

SPRING-2023-FINAL _____ 2

centerfold _____ 16

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PEAK-DAYS-2023 _____ 39

NEHW Report, Spring 2023

During Spring 2023, hawk watchers at 13 sites counted 16460 hawks. This is above our 30-year average of 13312 (+24%), and even further above the Spring 2022 count of 12635 (+30%). Yet, this increase in number of hawks were counted at only 13 sites in 2023, a loss of 7 compared to the 20 sites in Spring 2022. Two of the 7 sites not counting are regular fall sites, Wachusett and I-84, that tried spring in 2022. The other 5 sites not reporting in 2023 are Kerrs Ridge, Pitcher Mountain, Barre Falls, Poquonock, and Bear Mountain. Barre Falls was a staple in our site line-up for 20 years, from 2002 to 2022. While there were no new sites this season, several sites continue with their 2nd spring - Alton Bay, Adams Farm, and Castle Rock. These sites are important additions to our spring sampling. Without them, there would be a much larger area with no data at all.

The Sites

Our spring watch sites span 490 miles diagonally across the northeast, from Cooper in Maine to Scott's Mountain in western New Jersey. The 13 sites are spread across that region in a band that is about 70 miles wide, except for Head of the Meadow, which extends the width to about 125 miles. With the locations varying from latitudes of 40.7 to 45.0, the sites are grouped by latitude beginning with Region 45 to the north and ending with Region 40 to the south. There is no Region 44, as we have no spring watch sites between the 44th and 45th parallels. The reports for each region include a new summary table that shows the number of spring seasons and the total hawks that each site has contributed to our NorthEast data. We thank our watchers for their amazing dedication!



Region 45

Region 45 has one site this season, Cooper ME. It is our furthest north site, about 10 miles from the Canadian border and 25 miles from the coast.

Site Summary for Region 45

Site	Years	Total Hawks
Cooper	13	723

The highlight of **Cooper's** 13th spring season were 2 Golden Eagles, both counted on Apr 21! With only one other Golden counted in the NorthEast, this accounts for 67% of the Golden Eagles this season. Cooper had average coverage (65 hr) and counted an additional 5 species: Turkey Vulture (16), Bald Eagle (11), Northern Harrier (3), Sharp-shinned Hawk (2), and Broad-winged Hawk (3). American Kestrel was notably missing, as this was the 1st time in 13 years with no Kestrels.

Region 43

While we have no watch sites in Region 44, Region 43 has two sites, Bradbury Mountain and Alton Bay. Bradbury Mountain is in Maine, about 8 miles from the coastline and about 160 miles southwest of Cooper. Alton Bay is in New Hampshire, about 60 miles southwest of Bradbury,

Site Summary for Region 43

Site	Years	Total Hawks
Bradbury Mountain	21	75317
Alton Bay	2	437

Bradbury Mountain counted the only American Goshawks (2) of the NorthEast for the season! They also counted the other Golden Eagle (1), their 5th since 2009, and had the high day count of 978 hawks on Apr 18, with 884 Broadwings and 47 Osprey. They counted for more hours (433) than any other site, and had the NorthEast high counts for Broad-winged Hawks (2023) and Sharp-shinned Hawks (383). The Broadwings were average for the site, but the Sharpies were 68% below average. Most other species were also below average, including Osprey (279), Cooper's Hawk (38), Red-shouldered Hawk (54), Red-tailed Hawk (76), and Peregrine Falcon (4). This was **Alton Bay's** 2nd spring season. They had approximately the same coverage (4 days, 19 hr) as last season, and counted approximately the same number of most species. They counted 8 species, with Broad-winged Hawk (122) the most prevalent, followed by Sharp-shinned Hawk (9) and Osprey (6). They averaged 38 hawks/day.

Region 42

Region 42 has four sites, all in Massachusetts. From north to south these include: Plum Island, Adams Farm, Castle Rock, and Head of the Meadow. Plum Island is on the coast about 50 miles SSE of Alton Bay and almost 30 miles NNE of Boston. Castle Rock is 25 miles SSW of Plum Island and also north of Boston. Though furthest south, Head of the Meadow is also furthest east, on Cape Cod, 55 miles SE of Castle Rock and 127 miles south of Bradbury Mountain, across the Gulf of Maine. Adams Farm is the furthest west, approximately 70 miles from the east coast and almost 60 miles from the New York border.

Site Summary for Region 42

Site	Years	Total Hawks
Plum Island	35	19767
Adams Farm	2	2775
Castle Rock	2	71
Head of the Meadow	4	5044

Plum Island's 18th season was one of their best. With an almost record effort (284 hr), they counted the only Rough-legged Hawk (1) of the season, and they had the NorthEast High for three other species - Northern Harrier (155), American Kestrel (917) and Merlin (133). The Merlin count was their 2nd highest for the site, missing their record by only 4. Except for below average Peregrine Falcon (4), all other species were at average. **Adams Farm** quadrupled their coverage in their 2nd season (208 hr), and their counts climbed accordingly. They counted 12 species, the most prevalent of which were Broad-winged Hawk (1752), Turkey Vulture (175), Sharp-shinned Hawk (164), and Osprey (64). Their Broadwings accounted for almost all those seen in Region 42. They averaged 61 hawks/day, substantially higher than average (46) for the NorthEast.

Castle Rock had substantially less coverage (12 hr) this season than its first season in 2022. The result was fewer hawks, including 3 Turkey Vultures, 1 Bald Eagle, and 2 American Kestrels. **Head of the Meadow** also had reduced coverage, with 84 hours compared to an average of 232 hours in the previous three years. Even so, they counted 13 species, the most prevalent of which were Turkey Vulture (231), Osprey (66), Broad-winged Hawk (39), Red-tailed Hawk (38) and American Kestrel (37). This was their 1st year with no Mississippi Kite.

Region 41

Region 41 has three sites, including Johnnycake in Connecticut, Hook Mountain in New York, and Purple Chickadee in New Jersey. Johnnycake is 70 miles SW of Adams Farm and about 20 miles W of Hartford. Hook Mountain is 65 miles SW of Johnnycake and 20 miles north of New York City. Purple Chickadee is 17 miles WSW of Hook.

Site Summary for Region 41

Site	Years	Total Hawks
Johnnycake Mt	8	2809
Hook Mountain	36	65084
Purple Chickadee	5	6991

This was **Johnnycake's** 10th season since 2007. With below average effort (6 hr), their species counts were also below average. They counted 5 species, the most prevalent

of which was Broad-winged Hawk (105). Notably, they counted 17.5 Broadwings/hour, the highest in the NorthEast. For their 18th spring season since 2002, **Hook Mountain** broke many site records, with quadruple (283 hr) the average effort (64 hr). The results were above average counts for all species, most by multiples. Hook had the NEHW high counts for Black Vulture (55), Turkey Vulture (2142), Bald Eagle (166), Cooper's Hawk (86), Red-shouldered Hawk (368), Red-tailed Hawk (111), Total Hawks (4904), and Hawks/Day (89). Excluding the Black Vulture and Cooper's Hawk, these counts were also site records, along with Osprey (124), Northern Harrier (27), and Merlin (31). Accounting for the increase in effort, 3 of the 8 site records are true per hour records, including Turkey Vulture, Bald Eagle, and Redtail. So, it was a really good year for Hook. **Purple Chickadee** topped off its 5th spring season with the only Mississippi Kite (1) of the NorthEast! With record coverage (252 hr), there were record counts for 4 species, Turkey Vulture (206), Bald Eagle (47), Northern Harrier (11), and Peregrine Falcon (6), and above average counts for Osprey (58), Sharp-shinned Hawk (129), Red-shouldered Hawk (46), Broad-winged Hawk (1215), Red-tailed Hawk (61), and American Kestrel (41).

Region 40

Region 40 has three sites, including Alley Creek in New York, and Wildcat Ridge and Scott's Mountain in New Jersey. Alley Creek is 25 miles SSE of Hook, on the north shore of Long Island. Wildcat Ridge is 15 miles SW of Purple Chickadee. Wildcat Ridge and Purple Chickadee are the closest of all the spring watch sites. Scott's Mountain, near the western border of New Jersey, is 35 miles WSW of Wildcat Ridge.

Site Summary for Region 40

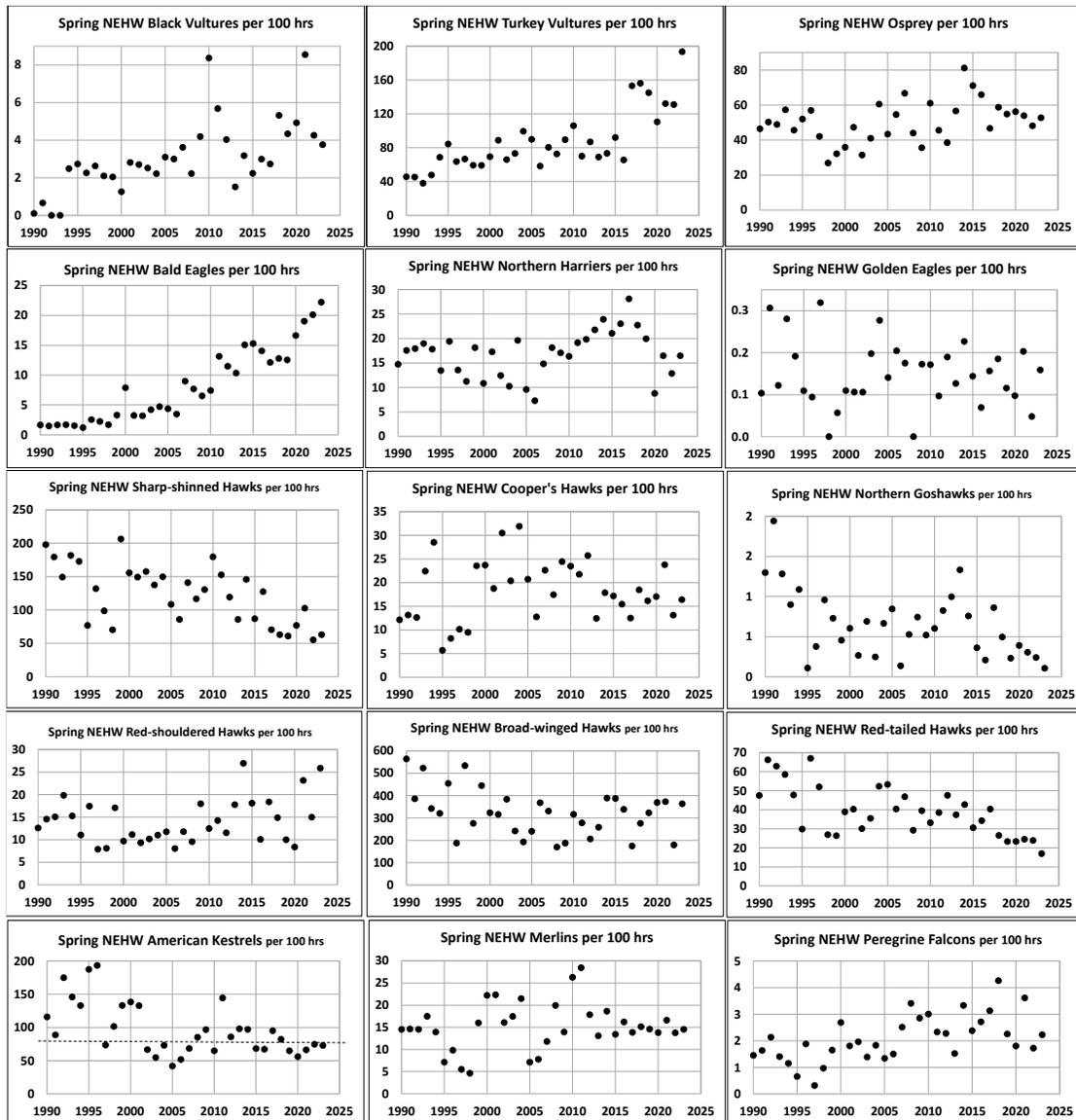
Site	Years	Total Hawks
Wildcat Ridge	27	23748
Alley Creek	6	4295
Scott's Mountain	6	892

After 26 years with an average of 43 days, **Wildcat Ridge** dropped coverage to 3 days and 7 hours for their 27nd season. They counted 3 species this season: Turkey Vulture (3), Bald Eagle (2), and Red-tailed Hawk (3). **Alley Creek** had the same above average coverage as last year (226 hr) resulting in NEHW highs for days (61), Osprey (352), and Peregrine Falcon (10). The Peregrine count was also a site record, along with Cooper's Hawk (54), Red-shouldered Hawk (5), and Broad-winged Hawk (9). Of the remaining species, Bald Eagle (92) was above average, while both Northern Harrier (2) and Merlin (11) were below average. **Scott's Mountain** counted on Apr 22 this season, a peak day for Sharp-shinned Hawk (27). The Sharpie count was more than 4 times average and the most prevalent of 8 species. They counted 3 Merlins, amazing because they had only counted one Merlin in their previous 7 years. American Kestrel (5) was also above average.

