

These Maps Are For The Birds

New York State is home to hundreds of kinds of birds. There are many different **habitats** here, each with its own set of bird **species**. Cities have pigeons, starlings, and sometimes peregrine falcons; rivers have ducks and gulls. A city with a river flowing through it might have all these kinds of birds.

With the help of volunteers, **scientists** collect **data** on birds nesting in New York. Nesting locations are marked on maps of small sections of the state. A book that collects many maps

together is called an **atlas**. So the collection of all the maps showing where birds nest is called the **Breeding Bird Atlas**.

Tiny squares on a Breeding Bird Atlas map show that a species was found in that small section of New York during nesting season. On the blue jay map, squares cover the entire state; this bird nests all over New York. The gray jay is also called the Canada jay because it nests in northern forests. In New York, it finds this habitat in the Adirondack Mountains.

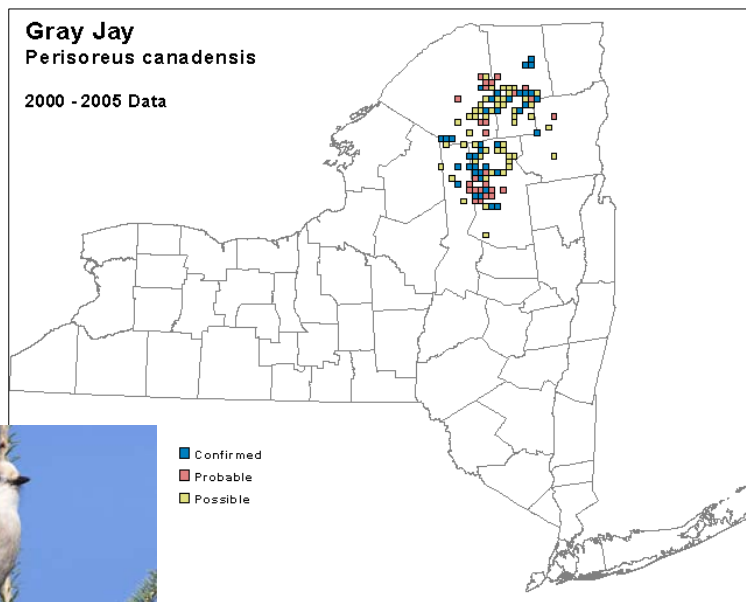


Photo from mdf/Wikipedia

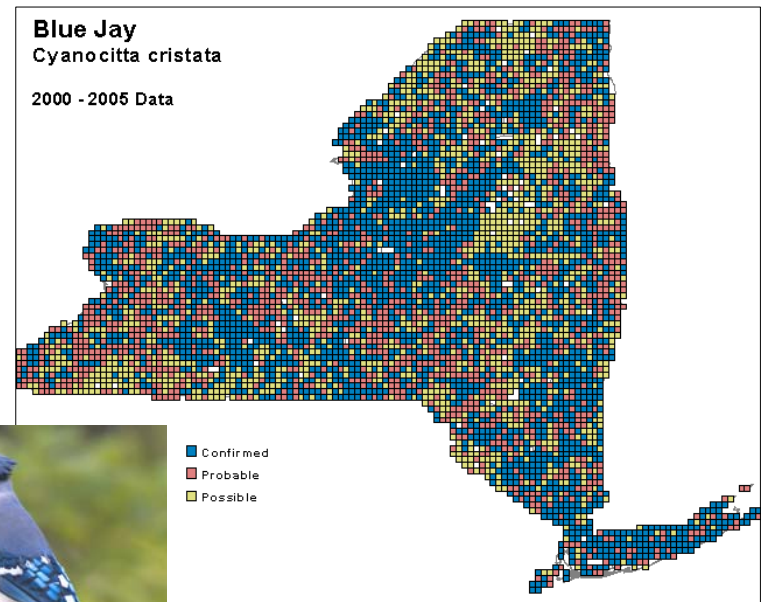
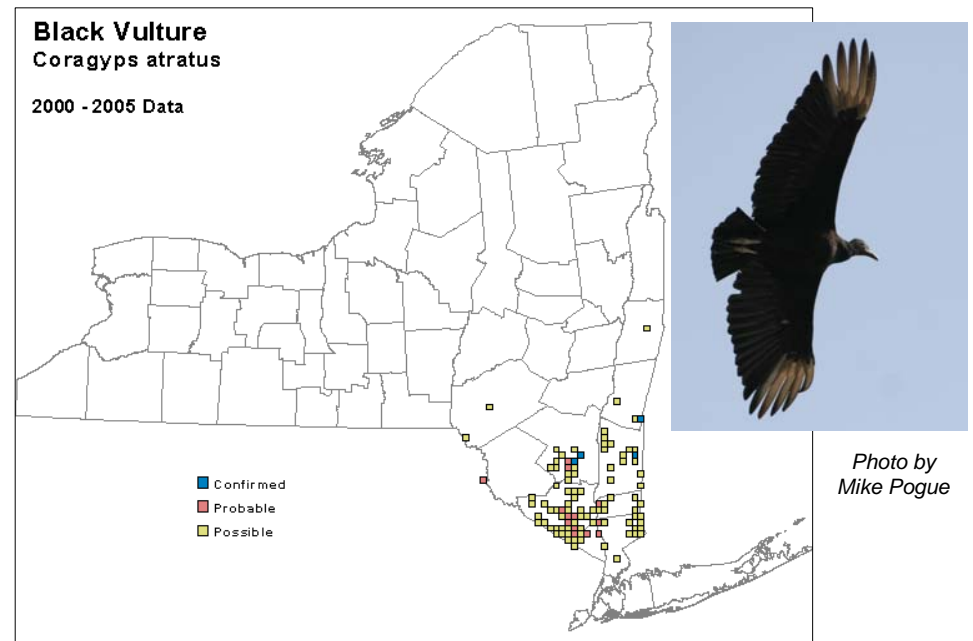
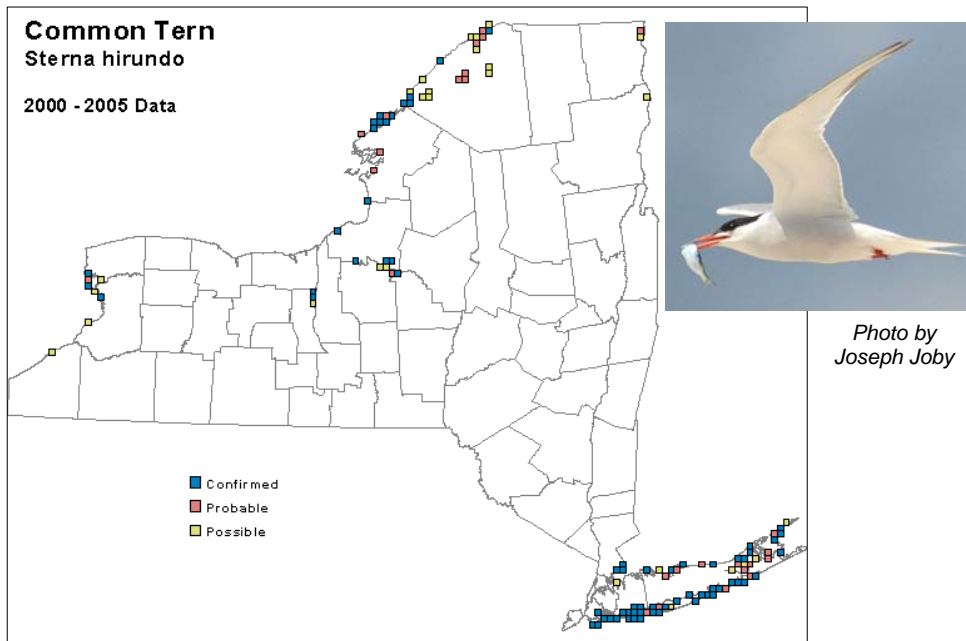
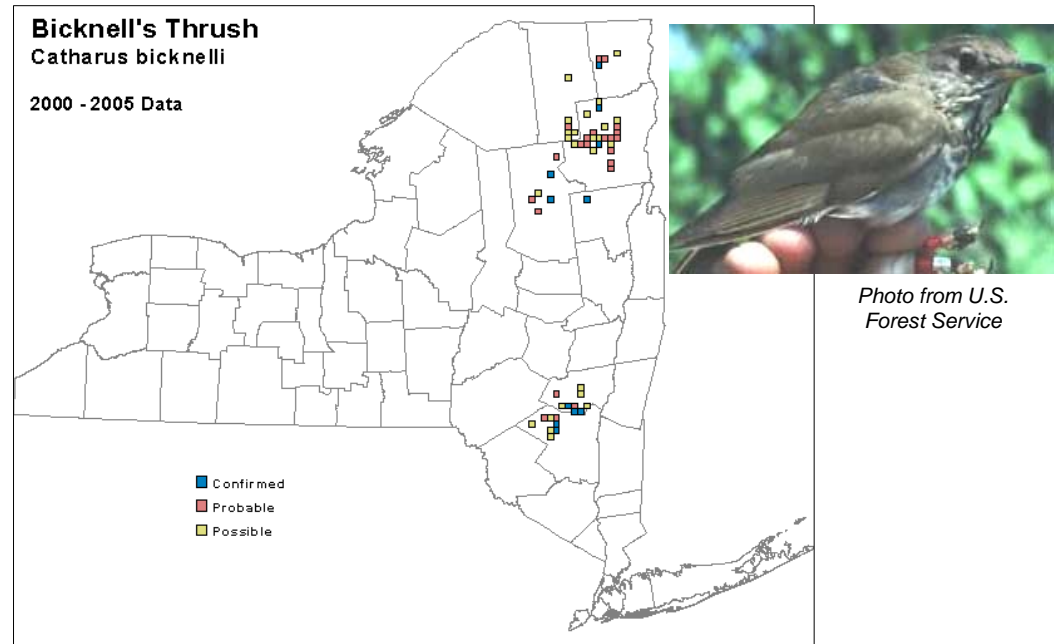


