

# 2008 Chestnut Ridge Hawk Watch Seasonal Summary

## Bedford Audubon Society

Cameron Rutt<sup>1</sup>

This past season (Aug – Dec 2008) marked the 25<sup>th</sup> fall of hawk watching on record at the Chestnut Ridge Hawk Watch. As hawk watches go, this site has a fairly long history, with the first seasonal counts dating back to the fall of 1980 when 2500 raptors were tallied in approximately 150 hours of count data. However, the hawk watch didn't really get underway until 1983 when a fall count was conducted on 83 days for almost 640 count hours (up from the previous highs of 43 and 220, respectively, over the prior three seasons). The hawk watch was conducted annually until 2003, the first year in decades in which no formal count was carried out. For a span of four years (2003 – 2006), this trend continued until the watch was reinstated in the fall of 2007. Since 1983, excluding the brief hiatus, there has not been a season with less than 350 hours of effort and 58 count days, allowing for reasonable year-to-year comparisons over this stretch (thus, all historical comparisons will cover the years between 1983 and the current). That said, to allow for a more accurate yearly assessment, the following summary will convert the seasonal totals into a birds/hour figure, per se (instead, it will be birds/average seasonal hours, or birds/542 hours).

In addition to this birds/season figure, each species account will cover the 2008 season total, all-time rank, raw average, migration period, the top five 2008 daily totals, and a brief report of the species trends, both at Chestnut Ridge and beyond. Neither the birds/season and raw average include the present year's data, to allow for an unaltered comparison with this year's numbers. To better visualize how each raptor has done over the 22 years of count data, the first 11 years of data (birds/season) will be analyzed against the last 11 years (which includes 2008). If a species has shown increases (↑) or decreases (↓) of greater than 10% in the latter 11 years of Chestnut Ridge data, the appropriate symbol appears next to the species name. If a species does not show a change greater or less than 10%, that species is considered to be essentially stable (≈). For trends of a larger geographic scale, information is gleaned from both the Birds of North America Online and Conservation Status Reports, available through Hawk Mountain Sanctuary's website: <[http://www.hawkmountain.org/index.php?pr=Raptor\\_Life\\_History](http://www.hawkmountain.org/index.php?pr=Raptor_Life_History)> and, for the Rough-legged Hawk: <[http://rpi-project.org/docs/NA\\_trends\\_mapped\\_2006.pdf](http://rpi-project.org/docs/NA_trends_mapped_2006.pdf)> For some species, aging and/or sexing was required so special consideration was given to that conversation in those species accounts. Any detailed commentary on plumage criteria in the species accounts is thanks to Jerry Ligouri's excellent guide to the identification of in-flight raptors, "Hawks from Every Angle." As I was particularly interested in cataloging the non-raptor migration at Chestnut Ridge, a detailed analysis for some of these species follows the raptor section of this report.

Overall, 2008 was an above average year in many respects. All-time seasonal high counts were set this year for five species (Black Vulture, Turkey Vulture, Bald Eagle, Cooper's Hawk, and Peregrine Falcon). Only Northern Goshawk, Red-tailed Hawk,

Rough-legged Hawk, Golden Eagle, and American Kestrel migrated by Chestnut Ridge in less than average numbers this year. Of these, the only real surprise was the relative low numbers of migrant Red-tailed Hawks, given the irruptive/inconsistent nature of goshawks, Rough-legged Hawks, and Golden Eagles and the severe decline in American Kestrel populations. This year also set the record for number of count days in a season (84 vs. 83 in 1983) and was above average for count hours (5<sup>th</sup> all-time) and total raptors (7<sup>th</sup> all-time). The count was also extended beyond the typical ending date of 20 November, with three days of coverage after that date, the last in early December. This may be the first time that such an extension has ever occurred at Chestnut Ridge and, subsequently, may provide the only data from that late in the season. Raptors aside, a number of other notable migratory events made this season a particularly memorable one. Noteworthy season totals include, among others: Brant (772), Canada Goose (9823+), Ruby-throated Hummingbird (284), Cedar Waxwing (2629), Pine Siskin (13,946+), and Monarch butterflies (1497). Add to that a few rare avian finds (Red-throated Loon, Iceland Gull, and three days with White-winged Crossbill sightings) and the season was a great success, all things considered.

<sup>1</sup>Email: [cameronrutt@gmail.com](mailto:cameronrutt@gmail.com)  
PO Box 223  
727 Blooming Glen Rd  
Blooming Glen, PA, 18911

## Turkey Vulture – ↑

Season Total (All-time rank): 2188 (1<sup>st</sup>)

Average: 759

Birds/Season: 778

First 11 Years: 517

Second 11 Years: 1147

Migration Period: 21 September – 5 December

Top 5 days:

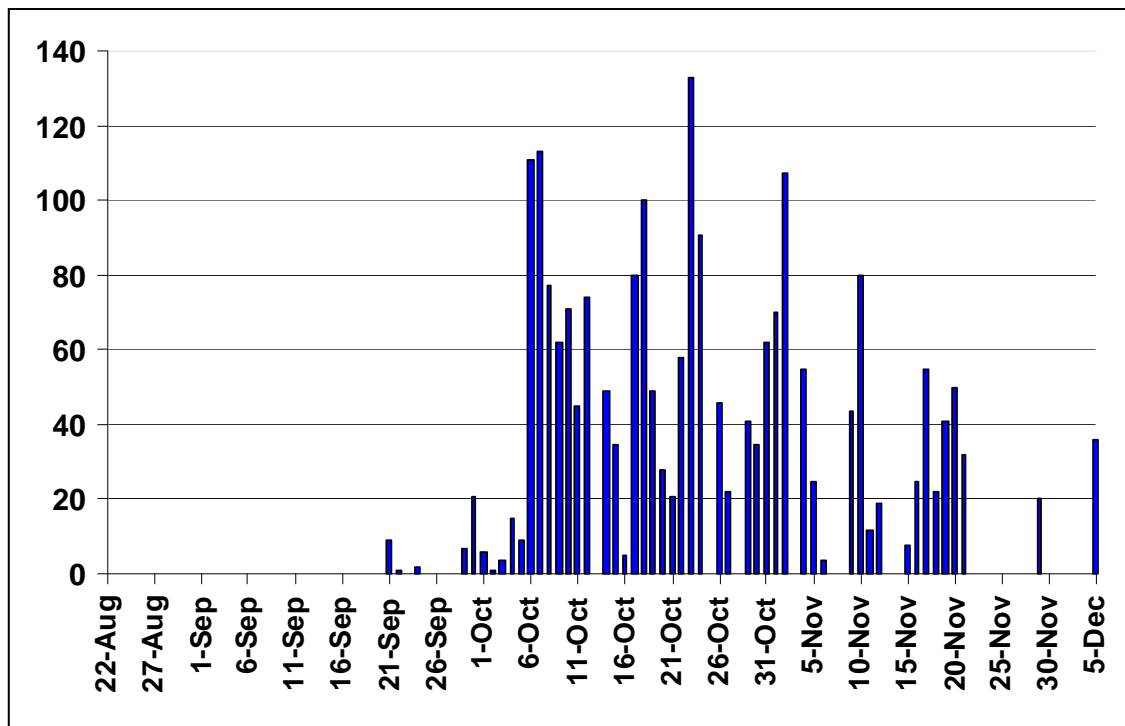
133 (23 October)

113 (7 October)

111 (6 October)

107 (2 October)

100 (18 October)



This was certainly an exceptional year for Turkey Vultures in the region. In addition to Chestnut Ridge's record-breaking year (2188), Quaker Ridge also bested its previous season high count (804; 2006) by nearly 400 birds, finishing with 1178 this past fall. The previous record season at Chestnut Ridge was 2028 (2000), with only three other seasons having reached quadruple-digits: 1996 (1411), 1990 (1434), and 1999 (1553). Whether it has more to do with the differences between hawk watch interns or an actual difference in year-to-year migration, Turkey Vulture numbers fluctuate widely over the years. In 2002, for instance, a mere 555 birds were tallied for the entire season, with only 223 as recently as 1994. This species, perhaps more so than any other common raptor, seems to exhibit conspicuous inter-annual variation at Chestnut Ridge.

Turkey Vultures were the most populous raptor migrant in October, and decidedly so in November. Extending the count period beyond November 20 revealed that this species continued to migrate past Chestnut Ridge for at least an additional couple of weeks (36 were tallied on 5 December). The peak period of passage appeared to be in early to mid-October, falling off noticeably during November. Historical Chestnut Ridge data has shown a substantial increase in this species, with the latter 11 years of count data (1147) being more than double that of the former period (517). Corroborating the trends at Chestnut Ridge, BBSs, CBCs, and a collection of hawk watches have shown that Turkey Vulture numbers in the northeast have risen substantially in the last three decades. Additionally, the species appears to be continuing its northern range expansion with counts in Quebec increasing in recent years.

The onset of Turkey Vulture migration is hard to diagnose as this species is present throughout the entire hawk watching period. It is my opinion that Turkey Vultures should not be categorically ignored in late August and throughout much of September (which may have been the well-established philosophy of the past), but instead counted like any other raptor if it appears to be migratory. Distinguishing this, however, can be a challenge, even in the heart of this species' migration. Individuals and small groups seem to trickle by fairly low over the horizon well to the north or south of the watch, making this species easy to overlook if not in large kettles or high migratory flight. Multiple observers are much appreciated in keeping track of milling Turkey Vultures and days without a second observer likely underreport this species. Thus, all things considered, even though many Turkey Vultures were recorded this fall, the final figure likely falls short of the actual figure due to this species' discreet and ambiguous passage at Chestnut Ridge.

**Black Vulture – ↑**

Season Total (All-time rank): 59 (1<sup>st</sup>)

Average: 4

Birds/Season: 5

First 11 Years: 0

Second 11 Years: 13.4

Migration Period: 18 September – 5 December

Top 5 days:

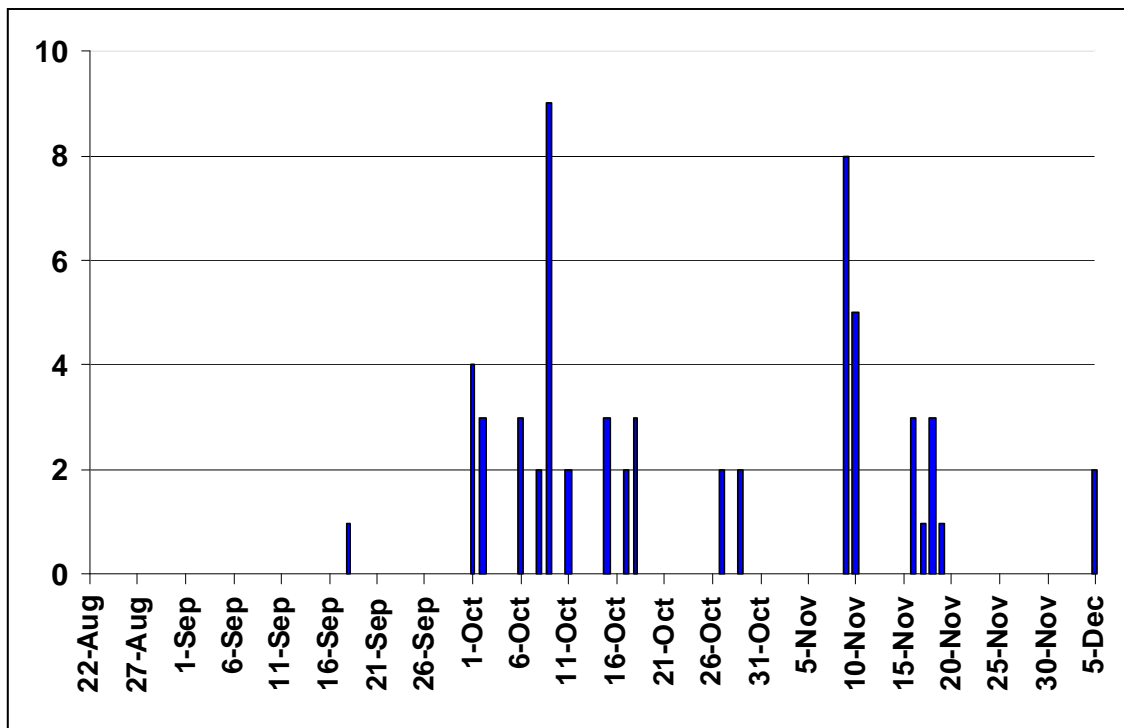
9 (9 October)

8 (9 November)

5 (10 November)

4 (1 October)

3 (6 times)



Black Vultures flew by Chestnut Ridge in the highest numbers ever, by far. Last year, the record was set with 25 birds recorded all season so this year's 59 birds more than doubled that figure. After the first migrating Black Vultures were tallied in 1994 (2), the species has become annual only since 1997 with new records set in five of the last seven seasons. After reaching double-digits for the first time in 2004, Black Vultures at Quaker Ridge have continued in double-digits for each of the last five seasons, with as many as 48 in 2006. However, this year's 29 at Quaker Ridge is their lowest figure in the past four falls.

Black Vulture migration does not show a very obvious peak, but perhaps a slight congregation of sightings during the first two and a half weeks of October. With the

extended count period, Black Vultures were convincingly recorded in mid-November all the way up to December 5, when two birds were observed. Historical Chestnut Ridge data show an obvious increase over the past 25 years, as not a single bird was found during the first 11 years of count data. Like the Turkey Vulture, all available data indicate that Black Vulture populations have increased in the northeast since the mid-'70s, however some hawk watch data suggest that this has been mitigated in recent years, at least on a local/regional basis. For decades, this species has been seen advancing its breeding territories northward along the Atlantic coast, a trend that looks to be continuing based upon CBC data.

Like Turkey Vultures, Black Vulture migration is difficult to assess. Often, birds require extended observation in order to assure that they are consistently heading in the right direction, before disappearing into the trees. Birds counted as migrants include singles and small groups (I don't believe any more than five at a time). On at least one occasion were migrant Black Vultures counted among a large kettle of Turkey Vultures. Again, like Turkey Vultures, I think every effort should be made early in the season to carefully watch and record Black Vultures if they appear to be migratory, even if it is August or early September, something that didn't happen satisfactorily this past season.

## Osprey – ≈

Season Total (All-time rank): 530 (5<sup>th</sup>)

Average: 373

Birds/Season: 368

First 11 Years: 388

Second 11 Years: 357

Migration Period: 22 August – 29 October (outlier 16 November)

Top 5 days:

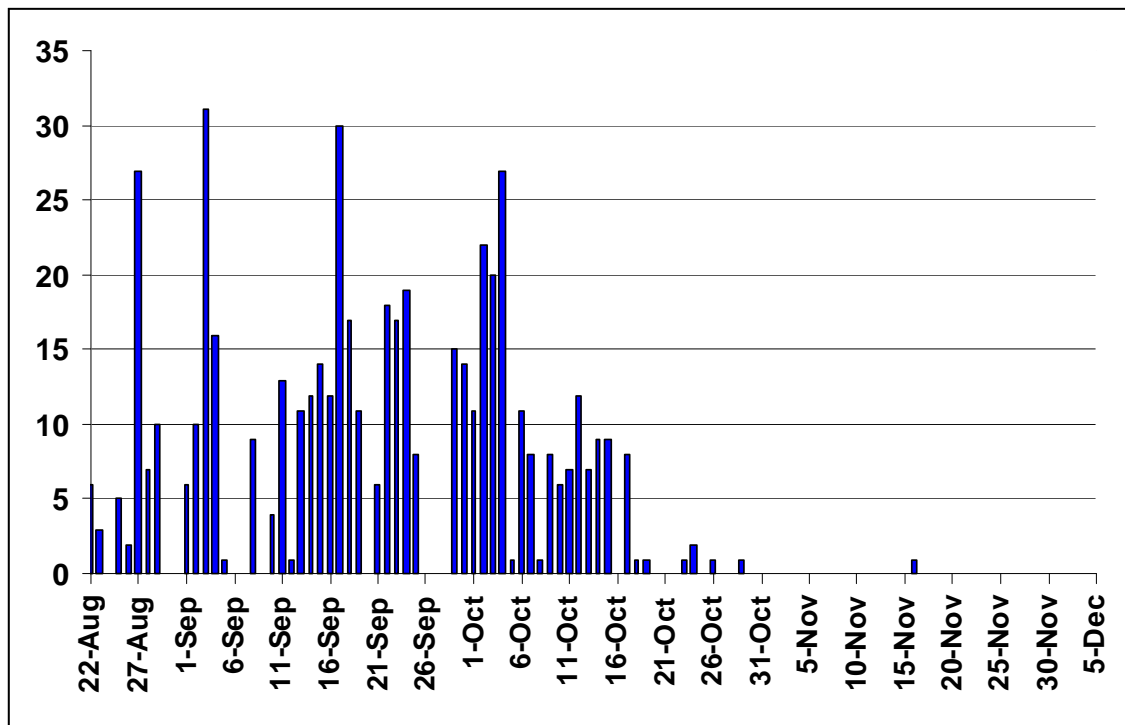
31 (3 September)

30 (17 September)

27 (4 October)

27 (27 August)

22 (2 October)



This year's 530 Ospreys was the highest total for this species since 566 were sighted all the way back in 1990, 14 seasons ago. On the other hand, Quaker Ridge didn't have a spectacular season by their standards (723), having higher counts in each of the past two years. Their all-time high count was set back in 1990 – apparently a good year for migrating Ospreys in the region – when they recorded 1038.

