



**Monitoring of Wintering Bald Eagles  
in Westchester and Rockland Counties 2010**

**A Project of the Bedford Audubon Society**

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## **Introduction**

The Bedford Audubon Society conducted its fourth Winter Eagle Monitoring Project from January 7, 2010 to March 11, 2010. This year, the project surveyed roosting Bald Eagles (*Haliaeetus leucocephalus*) at three sites, two in northwestern Westchester County, New York, and one just across the Hudson River in Rockland County, New York. The purpose of this ongoing project is to help monitor the significant concentration of wintering Bald Eagles in the Lower Hudson River Important Bird Area. As part of this project, three Bald Eagle nests located at two of the roost sites were also monitored.

The Bald Eagle, our national symbol, fell victim to a serious decline in numbers in the middle part of the last century, primarily due to the widespread use of chlorinated hydrocarbons such as DDT (Dichloro-diphenyl-trichloroethane) as pesticides. These chemicals were taken up into the eagles' bodies through the prey they ate and interfered with their breeding physiology, resulting in eggs laid with too-thin shells (or sometimes no shells) that broke during incubation. Since the ban on DDT for most uses took effect in 1972, this eagle's population has slowly but steadily climbed. In New York State, the number of breeding pairs had increased from 1 in 1965 to 192 in 2010 (Nye 2010). Although recently taken off the Endangered Species List, the Bald Eagle is still a species of conservation concern that warrants careful monitoring of its population.

The Lower Hudson Valley is one of the most significant Bald Eagle wintering areas in the state (Burger and Liner, 2005). Although roosts in the area are surveyed twice per winter by the New York Department of Environmental Conservation, Bedford Audubon's more frequent monitoring in 2007 revealed large, sudden, frequent fluctuations in numbers at these sites (Bielfelt 2007), underlining the importance of more regular monitoring to truly reveal the extent of eagle usage of these sites.

## **Methods**

Observations were taken on a standardized data sheet at all three main sites (Verplanck, George's Island, and New Croton Reservoir) every Monday and Thursday, weather permitting, during the monitoring period (January 7- March 11). Monitoring, conducted by volunteers, occurred from about 1 ½ hours before sunset to dusk. Observers recorded the date, time spent monitoring, percentage of cloud cover, percentage of visible water covered by ice, temperature, total numbers of adult eagles roosting onsite, total number of immature eagles roosting onsite, and general observations on the birds' movements. Efforts were also made to record any other noteworthy birds or observations occurring during the monitoring period. The data sheet is reproduced below.

Eagle Project

Date: \_\_\_/\_\_\_/2010

Start Time \_\_\_\_\_

Observer \_\_\_\_\_

Location: Cr. Dam/Gr.Is/Gr.Is.-North/Stony Pt.

End Time \_\_\_\_\_

% Cloud Cover \_\_\_\_\_

Temperature \_\_\_\_\_

% Ice Cover on the Water (that you can see) \_\_\_\_\_

How many were in the trees upon arrival? \_\_\_\_\_

Approximately how many flew in from the following directions?

East \_\_\_ North \_\_\_ West \_\_\_ South \_\_\_ \_\_\_\_\_

Could you clearly see all the eagles? Y/ N

If not, what obstructed your view? \_\_\_\_\_

Total Roosting Adult Eagles: \_\_\_ Total Roosting Immature Eagles: \_\_\_

Other interesting birds or observations:

Eagle Project

Date: \_\_\_/\_\_\_/2010

Start Time \_\_\_\_\_

Observer \_\_\_\_\_

Location: Cr. Dam/Gr.Is/ Gr.Is.-North/Stony Pt.

End Time \_\_\_\_\_

% Cloud Cover \_\_\_\_\_

Temperature \_\_\_\_\_

% Ice Cover on the Water (that you can see) \_\_\_\_\_

How many were in the trees upon arrival?

Approximately how many flew in from the following directions?

East \_\_\_ North \_\_\_ West \_\_\_ South \_\_\_ \_\_\_\_\_  
(other)

Could you clearly see all the eagles? Y/ N

If not, what obstructed your view? \_\_\_\_\_

Total Roosting Adult Eagles: \_\_\_ Total Roosting Immature Eagles: \_\_\_

Other interesting birds or observations:

## Results

### Sites Surveyed: Descriptions

Observations were collected at three main locations: George's Island Park, New Croton Reservoir, and Verplanck. The Verplanck observation site afforded views of two roost sites, which were monitored simultaneously.