Photo by April King

Breeding Bird Atlas maps do not show rivers, lakes, mountains, or other **landscape** features. To see how such features influence where birds nest, compare the Atlas maps to the **relief map** of New York State. Then answer questions 1-3.

1. Which of these birds nests on mountain tops?
2. Which bird nests near large bodies of water?
3. Which bird nests only in southeastern New York?



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4. Breeding Bird Atlas data was collected from 1980 to 1985, and again from 2000 to 2005. Scientists compare maps from the two sets of years to look for changes in the **populations** of New York's breeding birds. Look at the six pairs of maps on the next 3 pages. The number of places where each bird was

found might have increased or decreased from 1980-1985 to 2000-2005. The locations where each species was found might have changed, too. Below are six explanations for these changes. Based on evidence in the maps, draw a line matching each explanation to one of the six birds pictured here.



wild turkey



Carolina wren



bald eagle



mute swan



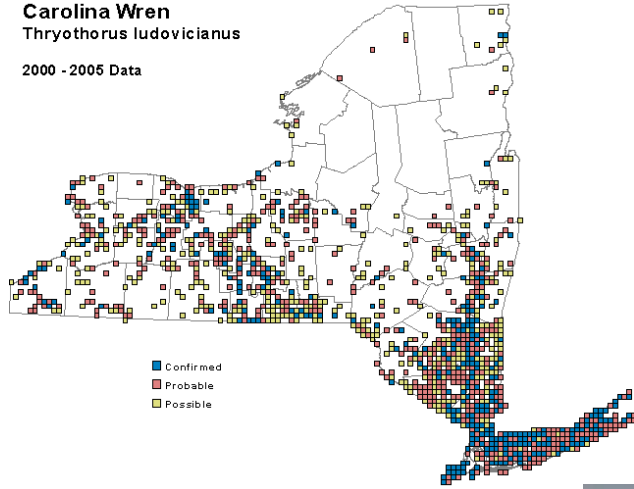
brown thrasher



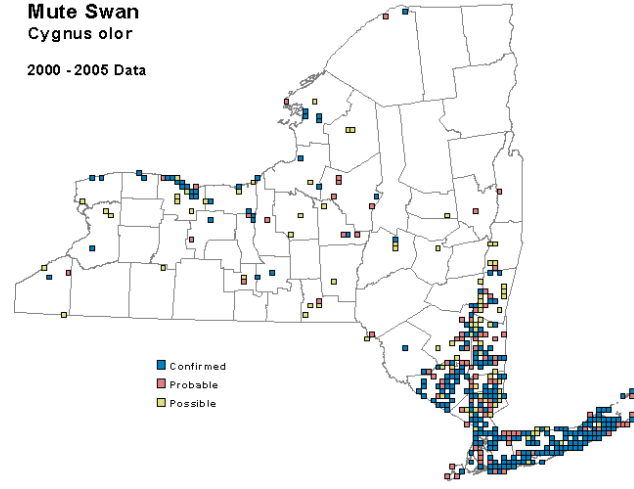
eastern meadowlark

- A. This bird eats at the top of food chains. Poisoned by **pesticides** that built up through the chains, it nearly vanished from New York. Now it is coming back, in part because some of those chemicals are no longer used.
- B. This bird was brought from Europe to Long Island in the late 1800s by people who admired its beauty. Now it is spreading and competing with **native** birds for food and territory.
- C. This bird nests in fields. In New York, fields are disappearing as farms go out of business. Unused farm fields fill up with trees, or with houses, stores, and other buildings. So this bird is losing its nesting habitat.
- D. As climate change makes winters milder, this bird is spreading into New York from states to the south.
- E. This bird lives in forests. It vanished from New York in the 1800s as forests were cut to make farms. When many farms shut down in the 1900s, forests grew again. This bird returned and is spreading across the state.
- F. This bird prefers areas of shrubs and young trees, a habitat found where fields are slowly changing into forests. As New York forests grow older and fields are covered with houses, this bird is losing nesting habitat.