Although there were two noteworthy days of Osprey migration in late August and early September, the peak passage for this species seemed to be in the latter half of September into early October. Ospreys were pretty consistent all the way up until 17 October (8), after which only seven were seen in the next ten days, with one exceptionally late bird occurring on 16 November (Quaker Ridge had four during November). Historical Chestnut Ridge data show a slight decline in the latter 11 years;

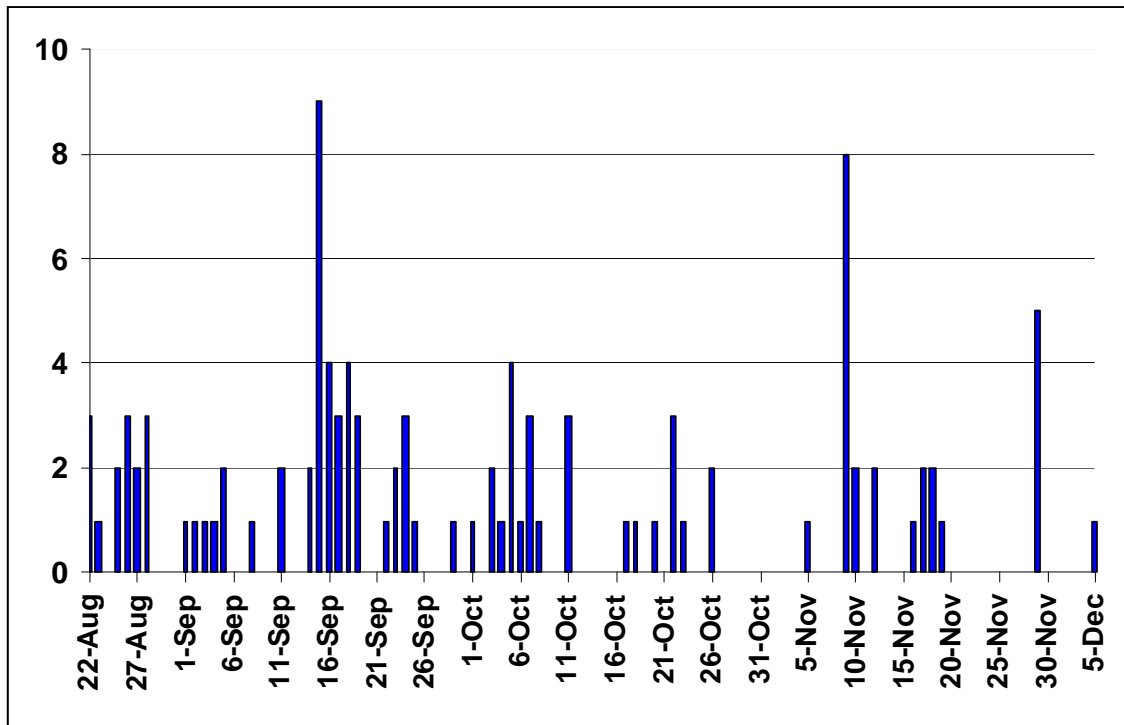
however it is not outside of a 10% change. This is the only raptor dealt with in this report which did not have an increase or decrease greater than 10%, thus appearing to be relatively stable by Chestnut Ridge data alone. BBSs and migration monitoring show that nationwide Osprey numbers have increased over the past few decades, but that this tendency has either slowed or reversed in most recent years, likely as the result of population stabilization.

There were a couple of days in which Ospreys seemed to exhibit a noticeable late day surge. The first such instance occurred on 27 August when 11 Ospreys were registered in the final 1.5 hours of the count (16:00 – 17:30 DST), the only species of raptor observed during that stretch. A few days later on 3 September, a surprising ten Ospreys flew by Chestnut Ridge in the final hour (16:00 – 17:00 DST), enough to give that date the highest Osprey total for the entire season. Interestingly, Ospreys also seemed to move conspicuously during the early parts of the morning as well.

Throughout the season I kept note of the number of Ospreys that were detected “packing a lunch,” or carrying a fish, as they migrated past the platform. All in all, 16 different Ospreys fell into this category, usually just one a day, but four were seen toting a snack as they winged it south on 23 September (of 17 tallied that day). The time of passage was also recorded for each of these birds with the median being 14:46 DST. Fish-carrying birds ranged from 11:32 – 15:59 DST with only two birds noted before noon, so it seems to be a largely afternoon phenomenon. The monthly pattern appeared to follow the general pattern of migrant Osprey abundance (2 in August, 10 in September, and 4 in October)

**Bald Eagle – ↑**

Season Total (All-time rank): 106 (1<sup>st</sup>)  
 Average: 21  
 Birds/Season: 22  
 First 11 Years: 14  
 Second 11 Years: 37  
 Migration Period: 22 August – 5 December  
 Top 5 days:  
     9 (15 September)  
     8 (9 November)  
     5 (29 November)  
     4 (16, 18 September; 5 October)



Aging:	Aug	Sep	Oct	Nov	Dec	Total
Dark-bellied immature	2	5	3	2	0	12
White-bellied immature	0	4	5	1	1	11
Unknown immature	2	4	6	10	0	22
Near adult	3	3	1	0	0	7
Adult	6	21	9	11	0	47
Unknown	1	5	1	0	0	7
Adult/immature	9/4	24/13	10/14	11/13	0/1	54/45
Total	14	42	25	24	1	106

\*Adults and near adults are combined and considered together as adults

Bald Eagles had a tremendous showing in 2008 at Chestnut Ridge. The previous high count was set in 1996 when 51 birds were totaled. Following that breakout season,

between 17 and 29 birds were counted during the following six years until the second best year in Chestnut Ridge history, last year (43). Considering that, this year's 106 Bald Eagles completely obliterates all previous marks, even surpassing the combined number of Bald Eagles from the past *three* seasons. This, only one year after Quaker Ridge set their all-time high with 173 birds. This year's sum of 155 Bald Eagles at Quaker Ridge falls second only to 2007 and is one of only four years (2005-2008) that has broken the triple-digit mark at Quaker Ridge.

The peak passage for Bald Eagles is a bit difficult to distinguish as this species was seen from the first count day to the last, although markedly less regularly after mid-October. The peak appears to be from late August through mid- to late September. Oddly, though, the second and third best Bald Eagle days were in November with a surprising five birds seen on the late date of 29 November. Historical Chestnut Ridge data show a clear increase from the first half of the count years (14) compared to the second half (37), an increase of more than 2.5 times. BBSs, CBCs, and migration monitoring all point to a steady increase in Bald Eagle numbers in recent decades, continuing through the present.

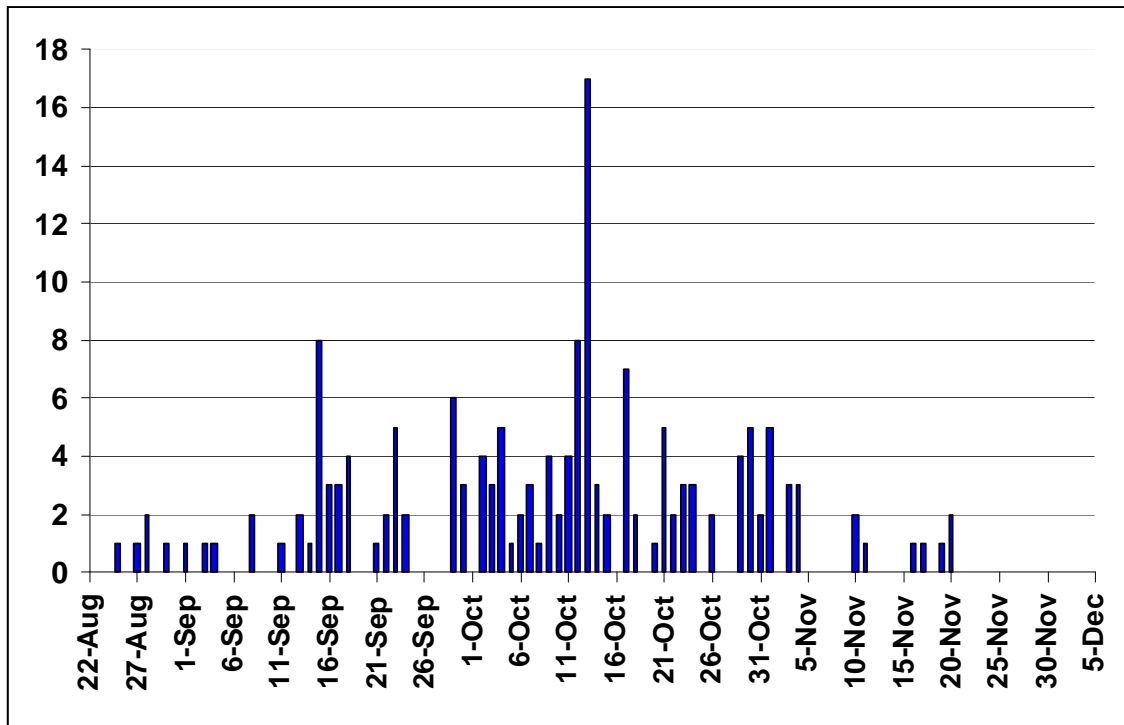
The aging process in Bald Eagles allows for a number of different age classes to be discerned in the field: dark-bellied immature, white-bellied immature, near adult, and adult. Juveniles make up only part of dark-bellied immatures as sub-adult II Bald Eagles (2-3 years of age) can show a brown belly if those feathers have been replaced, thus clouding the issue. Therefore, ending the diagnosis at dark-bellied immature is more accurate although, admittedly, it seems less useful overall. White-bellied immatures include both sub-adult I and II birds; these two age classes can be very challenging to separate in the field as differences in wing molt is usually the only reliable method for separation. Near adults were classified by their adult-like appearance which retained some form of plumage immaturity (usually a dark-tipped white tail). If no signs of immaturity were present or apparent, the bird was considered to be an adult. The field aging process is by no means a perfect procedure, however it does allow for a unique look at the timing of different age classes.

Including "unknown immature" as an age class, 93.4% (99/106) of Bald Eagles were aged with 72.6% (77/106) aged as dark-bellied immature, white-bellied immature, near adult, or adult. Dark-bellied (12) and white-bellied immatures (11) ended up essentially equal, but both fell well behind unknown immature (22), so it is difficult to know how this would have actually panned out. Adults (47) far outpaced any other individual age class, even if all the unknown immatures fell into one category or the other. Not too many near adults (7) were detected although distant near adult birds may have been incorrectly labeled as "adults" from afar. Overall, adults (including near adults) outnumbered immatures 54:45 throughout the season. However, the monthly breakdown shakes out a bit differently. In August and September, adult-like birds outpaced immatures 33:17 but the opposite was true during the remainder of the season, October through December, 21:28.

**Northern Harrier** – ↓

Season Total (All-time rank): 165 (7<sup>th</sup>)

Average: 140  
 Birds/Season: 137  
 First 11 Years: 154  
 Second 11 Years: 120  
 Migration Period: 25 August – 20 November  
 Top 5 days:  
     17 (13 October)  
     8 (12 October)  
     8 (15 September)  
     7 (17 October)  
     6 (29 September)



Aging:	Aug	Sep	Oct	Nov	Total
Juvenile	3	11	19	2	35
Female	0	0	3	0	3
Brown	0	4	19	2	25
Male	0	3	12	8	23
Un-aged/sexed	2	28	42	7	79
<b>Total</b>	<b>5</b>	<b>46</b>	<b>95</b>	<b>19</b>	<b>165</b>

Northern Harriers had an above-average showing this fall (165) with the most since 1998 (202) and the second-most since 1989 (239). A year after having their third-best year ever (305), Quaker Ridge was down significantly to 182 this fall.

Northern Harrier passage seemed to peak in mid-October, both in numbers of birds and in daily consistency although sightings are nicely spread out from late August through mid- to late November. I would have expected a more obvious mid-September peak so the lack of any major movement, aside from the eight on 15 September was interesting. The 17 on 13 October more than doubled any other single-day effort and was surprising considering the weather conditions for that day: overcast, warm, and fairly humid with light winds primarily out of the NW, becoming mostly calm late in the day. Historical Chestnut Ridge data reveals an obvious decline since the '80s and early '90s when harriers were encountered more regularly. Long-term data on Northern Harriers is a bit conflicted with BBSs and migration monitoring pointing towards a decline in the last 30 years with concomitant increases according to CBC data. It is hypothesized that this could be the product of a change in migration geography which reduces the numbers of harriers that are tallied at traditional hawk watches.

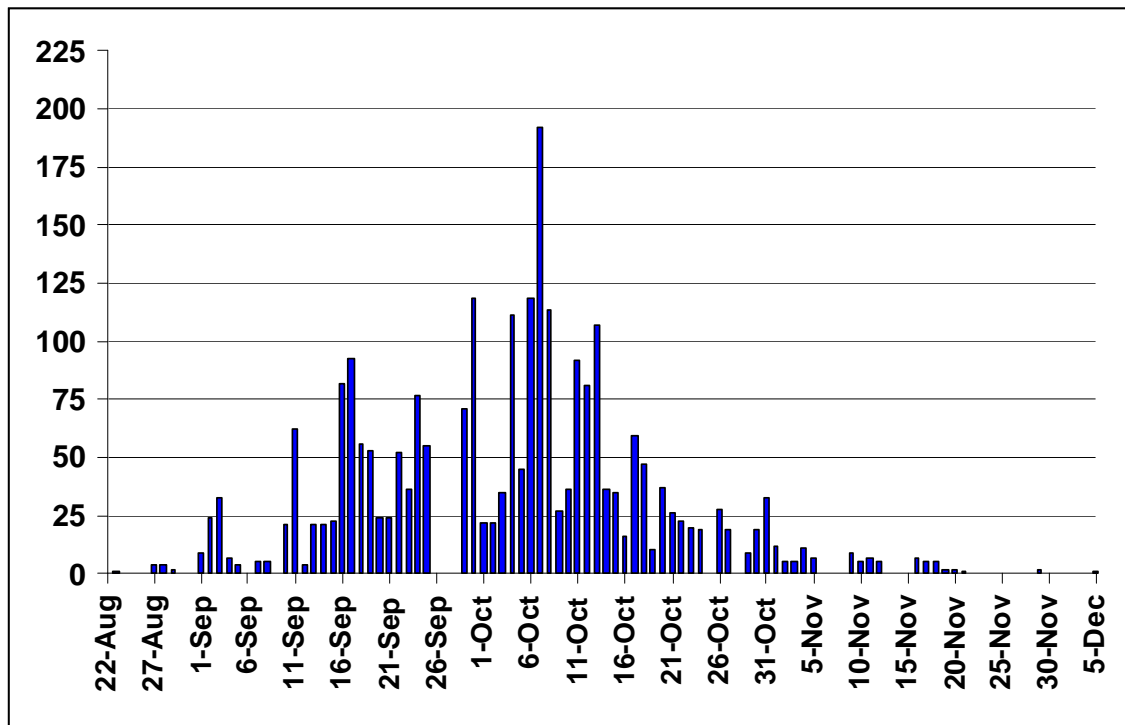
Males, females, and juveniles were catalogued when possible with unidentified females/juveniles relegated to the "brown" category. Juveniles controlled much of the early harrier migration (14/17 aged/sexed harriers in August and September, not including "brown" birds) with the first male passing on 15 September and the first female not identified until 14 October. The trouble with females and juveniles are the overall similarities, especially at any sort of distance, where the average raptor at Chestnut Ridge seems to fly. Differentiating between a rufous body with faint streaking and a dark brown, uniform upperside of a juvenile and a buff bodied, dark streaked, more variegated upperside of adult females can be tough if not given exceptional views. Therefore, females (3) are almost certainly grossly undercounted, with decent numbers of brown or un-aged birds likely pertaining to females. Males, females, juveniles, and "brown" birds were best represented during October, the month which had the most harriers altogether. However, males made up the greatest proportion of November birds at exactly half (9) of the total (18). Including "brown" birds, only 52.1% (86/165) of all harriers were sexed/aged, with juveniles making up the bulk of that figure. Many distant, dark harriers were simply left unknown, probably comprised of more females, juveniles, and "brown" birds than pale-plumaged males.

**Sharp-shinned Hawk** – ↓  
Season Total (All-time rank): 2524 (8<sup>th</sup>)  
Average: 2494

Birds/Season: 2456  
 First 11 Years: 2856  
 Second 11 Years: 2040  
 Migration Period: 23 August – 5 December

Top 5 days:

- 192 (7 October)
- 118 (6 October)
- 118 (30 September)
- 114 (8 October)
- 111 (4 October)



Sharp-shinned Hawks put in a slightly above-average appearance at Chestnut Ridge this fall (2524), the most since 1995 (3030) and the only year to break 2000 since 1996 (2308). However, all of these figures fall well short of the massive numbers of Sharp-shinned Hawks that used to pour through the region: 4841 (1989) and 4942 (1986). This year's 2524 is barely half of that gargantuan 1986 effort. Quaker Ridge's 3258 this past fall, although solid, took a big cut from last year's record of 4876 Sharp-shinned Hawks, far and away their best year on record (next best, 3800 in 1987).

As is represented well by the top five daily counts, Sharp-shinned Hawk numbers peaked at the very end of September into early October. Soon thereafter, however, numbers dropped off quickly, with a very perceptible tailing off starting almost immediately following mid-October and becoming even more pronounced as the calendar flipped to November. Historical Chestnut Ridge data show a precipitous decline for this species, dropping 816 birds from the average seasonal count in the first 11 years of count data. This 816 bird drop-off is a full 40% of the average seasonal count in recent years, a

marked shift in this bird's figures for such a relatively short amount of time. Like the Northern Harrier, population data on Sharp-shinned Hawks is a bit muddled. Both BBS and CBC data would point towards population increases while migration counts in the northeast instead suggest a decline. Two possible explanations for this seeming inconsistency include migratory short-stopping or an increase in less migratory populations alongside declines in the more highly migratory northern populations.

Seemingly more so than in most other species, scanning far to the south, at the limit of scope and binocular conjecture enables hawk watchers at Chestnut Ridge to add a considerable number of Sharp-shinned Hawks to the day's tally. Having Tait Johansson assisting up at the platform, with a scope trained at the southern horizon proved time and time again that many distant Sharp-shinned Hawks were trickling across the horizon, heading west. Having someone to do this throughout the peak of sharpshin migration would drastically increase the number of birds recorded in a given fall. This, in addition to increased viewing, made possible by clear-cutting the saplings that littered the fenceline, probably helped to add significantly to this year's Sharp-shinned Hawk numbers, in addition to a few other species to a lesser degree.

**Cooper's Hawk – ↑**

Season Total (All-time rank): 532 (1<sup>st</sup>)

Average: 233

Birds/Season: 242

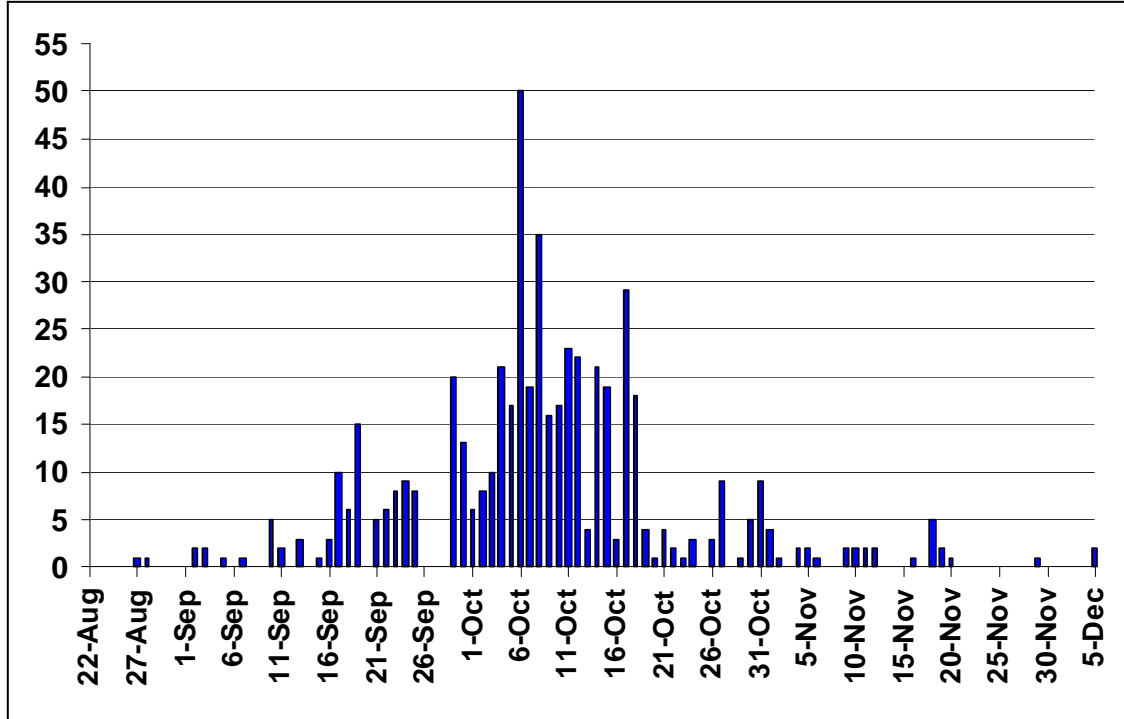
First 11 Years: 164

Second 11 Years: 341

Migration Period: 27 August – 5 December

Top 5 days:

- 50 (6 October)
- 35 (8 October)
- 29 (17 October)
- 23 (11 October)
- 22 (12 October)



Cooper's Hawks had a record showing in 2008 (532), with approximately 35% more individuals than were counted during the previous record season of 1995 (395). Like the Bald Eagle, it is surprising that the prior records for both of these species (mid-'90s) had numbers of seasons that had elapsed before the new record was set this year. Prior to this season's effort, only seven preceding seasons had final counts which surpassed 300 individuals. Quaker Ridge also had an excellent fall for Cooper's Hawks (572), their second-best sum ever, but well behind their record setting affair last year (657). No other Quaker Ridge fall has bested the 500 platform.

With a migration bar graph that looks quite similar to that of the Sharp-shinned Hawk, the Cooper's Hawk passage peaked during the first half of October, just slightly after the peak of its smaller cousin. The peak also seemed to be narrower in scope with less significant tails than that of the Sharp-shinned Hawk. This was due to fewer birds being present in the latter half of September and a sharper demarcation between mid-October and the remainder of the fall season. During the season, I was expecting the peak to occur over the middle of October, not a good week or so before that timeframe. Historical Chestnut Ridge data show a huge difference between the first half (164) and

latter half (341) of count data. Recent years have more than doubled what was to be expected in the '80s and early '90s, the exact opposite trend that the Sharp-shinned Hawk has endured. According to all available data, Cooper's Hawks have been increasing across North America over the past two to three decades, however, more recently, eastern hawk watch data suggest moderation to these increases. It is thought that the recovery from DDT, in addition to this species ability to exploit urban and suburban habitats has led to the Cooper's Hawk's rise.

The two best Cooper's Hawk days, 50 (6 October) and 35 (8 October), fell on two of the top five Sharp-shinned Hawk days of 118 and 114, respectively. These were the second and fourth best Sharp-shinned Hawk dates for the season. The tally of 50 Cooper's Hawks in a single day seems likely to have become the new single-day record for that species; however that day is currently unavailable. Of interest, Quaker Ridge set their single-day record for Cooper's Hawk on 6 October when a noteworthy 88 individuals of this mid-sized accipiter were logged. Their previous one-day record had been 65 from 16 October 2007.

**Northern Goshawk – ↑**

Season Total (All-time rank): 6 (tied 18<sup>th</sup>)

Average: 13

Birds/Season: 14

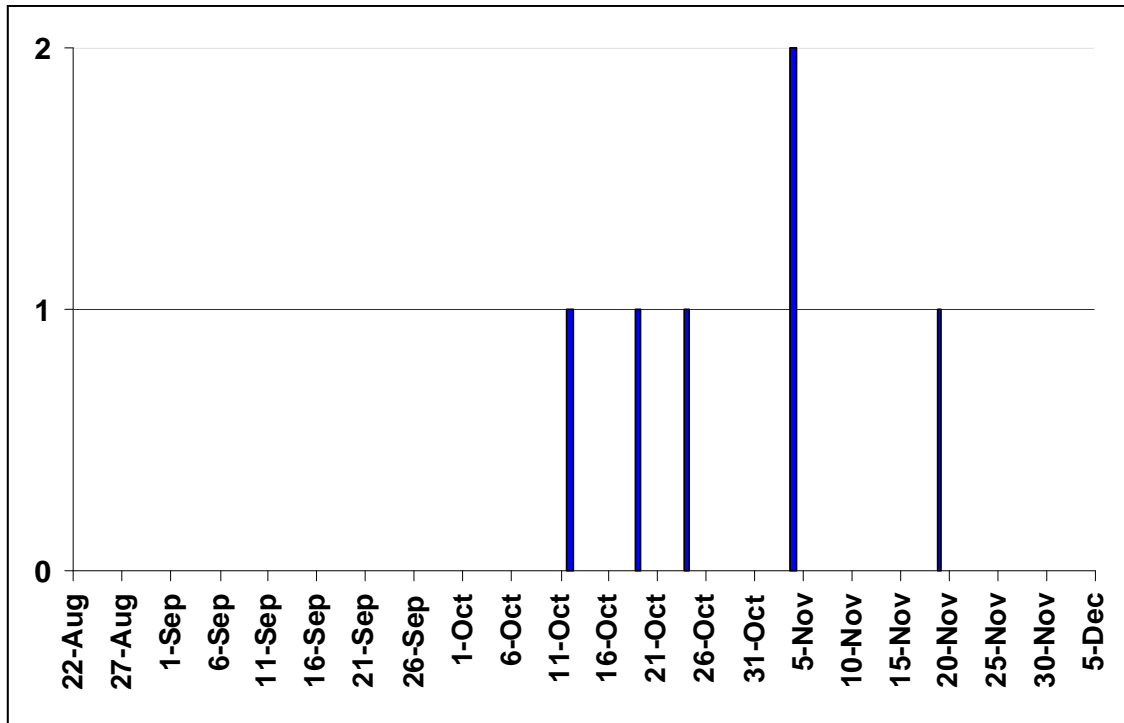
First 11 Years: 12

Second 11 Years: 15

Migration Period: 12 October – 19 November

Top 5 days:

- 2 (4 November)
- 1 (12 October)
- 1 (19 October)
- 1 (24 October)
- 1 (19 November)



Northern Goshawks were few and far between this year at Chestnut Ridge. In fact, only three years have produced fewer goshawks than this year: 1989 (4), 1992 (1), and 2002 (1). The all-time high count for this species was set in 1999 when an impressive 37 birds were registered. Likewise, it was not an impressive year for this species at Quaker Ridge with only three years of lower results since 1985, the first year in which more than 100 hours were logged at that site, and far below last year's record-setting 28 birds.

The low representation of this species at Chestnut Ridge does not allow for a good peak passage to be identified. All sightings for this species occurred between approximately mid-October and mid-November. Likewise, the six birds at Quaker Ridge all fell into a similar timeframe (10 October – 10 November). Historical Chestnut Ridge data does show an increase of three birds from the first half of the data to the last half, mostly due to a six-year stretch with good results starting in 1995 (17, 13, 17, 20, 37, 15), after which double-digits have not been broken (8, 1, 6, 6). Long-term data is not especially instructive when considering the Northern Goshawk. Many of the hawk watch locales in the northeast are situated in the southern tier of this species' winter range, therefore count data may have little to say in regard to actual population trends. In addition to the irruptive nature of goshawk flights, the fact that this species is not well-

monitored by either CBCs or BBSs does not lend itself to a highly informative analysis. It is thought that a byproduct of goshawk's short migratory distances is a fair amount of spatial structure to regional populations.

Age was recorded on 100% of the individuals this year and, not surprisingly, the majority of birds were juveniles (5/6). However, on 19 November and again the following day, 20 November, an adult male Northern Goshawk made an appearance. The bird was counted the first day and then assumed to be the same individual the subsequent day when it was seen twice before heading west. Sex was deduced by the contrasting upperparts (pale blue back and secondary coverts and blackish hands) of males versus the more uniform upperwings of females. All six birds were seen in the morning to early afternoon (9-10: 1, 10-11: 2, 11-12: 1, 1-2: 2, all times in EST). Lastly, I believe all six of the Quaker Ridge birds were juveniles, the expected age class for this region.

**Red-shouldered Hawk – ↑**

Season Total (All-time rank): 186 (3<sup>rd</sup>)

Average: 108

Birds/Season: 110

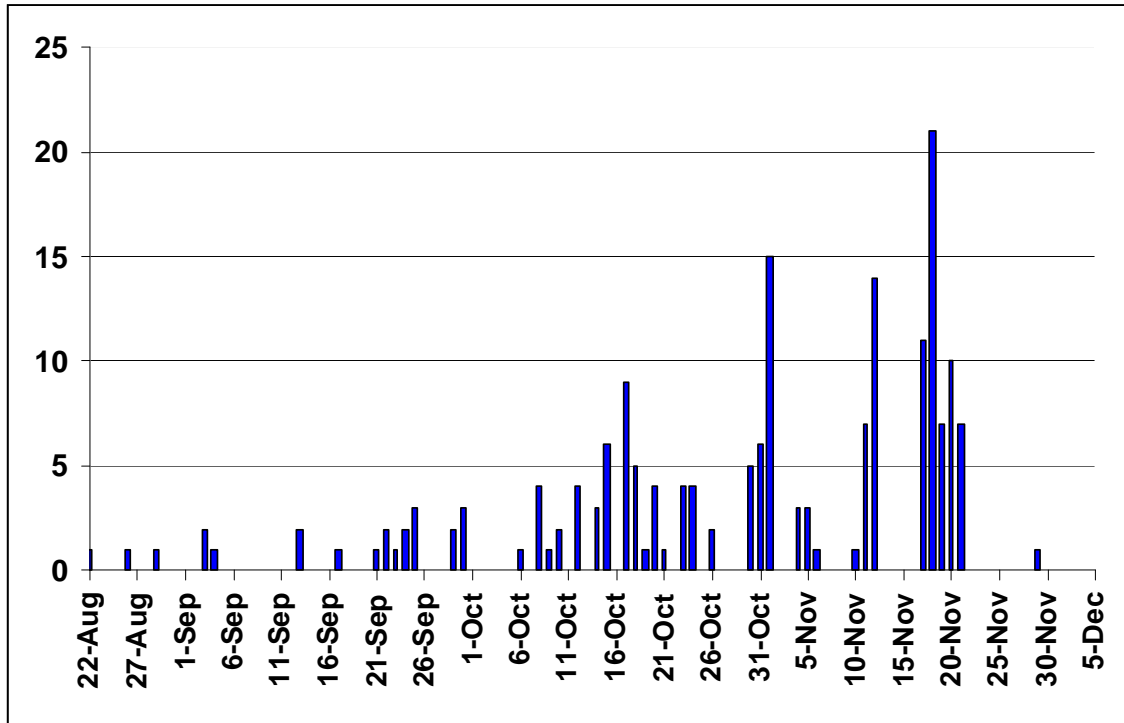
First 11 Years: 98

Second 11 Years: 128

Migration Period: 22 August – 29 November

Top 5 days:

- 21 (18 November)
- 15 (1 November)
- 14 (12 November)
- 11 (17 November)
- 10 (20 November)



Aging:	Aug	Sep	Oct	Nov	Total
Juvenile	1	9	12	10	32
Adult	0	0	17	21	38
Un-aged	2	11	33	70	116
<b>Total</b>	<b>3</b>	<b>20</b>	<b>62</b>	<b>101</b>	<b>186</b>

It was an exceptional year for this forest buteo at Chestnut Ridge, placing third all-time, behind only 1985 (188) and 1999 (203). This is mostly thanks to a five-day stretch in mid-November (17-21 November) in which 56 birds were registered, greatly bolstering what was already a decent year. This bird's abundance at Chestnut Ridge seems to fluctuate considerably from year-to-year with lows of 28 (1994), 51 (1993), and 57 (2007), for example, only a fraction of some of the more productive years. Quaker Ridge had their second-best year in count history, second only to last year's amazing 356 birds. In fact, the last five years at Quaker Ridge have all been fairly outstanding (all 200+

years), placing among the top six Red-shouldered Hawk years ever for that site.

The monthly distribution for Red-shouldered Hawks is a bit difficult to decipher. I expected the peak to fall within the last half of October, which, if you ignore November completely, looks believable. However, November held all of the top five Red-shouldered Hawk days and eight of the best nine. Indeed, there were more birds in the month of November alone than in the three preceding months combined. I suppose, then, that the peak span for Red-shouldered Hawks this year would fall somewhere in the mid-October to mid-November stretch. Despite the annual ebb and flow, historical Chestnut Ridge data illustrates an even 30 bird increase from the first half of data (98) to the most recent 11 years (128). Overall, BBS and migration count data point toward relatively stable populations in the northeast since the mid-'70s. Confirming our suspicion, the Conservation Status Report states that there is “high variability in counts of this species on migration at most watchsites, and this variation reduces the power of raptor migration counts to detect small population changes.” It is thought that, like the Northern Goshawk – another short-distance migrant – populations of Red-shouldered Hawks show considerable regional structure, which may also be a result of this species’ lesser propensity to follow leading lines in migration.

When possible, Red-shouldered Hawks were aged as either adults or juveniles. This was accomplished less often than not, with 37.6% (70/186) of birds aged. All aged Red-shouldered Hawks in August, September, and the first week and a half of October were juveniles with the first known-aged adult passing on 10 October. However, once the onset of adult birds occurred, adults outnumbered juveniles in both October and November (greater than 2:1 in November).