The Hawks - 33 Year History at a Glance

Thanks to all who count in the spring. Spring raptors are the returning breeders, and your data helps us to better understand their migration behavior. The trends graphs represent the combined total hawks per 100 hours (phh) of counting at all the sites in the NorthEast. Using phh allows us to compare from year to year using data from all sites, even though the number of hours and days covered at the sites is different. Species graphs provide a quick look at the season in comparison to historical trends. The right-most dot on each graph is 2023. Its position tells us how this season compares to other seasons. Does there seem to be fewer of your favorite species in recent years? Have the Bald Eagles really increased as much as it seems? Check out the trends to see if your impressions are consistent with other sites in the NorthEast.

NEHW Spring Seasons, Trends-at-a-Glance: 1990–2023



From these graphs we get snapshots for each species.

Vultures and Osprey. There are more *Black Vultures* now than before 2000, but they are not showing a consistent increase. *Turkey Vultures* have been increasing since 1990, with a jump up in 2017, and what looks like another jump up for 2023. While seeming to increase a little from 1998 to 2014, *Osprey* are at the same level as they were in the early 1990s.

Eagles and Harrier. *Bald Eagles* continue a steady increase since the 1990s, and topped that with a new record high in 2023. After falling from higher counts in the 2010s to a low in 2020, *Northern Harriers* have returned to the same level as the 1990s. *Golden Eagles* have remained about the same since 2000, though their numbers were a bit higher in the 1990s.

Accipiters. *Sharp-shinned Hawks* have declined to less than half as many as there were in the 1990s, and continue with a low count in 2023, just missing last year's record low. *Cooper's Hawks*, up from the 1990s but down from the 2000's, has remained steady for the last 10 years. *American Goshawk* counts are varied without much of a trend, but 8 of the last 10 years have been among the lowest.

Buteos. While steady through most of the years since 1990, *Red-shouldered Hawks* dropped slightly during the 2000s, recovered in the 2010s, and have recently hinted at an increase, with isolated counts above historic values. *Broad-winged Hawk* counts dropped in the early 2000s and have remained more or less steady since then. *Red-tailed Hawks* have declined, with a record low in 2023.

Falcons. By the early 2000s *American Kestrels* declined to only one third the earlier counts, then recovered to counts that are about half of the earlier counts, and have been relatively stable for the last 20 years. In spite of much variation from 1995 to 2011, *Merlins* have been steady for the last 10 years at counts equivalent to the early 1990s. Although *Peregrine Falcons* generally increased from 1995 to 2020, 4 of the last 5 years have been as low as the early 2000s.

The 2023 Count—above and at average

Good news! With about 4000 more hawks than last year, the 16460 Total Hawks counted this season is 24% above the 30-year average and 30% above the 10-year average. Coverage (1886 hr) was less than last year, but average for both 30 years (+11%) and 10 years (+15%). When we account for the coverage using hawks per 100 hours (phh), Total Hawks (873 phh) was average for both 30 years (+11%) and 10 years (+13%). So, our watchers saw about as many hawks in spring 2023 as they see in most spring seasons. But, our Trends-at-a-Glance shows that some species have increased and others have decreased. It appears that our increases have balanced our decreases.