Carolina Wren
Thryothorus ludovicianus
 2000 - 2005 Data



Mute Swan
Cygnus olor
 2000 - 2005 Data



Carolina Wren
Thryothorus ludovicianus
 1980 - 1985 Data

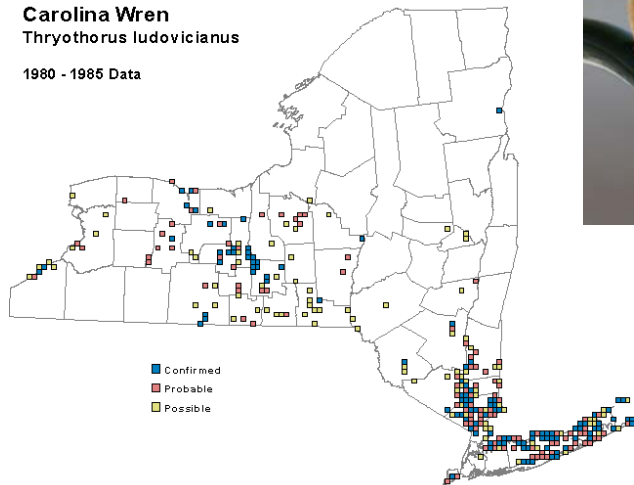
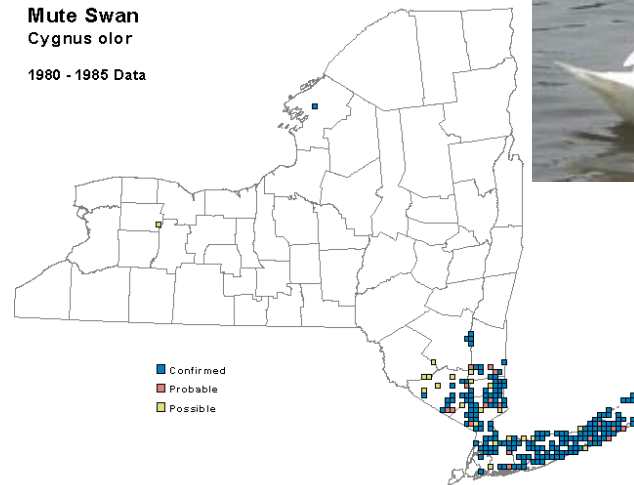
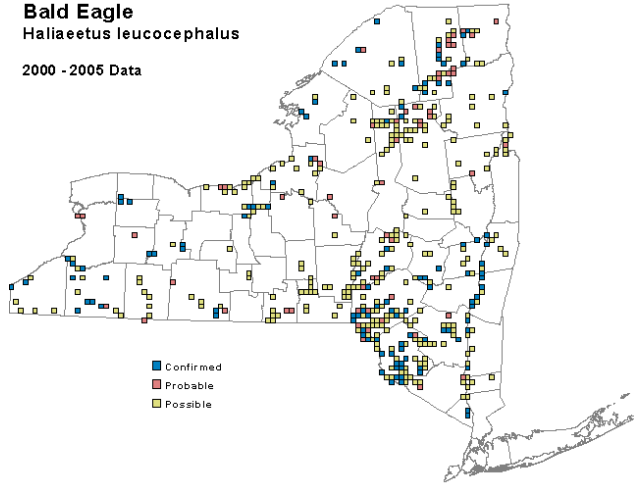