#### New Croton Reservoir

One large eagle roost was monitored at New Croton Reservoir in the towns of Yorktown and Cortlandt, Westchester County. The monitoring was conducted from two separate locations, one on the dam itself, and one about a mile east of the dam, just off of Croton Dam Rd. on the southern shore of the reservoir. These two sites afforded different views of the same large eagle roost in tall, mostly deciduous trees in and around a small cove on the north shore of the reservoir. There was also an active Bald Eagle nest visible from the dam. This was usually the largest roost surveyed, and had the consistently highest numbers.

This roost averaged 17.15 eagles (8.77 immatures, 8.38 adults) in 13 monitoring visits from 1/7/10 to 3/11/10, with a high of 32 on 1/18/10.

Average numbers by month:

January average: 16.2 roosting eagles (7.60 immatures, 8.60 adults) in 5 monitoring visits

February average: 21.67 eagles (10.83 immatures, 10.83 ads.) in 6 visits

March average: 6.00 eagles (5.50 immatures, 0.50 ads.) in 2 visits

#### George's Island Park

George's Island Park is a small county-managed park on the Hudson River in the town of Cortlandt, Westchester County, New York. Observations were made of an eagle roost on the forested southern shore of Montrose Point (also in Cortlandt) looking north from the area around the northwest corner of the parking lot. The birds here mostly roosted in tall deciduous trees, many of them Tulip trees (*Liriodendron tulipiferum*). Only a small part of Montrose Point was visible from the vantage point, and it was clear that some eagles were roosting out of view just to the north on parts of the point that were out of view (see separate description of George's Island- North below).

This roost averaged 9.27 roosting eagles (6.13 immatures, 3.13 adults) in 15 monitoring visits from 1/7/10 to 3/11/10, with a high of 29 on 1/14/10.

Average numbers by month:

January average: 14.40 roosting eagles (9.00 immatures, 5.40 adults) in 5 monitoring visits

February average: 7.33 roosting eagles (4.67 immatures, 2.67 ads.) in 6 visits

March average: 5.75 roosting eagles (4.75 immatures, 1.00 ads.) in 4 visits

## George's Island-North (North side of Montrose Point)

Monitored from a small park by the Hudson River in the village of Verplanck, town of Cortlandt, this roost was on the forested north side of Montrose Point, the other side of the peninsula that also holds the eagle roost monitored from George's Island Park. Most birds here roosted in several large, tall Tulip trees (*Liriodendron tulipiferum*). Frustratingly, there is a large area in the middle of Montrose Point that is not visible from either of these two monitoring locations. This area almost certainly held more roosting eagles. Some eagles that appeared to be flying in to roost in this non-visible part of the point were observed at both George's Island-North and at George's Island Park. These two roosts may only be the two visible parts of one larger roost on Montrose Point, but logistically feasible visual access to the middle appears to be impossible. This roost seems to be being used much less than it was in the previous three years, perhaps due to the presence of a territorial pair of Bald Eagles with a nest right next to the roost site.

This roost averaged 1.33 roosting eagles (0.67 immatures, 0.67 adults) in 9 monitoring visits from 1/7/10 to 3/1/10, with a high of 4 on 1/18/10.

### Average numbers by month:

January average: 2.50 roosting eagles (1.00 immatures, 1.50 adults) in 4 monitoring visits

February average: 0.5 roosting eagles (0.5 immatures, 0.00 adults) in 4 visits

March average: 0.00 roosting eagles (0.00 immatures, 0.00 adults) in 1 visit

## Stony Point

This roost, monitored from the same small riverside park in Verplanck that George's Island- North was, was a small, intermittently used roost mostly in a group of dead Eastern Hemlocks (*Tsuga canadensis*) situated on mostly forested Stony Point in Stony Point State Park, in the town of Stony Point, Rockland County. There was also an easily seen, active eagle nest located on this peninsula next to the roosting area.

This location averaged 0.44 roosting eagles (0.44 immatures, 0.00 adults) in 9 monitoring visits from 1/7/10 to 3/1/10, with a high of 2 on 2/18/10.

### Average numbers by month:

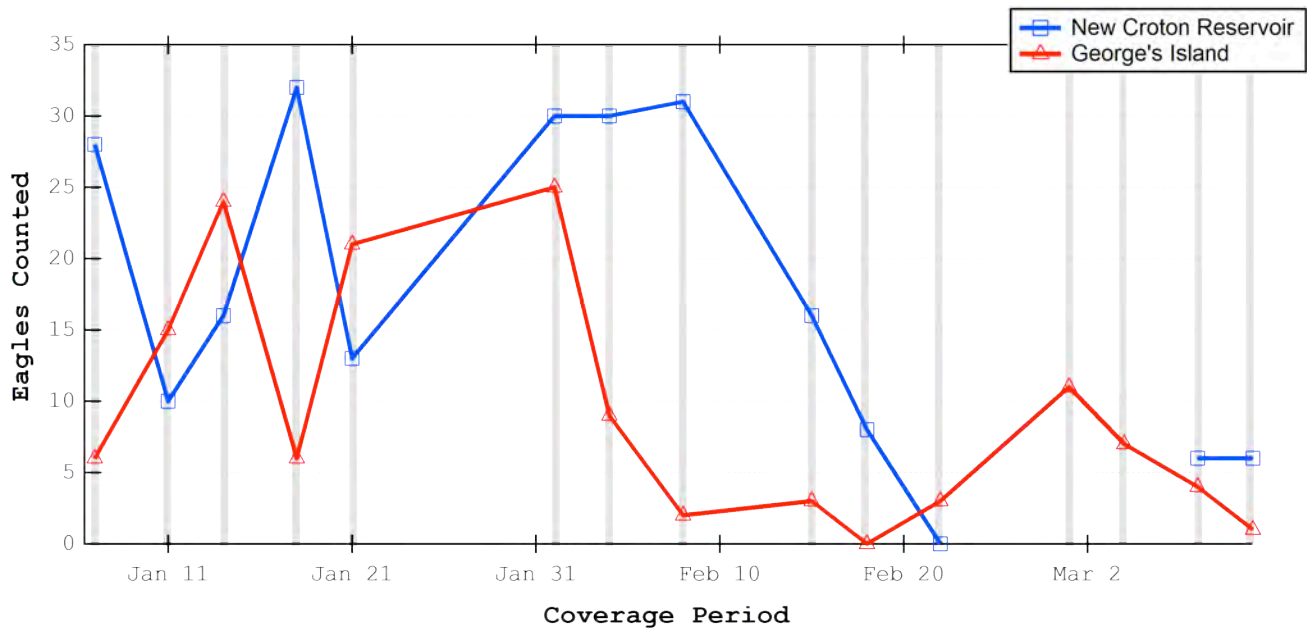
January average: 0.50 roosting eagles (0.50 immatures, 0.00 adults) in 4 monitoring visits

