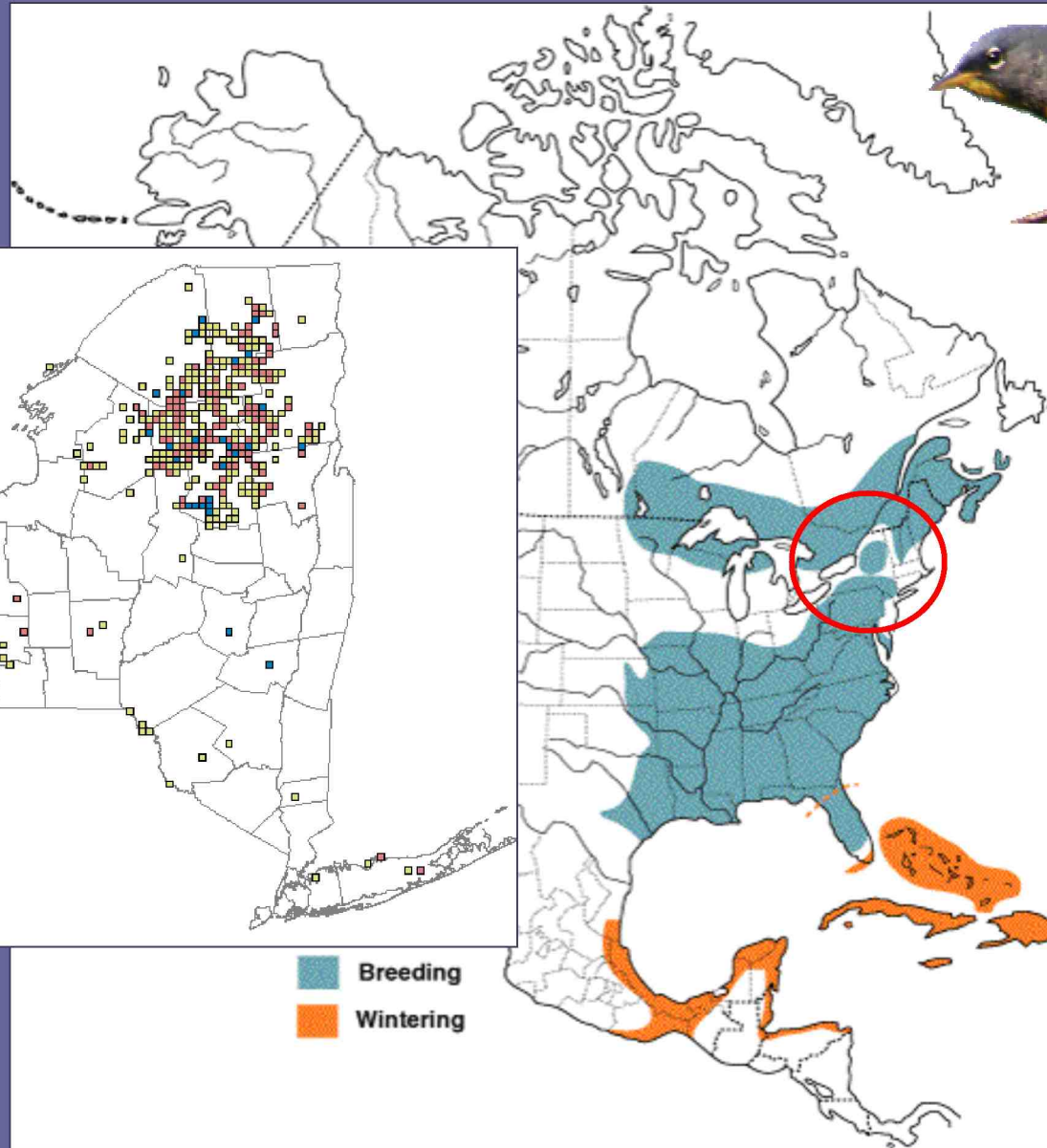


## Northern Parula *Parula americana*

1980 - 1985 Data



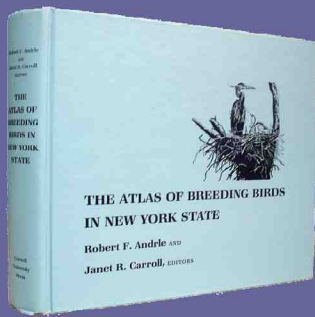
■ Confirmed  
■ Probable  
■ Possible



■ Breeding  
■ Wintering

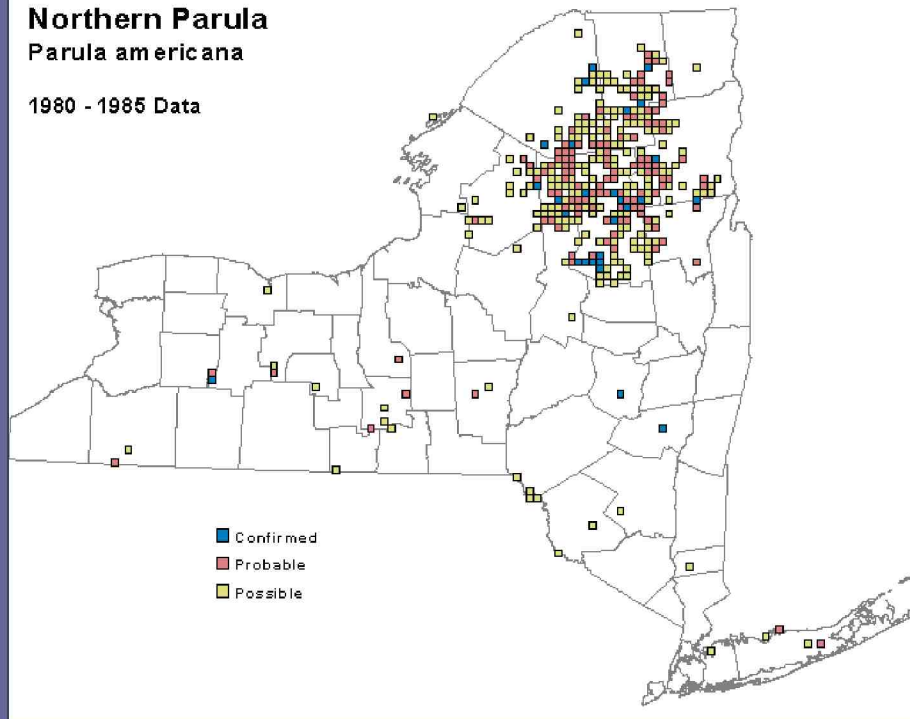




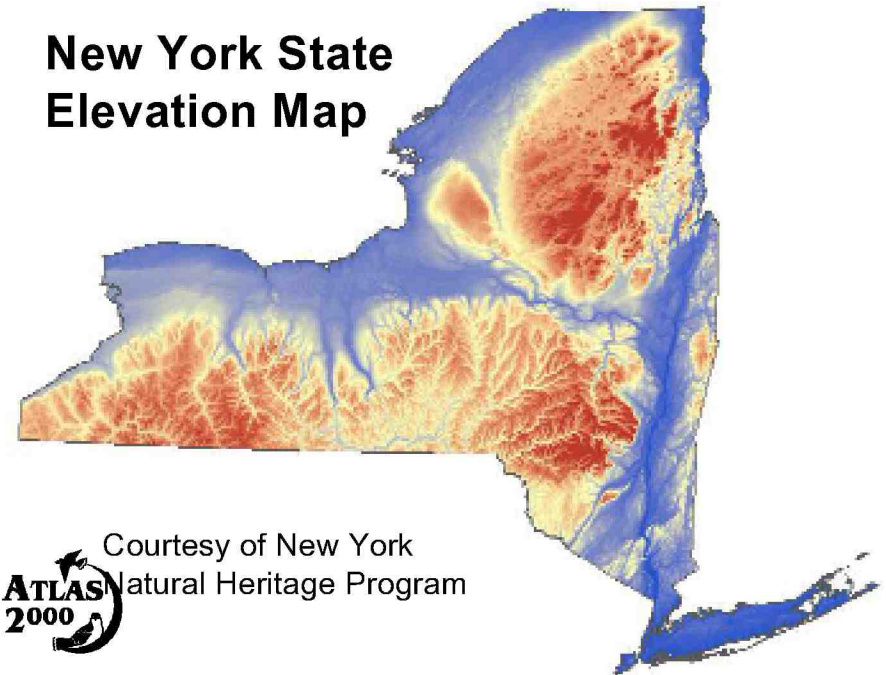


### Northern Parula *Parula americana*

1980 - 1985 Data



### New York State Elevation Map



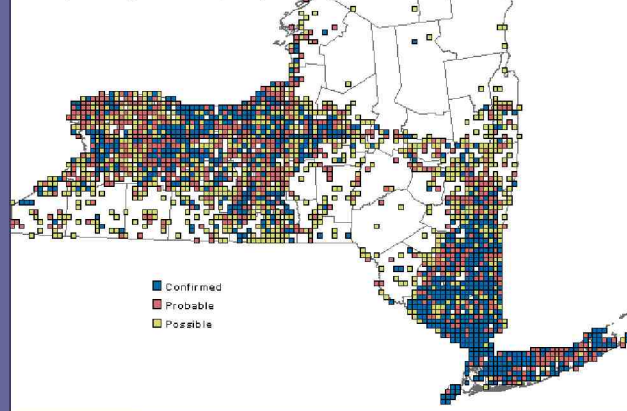
Courtesy of New York  
Natural Heritage Program

**ATLAS  
2000**

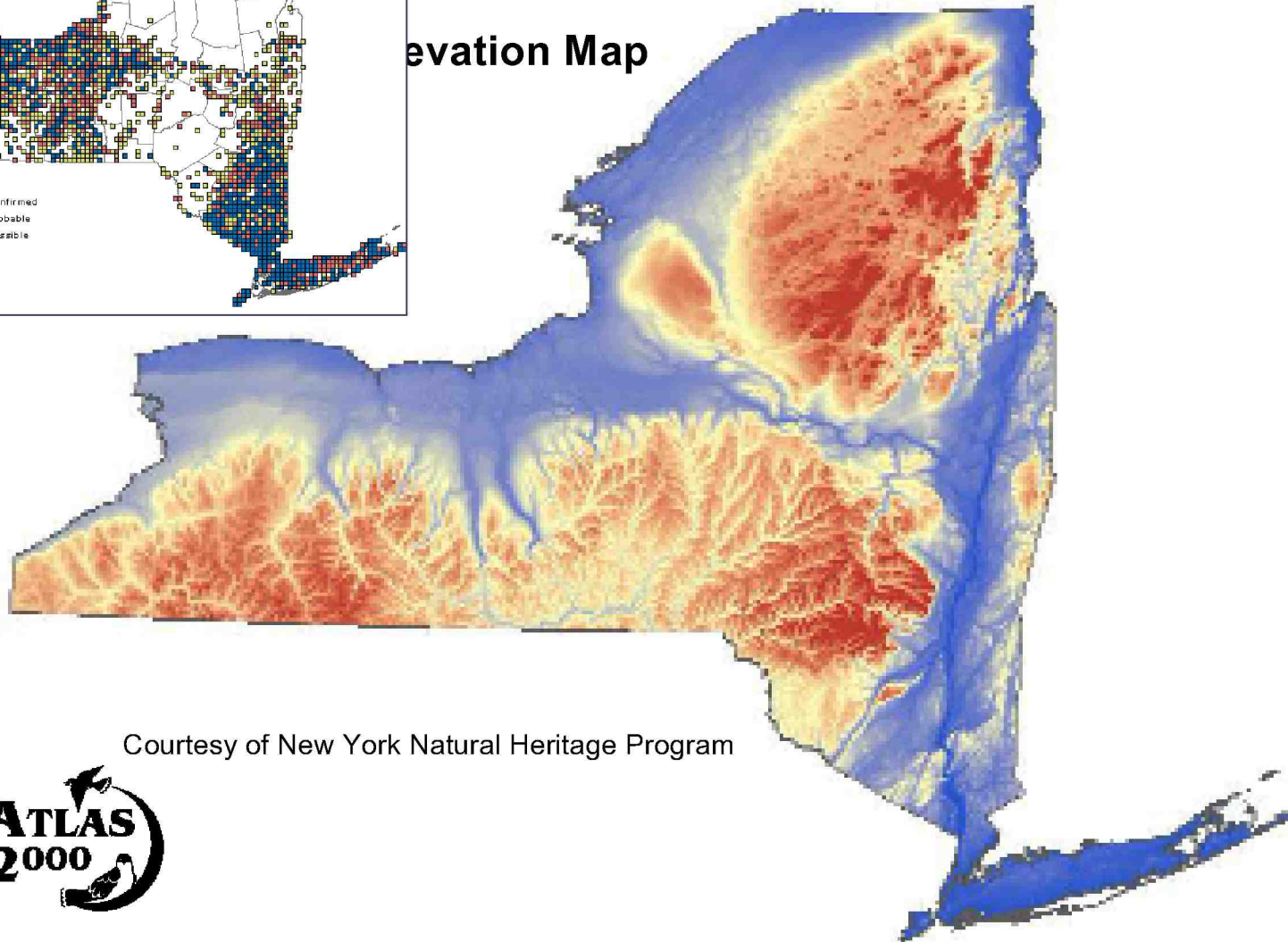


**Red-bellied Woodpecker**  
*Melanerpes carolinus*

2000 -05 Data (8 December 2005)



**Elevation Map**

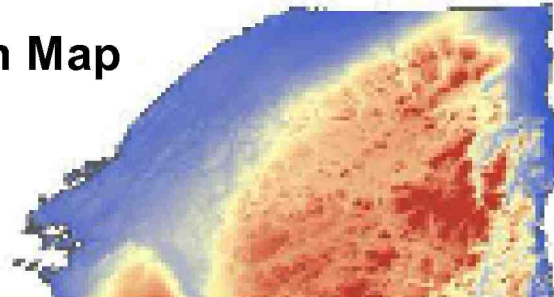


Courtesy of New York Natural Heritage Program





## New York State Elevation Map



*Breeding Bird Atlases help us to evaluate the conservation status of species in a region and identify important areas worthy of special attention.*

Courtesy of New York Natural Heritage Program



# Uses of Data

- Reference source for research & publications
- Statewide database used by NYSDEC and NY Natural History Program
- Data layer in GIS software
- Revision of Endangered Species List