Photo by Mike Pogue

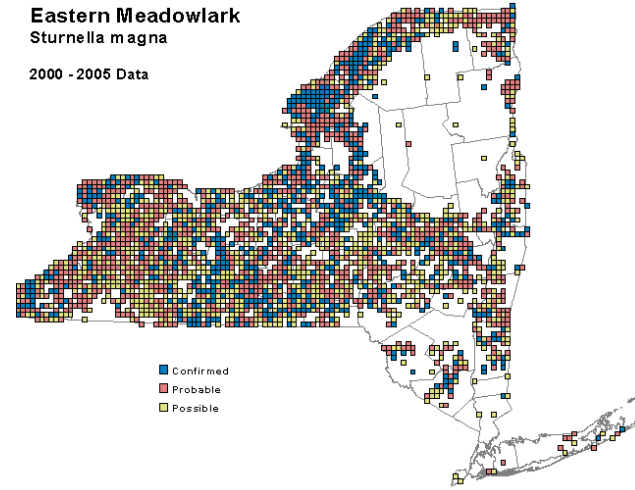
Mute Swan
Cygnus olor
 1980 - 1985 Data



Bald Eagle
Haliaeetus leucocephalus
 2000 - 2005 Data



Eastern Meadowlark
Sturnella magna
 2000 - 2005 Data



Bald Eagle
Haliaeetus leucocephalus
 1980 - 1985 Data

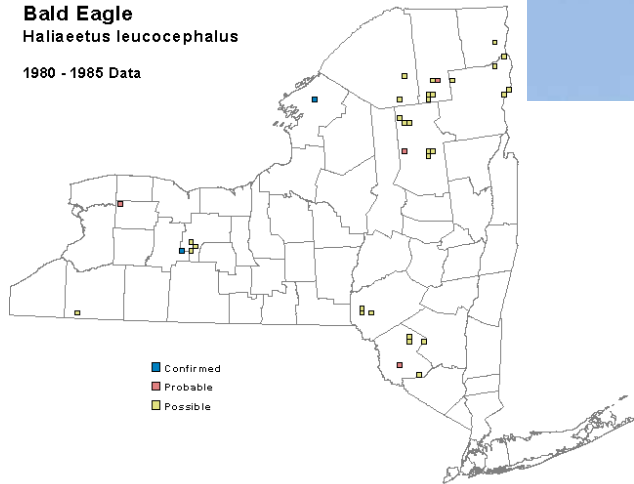


Photo by Mike Pogue

Eastern Meadowlark
Sturnella magna
 1980 - 1985 Data

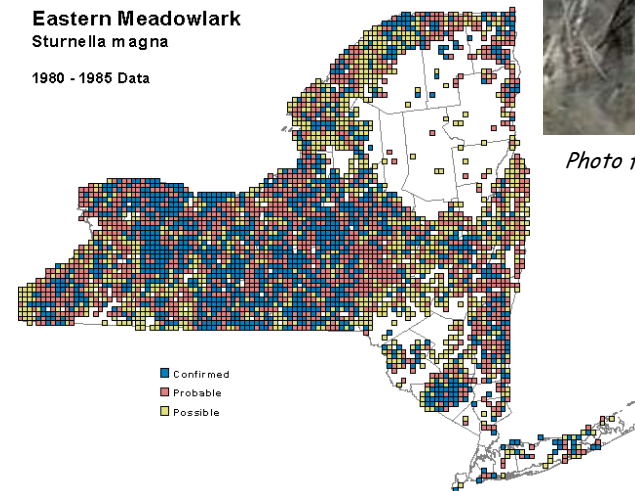
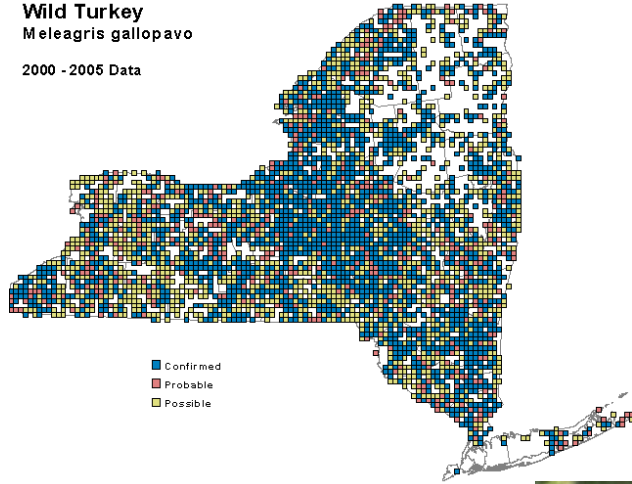