February average: 0.50 roosting eagles (0.50 immatures, 0.00 adults) in 4 visits

March average: 0.00 roosting eagles in 1 visit

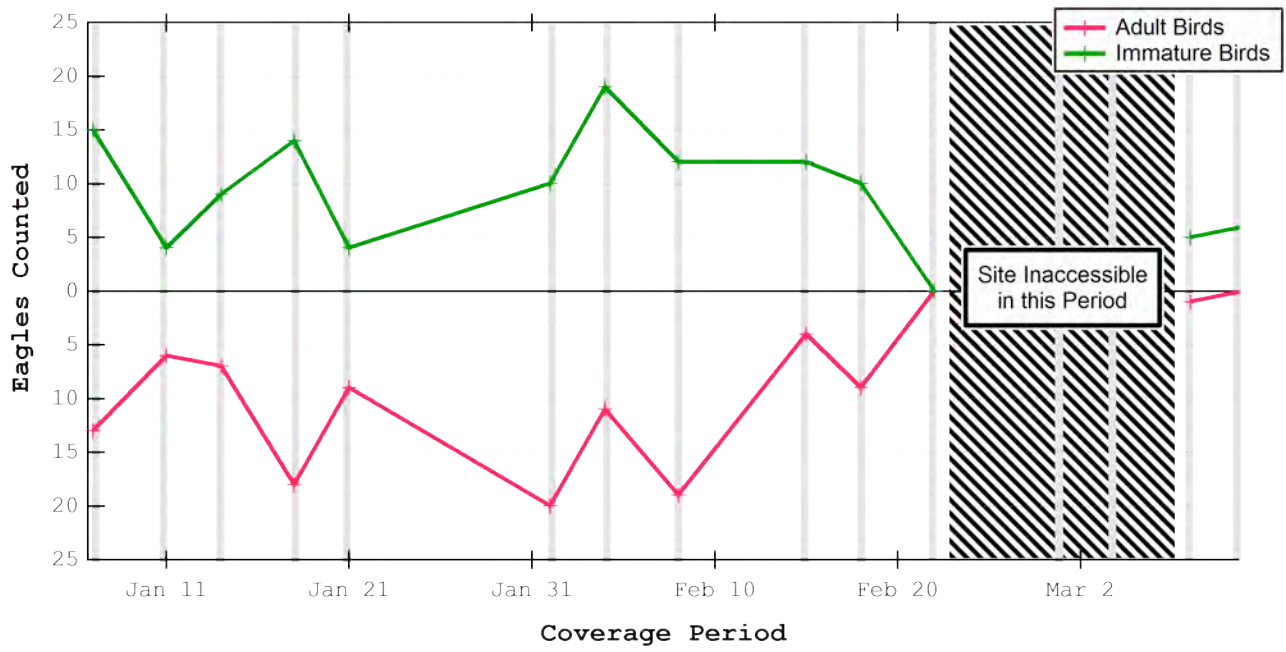
# Graphic Representations of Data

Fig. 1. Total eagles at New Croton Reservoir compared to total eagles at George's Island



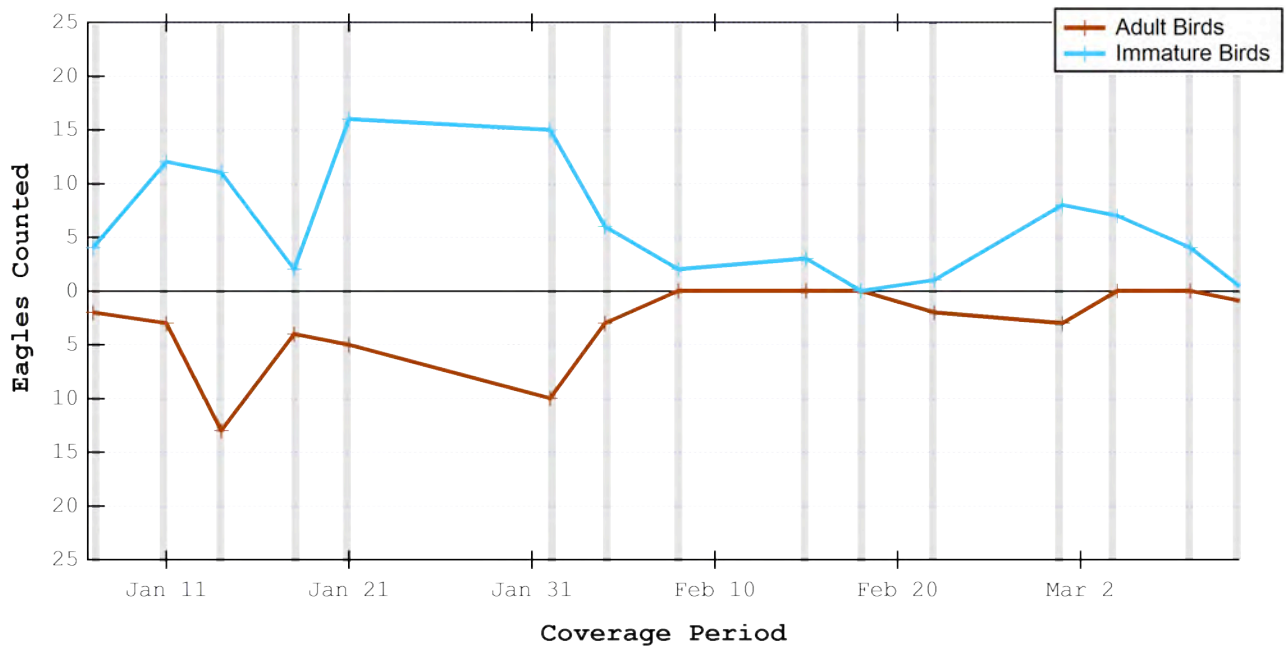
This graph shows an inverse relationship between the number of eagles at George's Island and the number at New Croton Reservoir, indicating likely interchange of birds between the two sites.

Fig. 2. Adults vs. immatures at New Croton Reservoir



As in the past two years, the number of immature eagles roosting at New Croton Reservoir fluctuated slightly more than the number of adults, perhaps indicating greater roost site fidelity by adults.

Fig. 3. Adults vs. immatures at George's Island



In contrast to the past two years, and to New Croton Reservoir this year, numbers of immatures did not appear to fluctuate more than those of adults.

## **Conclusion**

**Total numbers of roosting eagles were down at all sites in 2010 from 2009. It is unlikely that this decrease reflects any real decline in this species' numbers, even regionally. The decrease is likely due to milder weather to our north this winter, affording eagles more open water for foraging, thus making migration farther south (to areas like the Hudson Valley) unnecessary. But even in a "down" year like this one, our numbers show some significant concentrations of wintering Bald Eagles using the Lower Hudson Important Bird Area.**

## **Acknowledgements**

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## **Sources**

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