NorthEast Spring 2023 Seasonal Totals

	Site	Days	Hrs	BV	TV	OS	BE	NH	SS	CH	AG	RS	BW	RT	RL	GE	AK	ML	PG	UR	Othr	TOT	HK/D	MAX	DATES
45	Cooper	15	65	0	16	0	11	3	2	0	0	0	3	0	0	2	0	0	0	3	0	40	3	11	4/3-4/27
43	Bradbury Mountain	57	433	2	500	279	69	84	383	38	2	54	2023	76	0	1	270	67	4	37	0	3889	68	978	3/15-5/15
	Alton Bay	4	19	0	1	6	3	0	9	2	0	0	122	4	0	0	1	0	0	4	0	152	38	60	4/21-4/28
42	Plum Island	51	284	0	83	36	7	155	240	26	0	0	0	3	1	0	917	133	4	26	0	1631	32	231	3/7-5/16
	Adams Farm	39	208	0	175	64	13	17	164	59	0	13	1752	8	0	0	31	15	1	60	0	2372	61	605	3/20-5/11
	Castle Rock	4	12	0	3	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	6	2	4	4/3-4/15
	Head of the Meadow	18	84	2	231	66	5	12	37	9	0	2	39	38	0	0	37	13	9	7	0	507	28	132	4/4-6/7
41	Johnnycake Mt	2	6	0	10	3	0	0	1	0	0	0	105	4	0	0	0	0	0	1	0	124	62	107	4/21,4/24
	Hook Mountain	55	283	55	2142	124	166	27	164	86	0	368	1573	111	0	0	49	31	8	0	0	4904	89	676	2/9-5/26
	Purple Chickadee	50	252	5	206	58	47	11	129	33	0	46	1215	61	0	0	41	1	6	16	1MK	1876	38	612	2/18-5/19
40	Wildcat Ridge	3	7	0	3	0	2	0	0	0	0	0	0	3	0	0	0	0	0	0	0	8	3	5	2/15-3/6
	Alley Creek	61	226	7	277	352	92	2	33	54	0	5	9	10	0	0	22	11	10	4	0	888	15	73	2/10-5/14
	Scott's Mountain	1	8	0	0	6	3	0	27	2	0	0	14	2	0	0	5	3	0	1	0	63	63	63	4/22
Total		360	1886	71	3647	994	419	311	1189	309	2	488	6855	320	1	3	1375	274	42	159	1	16460	46		2/10-6/7
Average,1993-2022		316	1704	60	1509	849	147	284	2089	336	10	231	5107	637	3	2	1570	273	37	163	4	13312			

BV: Black Vulture, TV: Turkey Vulture, OS: Osprey, BE: Bald Eagle, NH: Northern Harrier, SS: Sharp-shinned Hawk, CH: Cooper's Hawks, NG: Northern Goshawk, RS: Redshouldered Hawk, BW: Broad-winged Hawk, RT: Red-tailed Hawk, RL: Rough-legged Hawk, GE: Golden Eagle, AK: American Kestrel, ML: Merlin, PG: Peregrine Falcon, UR: Unidentified Raptor, MK: Mississippi Kite, HK/DY: Hawks/Day, MAX: Maximum Day Total

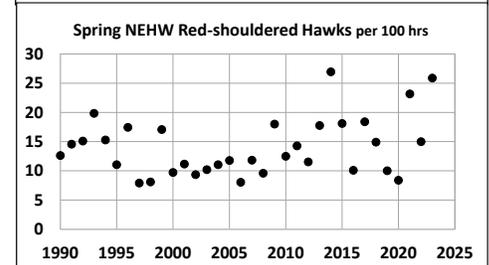
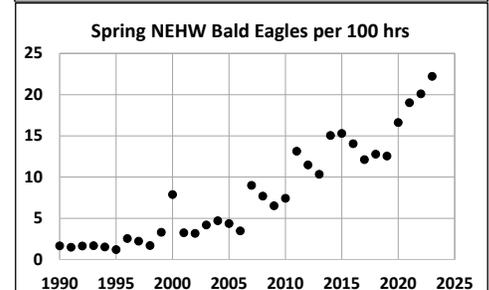
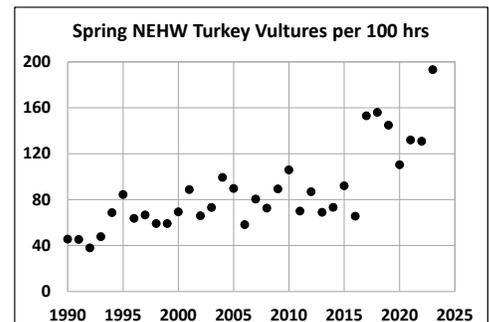
Record Highs — Vulture, Eagle, and Shoulder

Beginning with our best results, we have a mix of record high counts, for both actual counts and per-100-hour (phh) counts. For **actual counts**, there were record high numbers for *Turkey Vulture* (3647) and *Red-shouldered Hawk* (488). For **phh counts** there were record high numbers for *Turkey Vulture* (193 phh) and *Bald Eagle* (22 phh). Notably, the Eagles missed the actual record by just 1 bird, and the Shoulders missed the phh record by just 1 bird phh.

The increase for **Turkey Vulture** is no surprise. We have been seeing about 40 more Vultures phh in the last 8 years than previously, and 2023 showed a jump of another 40 Vultures phh above that! This is a big leap - our Vultures are flying high!

Likewise, we have become accustomed to seeing increasing **Bald Eagles**. The pattern of increase is quite definitive, with a steady, steep climb in the last 4 years. Our experiences readily reflect this, as most sites now have local Bald Eagles as well as migrants.

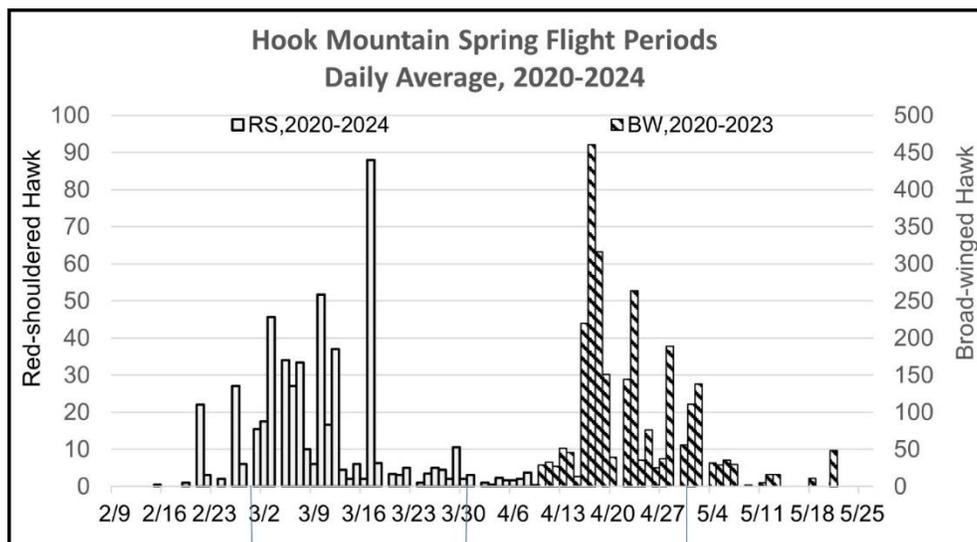
Red-shoulders are a bit different. Their trend is not at all consistent - no big jumps, no continual increase - just a general random distribution since 2010. Yet, the 488 Shoulders counted this season were twice our 30-year average (231) and 86% above the 10-year average (262)! Furthermore, Shoulders had a record high for Fall 2022, and have been trending upward for Fall migration since 2010. Why this discrepancy? Why aren't the trends for spring and fall at least similar? This warrants a closer look.



Red-shoulder Flight Period. The first place to look is the difference in sampling during spring compared to fall. In the 1970s our NEHW founders started counting hawks during the periods when they expected the most hawks to be flying, the Broadwing season. Fall hawk watching extended to the full season, most commonly from Sep through Nov, but the spring season has remained more aborted, perhaps because mountain tops were hard to reach in early spring.

The Spring 2023 Summary Table shows 4 sites with double digit Shoulders, led by Hook Mountain with 368 Shoulders. The other 3 sites were Bradbury Mountain (54), Adams Farm (13), and Purple Chickadee (46). All of these sites started their counts by March 15 and had more than 200 hours of coverage. Two other sites, Plum Island (0) and Alley Creek (5), also met the criteria but are both coastal and generally do not get buteos.

Since Hook accounted for 75% of all the Shoulders counted and also started the spring season early, Hook data was used to determine the flight season for Red-shouldered Hawks. Data for the 5 years with early coverage, 2020 to 2024, was averaged by day, and resulted in the following distribution. Note that the graph displays distributions for both Red-shouldered Hawks and Broad-winged Hawks, with 2 different vertical axes, for an easy comparison of their spring flight periods.



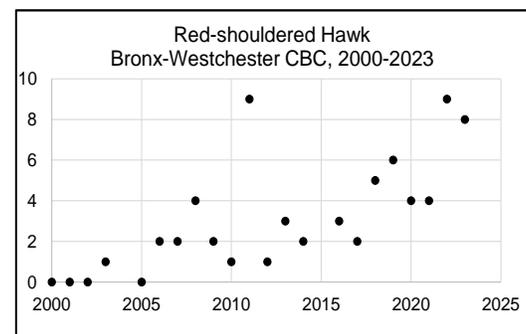
The flight periods for these species do not overlap. The Shoulder flight begins in late Feb and ends just as the Broadwing flight begins, with about 3 weeks of a few Shoulders still trailing through. 90% of the Shoulder flight moved through between Feb 23 and Apr 3 (39 days), with half the flight through by Mar 10. In comparison, 90% of the Broadwing flight moved through between Apr 13 and May 6 (23 days), with half of the flight through by Apr 19, more than a month later than the Shoulders.

Median Dates, Red-shouldered Hawks

Site	Median	Years	2023 Dates
Bradbury Mountain	3/24	2020-2023	3/15-5/15
Adam's Farm	3/27	2023	3/20-5/11
Hook	3/10	2020-2023	2/9-5/26
Purple Chickadee	3/11	2020-2023	2/18-5/19

While all sites include coverage during the Broadwing season, only Purple Chickadee also had coverage for the Hook Shoulder season. Purple Chickadee's data for 2020-2023 was then reviewed and found to have a median date of Mar 11. While not surprising, since it is only 17 miles from Hook, it does support the early median date. The two other sites with more than 10 Shoulders in 2023, Bradbury Mt. and Adam's Farm, began coverage in March, but not until after the median dates at Hook and Purple Chickadee. Their median dates are Mar 24 and Mar 27, respectively. It is possible that the Shoulder flight in the more northern areas is later. But it is also possible that it is very similar to Hook. For example, the median date for Broadwings at Bradbury in 2023 was Apr 19, the same as Hook.

Unlike Broadwings that migrate to Central and South America, Shoulders migrate southward to within the U.S. and Mexico, with some overwintering in the southern portions of our NorthEast region. Data from the Bronx-Westchester Christmas Bird Count, held the last week of December each year, shows Red-shouldered Hawks have been increasing since 2000, from an average of 0.25 for 2000 to 2003 to an average of 6.25 for 2020 to 2023. (<https://www.hras.org/results-1924-2022>) With more birds so close geographically, it is possible that our warmer winters in recent years have encouraged an earlier flight than decades ago.

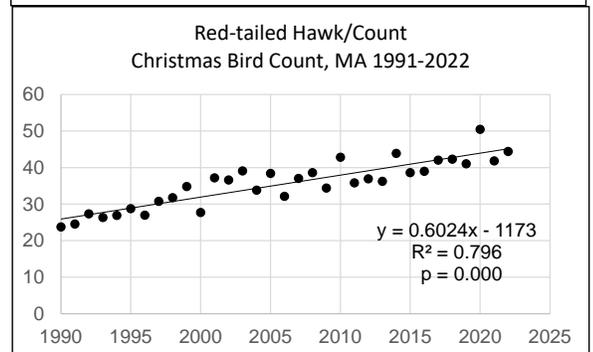
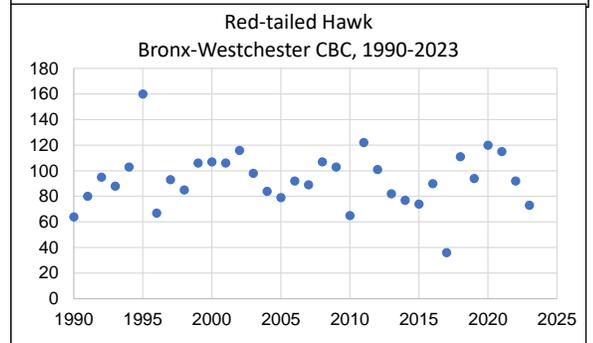
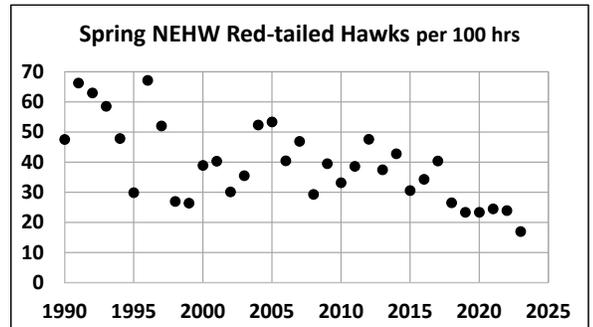
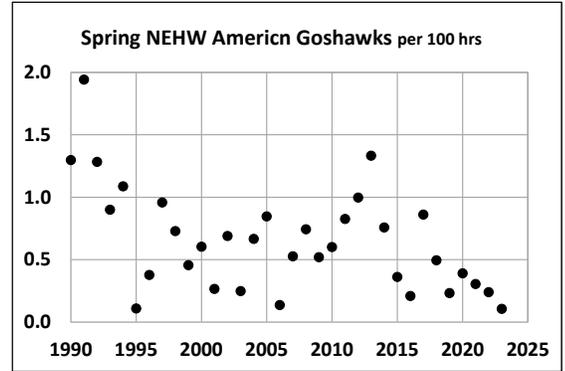