Photo from U.S Geological Survey

Wild Turkey
Meleagris gallopavo
 2000 - 2005 Data

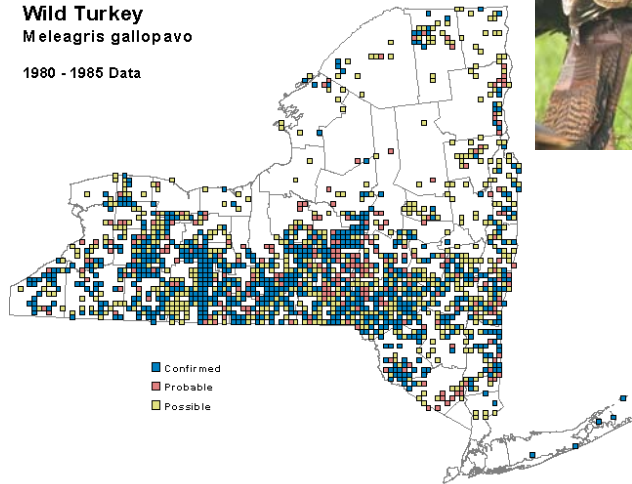


■ Confirmed
 ■ Probable
 ■ Possible



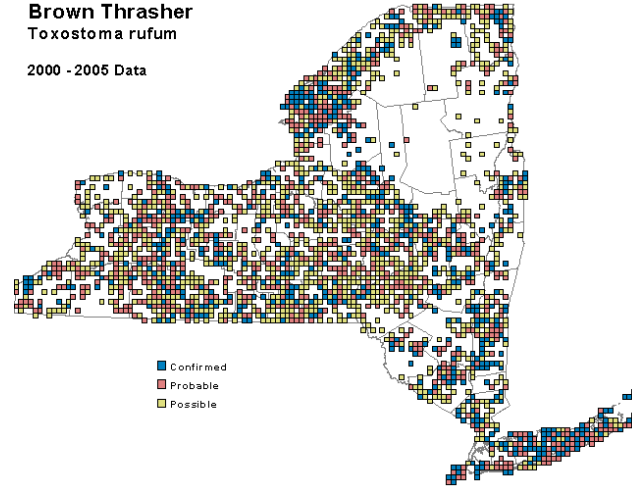
Photo by Mike Pogue

Wild Turkey
Meleagris gallopavo
 1980 - 1985 Data



■ Confirmed
 ■ Probable
 ■ Possible

Brown Thrasher
Toxostoma rufum
 2000 - 2005 Data



■ Confirmed
 ■ Probable
 ■ Possible

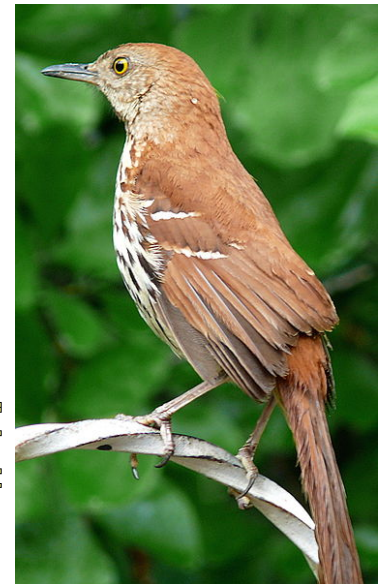
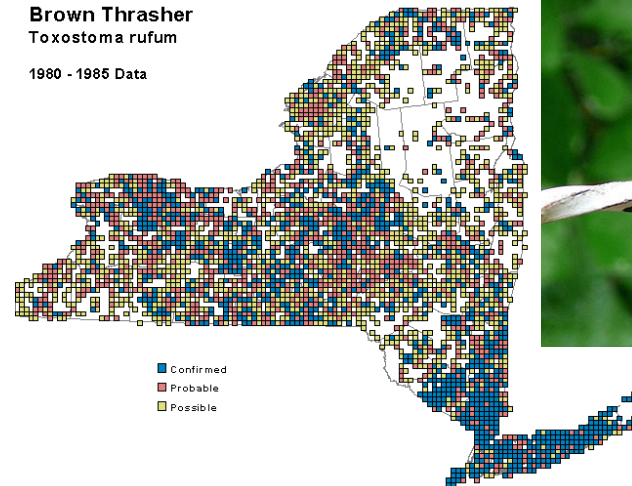


Photo by Ken Thomas

Brown Thrasher
Toxostoma rufum
 1980 - 1985 Data



■ Confirmed
 ■ Probable
 ■ Possible

5. Challenge Question Imagine how the Hudson Valley would have looked when the *Half Moon* sailed up the river in 1609. What sort of habitats would Henry Hudson and his sailors have seen along the river? Would they have been the same habitats that we see today? Would there have been more of some habitats and less of others (forests or fields, for example)?

In the previous questions you've seen how each bird species requires certain habitats to nest. You've also learned some of the reasons for changes in the numbers of birds and the areas in which they nest. Using this knowledge, give your opinion about whether Henry Hudson might have seen each of these five birds when he explored the Hudson Valley in 1609. Circle YES or NO and explain your reasoning.



a. bald eagle
YES NO
Explain:



b. eastern meadowlark
YES NO
Explain:



c. Carolina wren
YES NO
Explain:



d. mute swan
YES NO
Explain:



e. wild turkey
YES NO
Explain:

