

Report of Eagle Counts Conducted in Otsego County, NY Spring 2010

The Delaware-Otsego Audubon Society conducted an organized hawk and eagle count in eastern Otsego County from 7-13 March 2010. This effort was part of a larger project to research where Golden Eagles concentrate during migration in New York State. Another spring count was conducted in Delaware County during March 2009. Available data from telemetered eagles and local observations suggested that Golden Eagles concentrate on the ridges between Otsego Lake and the hamlet of Worcester during spring migration. Wintering Golden Eagles are also sighted in this area occasionally. The organized count period spanned one week. However, some counting of raptors occurred outside the dates of the organized count.

Methods

A one-week spring count was planned in this area for the peak Golden Eagle migration period. Topographic maps were studied for geographic features that might concentrate raptors, and for open areas where viewing might be possible in preparation for scouting count sites. Three sites were chosen during a scouting trip in January 2010. These sites form a NW to SE transect 8.4 miles across with an effective counting area approximately 10.5 miles wide. The transect orientation was based on the generalized northeasterly movement of migrating raptors expected in the area in spring. Birds moving NE would be traveling approximately perpendicular to the transect.

Accounts for reporting data were set up for each of the sites on the Hawk Migration Association of North America's (HMANA) *hawkcount.org* web site, under the names: *DOAS – Fish Road*; *DOAS – Davis State Park*; and *DOAS - All Road*. The *hawkcount.org* site accounts provide additional detail on the three sites.

Site Coordinates in UTM:

Fish Road - 18 T 510280 4730611

Davis State Park - 18 T 513691 4723278

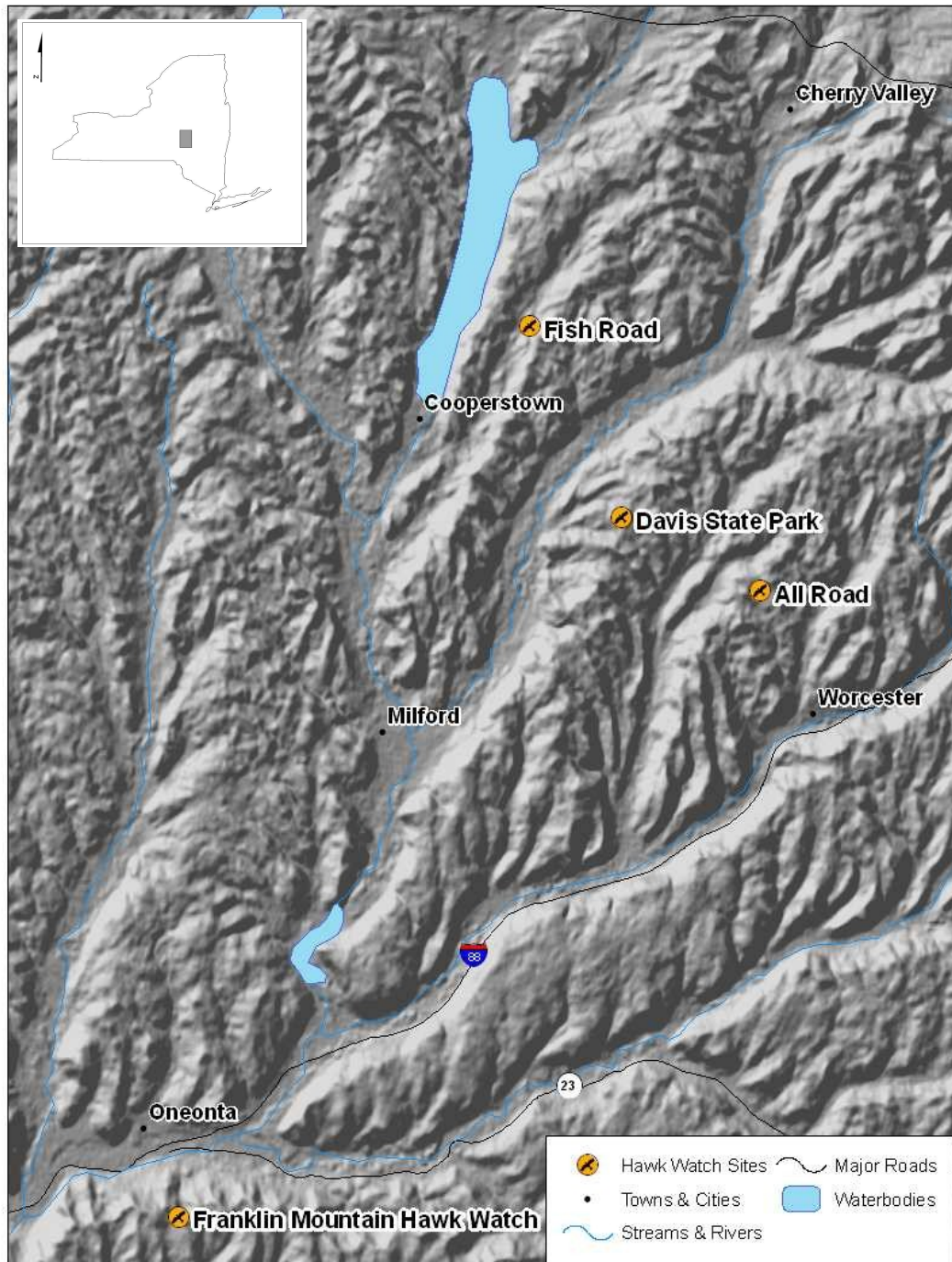
All Road - 18 T 518954 4720380

Volunteer observers from the Franklin Mountain Hawk Watch covered the sites from 7-13 March. A shortage of volunteers on 13 March, a day with strong easterly winds, resulted in shifting coverage to the west side of the transect. Observations on several days of east winds had indicated birds tended to shift west under those conditions. This change left Fish Road uncovered.

In addition to the organized count period, some coverage occurred prior to 7 March, and counting continued after 13 March by volunteers at Davis State Park on a casual basis. Counting at Davis State Park ended on 2 April.

Counters were instructed that all raptors purposefully moving in an easterly or northerly direction should be considered migrants and recorded as such. Counters were asked to use their judgment about whether birds were migrating based on flight direction, the bird's behavior, and their personal experience counting migrating raptors elsewhere. Non-migrating birds were deemed "local" or "not migrating". These birds were not included in the count but were recorded in separate notes.

Standard HMANA data forms and codes were used to record weather data and sightings. Data was entered into the *hawkcount.org* database.



Map of the project area

On many days, cell phones were used to monitor individual eagles of both species and thereby determine if they were being seen and recorded at multiple sites. A small number of eagles were seen at both Fish Road and Davis State Park. No eagles seen at All Road were seen elsewhere. As a point of interest, one Turkey Vulture moving NW at All Road was also seen at Davis State Park. No attempt was made to determine how many of the migrating hawks or vultures were counted at multiple sites. It is unlikely that many of the smaller birds were seen at multiple sites due to the distance between sites and the clearly defined ridges. The few eagles that were seen at different sites were spotted at long distance from Davis State Park and may have been closer to Fish Road when first seen. Hawks are much less likely to be seen and identified at these distances.

In addition to using cell phones to avoid double counting, volunteers were instructed to record the direction of travel, times of passage and the age of each eagle. Age classes were limited to “adult”, “juvenile” or “unknown”. These data were examined, and eagles judged to be counted at multiple sites were only included once in the transect total.

Double counted eagles seen from Davis SP and then at Fish Road include an unidentified eagle (UE) seen from Davis at 2:40 p.m. on 8 March which is believed to be a Fish Road Golden Eagle seen at 2:51 p.m.; one adult Bald Eagle and one adult Golden Eagle on 9 March were discussed via cell phone between the two sites as they were observed moving north, as was one juvenile Bald Eagle on 11 March.

Based on the judgment of the project compiler, one Golden Eagle was changed to “non-migrant” in the *hawkcount.org* database after the count concluded. The Golden Eagle seen flying southwest on 11 March at Fish Road may be the eagle that was photographed many times by a motion triggered camera within a mile of that count site over much of the winter.



A Golden Eagle which spent the winter .9 miles from the Fish Road site

Results

The total of all count week migrating raptors per site was 71 at Fish Road, 11 of which were Golden Eagles and 7 were Bald Eagles. At Davis State Park, 21 Golden Eagles and 16 Bald Eagles were part of the 75 raptor total. At All Road the 15 Golden Eagles and 1 Bald Eagle comprised almost half of the sites 35 birds. The Cherry Valley Creek valley lies to the east of Davis State Park, between that site and Fish Road. Additional counting at Davis State Park both before and after the planned week found many more Golden and Bald Eagles moving north around this valley. When counting ended at Davis State Park on 2 April, 54 Golden and 28 Bald Eagles had been counted at that site.

At the two western sites, multiple Bald Eagles judged to be local birds were not included in the count. Not all were noted or identified by age. Six eagles moving north through the transect could not be identified and were recorded as Unidentified Eagles.

DOAS SPRING 2010 EAGLE SURVEY

Site	GE total	GE also seen at Davis SP	Adjusted GE total	BE total	BE also seen at Davis SP	Adjusted BE total	UE total	UE also seen at Davis SP	Total eagles	Adjusted total eagles	Total Raptors	Days/Hours*
Fish Rd	11	-1	10	7	-2	5	4	-1	22	18	71	7/47.75
Davis SP	21		21	16		16	2		39	39	75	7/47.25
All Rd	15		15	1		1			16	16	86	6/41.25
Transect	47	-1	46	24	-2	22	6	-1	77	73	232	

* This chart only covers the period from March 7-13. Additional coverage at Davis SP and Fish Road are not included.

Bald Eagles were generally on the west side of the transect. Golden Eagles were concentrated on different sides of the transect on different days. On the 9th and 10th, All Road recorded more Golden Eagles than the other sites on NW and SW winds respectively. On other days with NW, or NNW winds, Fish Road had more goldens than All Road. On 2 days with easterly winds – 11th & 12th – no Golden Eagles were observed at All Road. Because none had been seen at All Road on east winds, when a counter could not cover Fish Road on the 13th, the counter scheduled for All Road was asked to cover that site because of the forecast of strong easterly winds.

WIND DIRECTION AND GOLDEN EAGLES PER SITE 3/7-3/13 2010

Date	Wind at Davis SP	Fish Road	Davis SP	All Road
03/07/10	Strong NNW	2	2	0
03/08/10	Strong NNW or NW	5	3	1
03/09/10	NW	2	5	9
03/10/10	Light SW	0	1	5
03/11/10	SSE	2	6	0
03/12/10	Strong S or SSE	0	4	0
03/13/10	Steady SE	0 (4 UEs)	0	No coverage

Eagle totals for several other northeastern hawk watches for the same period are included below for comparison purposes.

COMPARISON OF SELECTED HAWK WATCH SITES FOR THE PERIOD 3/7-3/13 2010

Site	Location	Hours	GE Total	BE Total
Otsego County NY Transect	Middlefield & Westford	47.75	46	22
Braddock Bay	Hilton, NY	35	0	3
Derby Hill	Mexico, NY	32.5	3	11
Allegheny Front	Central City, PA	24.5	46	4
Tussey Mountain	State College, PA	44	106	5

The only falcon observed during the week was a wandering Peregrine at All Road on 12 March that was not considered a migrant.

Findings

It appears that this location in eastern Otsego County, NY may be a significant corridor for migrating Golden Eagles. We know of no other site in New York that has recorded such a large number of Golden Eagles during the early migration season. The number of Bald Eagles is also high.

Davis State Park counters observed slightly less than half of the identified Golden Eagles that were judged to be migrating through the transect during the count week – 21 of 46. 33 additional Golden Eagles were counted at that site on 13 days that were covered outside the scheduled week. The last day of counting at the site was 2 April. While a week of data is insufficient for extrapolating totals over an extended time, it is likely that considerably more Golden Eagles moved through the transect area on those days when counting took place only at Davis State Park.

Adult Golden Eagles appear to migrate earlier and more directly than juveniles. Of 46 individual Golden Eagles observed during the count week, 39 were adults, 5 were juvenile and 2 were not aged. Most of the early spring migration of Golden Eagles at Tussey Mountain in Pennsylvania are also adult birds¹. In their paper Modeling Raptor Migration Pathways Using a Fluid Flow Analogy, Brandes and Ombalski wrote “long-lived species like Golden Eagles may develop a preferred migration route over many seasons”². Recent satellite telemetry data also show adults migrating towards the breeding grounds follow a more direct path than juveniles³.

Given the relatively high numbers of breeding age birds concentrating along these ridges in early March, this migration corridor may well be a “preferred migration route” and should be treated as important to the health of the small eastern population of Golden Eagles.

Report prepared by Thomas Salo, 6/8/10.

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1 David Brandes personal communication.

2 Brandes, D. and D. Ombalski, 2004. Modeling raptor migration pathways using a fluid flow analogy. J. Raptor Res. 38(3):195-207.

3 Todd Katzner personal communication.