**Broad-winged Hawk – ↓**

Season Total (All-time rank): 9379 (10<sup>th</sup>)

Average: 8161

Birds/Season: 8268

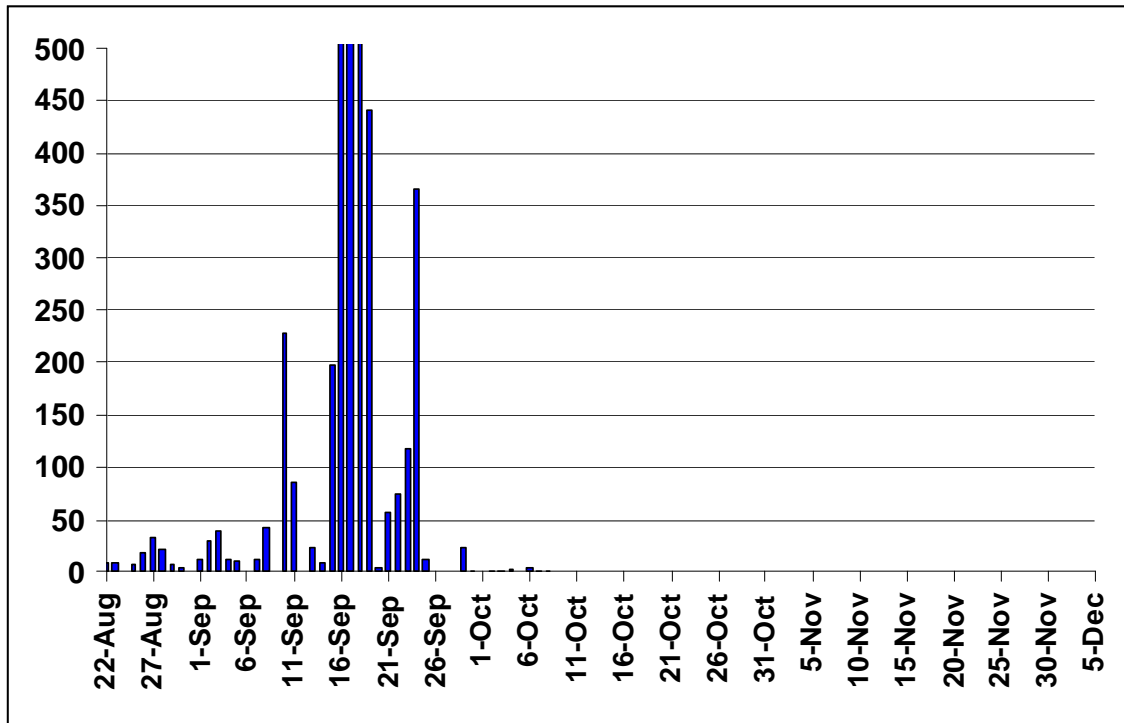
First 11 Years: 9309

Second 11 Years: 7241

Migration Period: 22 August – 8 October

Top 5 days:

5473 (18 September)  
 1332 (16 September)  
 657 (17 September)  
 441 (19 September)  
 366 (24 September)



\*The three best days, which could not be fitted to this scale, are:

16 September – 1332  
 17 September – 657  
 18 September – 5473

Although vast numbers of North America’s smallest buteo were tallied this past fall, 2008 was only a slightly above-average year for Broad-winged Hawks. That said, it was a welcome return of the impressive figures, particularly following on the heels of the two worst Broad-winged Hawk seasons in count history: 2007 (2216) and 2002 (3149). All Chestnut Ridge years, though, fall well shy of the crippling 23,069 amassed in 1986 as the distant second place year, 1987 (13,071), is nearly 10,000 birds behind. Quaker Ridge had an excellent Broad-winged Hawk turnout this year, stockpiling twice as many birds (18,706) as nearby Chestnut Ridge in their best showing in over a decade. Quaker Ridge has a number of standout Broad-winged Hawk years in their history books: 1988 (34,125), 1995 (36,630), and 1986 (39,743)

The peak Broad-winged Hawk season is certainly mid-September, between 10 September and 24 September this year and more precisely between 15 – 19 September. The days leading up to mid-September (late August and early September) consistently held low numbers of Broad-winged Hawks, however, following 24 September, the show

ended rapidly. After that date, only two days reached double-digits and a mere 47 birds were observed in total from there out. Historical Chestnut Ridge data show an obvious dip in this species abundance, with a decrease in more than 2000 birds between the first and latter half of seasonal data. This is certainly helped by 1986's 23,000+ birds, but the '80s contain all of the top four days in count history. In fact, only three years in the last 15 have broken the 10,000 plateau. Although continental counts (Veracruz, Mexico) paint a picture of a stable or increasing population of Broad-winged Hawks in North America, the species has generally declined in the northeast since the mid-'70s. Causative factors for this apparent decline could be either regional declines in the east, a change in migration geography, or a combination of the two.

The first Broad-winged Hawk "kettle" of the season, 8 September, totaled just 11 birds. After a day of foul weather, the 10<sup>th</sup> brought moderate north winds and the first obvious movement of birds. However, Chestnut Ridge's 228 was considerably short of Quaker Ridge's 988. Nothing significant happened on the Broad-winged Hawk front until late in the day on 15 September when birds appeared out of nowhere and began settling into the area at dusk. As expected, the following day, 16 September, brought a major incursion of birds to the region with 1332 tallied when all things were said and done, however 1224 of these had already passed by noon DST. On 17 September, a small but consistent number of Broad-winged Hawks trickled by throughout the day, picking up in the late afternoon, with the best hours between 15:00 – 17:00 DST. After a slow morning start the next day, 18 September, the skies broke around midday, with an awesome 5473 Broad-winged Hawks marching across the sky, the unequivocal best flight day this season (5579 raptors in total). Perhaps even more impressive was the fact that 4472 of this total was recorded within just a three hour timespan in the afternoon. Eager onlookers the following morning, 19 September, were treated to leftovers of the previous day's flight as 365 Broad-winged Hawk passed in the first hour, with only 441 for the entire day. All in all, over 8000 Broad-winged Hawks were accumulated during just five days in mid-September (15-19 September). The last noteworthy day was 24 September when kettles/streams of 94, 89, 68, and 36 cleared out much of the remaining northerly birds.

**Red-tailed Hawk – ↑**

Season Total (All-time rank): 414 (13<sup>th</sup>)

Average: 527

Birds/Season: 533

First 11 Years: 454

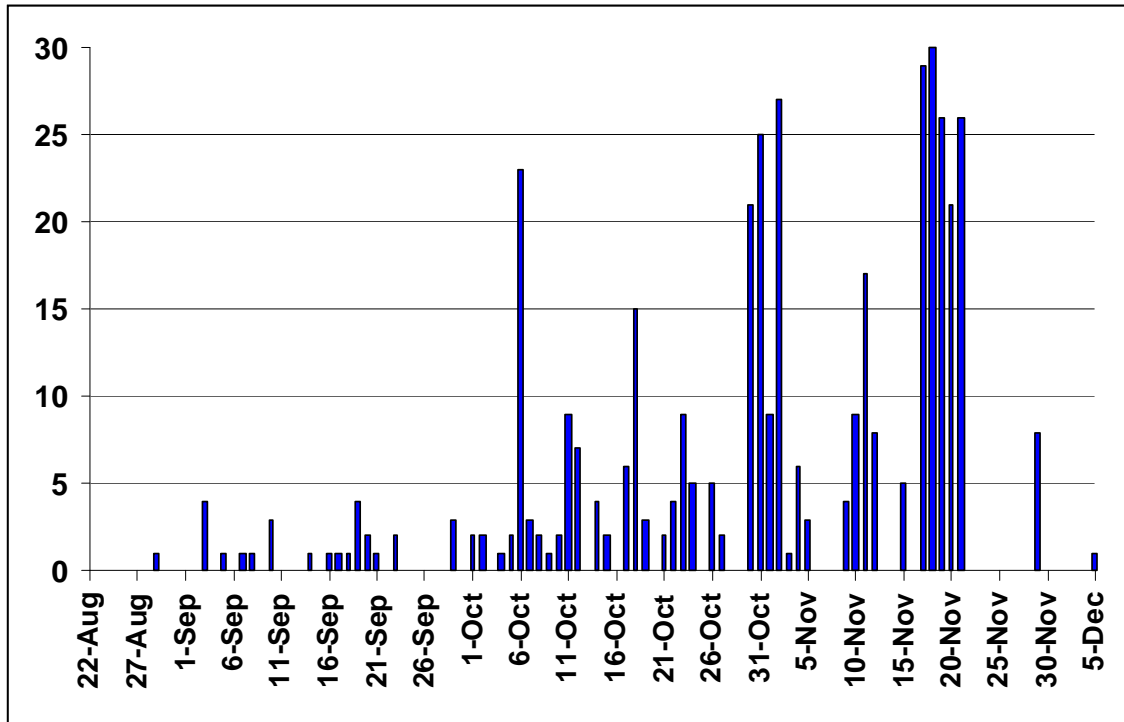
Second 11 Years: 596

Migration Period: 29 August – 5 December

Top 5 days:

30 (18 November)

29 (17 November)  
 27 (2 November)  
 26 (19 November)  
 25 (31 October)



This large, late-season buteo put in a rather dismal showing this year at Chestnut Ridge, falling well shy of an average season by any standard. If it were not for a five-day stretch in mid- to late November (132 birds; 17 – 21 November), Red-tailed Hawks would not have broken the 300 mark for what would have been the 5<sup>th</sup> worst year ever. Thus, that five day period helped to make for at least a respectable Red-tailed Hawk finish, although a far cry from the banner years of 1995 (1019) and 1999 (1255). Quaker Ridge ended with a similar final tally (384), but averages less Red-tailed Hawks in general than Chestnut Ridge. Since 1985, Quaker Ridge sees approximately 352 Red-tailed Hawks per season, about 175 birds less than Chestnut Ridge. In fact, 2008’s 384 birds are tied for the second-best total in the last 12 years at Quaker Ridge.

The peak season for Red-tailed Hawks is difficult to pinpoint by this year’s data. November had two periods of gloomy weather, as can be seen by the pair of gaps in the Red-tailed Hawk graph, with real wintry weather (and its associated fronts and winds) not truly arriving until the 17<sup>th</sup>/18<sup>th</sup> of November. This may have created this somewhat unusual abundance and distribution of Red-tailed Hawk numbers. All things considered, it looks as though the Red-tailed Hawk peak time of passage at Chestnut Ridge is from late October through mid- to late November, perhaps weighted a bit later into November than a more typical year. Historical Chestnut Ridge data show a substantial increase between the former (454) and latter (596) 11 years of count history, an increase of nearly 150 birds. The last 11 years contain each of the three best seasons, but also four of the

seven lowest seasons, including a measly 133 birds last year. Larger population trends are a bit complicated with CBCs and BBSs strongly suggesting an increase in both breeding and wintering Red-tailed Hawks in the northeast, but with migration counts indicating decreasing or stable populations. Thus, like some of the other raptors in this report, the declining counts at hawk watches may be an artifact of a change in behavior or migration geography.

Red-tailed Hawks are notoriously difficult to count at Chestnut Ridge. No other bird, including Turkey Vultures, led to so many headaches as did the Red-tailed Hawk. With local birds in the immediate area from the count's onset, it can be extremely tricky to categorize the behavior (as local or migratory) of the numerous Red-tailed Hawks that seem to be milling about. I felt as though I usually took a fairly conservative approach in counting Red-tailed Hawks, typically looking for high, migratory flight or long, westerly glides; however birds that fell outside of these categories were also counted. Some days, it seemed that an evident Red-tailed Hawk movement was occurring, but low to the horizon, so one's best (and probably biased, whether conservative or liberal) judgment simply had to be evaluated in many circumstances. Some individuals circling about high in the sky would all of a sudden bolt west, while others simply seemed to be enjoying themselves in the wind, surveying the landscape, or hunting from afar. With this taken into consideration, it is hard to know entirely how accurate a season's Red-tailed Hawk count actually is, and whether or not the annual fluctuations in this species' figures are attributable to the hawk watcher or the hawk itself. I do think that, like the two vultures, any bird should be counted if it appears to be migratory, whether this be August or November. All that is left then is the lamentable task of determining what exactly "migratory" is.

**Rough-legged Hawk – ↓**  
Season Total (All-time rank): 0 (tied 12<sup>th</sup>)  
Average: 0.86  
Birds/Season: 0.84  
First 11 Years: 0.94  
Second 11 Years: 0.67  
Migration Period: Non-applicable  
Top 5 days:

Unfortunately, not a single one of this arctic buteo graced the skies about Chestnut

Ridge this fall. This is by no means, however, a surprise non-occurrence. Ten other falls at Chestnut Ridge have come up empty-handed in the Rough-legged Hawk department, meaning that this species is seen in exactly 50% of all seasons. Of the remaining 11 seasons, seven have contained a single bird with the outstanding years being: 1993 (2), 2007 (2), 1985 (3), and 1989 (4). With three of the four multiple bird seasons taking place in the first 11 years of count data, it is no shocker that this species shows a decline in the latter 11 years, according to historical Chestnut Ridge data. Quaker Ridge data is not dissimilar. Since 1985, that site has recorded 13 seasons without a Rough-legged Hawk (including 2008), eight seasons with a single bird, and just two seasons with two birds (1986 and 2007).

Unfortunately, there was no Conservation Status Report available for the Rough-legged Hawk. However, in a ten-year timespan beginning in the mid-'90s, only two counts in the northeast showed significant changes, a significant decrease at Cape May, NJ, and a significant increase at Lighthouse Point, CT. Of the remaining five sites from the northeast, four showed non-significant decreases while only Montclair, NJ, indicated a non-significant increase.

**Golden Eagle – ↑**

Season Total (All-time rank): 5 (tied 9<sup>th</sup>)

Average: 6

Birds/Season: 6

First 11 Years: 4

Second 11 Years: 7

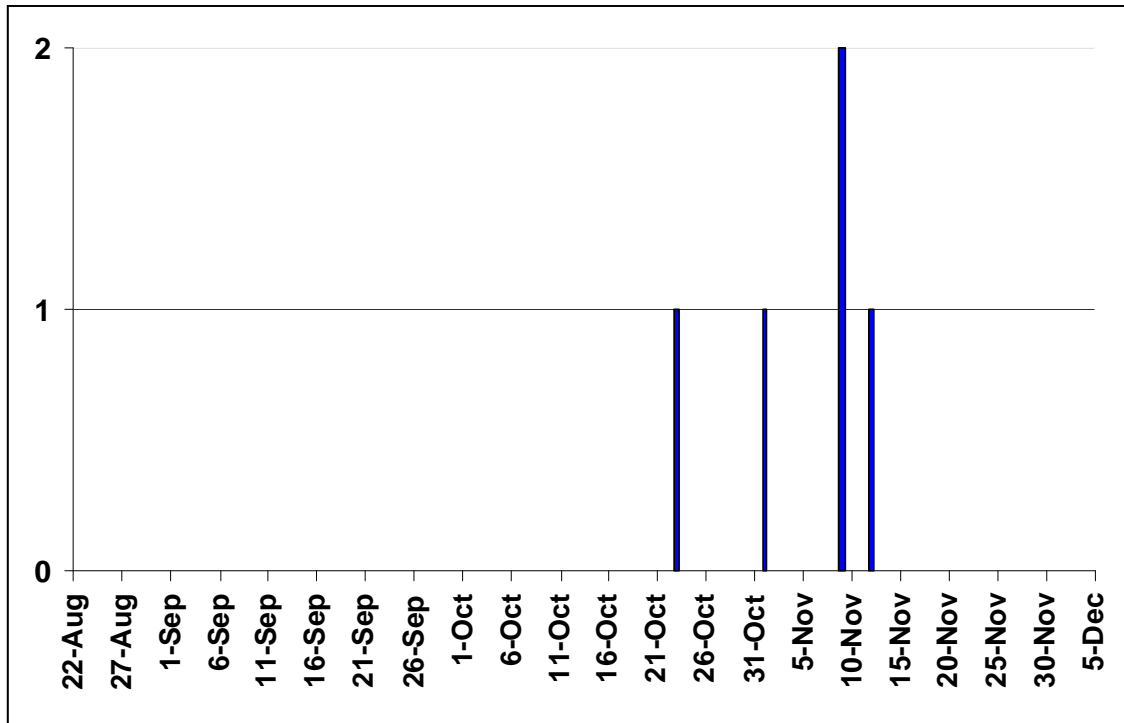
Migration Period: 23 October – 12 November

Top 4 days:

2 (9 November)

1 (23 October)

1 (1 November)  
1 (12 November)



Sadly, 2008 did not mark an exceptionally good year for Golden Eagles at Chestnut Ridge. The six eagles tallied this fall are just about average and slightly above the median of 4.5 birds. No season has ever passed without a single Golden Eagle sighting, but as many as 11 (1987), 15 (1999), and 19 (1995) birds round out the top three years in count history. Quaker Ridge fared much better this fall (14), their third-best year ever, behind only 1995 (22) and 2006 (24). Three of their five double-digit Golden Eagle seasons have occurred in the last three years.

The Golden Eagle window was relatively narrow with all six birds falling between 23 October and 12 November. The span at Quaker Ridge was slightly longer – 17 October to 19 November – with 11 of 14 eagles between 26 October and 2 November. Judging from this year's data, it certainly seems as though late October into early November is the best time to pursue Golden Eagles in the immediate vicinity. Historical Chestnut Ridge data show a jump from four to seven birds in the first 11 years of count data compared to the most recent span. Although not encompassing too many birds, seven is almost double what was expected in the '80s and early '90s. CBCs and raptor migration counts both indicate a steady increase of Golden Eagle numbers in northeastern North America, continuing through the most recent decade.

The age of Golden Eagles was ascertained if possible, however the similarity in sub-adult plumages does not allow for easy separation. All five birds were recorded as being unknown sub-adults with no adults detected, the expected age to occur at more southerly, coastal locations, to the best of my knowledge. Juveniles are best aged by their lack of a

tawny bar on their upperwing coverts, the only age class in which this characteristic is not present. In order to age the remainder of sub-adult birds, obtaining a good look at the topside pattern of the tail is often critical. Needless to say, this isn't always an effortless endeavor, particularly with distant birds seen under less than ideal conditions. Lastly, only one of the Golden Eagles appeared in the AM, with all other sightings occurring in the afternoon.