# Uses of Data



Grasshopper Sparrow

ify specific areas  
species exist, the  
management



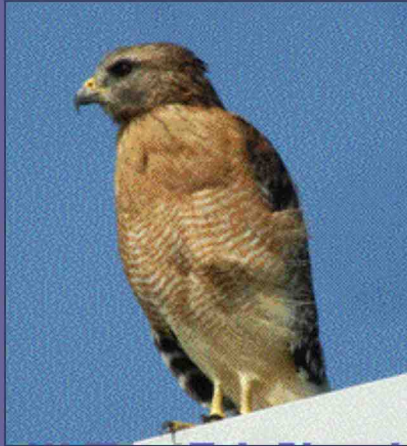
Red-shouldered Hawk



Long Pond State Forest



# Species of Special Concern



Red-shouldered Hawk

- set aside 500 acres of old growth forest
- re-route snowmobile trail



Grasshopper Sparrow

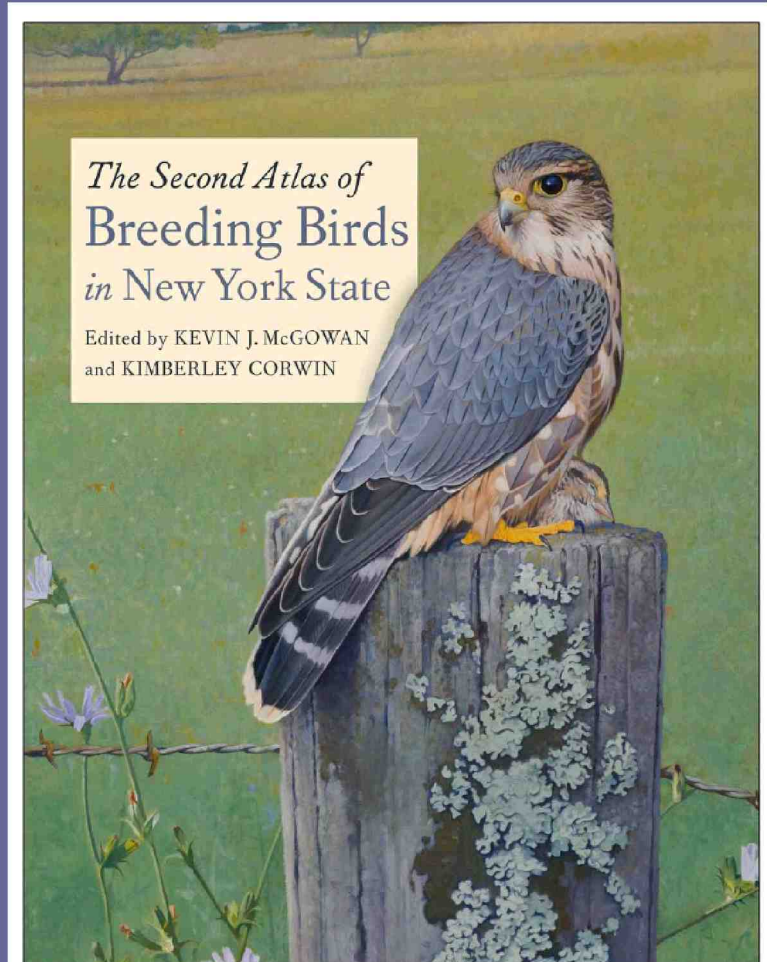
- maintain 375 acres of grasslands



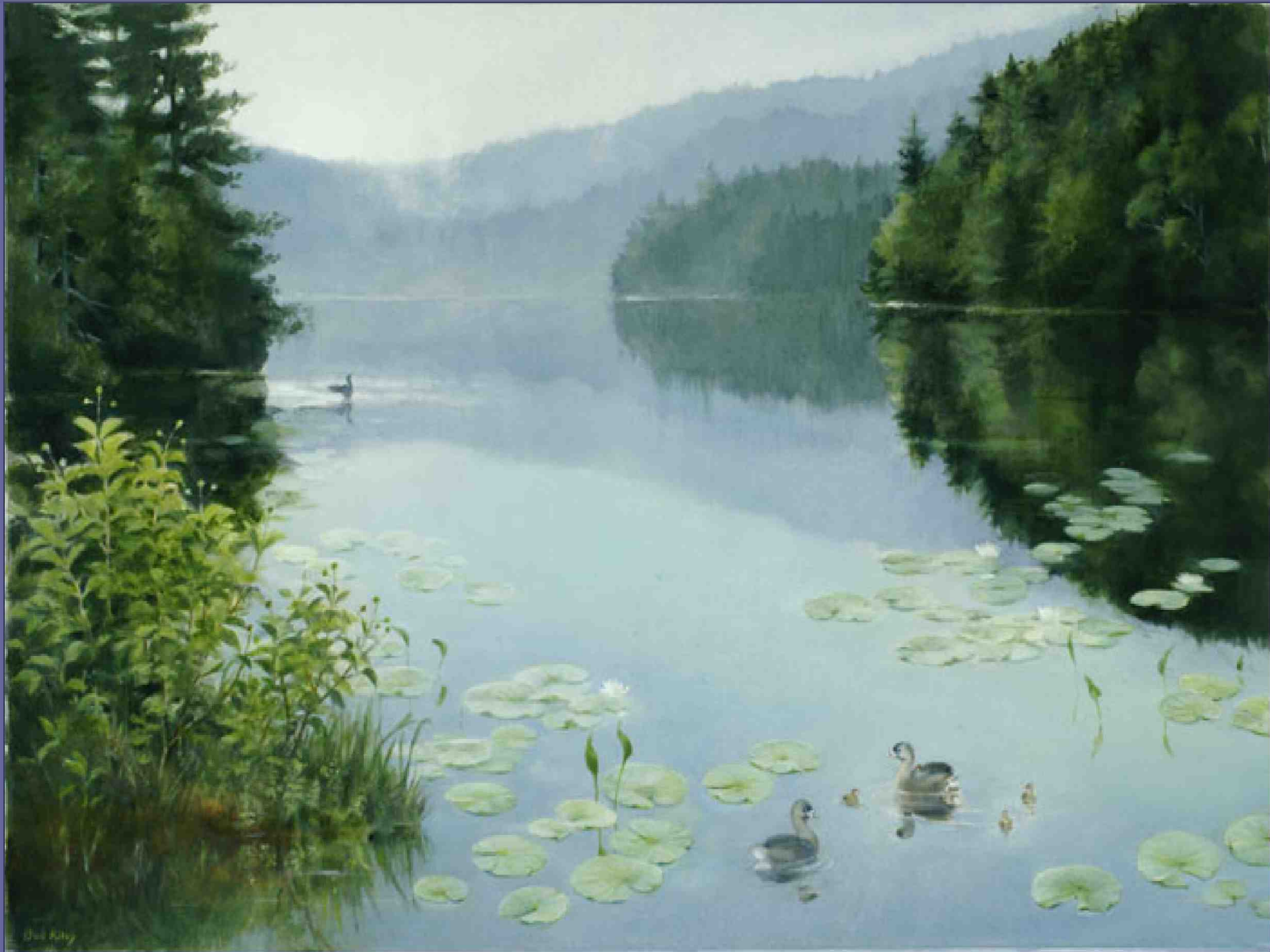


# New York State's *Second* Breeding Bird Atlas

- Field work 2000-2005
- 1,200 volunteers
- State divided into 5,333 5x5 km blocks (5,332 covered; 1 not)
- 519,562 recorded observations
- 248 species (+ 3 hybrids)
- New art
- Book to be published 2008



# Methodology

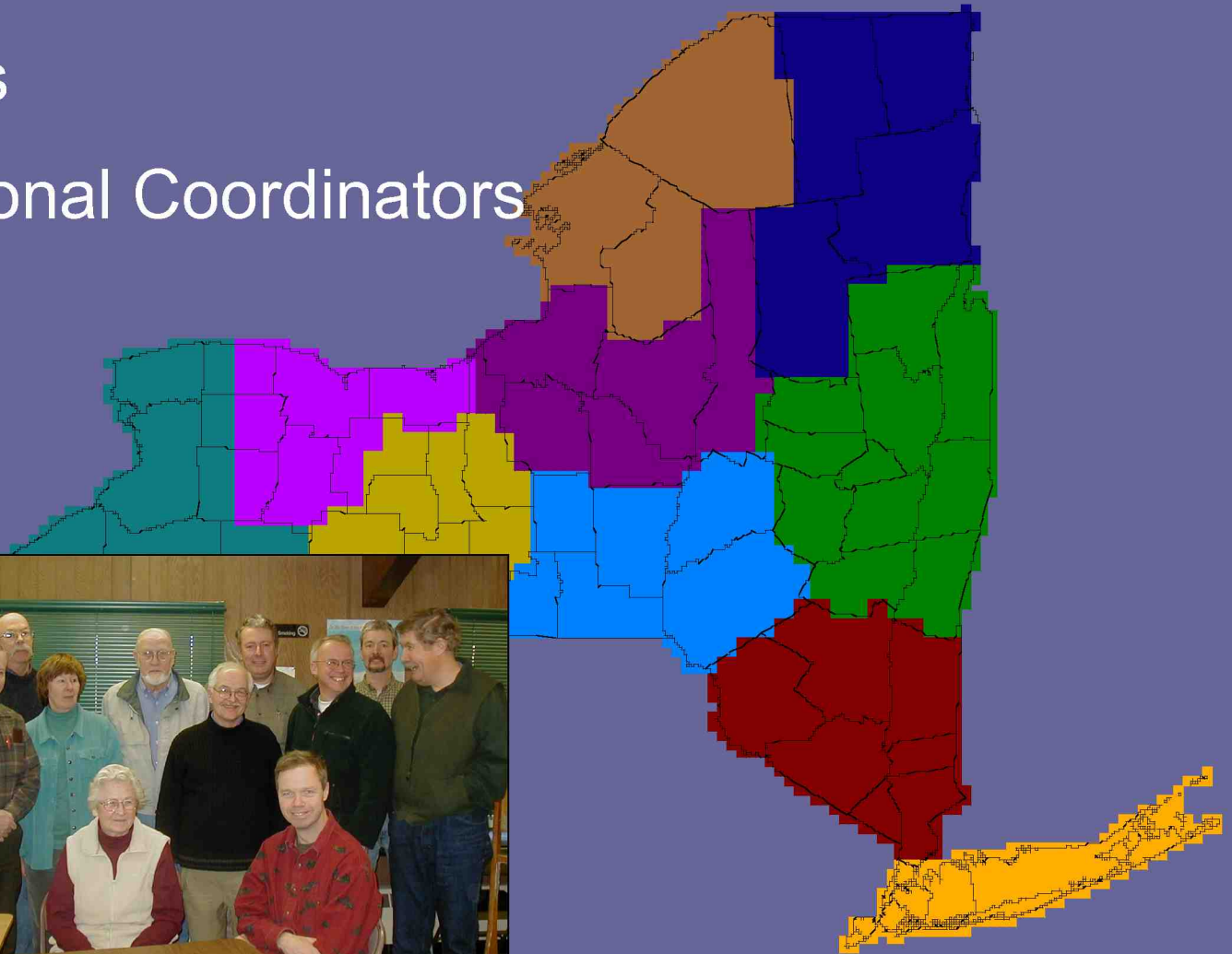


Adirondack Lake by Susan Bull Riley



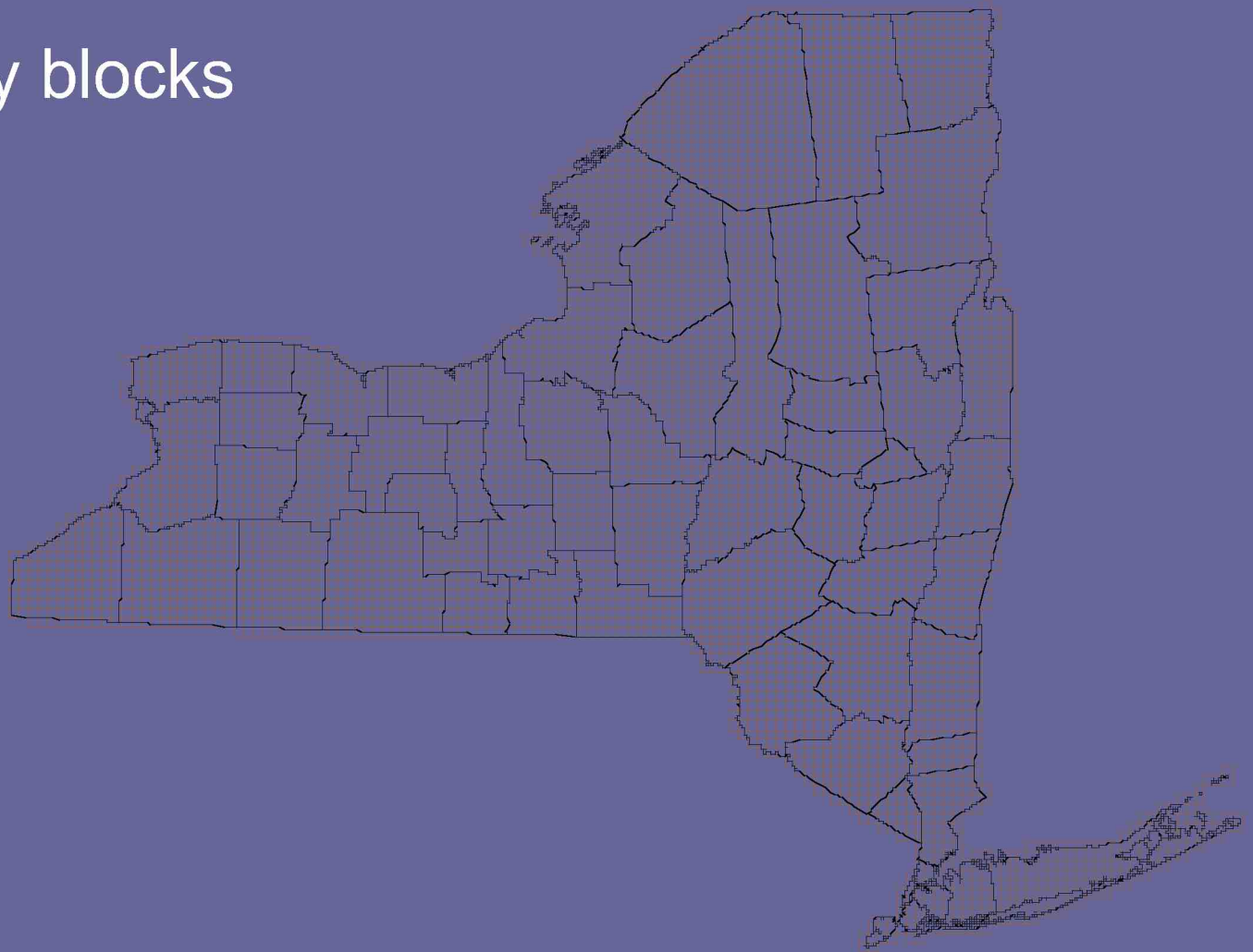
# Methodology

- Ten regions
- 1 or 2 Regional Coordinators



# Methodology

5,332 survey blocks

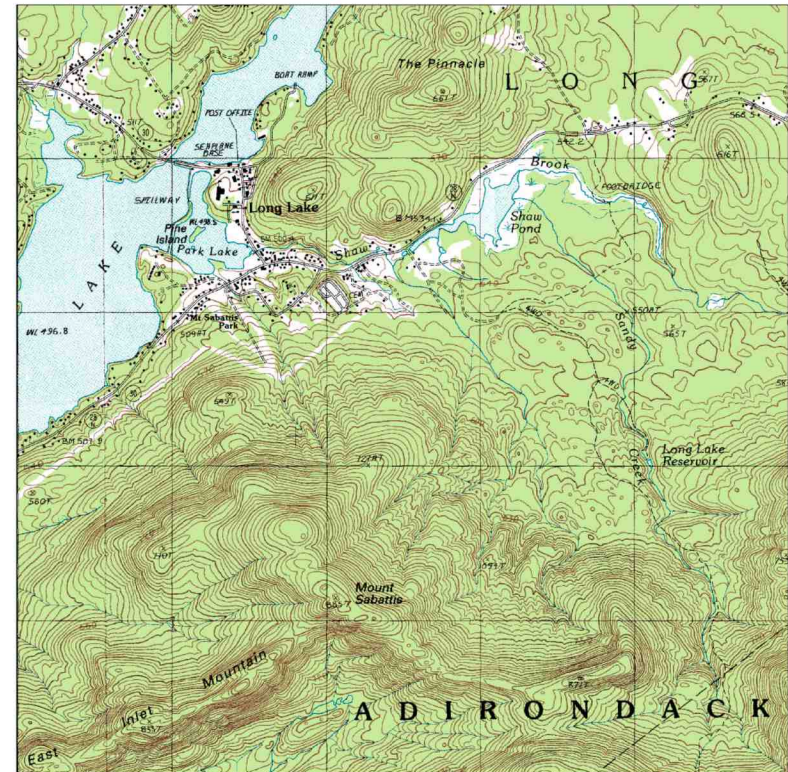




## Atlas Region 7: 690 blocks



Breeding Bird Atlas Block 5486A



1 Mile  
Scale is approximately 1:25,000, but may vary on your printer.

Atlas Block 5486A

# Volunteers

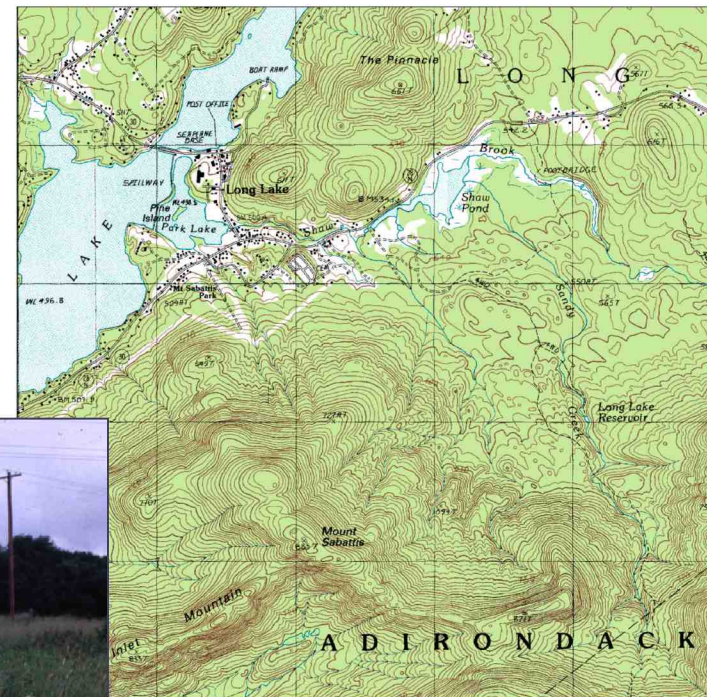
Take block assignments

Visit all habitats

Observe behaviors

76 species

Breeding Bird Atlas Block 5486A



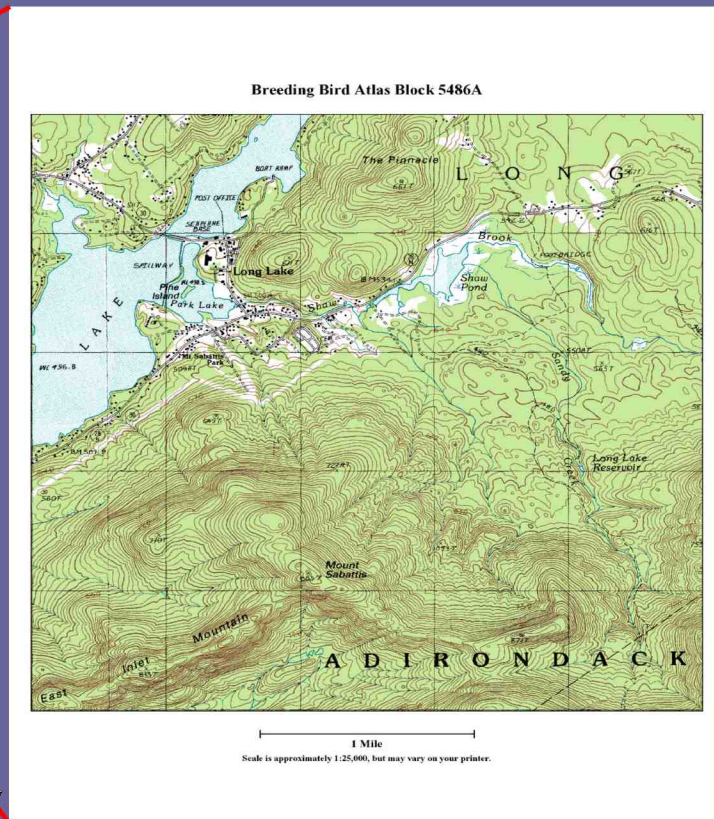
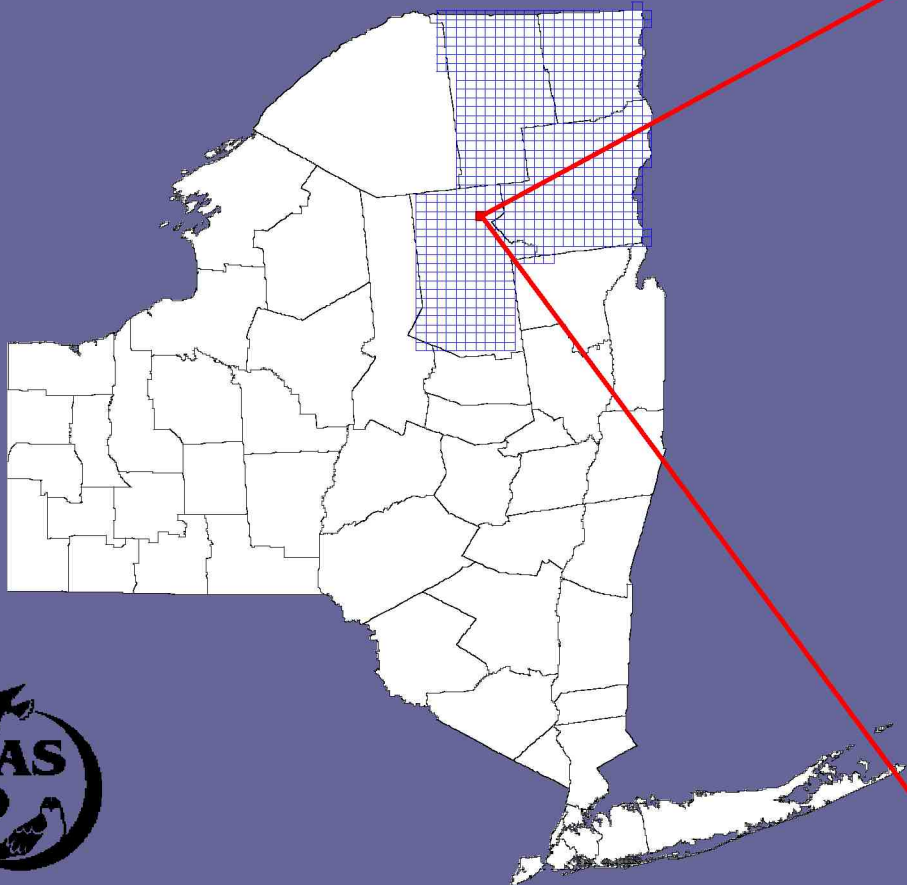
1 Mile  
Scale is approximately 1:25,000, but may vary on your printer.





# Why 76 Species?

survey ALL 5,335 blocks



Atlas Block  
5486A



A detailed oil painting of a tranquil lake scene. In the foreground, several large, round lily pads float on the water, with a single white lily flower in bloom. Two adult swans and their cygnets are swimming near the bottom right. The middle ground shows a small boat with a person on the water, and the background features dense evergreen forests and misty, rolling mountains under a soft, hazy sky. The overall mood is peaceful and idyllic.

**Repetition of atlases highlights  
change in status.**

***How much change occurred?***

# Changes in distribution

253 breeding species

**70 (28%) increased**

**125 (49%) no change**

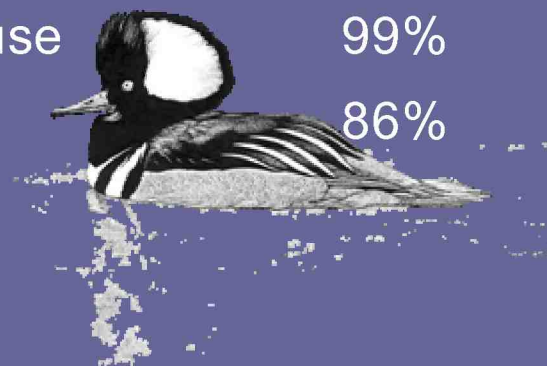
**58 (23%) decreased**



# Apparent changes in distribution

## *Increases: top 20 of 70*

Palm Warbler	4,176%	Osprey	145%
Bald Eagle	1,164%	Cooper's Hawk	145%
Boat-tailed Grackle	845%	Hooded Warbler	144%
Double-crested Cormorant	709%	Common Merganser	134%
Peregrine Falcon	549%	Wild Turkey	132%
Common Raven	497%	Red-bellied Woodpecker	122%
Carolina Wren	308%	Hooded Merganser	110%
Canada Goose	273%	Ring-necked Duck	105%
Pine Warbler	218%	Tufted Titmouse	99%
Clay-colored Sparrow	190%	Mute Swan	86%





# Apparent changes in distribution

## *Declines: top 20 of 58 species*

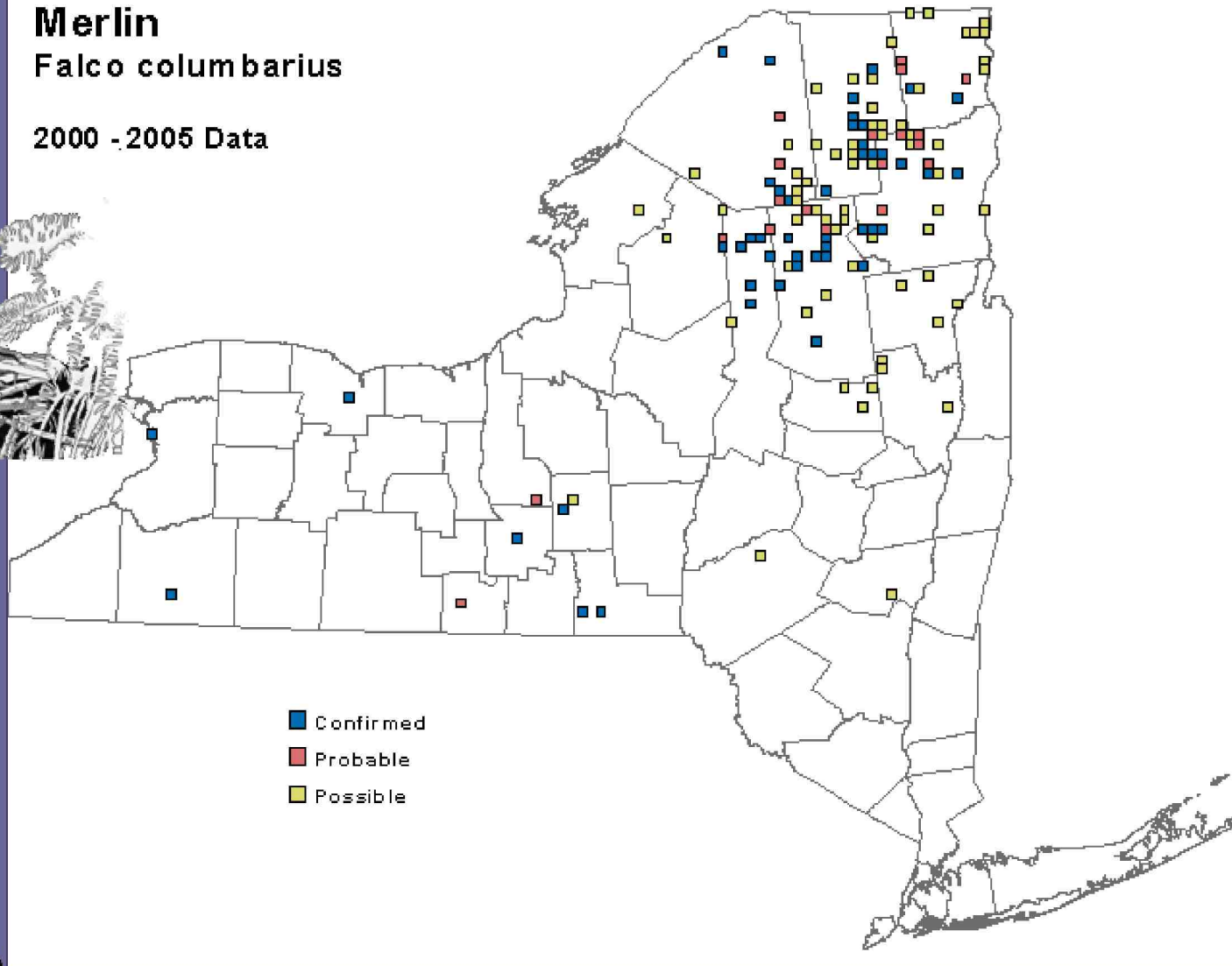
Loggerhead Shrike	-83%	Red Crossbill	-64%
Gray Partridge	-81%	Blue-winged Teal	-63%
Henslow's Sparrow	-80%	Whip-poor-will	-58%
Yellow-breasted Chat	-78%	Golden-winged Warbler	-53%
Barn Owl	-78%	Vesper Sparrow	-50%
Red-headed Woodpecker	-76%	Green-winged Teal	-45%
Kentucky Warbler	-72%	Grasshopper Sparrow	-42%
Northern Pintail	-72%	Purple Martin	-40%
Common Nighthawk	-71%	Ring-necked Pheasant	-37%
Upland Sandpiper	-66%	Horned Lark	-37%





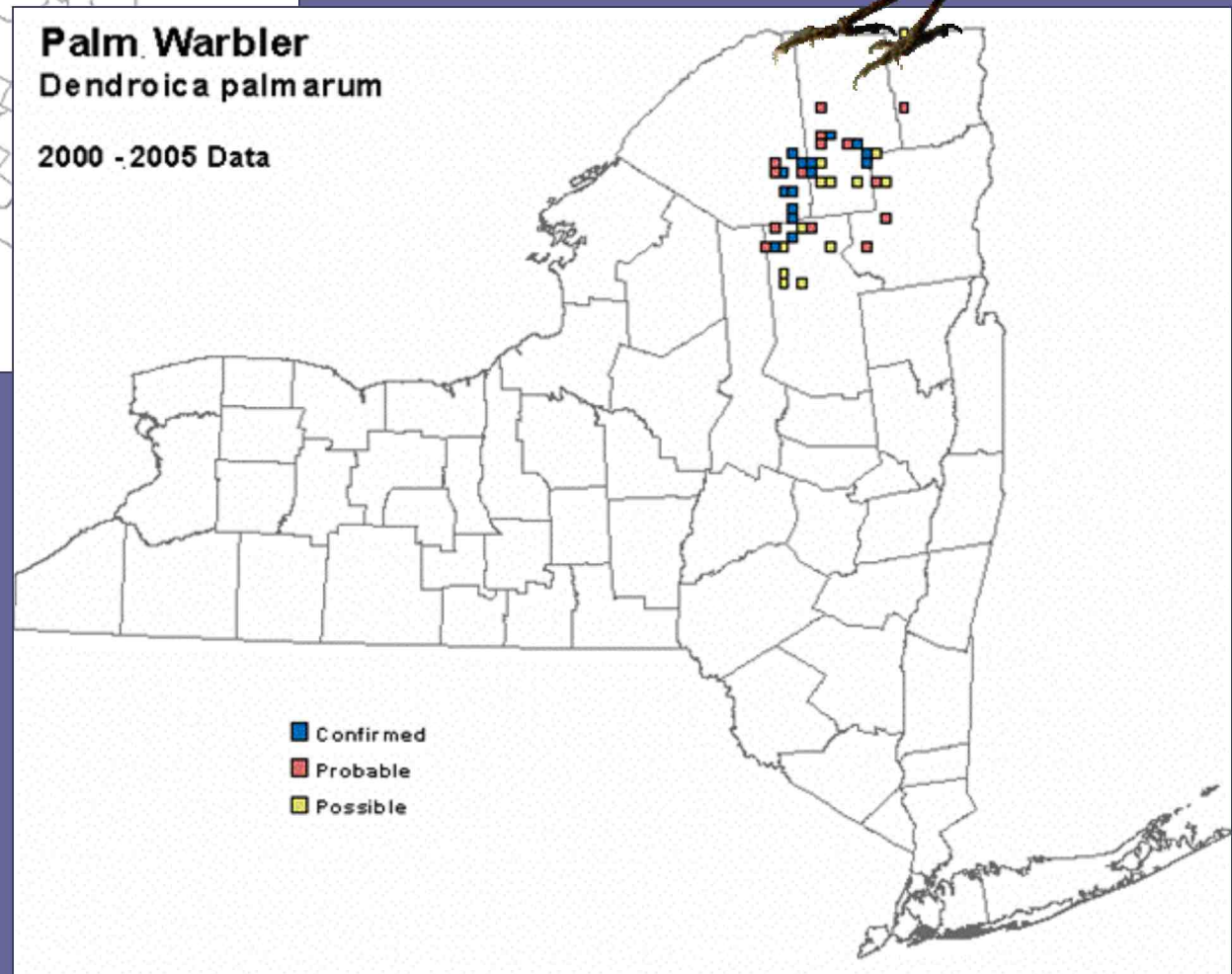
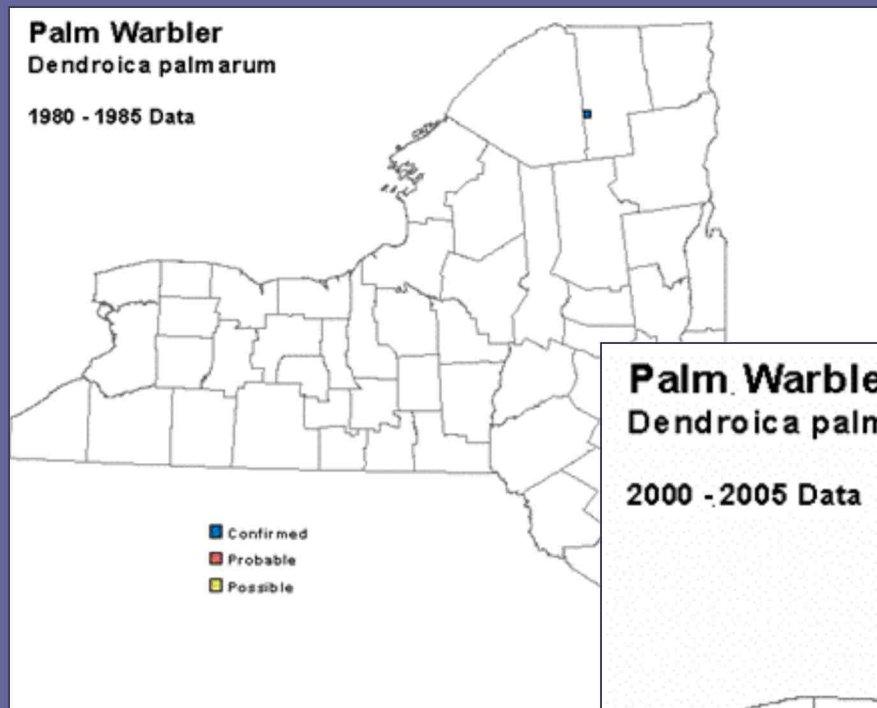
## Merlin *Falco columbarius*

2000 - 2005 Data



Total Blocks = 129

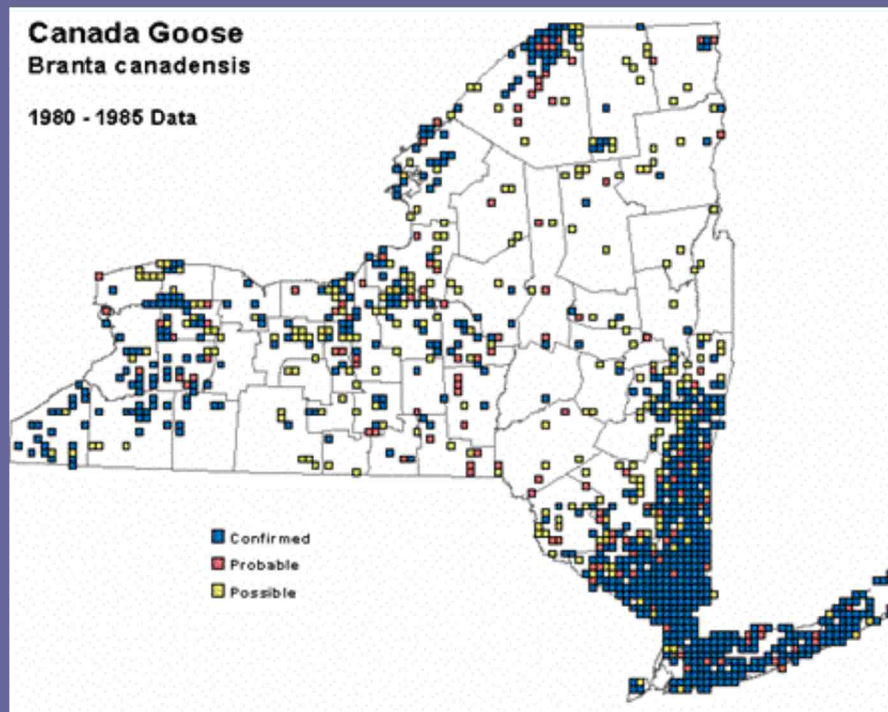
## NEW species in 1980-85 atlas



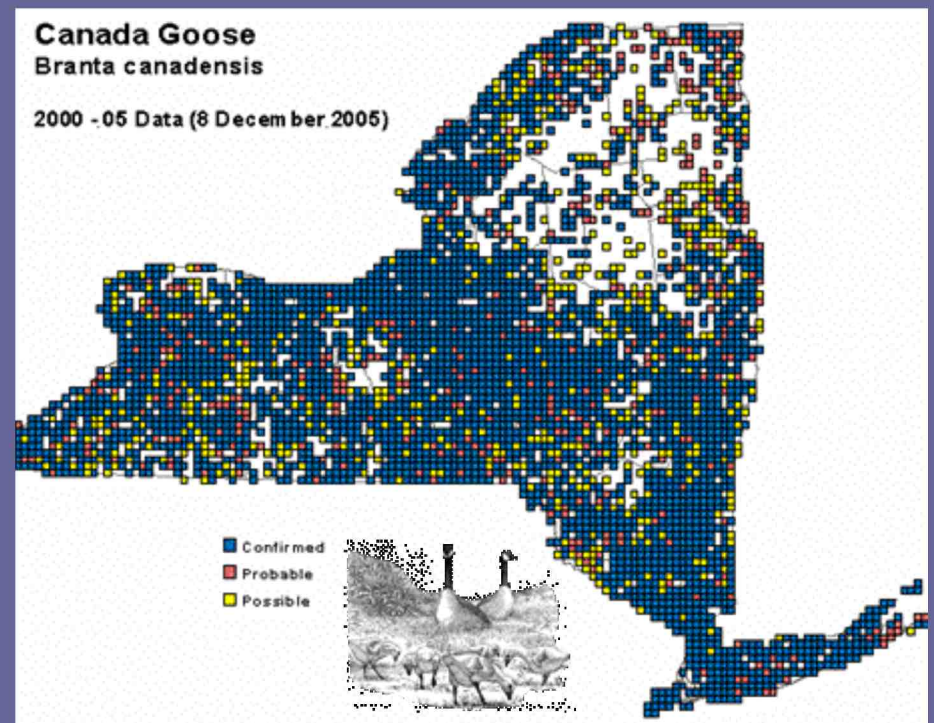
Now in 43  
Adirondack  
blocks

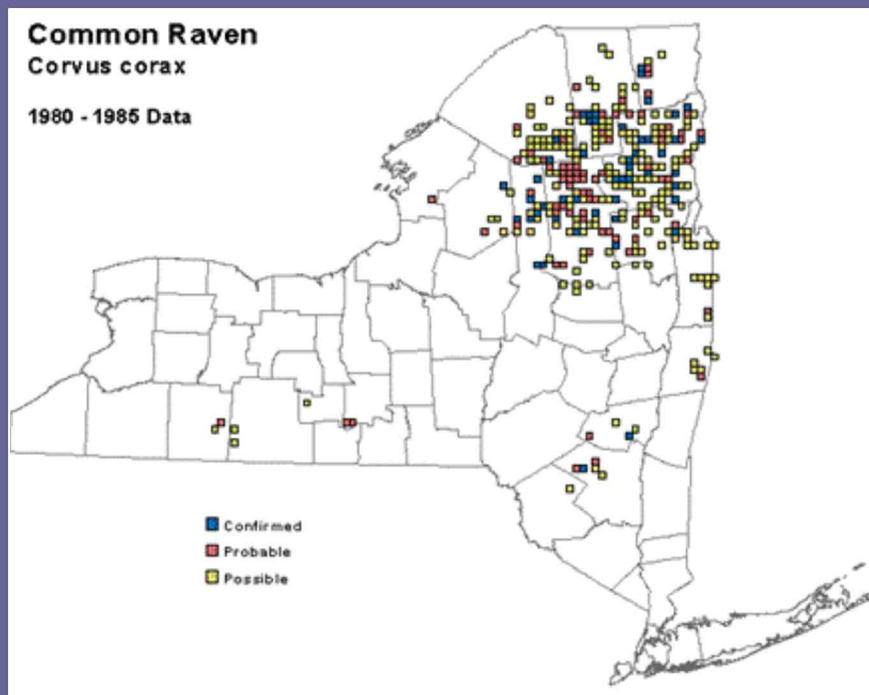




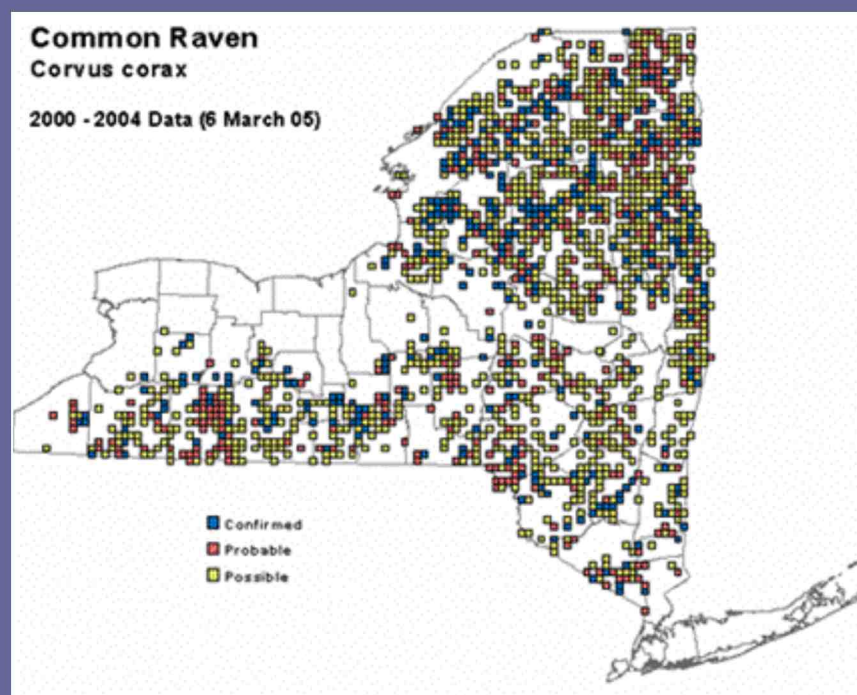


- 1,058 blocks in 1980-85
- 3,964 blocks in 2000-05





Total Blocks = 313 (6%)

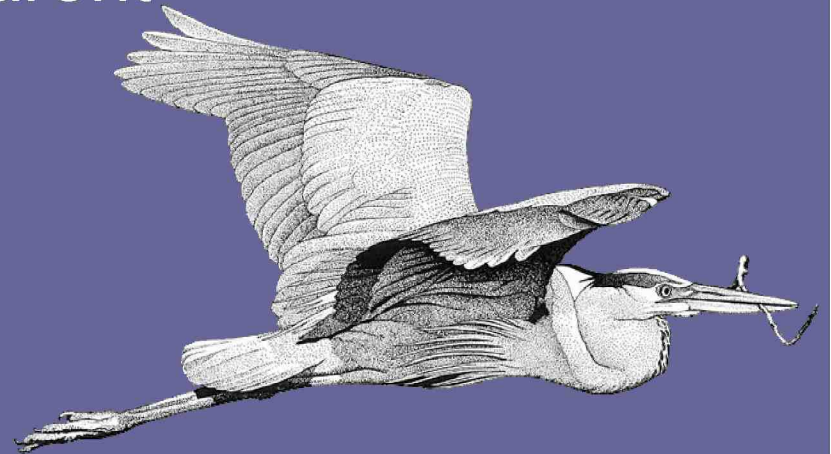


Total Blocks = 1,879 (35%)



# What Changed

- Species distribution changes
  - 49% unchanged
  - 28% increased
  - 23% decreased
- Patterns of change are apparent



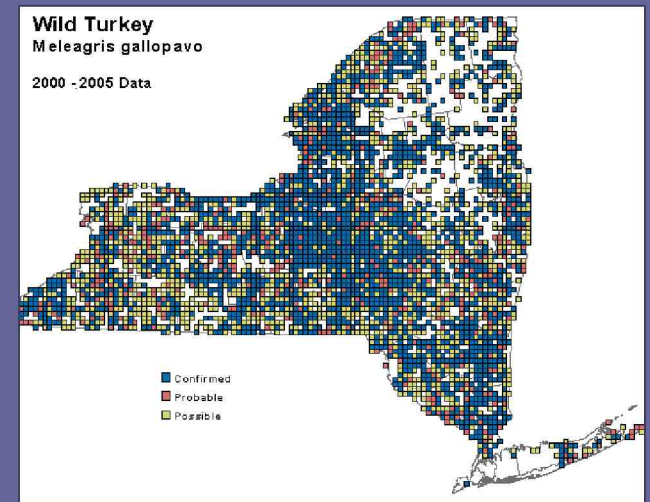
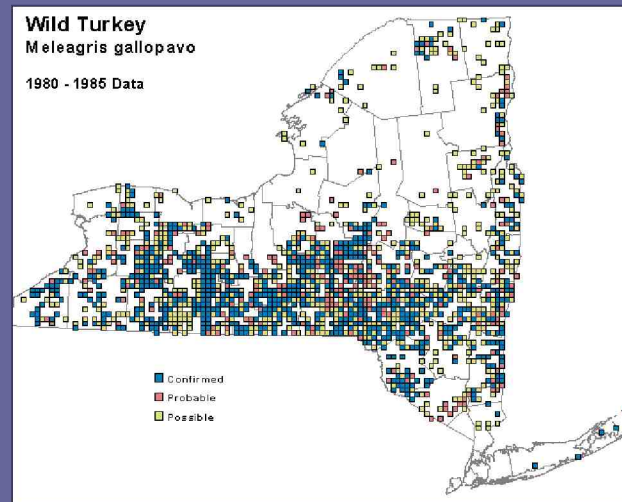
Great Blue Heron by John Baumlin



# Patterns of Change

## Long-term Forest Re-growth

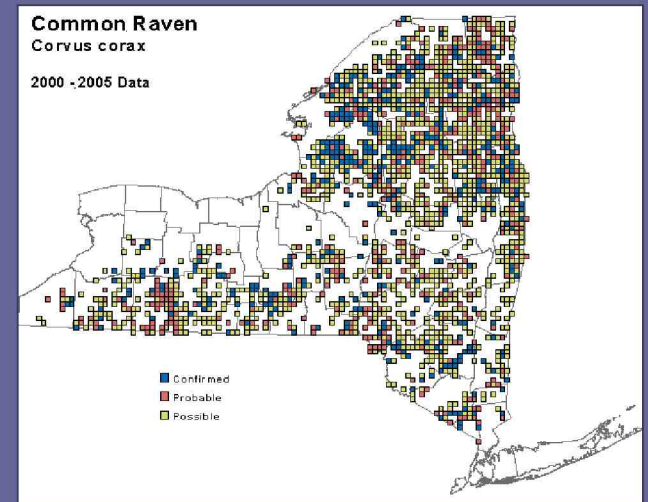
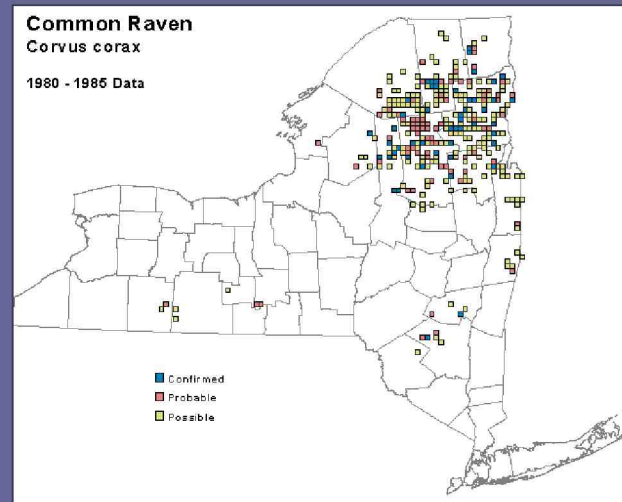
### Wild Turkey



# Patterns of Change

## Long-term Forest Re-growth

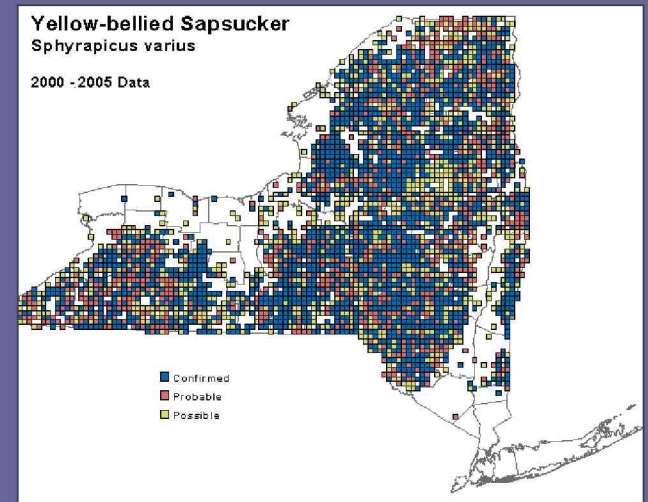
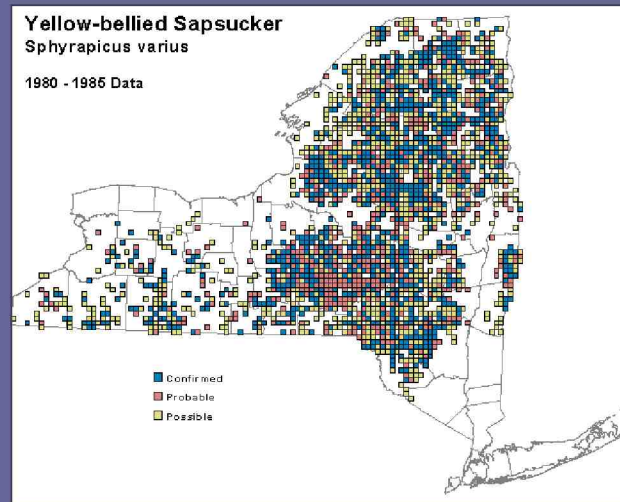
### Common Raven



# Patterns of Change

## Short-term Forest Maturation

### Yellow-bellied Sapsucker

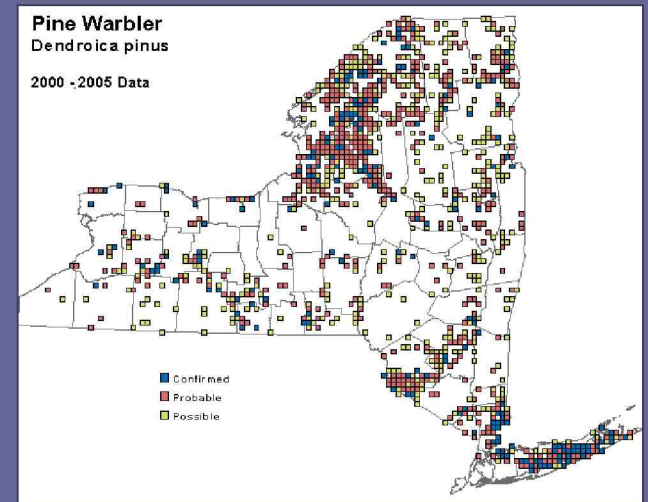
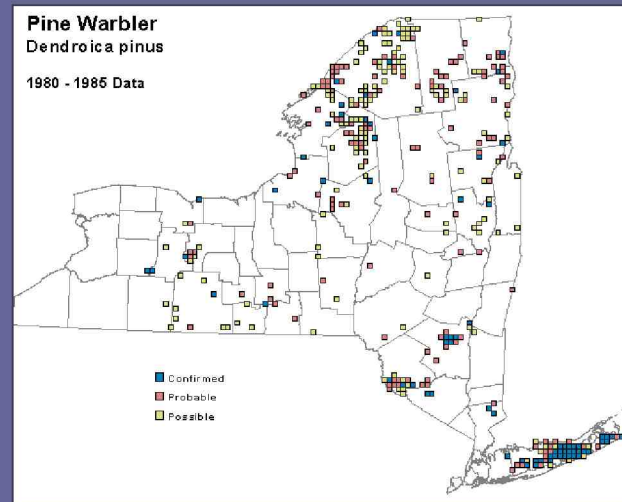




# Patterns of Change

## Short-term Forest Maturation

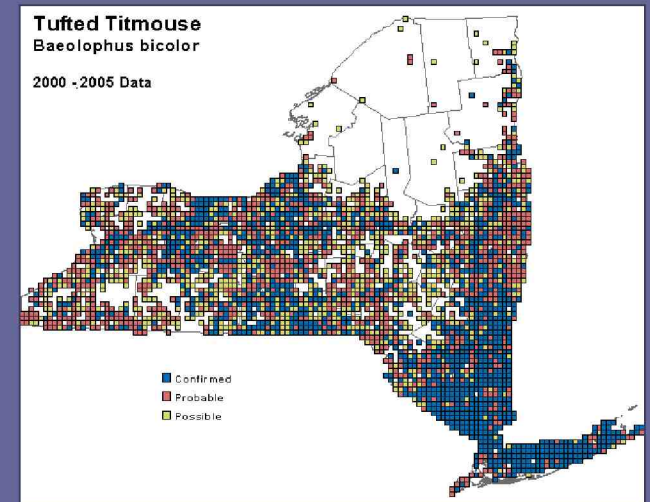
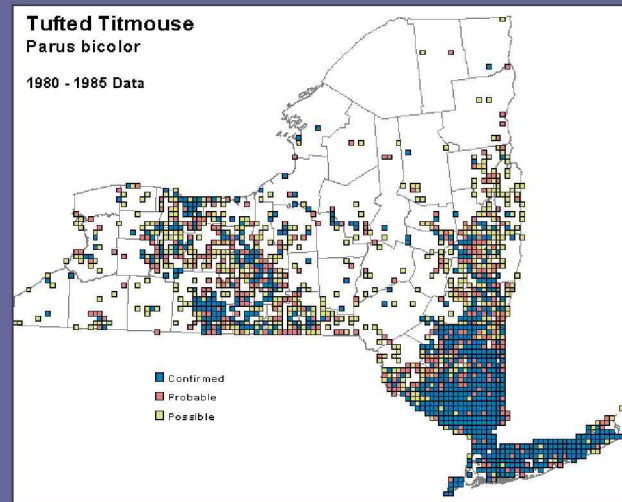
### Pine Warbler



# Patterns of Change

## Short-term Forest Maturation

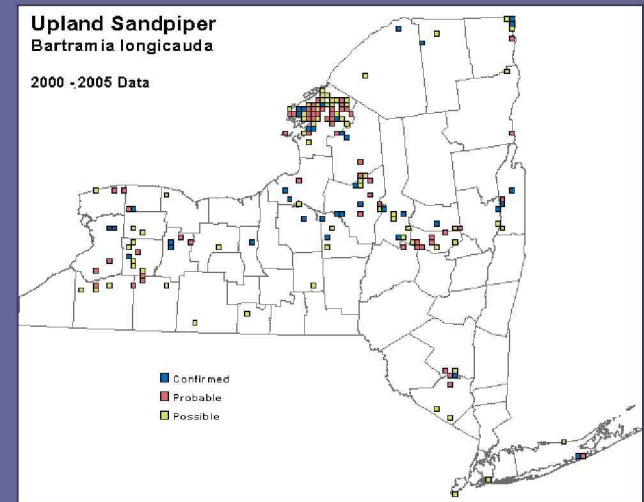
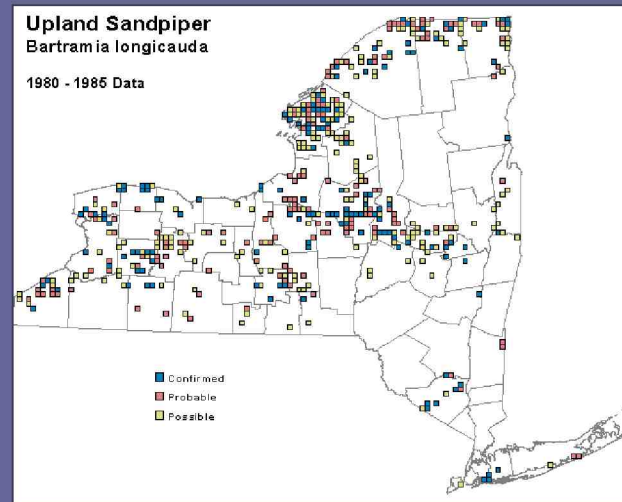
### Tufted Titmouse



# Patterns of Change

## Grassland Birds Declining

### Upland Sandpiper

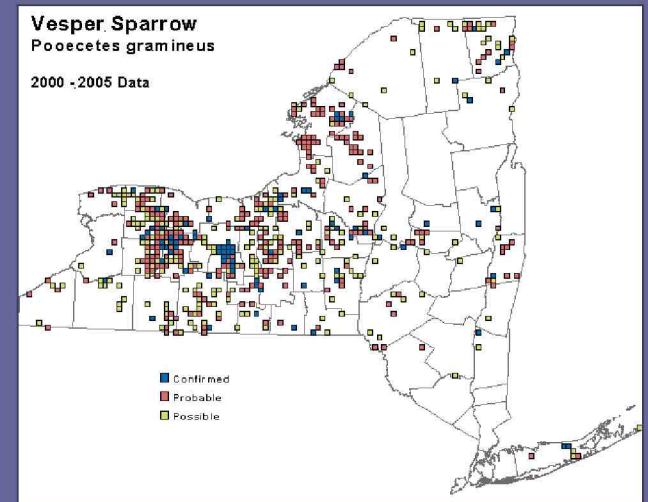
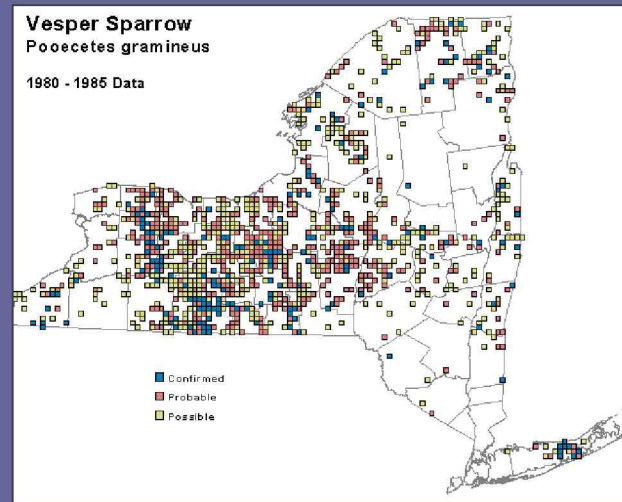




# Patterns of Change

## Grassland Birds Declining

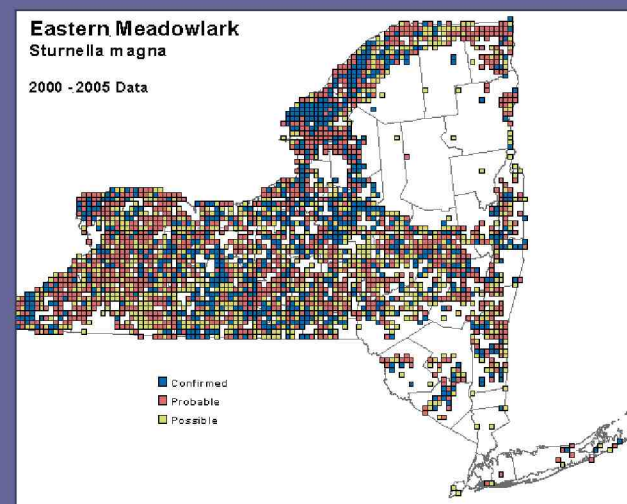
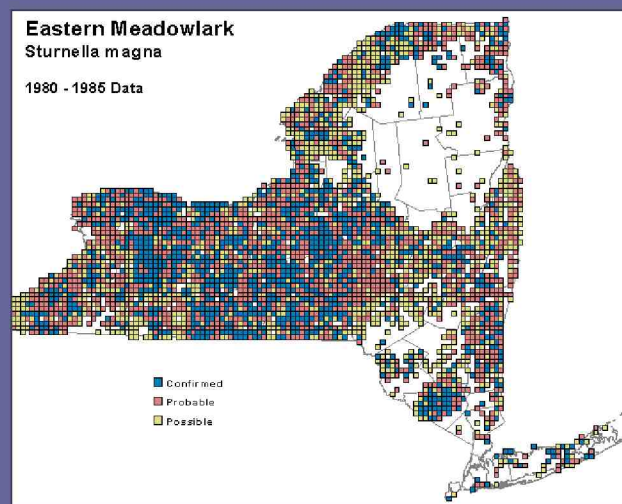
### Vesper Sparrow



# Patterns of Change

## Grassland Birds Declining

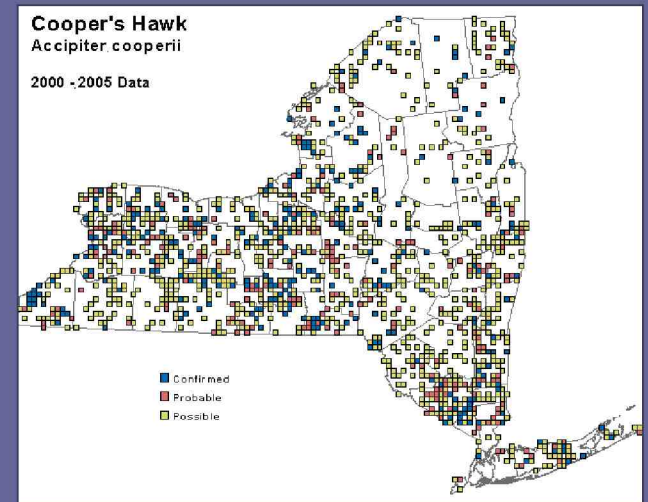
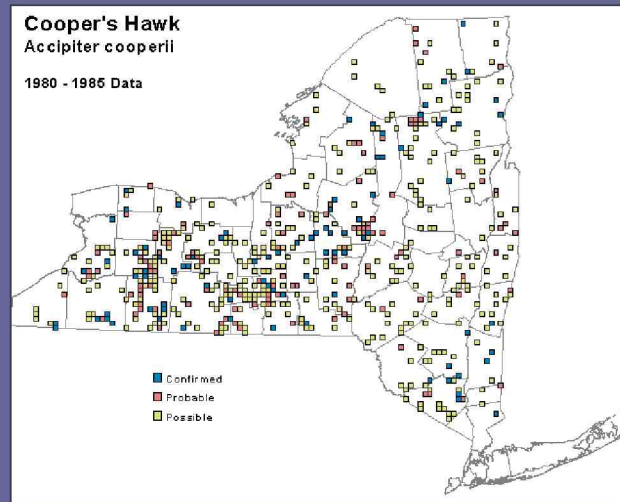
### Eastern Meadowlark



# Patterns of Change

“People-friendly” Birds Increasing

## Cooper's Hawk

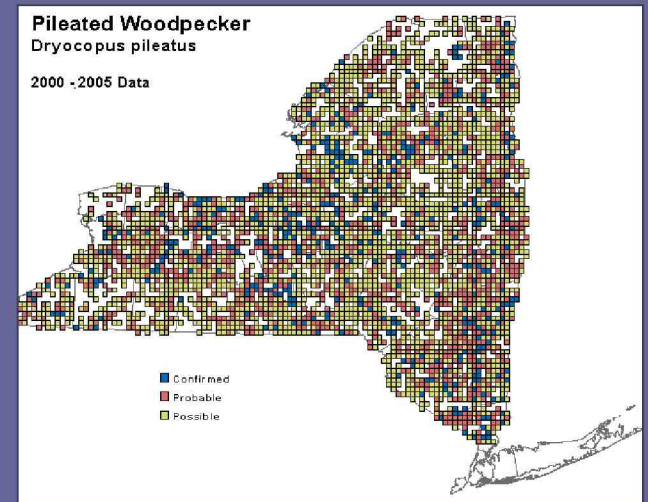
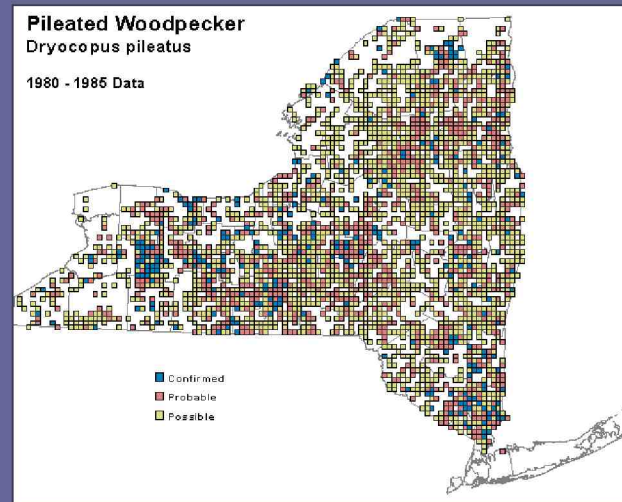




# Patterns of Change

“People-friendly” Birds Increasing

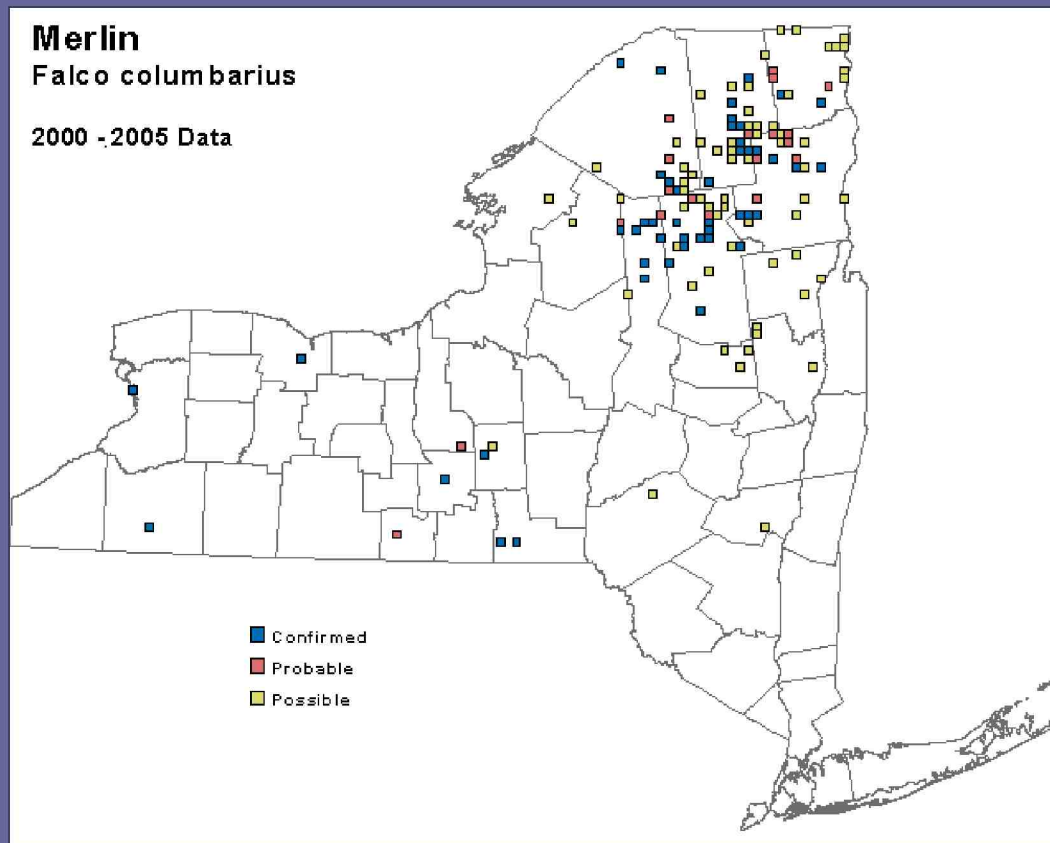
## Pileated Woodpecker



# Patterns of Change

“People-friendly” Birds Increasing

Merlin



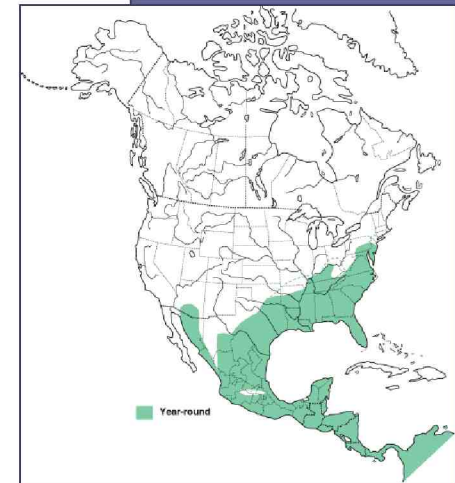
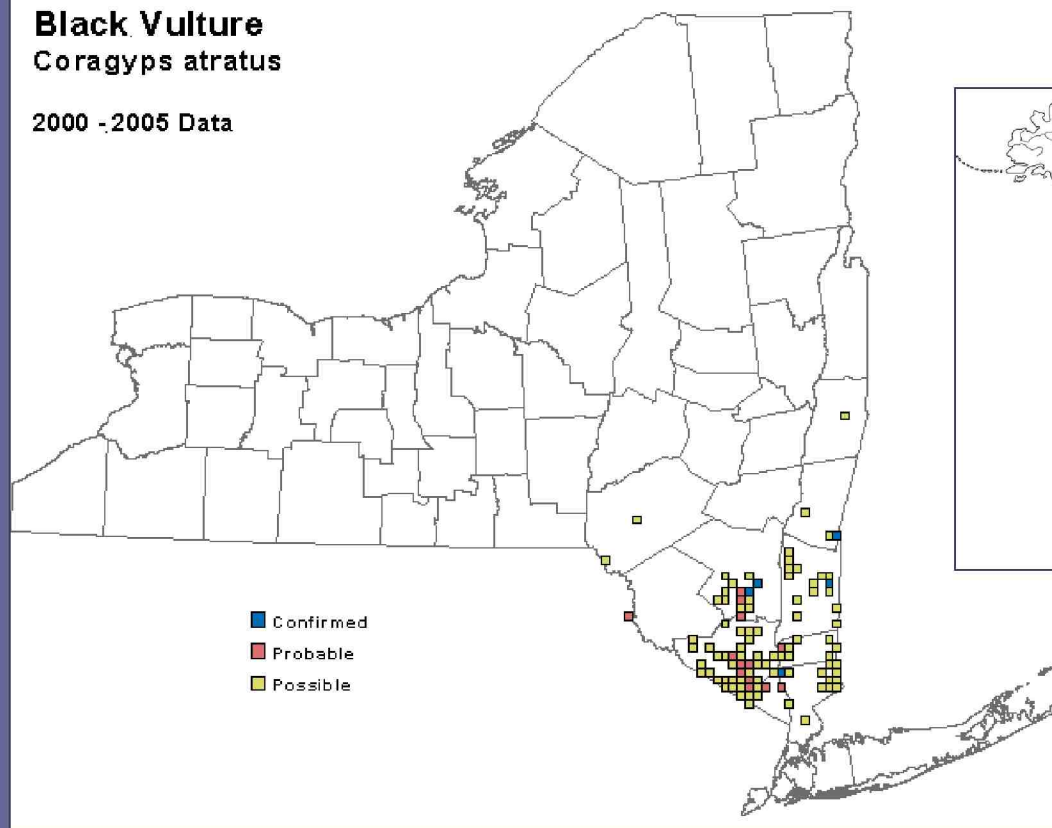
# Patterns of Change

## Southern Species Shifting North

### Black Vulture

**Black Vulture**  
*Coragyps atratus*

2000 -2005 Data

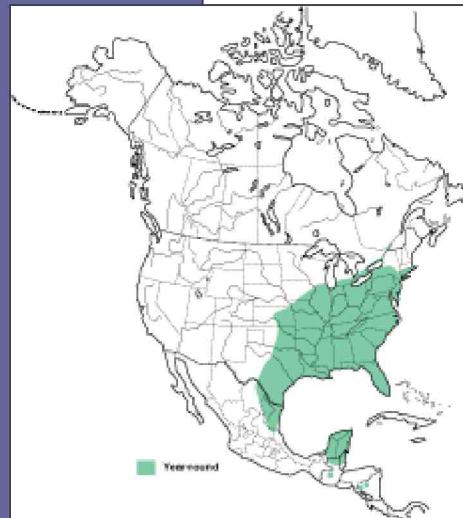
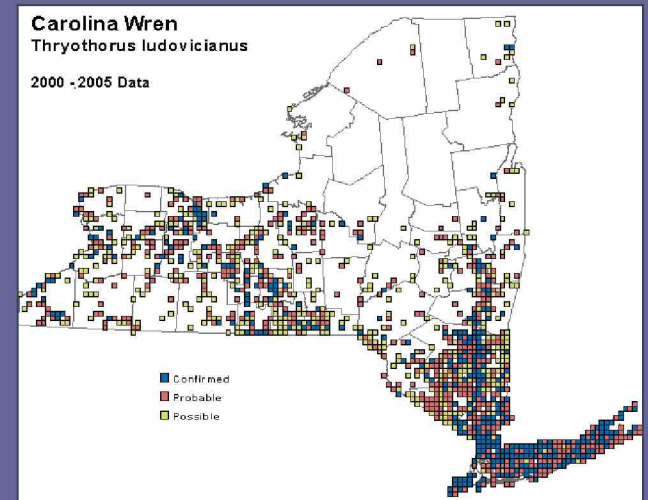
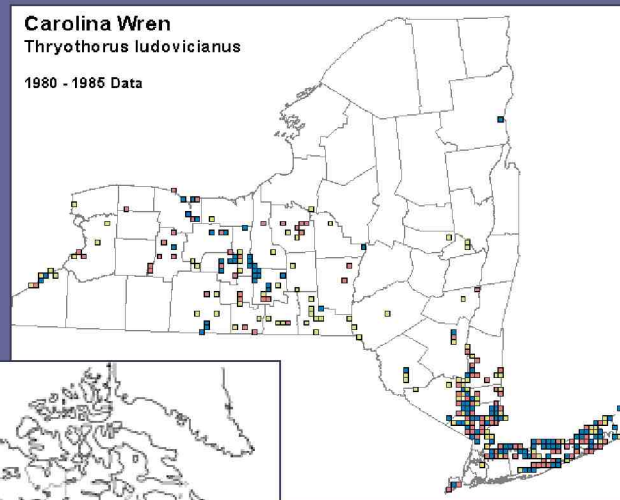




# Patterns of Change

## Southern Species Shifting North

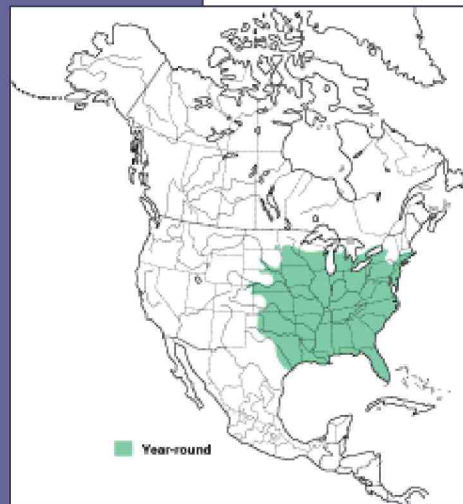
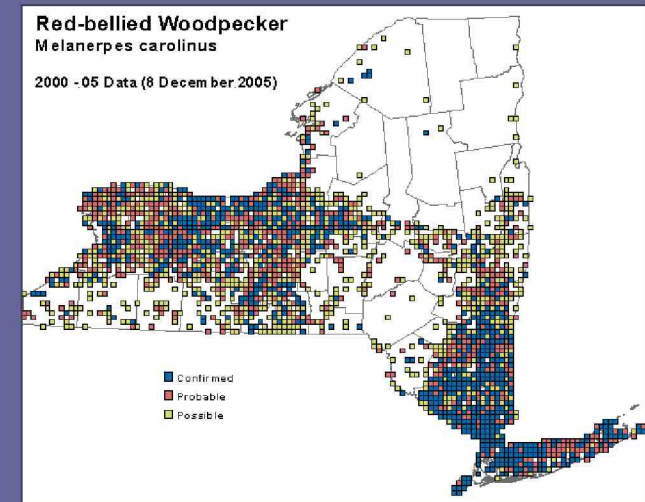
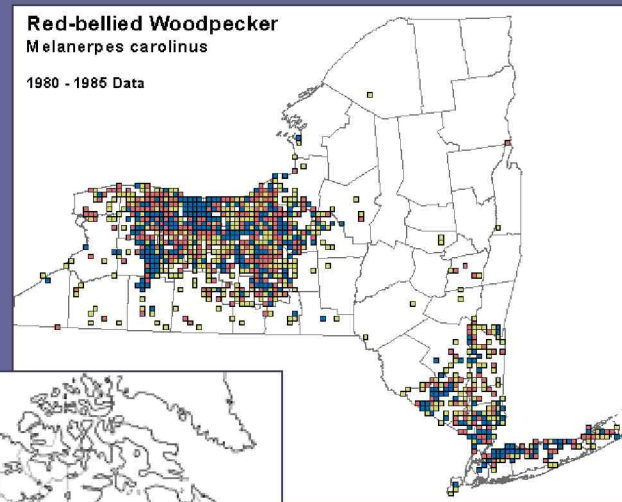
### Carolina Wren



# Patterns of Change

## Southern Species Shifting North

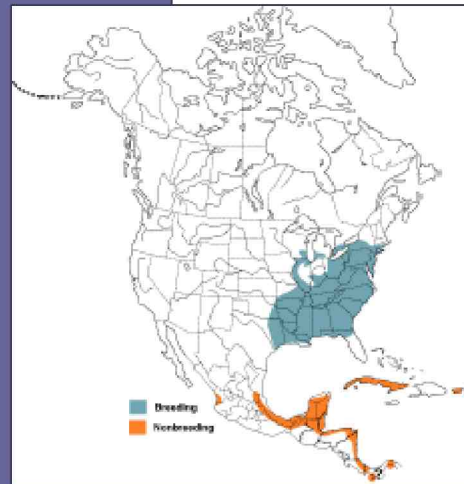
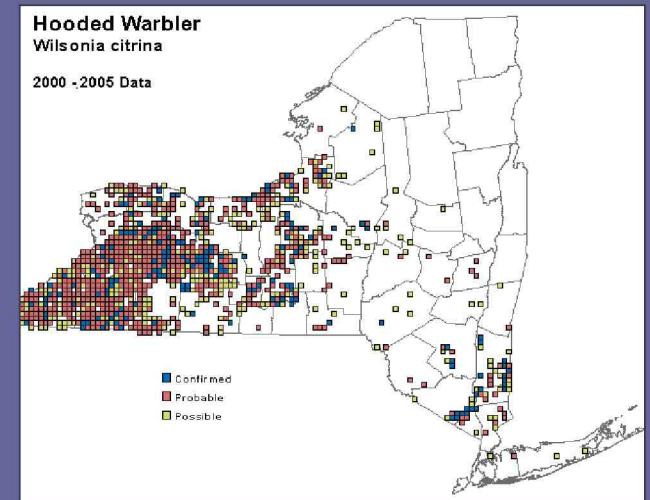
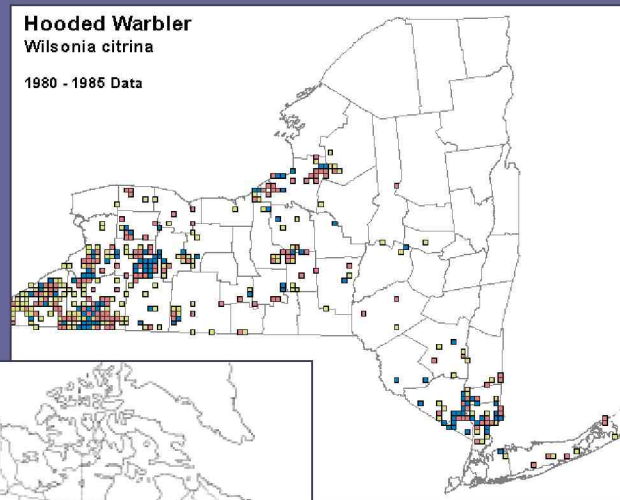
### Red-bellied Woodpecker



# Patterns of Change

## Southern Species Shifting North

### Hooded Warbler

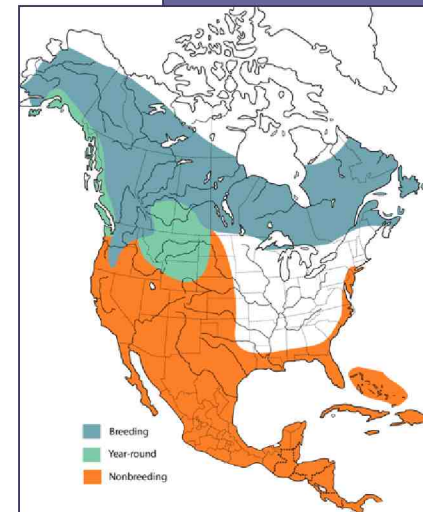
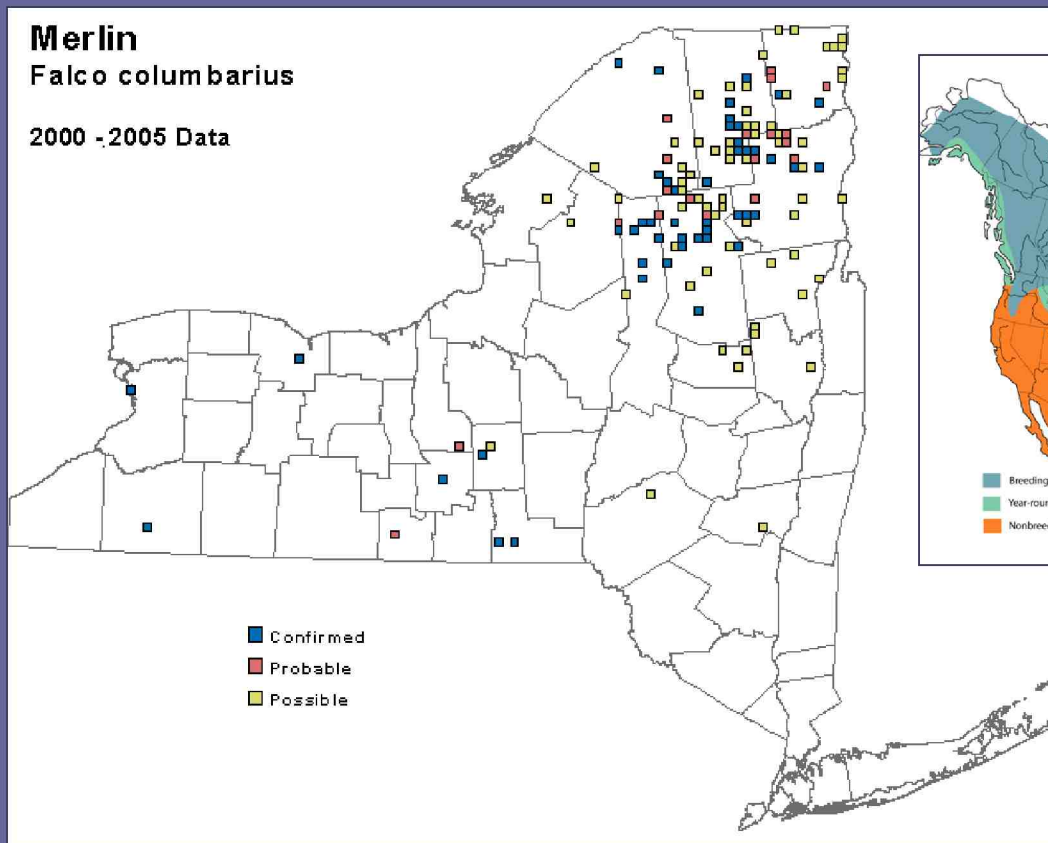




# Patterns of Change

## Northern Species Shifting South

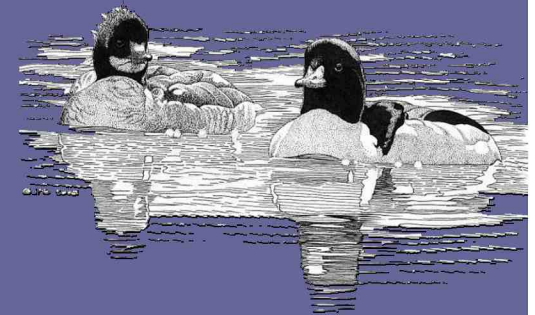
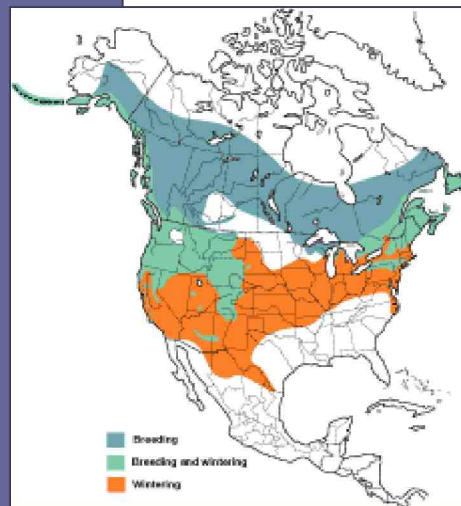
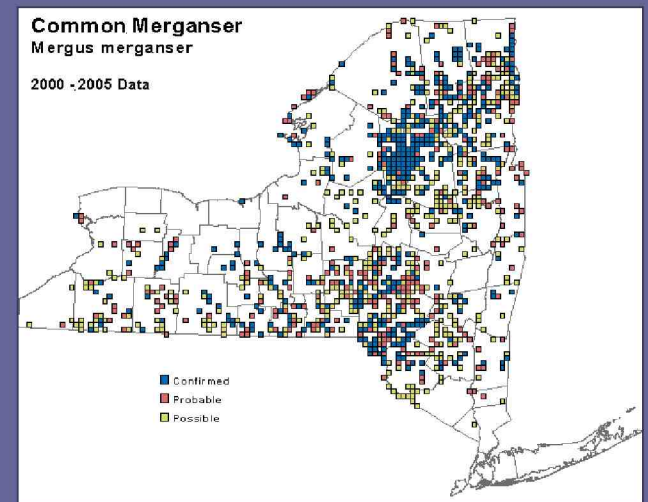
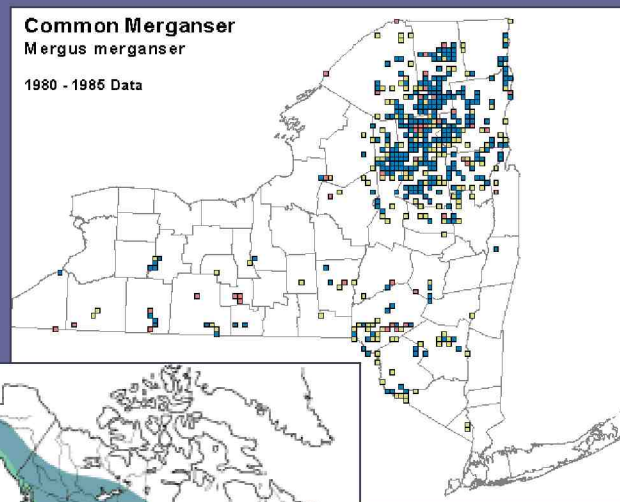
Merlin



# Patterns of Change

## Northern Species Shifting South

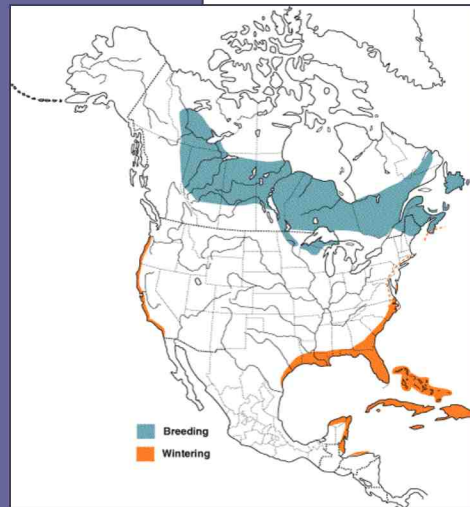
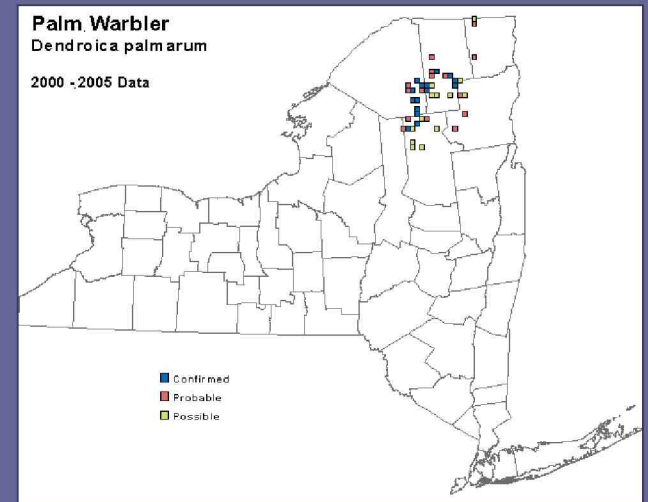
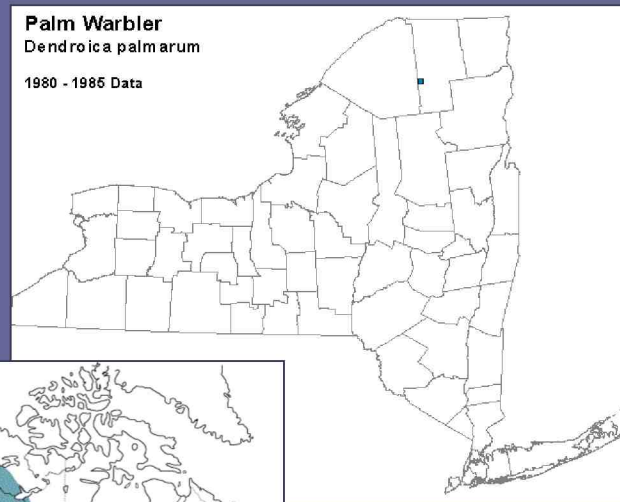
### Common Merganser



# Patterns of Change

## Northern Species Shifting South

### Palm Warbler

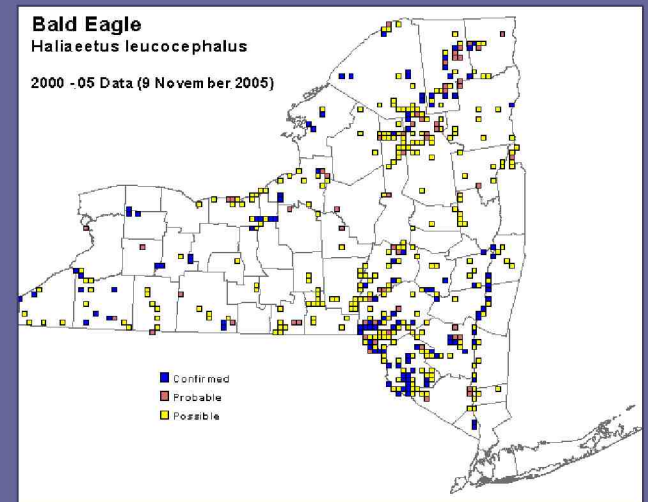
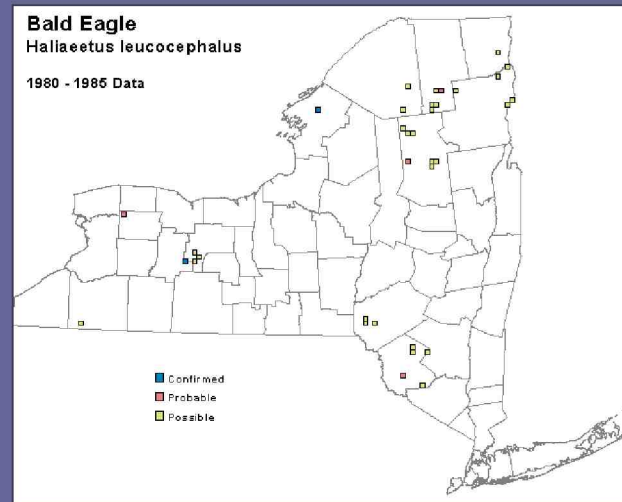




# Patterns of Change

## Success Stories: Money and Management

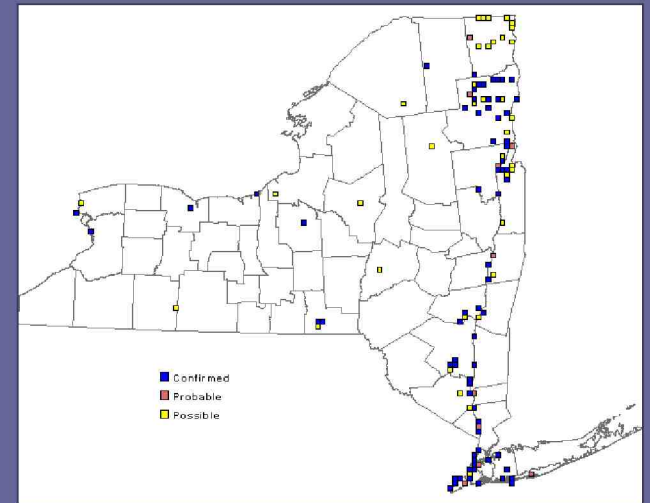
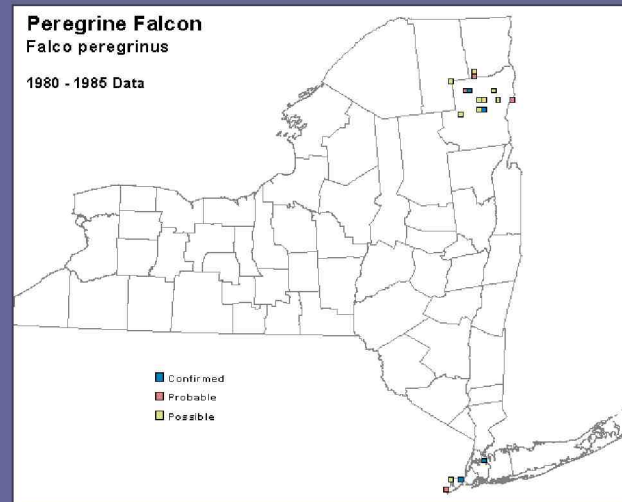
### Bald Eagle



# Patterns of Change

## Success Stories: Money and Management

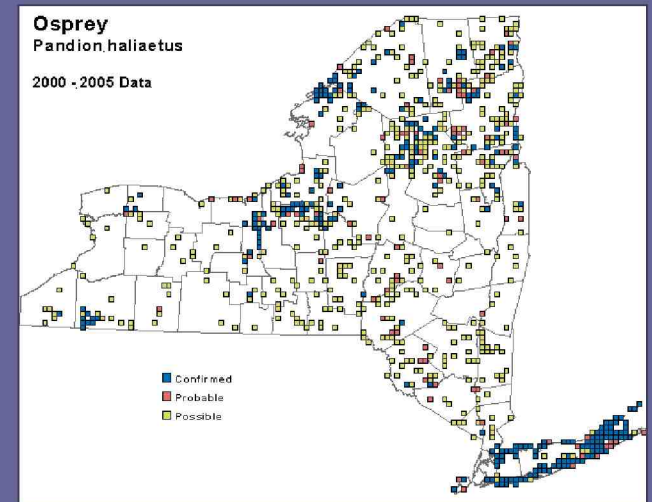
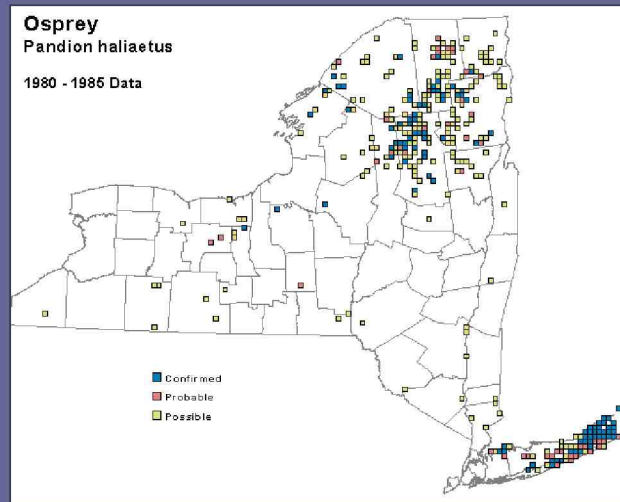
### Peregrine Falcon