**American Kestrel – ↓**

Season Total (All-time rank): 486 (tied 14<sup>th</sup>)

Average: 610

Birds/Season: 601

First 11 Years: 636

Second 11 Years: 551

Migration Period: 22 August – 1 November

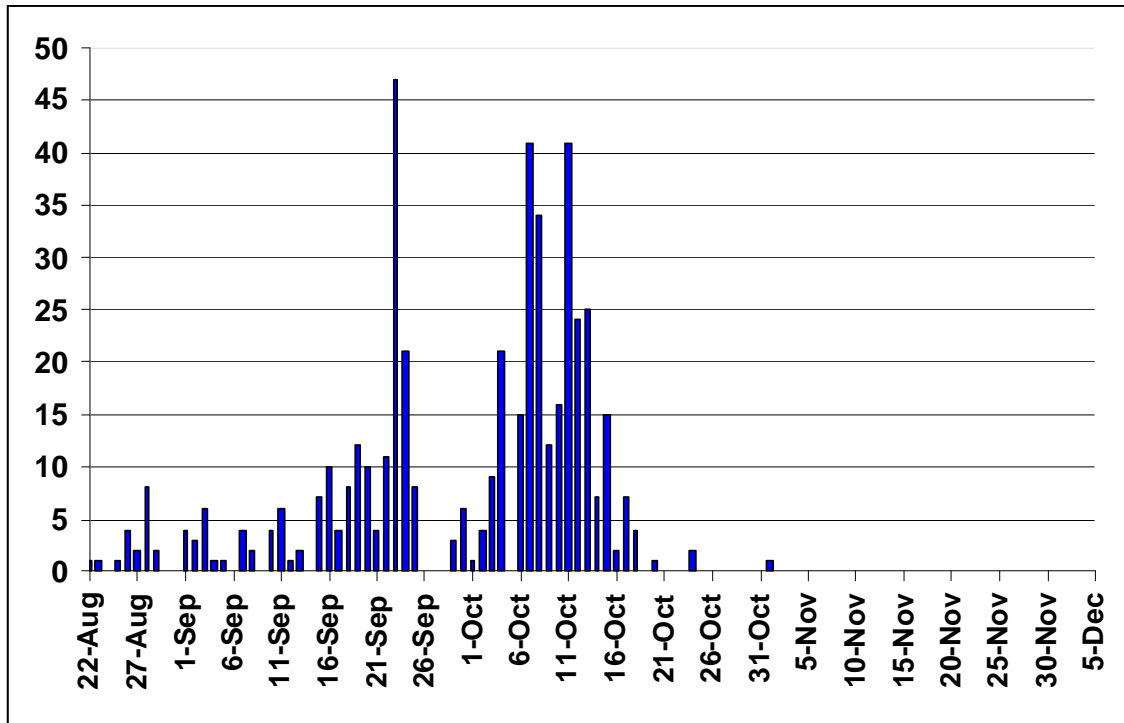
Top 5 days:

47 (23 September)

41 (7 October)

41 (11 October)

34 (8 October)  
 25 (13 October)



Sexing:	Aug	Sep	Oct	Nov	Total
Male	2	9	16	0	27
Female	6	12	12	0	30
Un-sexed	11	164	253	1	429
<b>Total</b>	<b>19</b>	<b>185</b>	<b>281</b>	<b>1</b>	<b>486</b>

In contrast to the last few seasons, 2008 was a resurgent year for American Kestrels (468) at Chestnut Ridge, with the best sum since 2000 (538). But broadening the scope to include the rest of Chestnut Ridge's records reveals that this season was nowhere near the glory days of years past: 1995 (1127) and 1989 (1329). In fact, the last three years contain three of the five worst years on record for American Kestrels at Chestnut Ridge, including the all-time low in 2007 (206). Conversely, 2008 was a step in the other direction at Quaker Ridge; following back-to-back years in the 700s, this past season's 457 seemed insignificant. While Quaker Ridge has never broken the 1000 barrier for American Kestrels, four seasons stand above the rest with final figures in the 900s: 1989 (986), 1990 (980), 1995 (969), and 1998 (923).

The American Kestrel migration this year at Chestnut Ridge seemed to be temporally

shifted later than what might typically be expected. The best single month was October (281) by a long shot, eclipsing the September total (185) by nearly 100 birds. While the best single day was in September (47; 23 September), the next five best days were all in October. So simply judging by this year's distributional graph, I would have to say that the peak passage for American Kestrels was during the first half of October, including, to a lesser extent, the latter half of September. While the approach of the peak flight seemed fairly drawn out, kestrels quickly became nonexistent afterwards. Historical Chestnut Ridge data indicate that a fairly substantial 85 bird drop has ensued since the first 11 years of count data. As the data from Chestnut Ridge would confirm, BBSs, CBCs, and raptor migration counts all show substantial population declines in the northeast since the mid-'70s, with the decline particularly large among coastal sites. This severe, widespread decline is cause for alarm and further investigation.

Adequate views of in-flight kestrels should allow for many to be sexed, however the sexing of kestrels this year proved to be mostly an effort in futility. Only 11.7% (57/486) of all birds were sexed in the field with no useful differential timing of male and female migration apparent based upon this insignificant data. When all was said and done, a nearly equal number of males (27) and females (30) were sexed. Based upon lighting, angles, and distance, I felt it more accurate to only sex birds that I felt fairly comfortable with, despite the fact that I, admittedly, could have taken a crack at more individuals than I attempted. It would be my suggestion in the future that sexing for this species be dropped due to its low success rate.

**Merlin – ↑**

Season Total (All-time rank): 72 (4<sup>th</sup>)

Average: 39

Birds/Season: 40

First 11 Years: 34

Second 11 Years: 48

Migration Period: 2 September – 31 October (outlier 16, 21 November)

Top 5 days:

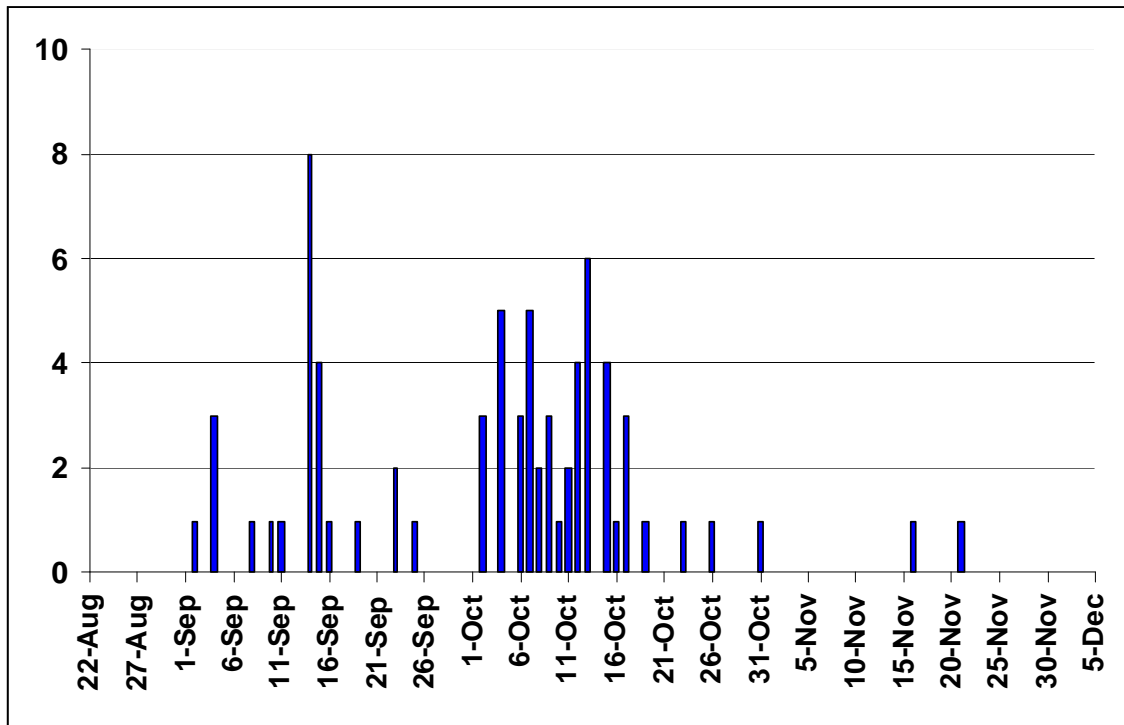
8 (14 September)

6 (13 October)

5 (4 October)

5 (7 October)

4 (3 times)



An above-average number (72) of Merlins raced by Chestnut Ridge this season, the most since the record-setting season of 1996 (86). In fact, in each of the intervening seven years, no more than 50 Merlins were reported. Aside from 1996, only 1990 (85) and 1991 (77) had a greater number of this speedy falcon whip past the lookout. This number is up conspicuously from last year's rather poor showing of a mere 19 Merlins. Quaker Ridge posted almost identical results this year (73), a major step down from last year's remarkable 124 birds. In no year has Quaker Ridge managed to get closer than 30 birds of 2007's outstanding record-breaking season.

Notwithstanding two back-to-back days in mid-September that held a healthy number of birds, the unambiguous peak passage for Merlins is the first half of October, almost perfectly mirroring that of the American Kestrel. Like kestrels, the end of the Merlin flight sharply came to a close in the middle of the month (17 October), after which very few individuals were recorded (6). Two late birds in the middle of November were noteworthy for their segregation from the rest of the Merlin pack, although Quaker Ridge did report eight Merlins in November. Historical Chestnut Ridge data suggest a 14 bird increase from the first 11 years of count data (34) to the last (48), a swell of more than 40%. The first six years of count data averaged only 18 birds a year, including two seasons with only 9 Merlins observed all fall (1984 and 1988). BBSs, CBCs, and raptor migration counts verify the trends seen at Chestnut Ridge, indicating long-term increases of Merlins throughout the northeast, with growth slowing in more recent years.

On 14 September, a surprising eight Merlins blew by the platform within an approximately three-hour span in the mid- to late afternoon. Not only was this the best

showing all season, but it was quite unexpected on a rather unimpressive day otherwise, a day that didn't contain a single kestrel, for instance. A few weeks later, on 7 October, Tait Johansson and I were witness to a Merlin tearing off feathers of a captured bird while on the wing. All in all, with their infrequency, speed, power, bad-attitude, and no-nonsense behavior, sightings of Merlins often put the exclamation point on a day at the watch. Training an eye on the southern horizon helped to add many a kestrel or Merlin to the day's tally. On numerous occasions, a late day flight of Sharp-shinned Hawks and small falcons would develop low over the horizon somewhere far off to the south. These flights began to become an almost expected occurrence, but were special whenever they occurred. An example would be 23 September's 43 small falcons in the final two hours of the count (16:00 – 18:00 DST), of the day's 51 total small falcons.

**Peregrine Falcon – ↑**

Season Total (All-time rank): 33 (1<sup>st</sup>)

Average: 14

Birds/Season: 15

First 11 Years: 14

Second 11 Years: 16

Migration Period: 5 September – 15 October (outlier 29 November)

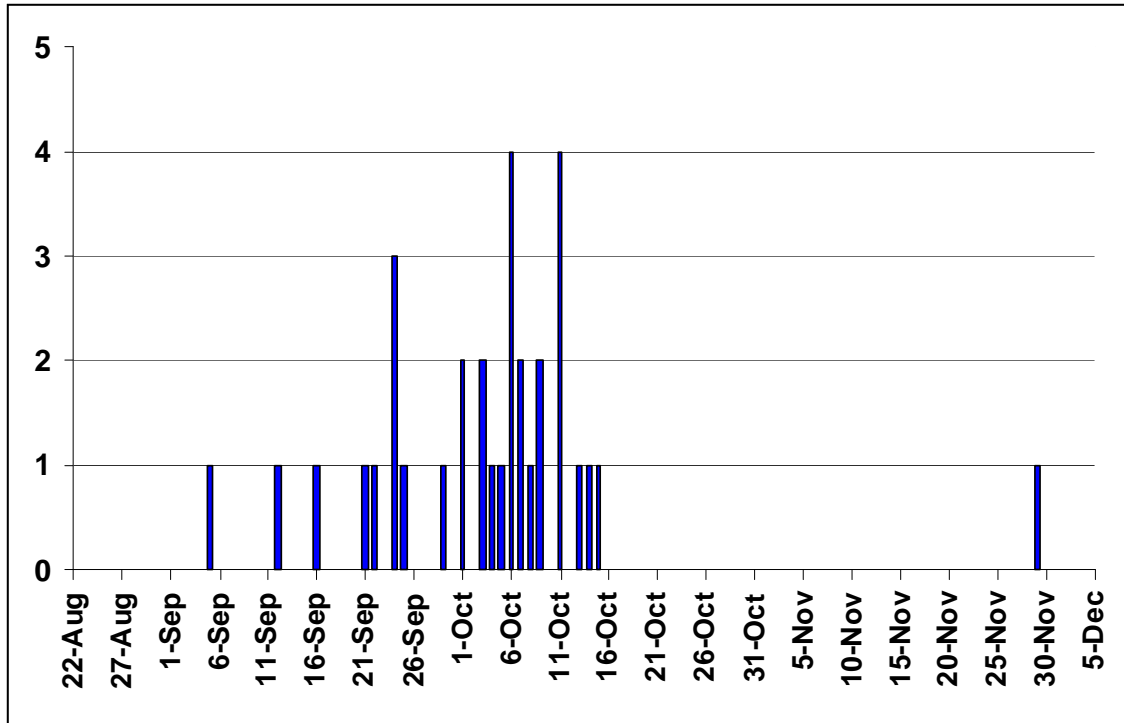
Top 5 days:

4 (6 October)

4 (11 October)

3 (24 September)

2 (4 times)



Aging:	Sep	Oct	Nov	Total
Juvenile	0	2	0	2
Adult	6	11	0	17
Un-aged	4	9	1	14
<b>Total</b>	<b>10</b>	<b>22</b>	<b>1</b>	<b>33</b>

Peregrine Falcons hauled past Chestnut Ridge this year in greater numbers than any previous year, and more than two times above their average. Like the Bald Eagle and Cooper's Hawk, it is a bit perplexing why the previous record was so antiquated (29; 1990). As with the Merlin, Quaker Ridge reeled in almost exactly the same number of peregrines this year (29), exactly half as many as were registered in last season's record-setting performance (58). Equally puzzling, prior to 2007, Quaker Ridge's top year was also 1990, in which 39 individuals were tallied, what must have been an above-average year for this fierce predator.

The peak time for peregrines at Chestnut Ridge was from the end of September through the middle of October. Interestingly, in 2008 all three falcons peaked at essentially the same time, the first half of October. I believe the usual sequence typically proceeds according to size, with kestrels peaking slightly before Merlins, and the bulk of the Merlins preceding the main push of peregrines, at least according to data from falcon-

rich Cape May, NJ. With more data over the next few years at Chestnut Ridge, the nature of the falcon flights should become more obvious. [Check out the newly improved site profile available at: <<https://www.hawkcount.org/siteinfo.php?rsite=534>> to see how this will become apparent.] Historical Chestnut Ridge data suggest only a fairly slight two bird increase from the first 11 years of count data (14) compared to the last 11 years (16), perhaps a smaller change than might have been expected. However, raptor migration counts have indicated a recent stabilization (since 1995) in Peregrine Falcon populations, this after a substantial increase in previous decades as delineated by CBCs and raptor migration counts.

Aging was accomplished more often than not for Peregrine Falcons with a success rate of 58% (19/33). By and large, the overwhelming majority of aged peregrines at Chestnut Ridge were adults (89%; 17/19). Perhaps this suggests that a greater percentage of adults may migrate further inland than coastally preferring juveniles or, alternatively, that adults are easier to age than juveniles. The first indisputable juvenile was not aged until 8 October, at which point 13 adults had already passed (the next juvenile was noted 15 October). Exactly what this says about differences in ages is hard to determine based upon such a small sample size of juveniles (2). On a different front, I was puzzled to discover that in two different years, Peregrine Falcons outpaced Merlins at Chestnut Ridge: 1988 (13:9) and 1993 (21:19). 2008 marked the first such year in Cape May history in which this occurred over the course of the entire season (1409: 1263).

### **Unidentified Raptors**

**Unidentified Accipiter – 85**

**Unidentified Buteo – 35**

**Unidentified Falcon – 20**

**Unidentified Raptor – 89**

**Total = 229**

Tait Johansson and I discussed at great length the different philosophies in regard to labeling unidentified raptors. Essentially, it all comes down to the preference of the individual hawk watcher, in addition to the overarching count philosophy, if such exists (for example, Cape May, NJ, almost never places birds into the aforementioned categories). If a counter has a high level of individual confidence and/or a low threshold

for uncertainty, then a relatively small proportion of birds are likely to be left unidentified. I felt as though I took a fairly conservative approach, however I admittedly could have left a greater number of birds unidentified as well. Long-term data on unidentified raptors at Chestnut Ridge is incomplete; data exists for at least the last seven years but beyond that the picture is blurry. Perhaps earlier hawk watchers considered unidentified raptors to be an insignificant section of the year-in-review, I can't say. Combing back over previous hawk watch reports may help to fill in the gaps. It certainly seems apparent that some hawk watchers categorically steered clear of unidentified raptors during their tenure (seemingly 1984, 1989, 1990, and 1995). On the other hand, as many as 413 birds found themselves eluding identification in 2000.

Top 15 Eastern Hawk Watches  
 Mid-Atlantic Region  
 (By Overall Total)

Site	Most Populous Species	Total
Quaker Ridge, CT	BWHA (18,706)	26,203
Cape May, NJ	SSHA (10,931)	25,761
Waggoner's Gap, PA	BWHA (7,205)	20,093
Kiptopeke, VA	SSHA (6,625)	17,414
<b>Chestnut Ridge, NY</b>	<b>BWHA (9,379)</b>	<b>16,914</b>
Rockfish Gap, VA	BWHA (14,439)	16,279
Scott's Mountain, NJ	BWHA (11,976)	15,803
Caesars Head, SC	BWHA (12,044)	14,289
Montclair, NJ	BWHA (7,543)	13,124
Cape Henlopen, DE	SSHA (4,114)	12,323
Mount Peter, NY	BWHA (10,549)	12,302
Hawk Mountain, PA	BWHA (4,289)	12,219
Buckingham, PA	BWHA (11,230)	11,445
Lighthouse Point, CT	SSHA (4,229)	11,386
Militia Hill, PA	BWHA (8,504)	10,763

\*This does not take into account sites located around the Great Lakes

\*\*It should also be noted that I compiled this list and may have omitted relevant sites.

Chestnut Ridge vs. Quaker Ridge:  
A Comparison

**Chestnut Ridge**

Official Counters: Cameron Rutt, Tait Johansson, Allen Kurtz, Bill Miller, Ken Mirman, Arthur Green

Observers: Tait Johansson, Tom Myers, Tony Wilkinson, Regina Rutt, Robert Rutt, Allen Kurtz, John Hannan, Ryan MacLean, Charlie Roberto, Arthur Green, Cameron Rutt, Doug Futuyma, Don Morgan, Mike Warner, Walter Fowler, Bill Miller, Brian Bury, Ramsay Koury, Gail Benson, Tom Burke, Steve Beal, Steve Walter, Nannette Orr

Total observers/counters: **24**

August:  $14/8 = 1.75$

September:  $52/25 = 2.08$

October:  $65/29 = 2.24$

November:  $39/21 = 1.86$

December:  $2/1 = 2.00$

Total:  $172/84 = \mathbf{2.05}$

Days with only a single official counter (no observers): **29**

**Quaker Ridge**

Official Counters: Brian Bielfelt, Cynthia Ehlinger, Joe Zeranski, Ted Gilman, Mike Warner, Steve Beal, Mike Reese, Meredith Sampson, Frank Guida, Matt Popp, Al Collins, Karen Dixon, Ken Mirman

Observers: Ben Van Doren, Mike Warner, Don Morgan, Shaun Martin, Steve Beal,

Maria Kaprielian, Joe Zeranski, Ryan MacLean, Hugh Martin, Bill Wallace, Liam Hegarty, Allison O'Toole, Brian O'Toole, Tom Burke, Gail Benson, Ted Gilman, Al Collins, Frank Guida, Matt Popp, Stefan Martin, Annelise O'Toole, Libby Ross, John Hannan, Tim Guida, Cynthia Ehlinger, Meredith Sampson, Simone DaRoss, Stella Miller, Tom Baptist, Pete Gustas, Orlando Hidalgo, Coritha Wilson, Coralita Wilson, Ken Mirman, Marty Barris, Doug Bloom, Phil Henson, Jeff Wilson, Mike Reese, Jim Voros, Carl Howard, Jim MacLean, Karen Dixon, Brian Bielfelt

Total observers/counters: **44** (overlap between two sites = 8 individuals)

August:  $38/12 = 3.17$

September:  $169/26 = 6.5$

October:  $182/30 = 6.07$

November:  $79/19 = 4.16$

Total:  $468/87 = \mathbf{5.38}$

Days with only a single official counter (no observers): **5**

With Chestnut Ridge and Quaker Ridge, Connecticut, situated approximately 5.5 miles from one another in a north – south line, it is often unavoidable to make comparisons between the two sites. As depicted above, Quaker Ridge receives significantly more coverage with more eyes glassing the sky on the average day throughout the season (5.38 qualified observers as compared to only 2.05 at Chestnut Ridge, >60% decrease in coverage). In addition, Quaker Ridge is located further south and thus closer to the coast than Chestnut Ridge, likely affecting the makeup of the hawk flight. However, Chestnut Ridge has the distinct advantage of being a real outlook, as the platform is situated atop an east-facing ridge, which allows for an excellent north to south panorama overlooking the treetops. On the other hand, Quaker Ridge has to fend with surrounding foliage in order to pick up on the raptor migration from their more grounded vista. Therefore, an analysis of the structure of the hawk flight between these two locations is instructive in teasing out these differences.

Overall, Quaker Ridge amassed a much higher total (26,203) compared to Chestnut Ridge (16,914), for a difference of approximately 9300 birds. Most of this difference is attributable to a single day's effort (18 September) when Quaker Ridge outscored Chestnut Ridge in Broad-winged Hawks by a final tally of 13,025 to 5473, a discrepancy of 7,552 birds. If we completely remove Broad-winged Hawks from the equation, the final figures are much more similar. Without both site's most populous species, Chestnut Ridge (7535) barely edges out Quaker Ridge (7497), two remarkably comparable totals. Aside from Broad-winged Hawks, the two other major players are Turkey Vultures and Sharp-shinned Hawks. Chestnut Ridge logged over 1000 more Turkey Vultures than Quaker Ridge, with the largest proportional difference coming in the month of November (669 vs. 111). Conversely, Quaker Ridge outstripped Chestnut Ridge in Sharp-shinned Hawks by over 700 birds, with most of that damage done in the month of September (+535), although Quaker Ridge led Chestnut Ridge in Sharp-shinned Hawks every month of the season. A further look at the species-by-species differences between the two sites follows a table comparing the number of days each site "beat out" the other over the

course of the season:

	Aug	Sep	Oct	Nov	Total
Chestnut Ridge	7	12	21	12	52
Quaker Ridge	1	13	7	4	25

In addition to Turkey Vultures, Black Vultures migrated more abundantly at Chestnut Ridge at a greater than 2:1 ratio. Ospreys showed a coastal preference with nearly 200 more of this raptor being sighted at Quaker Ridge than Chestnut Ridge. That difference was primarily made up during the month of September when 208 more Ospreys flew past Quaker Ridge. Interestingly, Chestnut Ridge's October Osprey total nipped that of Quaker Ridge's (174 vs. 142) with the other months having similar totals between the two sites. Bald Eagles showed a decided preference for Quaker Ridge with nearly 50 additional eagles at that site, just shy of 50% of Chestnut Ridge's Bald Eagle total. Oddly, though, November Bald Eagles at Chestnut Ridge outnumbered those at Quaker Ridge, 24:9. Northern Harrier numbers were largely similar between the sites (approximately 10% more were seen at Quaker Ridge than Chestnut Ridge), with fortunes switching for this species in September (Quaker Ridge predominating) and October (Chestnut Ridge prevailing). Quaker Ridge Cooper's Hawks surpassed those at Chestnut Ridge in every month of the season, however the overall numbers were within 10% of one another and distinctly more similar than its smaller cousin, the Sharp-shinned Hawk. Northern Goshawks were detected in exactly equal numbers (6) between the two locations.

Red-shouldered Hawk totals would have been comparable had it not been for a day (2 November) when Quaker Ridge recorded 91 birds against Chestnut Ridge's zero. What accounted for this mind-boggling difference that day is hard to say. This huge incongruity explains almost all of the seasonal 98 bird difference. As was already mentioned, Broad-winged Hawks, the bread-and-butter of most non-coastal northeast hawk watches, played the leading role in the nearly 10,000 bird seasonal disparity. However, up until the first major flight of the year (10 September), Chestnut Ridge's Broad-winged Hawk total was more than doubling that of Quaker Ridge (268 vs. 130). Similarly, after the last major push (19 September), Broad-winged Hawks dominated Chestnut Ridge's skies in late September (654 vs. 294). Red-tailed Hawk numbers were within 10% of each other and no Rough-legged Hawks were seen at either location. Almost three times more Golden Eagles were glimpsed at Quaker Ridge with a good chunk of that coming on 30 October, a day where Quaker Ridge had a half-dozen (all sighted to that site's south) compared to Chestnut Ridge's nil. Falcon numbers were almost identical across the board, interesting for a family that is typically considered to be a more abundant coastal migrant. Even more interesting is the fact that all three species predominated at Quaker Ridge in September and then Chestnut Ridge in October.

All in all, September really seems to be the month when Quaker Ridge shines. In all but three species (Turkey Vulture, Red-shouldered Hawk, and barely Red-tailed Hawk) did Quaker Ridge's September totals outdo Chestnut Ridge's. That said, Quaker Ridge also managed a few outstanding days in October where Chestnut Ridge simply could not

compete: 6 October (588 vs. 360); 15 October (414 vs. 138); 19 October (262 vs. 71). In each of these days, Turkey Vultures, Sharp-shinned Hawks, and Cooper's Hawks were all more abundant at Quaker Ridge, at times drastically so (Chestnut Ridge totals in parentheses):

	Turkey Vulture	Sharp-shinned Hawk	Cooper's Hawk
6 October	129 (111)	274 (118)	88 (50)
15 October	192 (35)	107 (35)	55 (19)
19 October	76 (49)	117 (10)	10 (4)

It seems that when Quaker Ridge is good, it can be vastly better than Chestnut Ridge, which consistently puts up better numbers on poor or mediocre days. Each of the aforementioned October days contained winds from the N to NE, winds typically associated with a good hawk flight and, perhaps, forcing birds to fly a bit more coastally. Instead of continually trying to determine which hawk watch site is better in some sort of unscientific competition, perhaps it would be more telling in the future to combine the data from these two sites to better analyze trends, a bit less divisive and perhaps more instructive. Doing this over the past couple of decades would certainly start to reveal a more well-rounded perspective on the hawk migration through southeastern New York and southwestern Connecticut. This year alone, the combined totals for Chestnut and Quaker Ridge include 1200+ logged observation hours, more than 28,000 Broad-winged Hawks, and over 43,000 total raptors! Of course, the differences between the two sites are intriguing and should undoubtedly not be wholly ignored, as they help to expose local, small-scale divergences in hawk migration.

## Non-Raptor Highlights

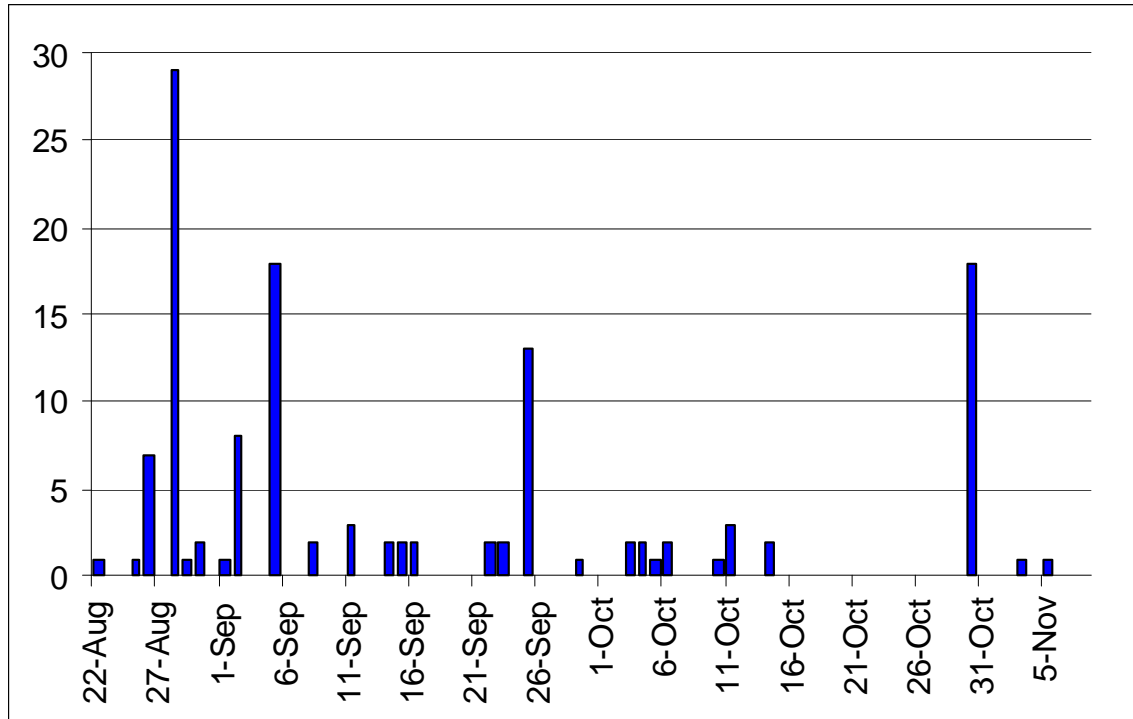
### **Red-throated Loon (1)**

A single flyover Red-throated Loon on 17 October was certainly one of the non-raptor highlights for the season. While not all flyover loons allowed for specific identification, and were thus classified as loon species, this obliging individual was seen in flight immediately next to a Common Loon, simplifying the identification process. Other Red-throated Loons may be included among the remaining 88 loon species; however this was the only one to be definitively identified.

### **Loon sp. (88)**

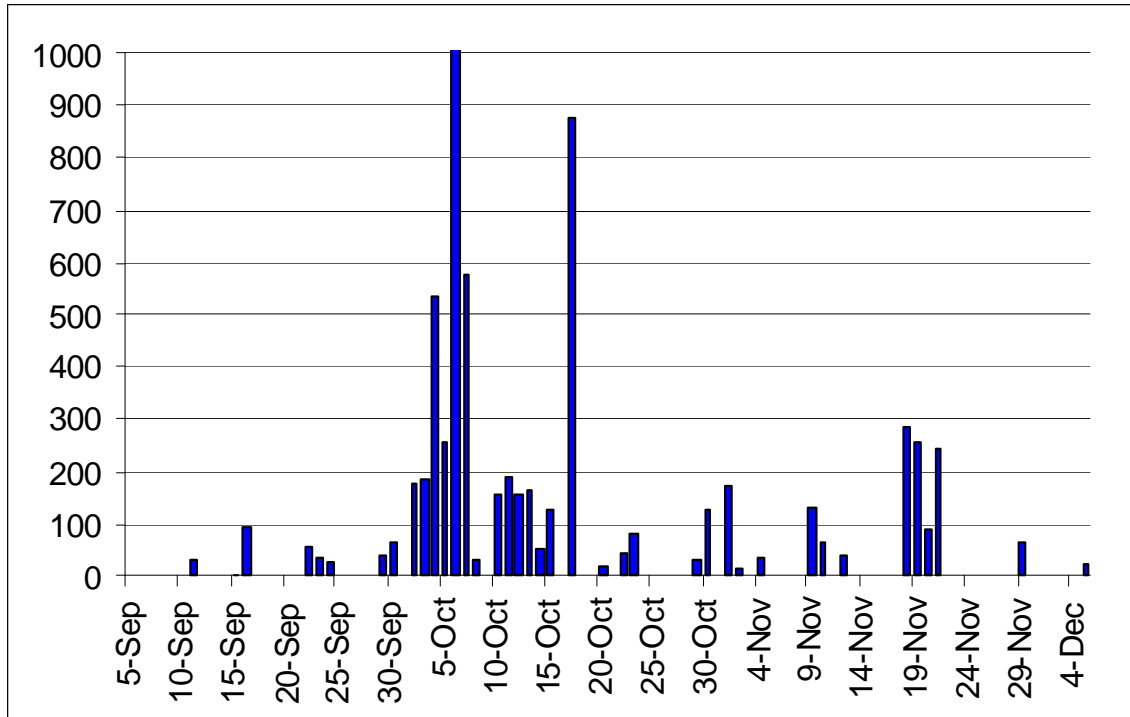
The first loon was detected on 19 September with only nine more being tallied through 14 October. After that point in time, loons became a more regular occurrence with the last loons being two on 19 November. Thus, their migration window at Chestnut Ridge appears to be primarily the latter half of October through November. The high count was 20 birds on 30 October. Altogether, loons were recorded on 21 different count days.

### **Double-crested Cormorant (130)**



Double-crested Cormorant distribution is a bit hard to put a finger on. This species seemed most abundant and consistent from the end of August into early September, but remained regular up until mid-October, after which it became considerably less common. High counts include 29 on 28 August, 18 on 5 September, and again 18 on 30 October.

**Canada Goose (9823+; 390+ flocks)**



\*The best day, 6 October (4270+), could not be fitted to this scale

The Canada Goose put in a memorable showing on 6 October when more than 4270 individuals were counted/estimated in somewhere between 150 and 200 flocks. No day before or after that date remotely approached that figure. In fact, no other day throughout the season even broke four-figures. Clearly the peak passage for Canada Geese at Chestnut Ridge is during the first half of October. Lastly, of note was a single goose among a nearby flyby flock which sported a yellow neck collar.

### **Brant (772; 13 flocks)**

Brant were recorded on only six different count days this season, with five of the six days occurring during the latter half of October into the very beginning of November (the other occurrence was on 15 November). Far and away the best day was 22 October, when 402 Brant were registered, including flocks of 110 and 200 birds. That same day, flocks that were very distant, but probably represented Brant comprised an additional 154 individuals in 4 flocks. The other most significant single flock of the season encompassed 125 birds on 15 October.

### **Snow Goose (933)**

Like Brant, Snow Geese were reported on six different count days. Four of the sightings were clustered around mid-November, with the other two falling on 6 October (38) and 24 October (1). The largest single flock was made up of approximately 300 birds, part of the 446 birds counted that day, the best single day of the year (19 November).

### **Mid-sized shorebird sp.**

At 9:39 DST on 25 August, a flock of approximately 50 mid-sized shorebirds were

observed in a swift southbound flock. The distance precluded identification but possibilities include something of the nature of Black-bellied Plover or Red Knot. My field notes from the sighting indicate that the birds, appearing to have long, pointed wings and a somewhat thick body, presented a hurried impression with quick, continuous wingbeats. The flock was noted to be ever changing, adopting both line and v-formations with individual birds often changing positions. Whatever the identity, it was certainly an intriguing late August sighting.