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### Osprey

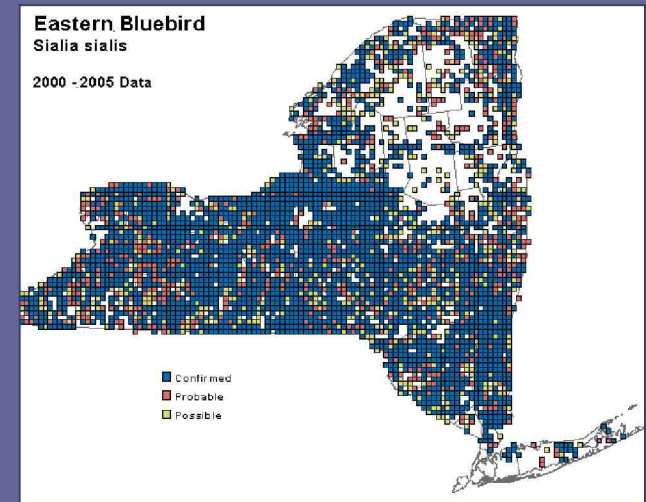
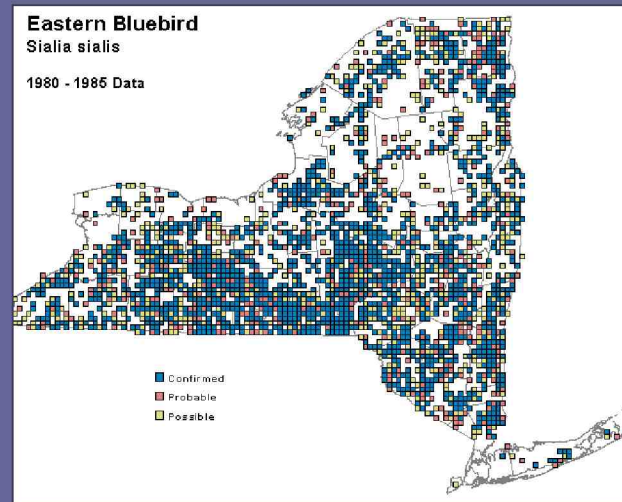




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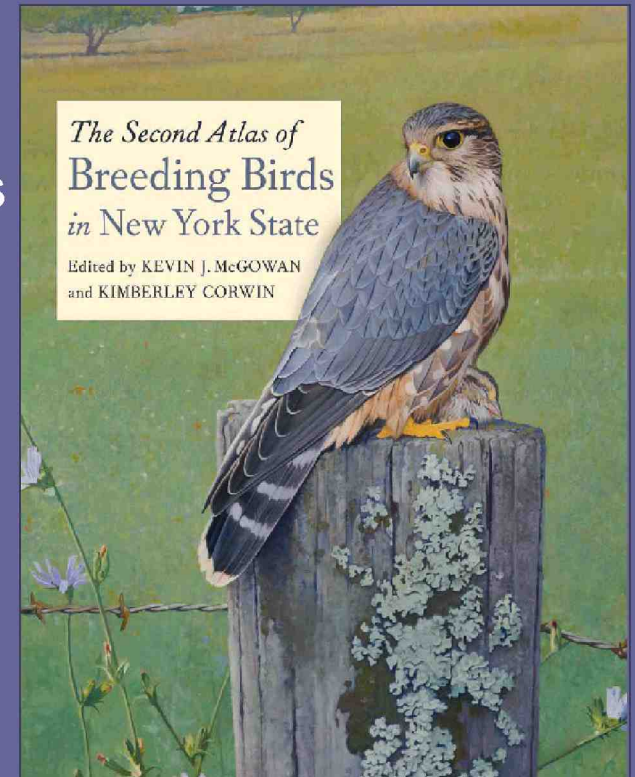
## Success Stories: Money and Management

### Eastern Bluebird



# The Atlas Publication

- 251 species accounts by more than 40 authors
- Current Distribution Maps and Change Maps
- Chapters on NYS ornithology, landscape change and conservation issues
- Updated Breeding Season Table
- Original black-and-white species drawings
- Original color habitat paintings



Merlin by John Baumlín

# Species Accounts

## Eastern Screech-Owl

*Megascops asio*

CHARLES R. SMITH

The Eastern Screech-Owl is the only breeding bird species in New York to show two, conspicuously distinctive color forms: one reddish brown, the other gray. Mosher and Henny (1976) suggested that reddish brown owls are less able to survive cold temperatures than gray-plumaged ones. Panko and Battaly (1998) reported that the gray form is more common in the western part of New York and the red form more common in the warmer, coastal areas and on Long Island, lending support to this idea. The Eastern Screech-Owl occurs throughout the United States east of the Rocky Mountains and mostly south of Canada, though its range extends into southern Ontario and northern Mexico (Gehlbach 1995). New York is at the northeastern limit of the range. The species uses a variety of wooded habitats in all types of terrain, primarily deciduous and mixed forests from early-successional to mature stages, as well as urban and suburban areas (Gehlbach 1995). Panko and Battaly (1998) noted that this owl is not common in the more forested areas of New York and that it prefers "fragmented" habitats, though a thorough study of its use of forest fragments in New York has not been conducted. Beardlee and Mitchell (1965), Bull (1974), and Eaton (1988) all believed the screech-owl population to be declining in the state. Panko and Battaly (1998) suggested it had undergone local declines and increases, but the species was more numerous than before forest cutting by European settlement.

The first Atlas data showed the Eastern Screech-Owl to be widespread across New York, with concentrations on Long Island, the Hudson River Valley, and across the Erie-Ontario Plain and Appalachian Plateau. It was mostly absent from higher elevations of the Adirondack, Catskill, and Allegheny mountains. The second Atlas survey found little change in its distribution and only a 1 percent increase in the number of blocks with records compared to the first Atlas. Local decreases, such as in the Hudson Highlands, and increases, such as in the Mohawk Valley and Cattaraugus Highlands, are likely the result of different coverage and not true distribution changes. Though its song is distinctive, an absence of fieldwork during the evening hours could account for the apparent absence of the screech-owl in some areas. It is probably more widespread than the map suggests.

As a nocturnal species, the Eastern Screech-Owl is not censused well by the Breeding Bird Survey. BBS data show no significant trends for New York, the Northeast, or the entire survey area (Sauer et al. 2005). No significant change in distribution was observed for screech-owl across Ontario between the first and



second Ontario Breeding Bird Atlases either, but increases were recorded in the two most southern regions (Bird Studies Canada et al. 2006).

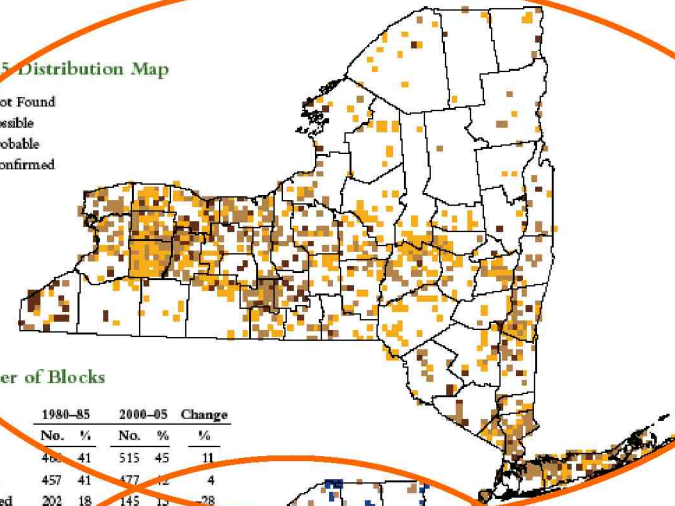
DeCandido (2005) concluded that the Eastern Screech-Owl population declined throughout the New York City area after about 1950, even in places that were protected as parklands. He identified a number of factors that could have contributed to the decline, including increased use of insecticides and anticoagulant rodenticides; removal of dead trees and snags; more frequent collisions with vehicles; increased competition for tree cavities from the eastern gray squirrel, raccoon, and European Starling; increased predation by the American Crow; predation and disturbance by nocturnal mammals; and increased disturbance by people near nest sites.

Partners in Flight has not identified any specific management needs for the Eastern Screech-Owl (Rich et al. 2004), and it is not considered in need of conservation attention in New York or any surrounding state. It is likely that Eastern Screech-Owl populations in New York are effectively stable. Still, better, more consistently applied, statistically valid methods are needed for monitoring the distribution and abundance of this and other nocturnal species.

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### 2000-05 Distribution Map

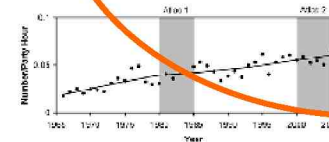
Not Found  
Possible  
Probable  
Confirmed



### Number of Blocks

	1980-85		2000-05		Change
	No.	%	No.	%	%
Possible	466	41	515	45	11
Probable	457	41	477	42	4
Confirmed	202	18	145	13	-28
Total	1,125	21	1,137	21	1

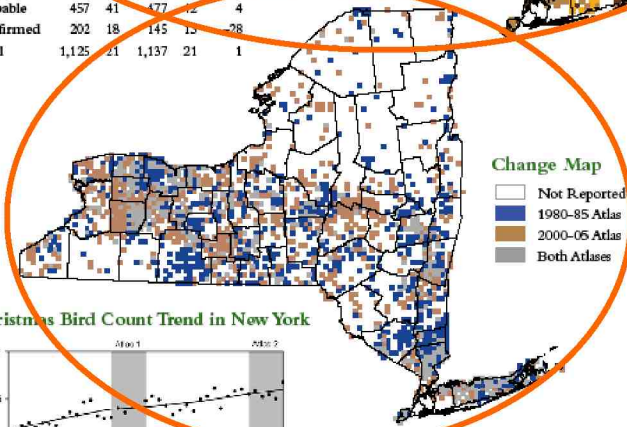
### Christmas Bird Count Trend in New York



EASTERN SCREECH-OWL 293

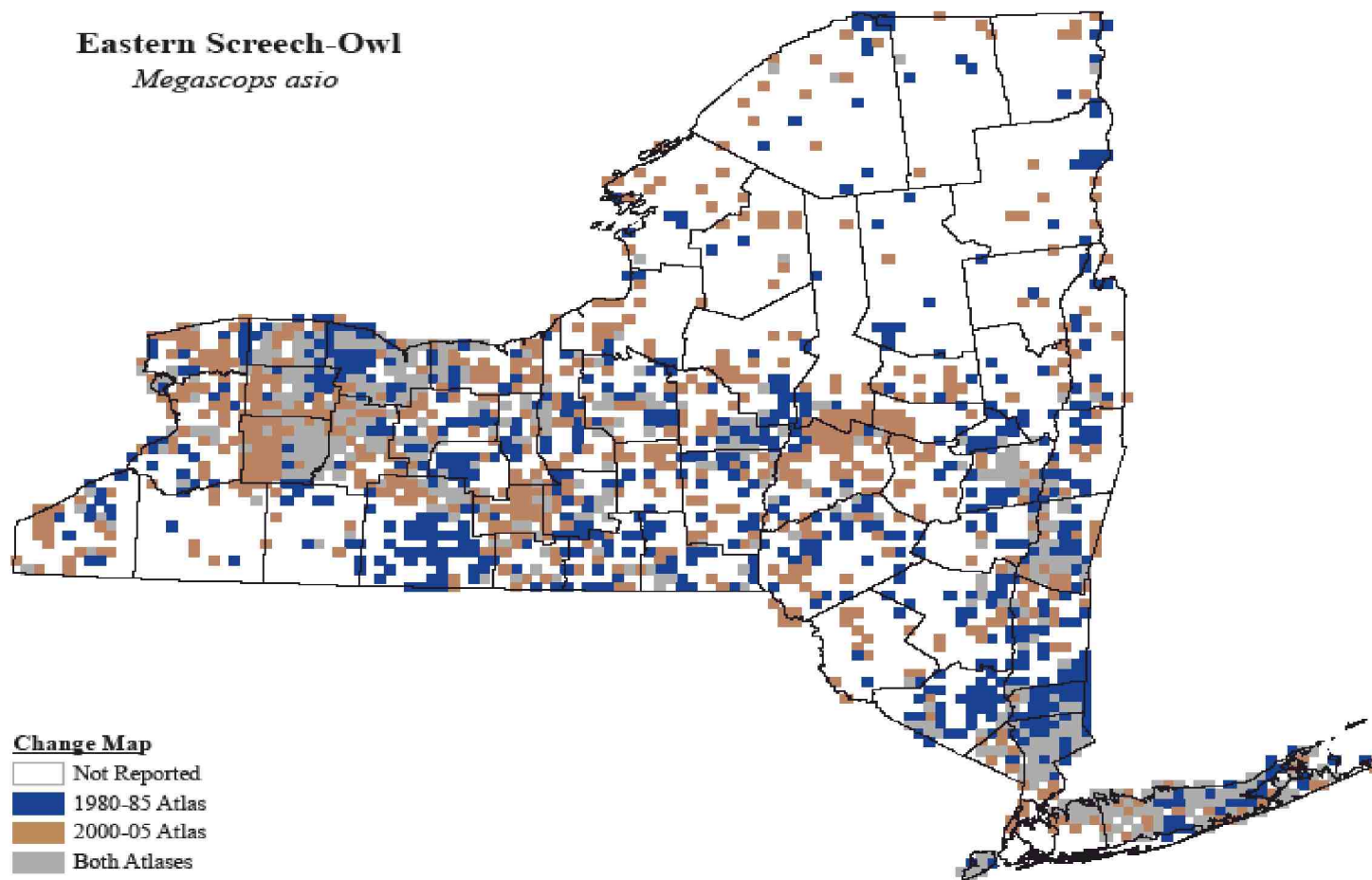
### Change Map

Not Reported  
1980-85 Atlas  
2000-05 Atlas  
Both Atlases





**Eastern Screech-Owl**  
*Megascops asio*



**Change Map**

- Not Reported
- 1980-85 Atlas
- 2000-05 Atlas
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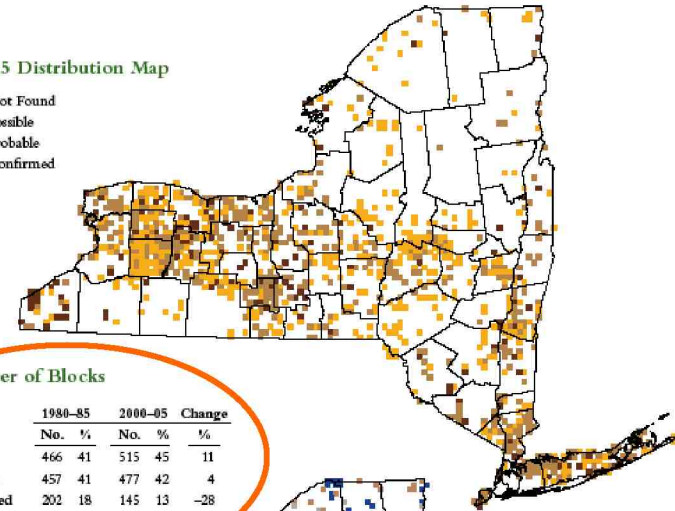
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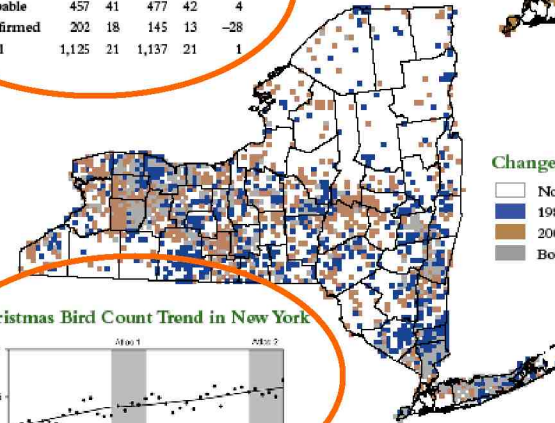
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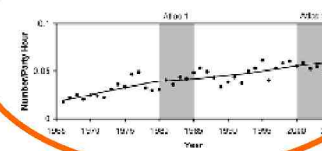
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1980-85 Atlas  
2000-06 Atlas  
Both Atlases

## Christmas Bird Count Trend in New York



EASTERN SCREECH-OWL 293

# Atlas Partners

- NYS Department of Environmental Conservation
- NYS Ornithological Association
- NY Cooperative Fish & Wildlife Research Unit
- Lab of Ornithology
- Audubon New York



Old Field by Susan Bull Riley





# Thank You!

NYS Museum Exhibit  
October 2008 – May 2009



Northern Shoveler by Sue deLearie Adair