### **Iceland Gull (1)**

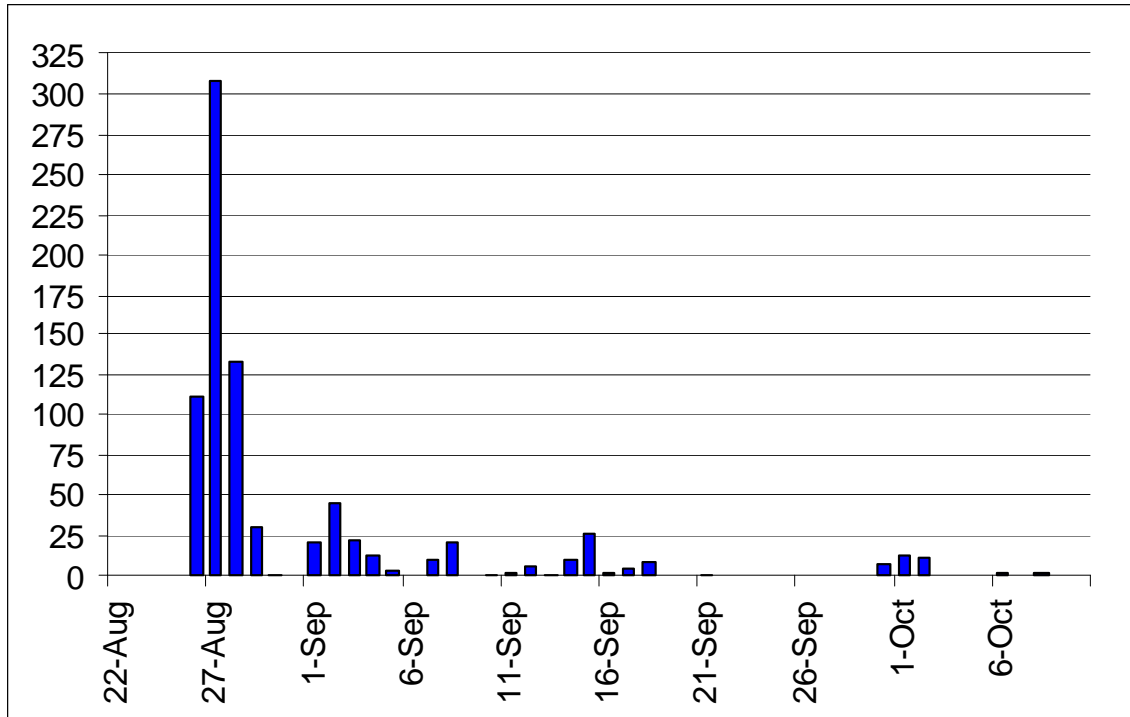
Perhaps the single most unexpected sighting this fall at Chestnut Ridge was a lone Iceland Gull on 23 October. The bird, a sub-adult (and looking to be a first-cycle bird, which could certainly not be concluded at that distance), was mixed into a flock of Herring Gulls at approximately 10:25 DST. The larid flock was seen heading west, stopping to soar for a bit, before continuing on their way. It seems likely that this not only is the first record of Iceland Gull ever at Chestnut Ridge, but for all of Butler Sanctuary as well. As if the entire encounter wasn't unique already, but the bird was also on the early side of arrival as far as Iceland Gulls go.

### **Common Nighthawk (136)**

Common Nighthawks were recorded on just six different days in late August and the first half of September, with the peak count being 51 on 25 August. Likely more would have been seen had the count day continued later into the afternoon/early evening during late August and the beginning of September. On 3 September, among the 17 Common Nighthawks that were tallied that day were two that were observed circling overhead at 11:02 DST.

### **Chimney Swift (820)**

The movement of Chimney Swifts at Chestnut Ridge was a bit unexpected. There were very few swifts seen over much of the season, despite the fact that swifts were observed from late August through early October. However, on three straight days in late August, a major swift exodus was witnessed at Chestnut Ridge: 26 August (111), 27 August (308), and 28 August (134). These three days comprised almost 70% of all the Chimney Swifts that were recorded this fall. On 27 August, it was noted that swift passage seemed to pick up late in the day, a trend that I believe was true for both of the days preceding and following that date.



\*Chimney Swift graph, continued from discussion on previous page.

### **Yellow-bellied Sapsucker (11 flybys)**

Flyby Yellow-bellied Sapsuckers were noted at Chestnut Ridge. Although only 11 birds were counted, it seemed to nicely outline their migration window. Sapsuckers were seen on nine days of a 25 day stretch from the end of September to late October. The best day was 5 October when 3, presumably different, Yellow-bellied Sapsuckers were noted. A couple of sapsuckers were also reported in November; however I don't think either of these birds were in "migratory" flight, instead foraging in the woodlands that surround the platform.

### **Blue Jay (511)**

It was a pretty pitiful year for Blue Jay migration in the immediate area. While many other sites in the region seemed to be reporting plentiful Blue Jay migration, it was anything but obvious at Chestnut Ridge. Despite a concerted effort made to count migrating Blue Jays, very few could be produced (and few sizable flocks). Migrant Blue Jays were recorded from 22 September until 14 October (at which point I think I quit due to the paltry returns). The most noteworthy day was 6 October when 107 birds were summed.

### **Crow sp. (520)**

I picked up on crow migration rather late in the season, likely missing a good deal of crows up to that point. The first day that I made an official count was on 27 October with migrating crows continuing steadily through 21 November. Crows can be a bit challenging to count due to the fact that not all birds appear to be moving the "right" direction. Readily, though, dispersed flocks can be seen moving west fairly low over the treetops to the south of the platform. While almost all (all?) of these birds were

American Crows, since audios were largely impossible to pick up on, I felt it safer to leave them in the crow species camp. The best single day effort this season was 109 birds on 1 November. This would definitely be a bird to keep better track of in the future.

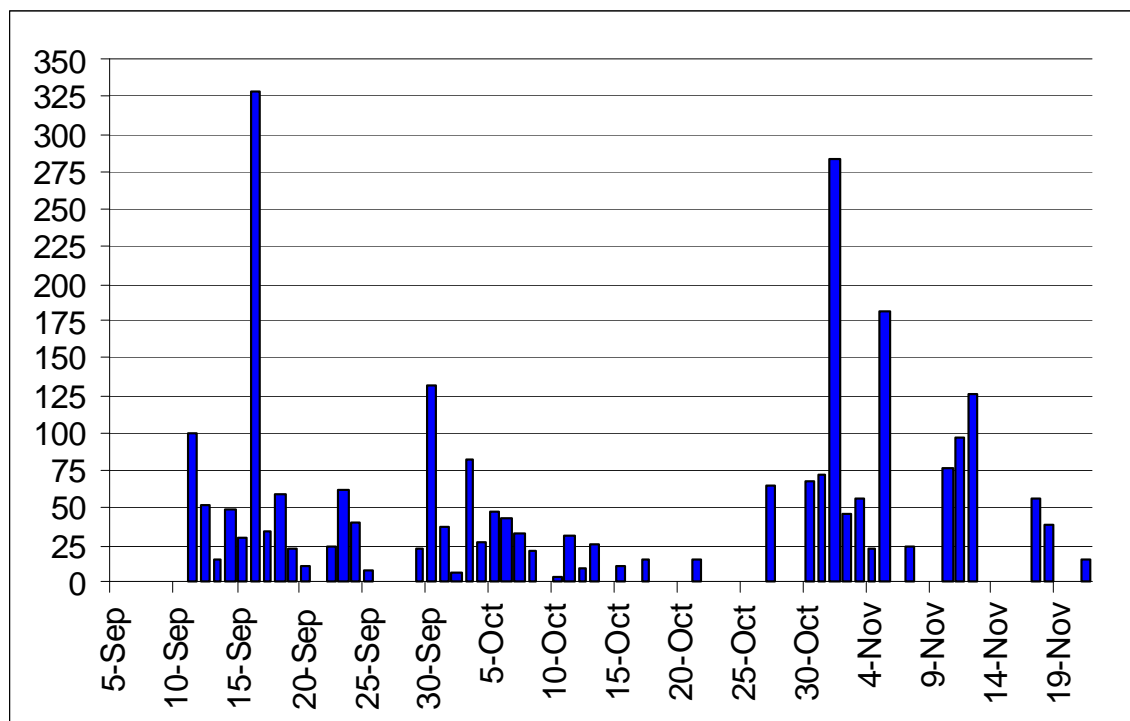
### Red-breasted Nuthatch (3)

Unlike the preceding fall, 2008 did not have a major push of Red-breasted Nuthatches throughout the region. Only three birds were noted all season (18 September, 13 October, and 23 October).

### American Pipit (42)

If not for the close proximity to the noisy highway below, more American Pipits certainly would have been noticed. American Pipits were reported on just seven days this fall, in a month stretch between 17 October and 18 November. The only days in double-digits were at the turn of the month, when 12 were logged on 31 October followed by 22 the subsequent day.

### Cedar Waxwing (2629)



An impressive number of Cedar Waxwings were amassed over the course of the three month timespan. Some were certainly overlooked at the onset of the season as I didn't begin counting waxwings until 11 September. The overall distribution looks to be bimodal, with a September into early October peak followed by a separate peak in the first half of November. The top two days fall into each respective peak: 16 September (329) and 1 November (283). It is fortunate for observers at Chestnut Ridge that tight flocks of this species are readily identifiable at some distance (without auditory assistance), something that is not always as simple with finches, for instance.

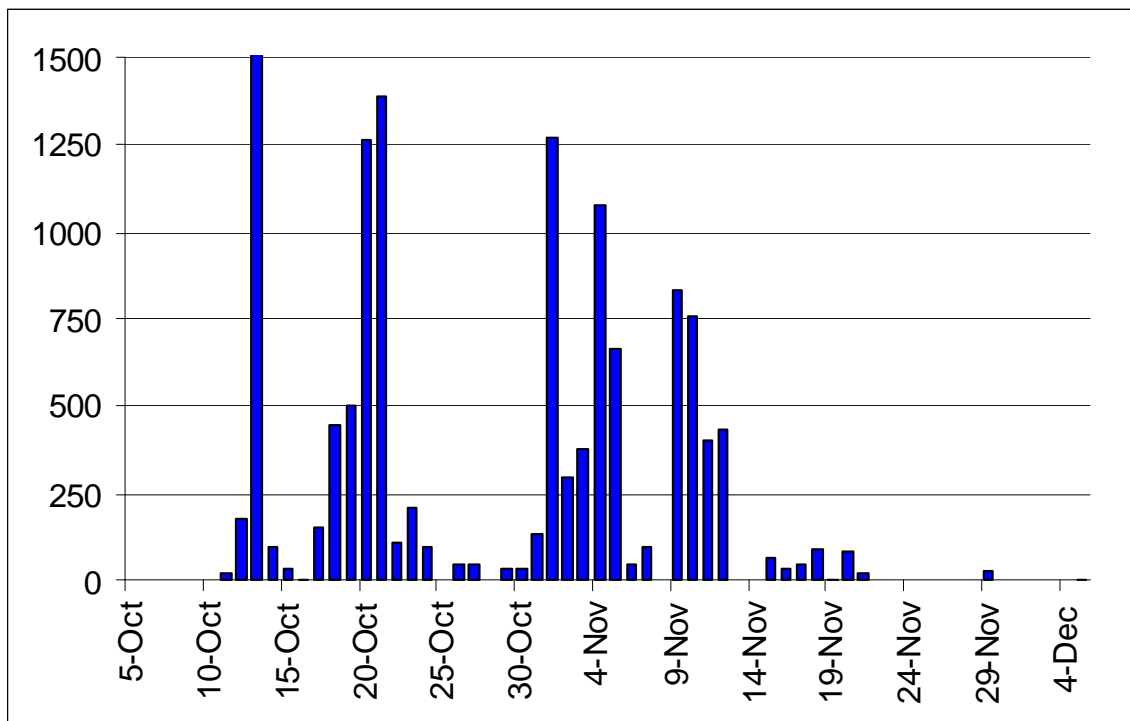
### Purple Finch (71)

As with American Pipits, the auditory problem that the highway presents severely stunts the number of Purple Finches that can be located. For passerines, like the Purple Finch, that usually give themselves away by their flight calls, the background noise makes it very challenging to differentiate anything but the closest of flyovers. Excuses aside, Purple Finches were noted from 7 October until 20 November with most sightings bunched up around late October into early November. The best single day tally was an even dozen that was had on 30 October.

### White-winged Crossbill (35-36)

There has been a fairly major White-winged Crossbill event this fall/winter in the region and the Chestnut Ridge Hawk Watch proved no exception. After regional hawk watches had begun to report flocks of White-winged Crossbills in November, a single White-winged Crossbill, heard calling as it flew over at ~10:30 EST on 12 November, followed right on the heels of sightings from New York City and Quaker Ridge. A few days later, on 17 November, approximately 20 individuals in a single, calling flock whizzed overhead at 12:50 EST. As if that wasn't good enough, yet another batch of 14-15 birds obliged onlookers the next day, 18 November. This last flock provided excellent, eye-level looks at 13:55 EST, showing off their bold white wing-bars in flight. It seemed that the White-winged Crossbill flight was just arriving in the region come mid-November so one can only wonder what subsequent days/weeks would have turned up. For instance, further down the line, Montclair, NJ, turned up their first crossbills of the fall on 20 November (36), only to be followed days of 20 and 15 birds.

### Pine Siskin (13,946+; 601+ flocks)



\*The best day, 13 October (2524), could not be fitted to this scale

The finch that I'll associate with Chestnut Ridge in 2008 is without a doubt, Pine Siskin. Nothing short of a tremendous flight took place this year in the northeast with astronomical figures associated with this incredible surge. Chestnut Ridge, alongside Lighthouse Point, Connecticut, played a leading role in quantifying this perhaps unprecedented invasion. Greg Hanisek, someone who has spent years fascinated by the passerine flight at Lighthouse Point, hasn't seen anything like this in his 16-year tenure at that site. Sparse records for that locale in the years prior to his arrival indicate that the only flight of any comparable magnitude took place in 1987 when 10,081 siskins were tabulated.

The onset of this year's siskin flight was very rapid. As the calendar approached mid-October, there was a surge of Pine Siskins throughout the region, from the New England states to at least Pennsylvania and New Jersey, with seemingly fewer birds reported south of there. The first siskins to arrive at Chestnut Ridge appeared on 11 October when at least 20 birds in three flocks passed. The siskin count increased considerably the next day, 12 October, when 175 birds were conservatively recorded in seven passing flocks. Only the 500+ that day at Blueberry Hill, Massachusetts, could have prepared us for what was to take place on 13 October. Shortly after I arrived at the hawk watch that morning, a calling flock of approximately 60 birds flew directly overhead, the first sign of what would be an impressive passage of birds. Tait Johansson joined me up at the watch and together we counted/estimated the knots of flyby siskins, reaching a final tally of 2,524 birds! Altogether, 73 flocks were noted with flock sizes ranging from 2 to 133 individuals. Among the more noteworthy flocks were groups of 90 (twice), 85, 80 (twice), and 75 birds. The average flock, though, was about 35 birds strong. Siskins continued flying until shortly after 5:00 PM (DST) with a flock of 90 at 5:05 and 3 more at 5:20. Lighthouse Point managed an equally impressive 2900 that day and all of a sudden the region had been inundated with siskins.

A week later there were back-to-back days of 1261 and 1389 at Chestnut Ridge (20 – 21 October). After that, the Pine Siskin movement seemed to slack off and lose momentum, almost as quickly as it had gained it, until 1 November when 1272+ siskins in 56 flocks teemed across the horizon. In fact, that was the first time in a week and a half that 250 was broken in a single day. The flight continued at a good clip, with another 1000+ day (4 November), until 12 November, the last day of triple-digits for Pine Siskins at Chestnut Ridge. At this point, there seemed to be a changing of the guards, with American Goldfinches picking up right at the moment when Pine Siskin figures began to plunge. This, too, was similarly detected at Lighthouse Point, except in more substantial numbers. The second week of November brought large numbers of siskins to New York City and Long Island, exemplified by the 6800 that were reported in just 2.5 hours of early morning birding at Jones Beach (10 November).

As a rule, the nature of the siskin flights at Chestnut Ridge was largely a late-day phenomenon. The most productive hour of 13 October's onslaught was from 16:00 – 17:00 DST (581). Likewise, of the 1272 siskins totaled on 1 November, more than 1000 of these came in the last two hours of the count. Again, of the 1598+ siskins seen during a three day timespan (10 –12 November) at Chestnut Ridge, 1162+ of these had been in

the last 1.5 hours of the count (2:00 - 3:30 EST). Finch flights are typically something that I associate with early mornings (as Lighthouse Point and Long Island flights proved to be) so this seeming anomaly was particularly interesting. However, since the watch was not typically staffed until 9:00 DST (followed by 9:00 EST after the time change), it is hard to know how the early mornings fared. And later afternoons weren't always the hard and fast rule either. The 10:00 – 11:00 hour (DST) on 13 October held 502 siskins while the 9:00 – 10:00 hour (DST) was the best (354+) hour of 21 October's 1389 bird blitz.

Top single-day counts at four regional hawk watches:

Bake Oven Knob, PA – 1251 (7 November)  
Hawk Mountain, PA – 1435 (11 November)  
Chestnut Ridge, NY – 2524 (13 October)  
Lighthouse Point, CT – 5900 (10 November)

Four-day total = 11,110

Cumulative fall Pine Siskin figures for just three locations in the northeast:

Lighthouse Point, CT = 25,391+  
Chestnut Ridge, NY = 13,946+  
Hawk Mountain, PA = 9001+

Total = 48,338+

### **American Goldfinch (263)**

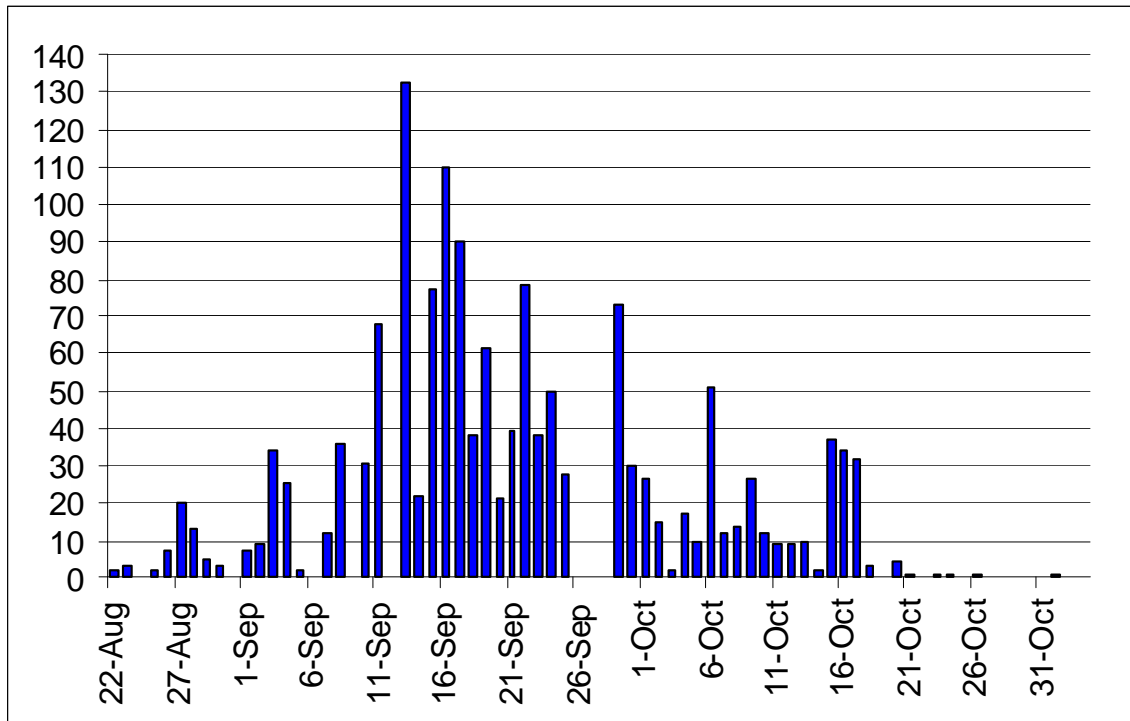
Up until mid-November, American Goldfinches were largely nonexistent at Chestnut Ridge, in contrast to the much more abundant *Carduelis* finch, the Pine Siskin. However, that situation began to change sometime between 12 – 19 November. In fact, the sheer absence of goldfinches led to zero being recorded until 12 November, when a mixed flock of 7 siskins and 4 goldfinches were observed. A handful of goldfinches were again present on 15 November, but it wasn't until 19 November that, for the first time since the onset of the siskin flight, goldfinches outnumbered siskins, at a ratio of 51:3. The best day for goldfinches was 29 November when 77 were recorded, a day that held only 30 siskins. This turnover from siskins to goldfinches was clearly seen – in better detail – at Lighthouse Point. On 10 November, alongside a whopping 5900 siskins was an impressive 1800 goldfinches. Only a week later, 17 November, 8000 goldfinches winged their way past counters, in comparison to just about 500 siskins.

### ***Carduelis* sp. (137)**

With the increase in American Goldfinch numbers come mid-November, it could no longer be assumed that distant, small finch flocks were necessarily Pine Siskins. I even noted, on 17 November, that due to the increase in goldfinches, mixed species flocks, poor lighting, and lack of heard birds, many flocks of finches were left unidentified. Unfortunately, the *Carduelis* finch confusion led me to simply leave ambiguous flocks

alone (not even writing down estimated flock size), so many more small finches should have been added to this category. It was only in the final two days of the count that observers at last began placing birds in this category. On 29 November, a day that contained 77 goldfinches and 30 siskins (107 identified *Carduelis* finches), an equal 106 unidentified *Carduelis* finches was tallied. Likewise, unidentified small finches nearly equaled the combined number of goldfinches and siskins on the last day of the count, 5 December. In the future, if such a small finch flight is to occur again, birds should be placed in this category when needed.

### Monarch (1497)



Monarchs were a daily occurrence at Chestnut Ridge from the first day of the count period through mid-October. In fact, 12 September was the only count day that did not produce a single Monarch between 22 August and 18 October, a day in which the weather was noted to include overcast skies with light winds from the S/SSE, before the count was cut short due to rain. After 18 October, Monarchs were then seen five out of the next seven days before the final, solitary Monarch drifted by on 1 November. However, immediately before numbers dwindled to a halt there were three rather exceptional mid-October days: 15 October (37), 16 October (34), and 17 October (32). The top two days of Monarch passage were 16 September (110) and 13 September (133). On the latter day, 100+ Monarchs came through between 14:00 – 16:00 DST, when the count was concluded for the day, prematurely “ending” the Monarch flight, which may have contained dozens of additional butterflies. The peak season for Monarchs this year is unequivocally the latter half of September (from 13 September on) which covers all five of the best daily Monarch totals.

**Mourning Cloak (8-10)**

Not counted as religiously as Monarchs, Mourning Cloaks were noted when identified. A total of between eight to ten Mourning Cloaks were tallied between 3 September and 11 October with all but the first appearing in late September and early October. The best single day was 29 September when three to four Mourning Cloaks were noticed. This is certainly a butterfly to keep an eye out for while panning the skies for raptors in upcoming seasons.

**Coyote (1)**

The only seasonal highlight not capable of flight was a single Coyote that was glimpsed scampering through the woods behind the platform on 29 October. Away from the watch, but certainly still of note, was a Bobcat that crossed the road in front of me on my morning commute from Katonah, NY (along Route 22 between Todd Road and Route 35).

Fall Migration of the Ruby-throated Hummingbird in Southeastern New York  
Cameron Rutt  
Bedford Audubon Society

Ruby-throated Hummingbirds (*Archilochus colubris*) migrate from their primary breeding grounds in the eastern United States to winter in Central America, either following a coastal route or embarking on a nonstop flight over the Gulf of Mexico (Robinson et al. 1996). In New York, Ruby-throated Hummingbirds are listed as a “fairly common to occasionally common migrant, especially inland (Levine 1998).” Actually observing hummingbirds in the act of migrating, however, can be a real challenge in everyday birding. Due to the nature of hawk watch locales, these sites often provide a fascinating opportunity to glimpse the diurnal migration of hummingbirds, something that has been known for some time (Saunders 1942, McWilliams and Brauning 2000).

This past fall (2008), Tait Johansson and I, under the Bedford Audubon Society, have attempted to quantify the hummingbird migration past Chestnut Ridge Hawk Watch. Chestnut Ridge, situated in the town of Bedford, Westchester County, in extreme southeastern New York, is located approximately 12 miles from the coast of Long Island Sound. Away from hawk watches, few of us actually get to witness hummingbird migration, besides the here today, gone tomorrow visits of hummingbirds to household feeders. Therefore, a brief synopsis of the hummingbird migration at Chestnut Ridge seems worthwhile. All in all, we recorded 284 hummingbirds (assumed to be all Ruby-throated Hummingbirds) flying past the watch from August 22 – October 1. The first official count was conducted on August 22 so we were unable to outline the onset of hummingbird migration at this site. However, Waggoner’s Gap Hawk Watch (west of Harrisburg, PA), which began their fall hawk watching season a bit earlier on the first of August, landed their first hummingbird on August 4 and only managed 10 during the first two weeks of August. This suggests a slow start to hummingbird migration in at least the first half of August.

As with the raptor migration at Chestnut Ridge, most hummingbirds were seen traveling in a direction between SW and W, perhaps to avoid heading over Long Island Sound if they flew directly south (and perhaps due to geographic aid in the form of ridges further down the line?). Migrating hummingbirds were usually located while scanning for raptors, mainly through binoculars but occasionally through a spotting scope as well. These hummingbirds ranged from those zipping just over the treetops to some in flight fairly high overhead. However, the majority appeared to be ascending from the terrain below, as if they were just taking flight. This effect is probably due to individual birds migrating fairly low over the forest canopy are forced to gain altitude caused by the approach of the N/S ridge upon which the Chestnut Ridge Hawk Watch is positioned.

At Chestnut Ridge, at least one hummingbird was noted on each day an official count was conducted from August 22 – September 24 with the hour of passage noted for all but the first two days of this span (n=265). Hummingbird migration peaked in late August and the first half of September, where 92% of hummingbirds were summed between

August 23 and September 15 (Figure 1). The highest single-day count occurred on September 15 when a surprising 42 hummingbirds were recorded (4.67 birds per hour). A coastal hawk watch, Lighthouse Point, in New Haven, Connecticut had an astounding 270 hummingbirds on that same day, with 210 between the hours of 9 AM and 12 noon (all times are in DST), just their second ever triple-digit day! The six best Chestnut Ridge hummingbird days are outlined in Table 1, with a short note about the weather for each day. The weather conditions for these six days were somewhat varied, but each day had at least light winds (1-5 km/h), if not periods of moderate winds (6-19 km/h), and most days contained winds with a N or W component. Special attention is drawn to the weather associated with both Chestnut Ridge's and Lighthouse Point's peak hummingbird flights on 15 September 2008 (Figure 2).

A paper examining the daily timing of fall migration for hummingbirds in the northeast (Willimont et al. 1988) provides a nice comparison for our figures. In that study, based on smaller sample sizes, peak passage at Hawk Mountain in 1985 was found to be between 11 AM – 3 PM, with fewer birds sighted during the 4 hours before and after. Using a Goodness of Fit test, this pattern was found to significantly differ from that of a uniform distribution. This midday peak also held for hummingbird data pooled from two Connecticut hawk watches, Quaker Ridge and Lighthouse Point, during the same fall. It was reasoned that this temporal difference is due to the birds' need to refuel both prior to and after a nighttime fast, thus limiting any lengthy migratory flight to the intervening daylight hours (namely, the midday). If we divide our data similarly (9 – 11 AM, 11 AM – 3 PM, and 3 – 6 PM), no distinct midday peak can be detected (Table 2). Our “mornings” contained 1.49 birds per hour, the “midday” 1.24, and the “afternoon” 0.93. No statistical procedures, however, were used for the Chestnut Ridge data to determine if this falls outside of a normal distribution.

Perhaps then the peak daily timing of migration is somewhere between Willimont's morning and midday divisions (somewhat arbitrary partitions anyhow) as our site might suggest, say between 9 AM and 1 PM (Table 3). This, however, is difficult to conclude from our data alone as we didn't typically count prior to 9 AM. Sixty percent of our hummingbirds were tallied during this four hour duration for a rate of 1.47 birds per hour, this compared to a diminished rate of less than a bird per hour (0.98) after 1 PM. Out of this time span, the 10 and 12 hours had the highest hummingbird rates, at 1.71 and 1.68 birds per hour, respectively. Additionally, it appears as though hummingbird migration does not cease late in the day either, something that one might have initially suspected. I was surprised that we had 3 hummingbirds whiz by in the 5 to 6 PM hour with the latest hummingbird seen at 5:56 PM on 9/15.

In conclusion, I would like to encourage other hawk watchers and hawk watch sights to be more all inclusive about quantifying avian migration, raptors aside. Few locales boast the numbers of keen observers relentlessly scanning the skies on a daily basis as hawk watch sites do. With just a bit of extra effort, the diurnal migration of other species can be further elucidated, such as that of the Ruby-throated Hummingbird. Hopefully, with time and additional data, a further understanding of hummingbird migration in the east will be forthcoming.

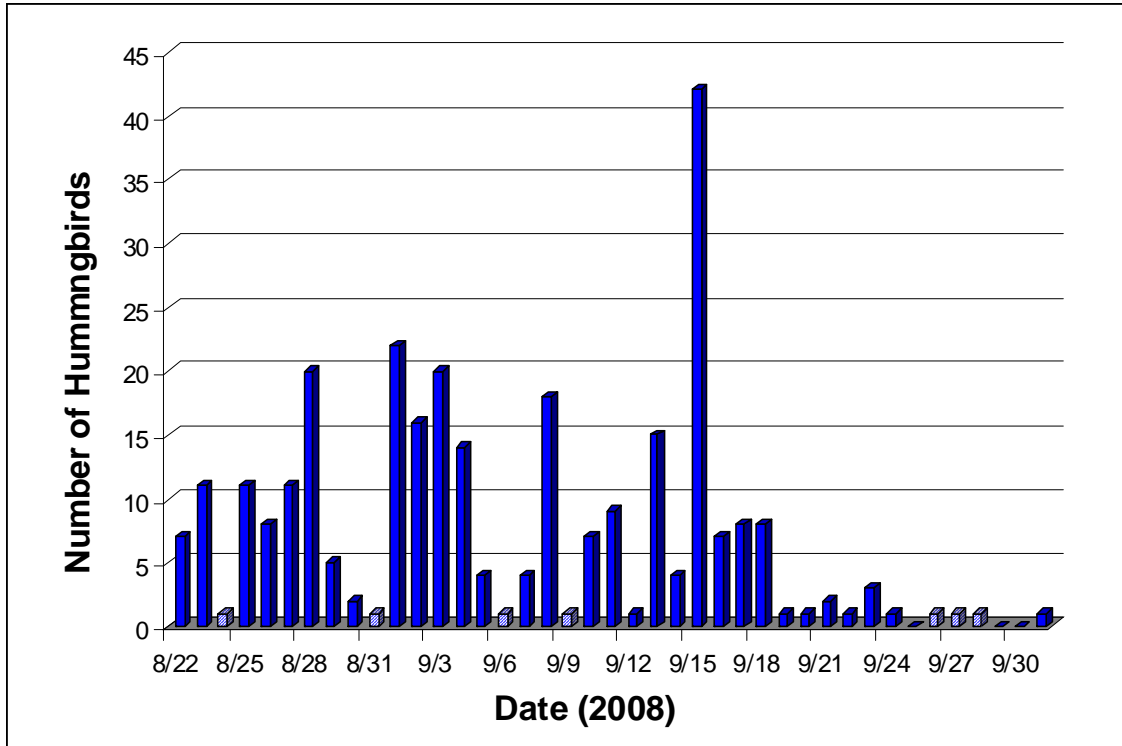


Figure 1. Daily number of Ruby-throated Hummingbirds observed migrating past Chestnut Ridge Hawk Watch from August 22 – October 1, 2008. Except for two dates (8/30 – 5 hours; 9/12 – 4 hours), each count day consisted of 7-9 hours of observation time. Days in which no count was conducted are indicated by a hatched bar (blue and white; 8/24, 8/31, 9/6, 9/9, and 9/26-28).

Table 1. Peak Ruby-throated Hummingbird days of passage at Chestnut Ridge.

Date	Number of birds	Wind Speed	Wind Direction
28-Aug	20	Light	Shifting from ESE to S by day's end
1-Sep	22	Light to moderate	N/NW for much of the day
2-Sep	16	Light	N
3-Sep	20	Light	N/NW, shifting to ESE in the late PM
8-Sep	18	Light	WNW
15-Sep	42	Light to moderate	W

References

Levine, E, ed. 1998. Bull's Birds of New York State. Cornell University Press, Ithaca, NY.

McWilliams G. M., and D.W. Brauning. 2000. The Birds of Pennsylvania. Cornell University Press, London.

Robinson, T. R., R. R. Sargent and M. B. Sargent. 1996. Ruby-throated Hummingbird (*Archilochus colubris*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <<http://bna.birds.cornell.edu/bna/species/204doi:10.2173/bna.204>>

Saunders, W. E. 1942. A hummingbird migration. *Auk* 59: 587–589.

Willimont, L. A., S. E. Senner and L. J. Goodrich. 1988. Fall migration of Ruby-throated Hummingbirds in the northeastern United States. *Wilson Bull.* 100: 482-488.

Time Period (DST)	Hawk Mountain (1985)				Chestnut Ridge (1985)		
	Total Coverage (h)	Number of Birds	Percent Total Birds	Birds per Hour	Total Coverage (h)	Number of Birds	Percent Total Birds
7:00 - 11:00	57.0	12	11	0.21	52.25	78	22
11:00 - 3:00	73.0	77	71	1.06	109.25	136	55
3:00 - 7:00	39.0	20	18	0.51	55.0	51	17
Total	169.0	109	100		216.5	265	94

Table 2.  
Adapted from Willimont et al.

Table 3.

Hour (DST)	9	10	11	12	1	2	3	4	5
Number of Hours	24.25	28	28	28	27.25	26	26	23.5	5.5
Number of Birds	30	48	34	47	27	28	26	22	3
Percent Total Birds	11.3	18.1	12.8	17.7	10.2	10.6	9.8	8.3	1.1
Birds per Hour	1.24	<b>1.71</b>	1.21	<b>1.68</b>	0.99	1.08	1.00	0.94	0.55

(9 = 9:00 – 9:59 AM, etc.)