So, how does this reflect on the randomness of our NEHW Spring graph? If we are not sampling the full flight period, we can expect that counts would be more dependent on factors such as weather and show greater variation than if the full flight is sampled. Our graph likely does not represent the full migration season and therefore does not represent a real trend. Nevertheless, many of our sites have sampled the same dates for decades. It will be interesting to see if the spring graph eventually reveals the increase we see in fall (<http://www.battaly.com/nehw/reports/NEHW2022.pdf>, pp. 18-20).

Record Lows — Goshawk, Redtail, and near record Sharpie

To balance the record high counts and still have average Total Hawks phh, we unfortunately have record lows for 2 species, American Goshawk and Red-tailed Hawk, and a near record low for Sharp-shinned Hawk.

American Goshawk. This season's Goshawk (2) count, at 0.106 phh, ties the prior record low, a single Goshawk counted in 1995 (0.109 phh) at Plum Island. The 914 hours of coverage in 1995 was half of this season's 1886 hours. The trends graph does not show a strong decline, yet we see consistent low counts in eight of the last nine years. This is different from the low counts from 1995 to 2006, which alternated with higher counts in a random pattern. This suggests a concern that Goshawks are in fact declining. It is likely that Goshawks do not migrate, and that our counts are monitoring their population in the NorthEast. See <http://www.battaly.com/nehw/reports/NEHW2020.pdf> for a discussion of Goshawks and mature forests in the Northeast.

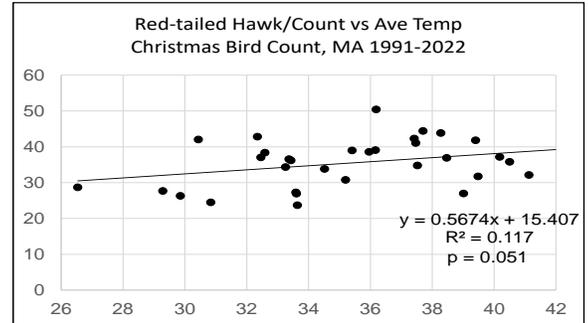


Red-tailed Hawk. Spring Red-tailed Hawks have had a significant decline since 1990, with counts dropping from 50 to 70 phh in the 1990's to less than 30 phh in the last 6 years, and reaching a record low of 17 phh this season ($r = -0.66$, $p = 0.0000$). With Redtails so common in our environment, does a decline and a record low make any sense? Many Redtails are resident over the southern portion of the NorthEast, while others are short-distance migrants. As global warming continues and our winters get warmer, are more Redtails remaining as residents through the winter and no longer migrating? In the southern portion of the NorthEast, their presence during winter months is so common that the Bronx-Westchester (NY) Christmas Bird Count (CBC) Redtail count has been stable since 1990. However, further north, in Massachusetts, the CBC counts for Redtail have shown a significant increase since 1990 ($r = 0.892$, $p = 0.000$) as average December temperatures have also increased ($r = 0.392$, $p = 0.024$). As the average December temperature in Boston increased from 32.8F in 1990 to 37.9F in 2022, the average Massachusetts CBC count went from 26 to 45. This shows a moderate correlation of temperature to Redtails ($r = 0.342$, $p = 0.051$).

As part of a biological system, this is likely an oversimplification. Drew has often said that males tend to stay close to breeding sites, whereas females and young migrate.

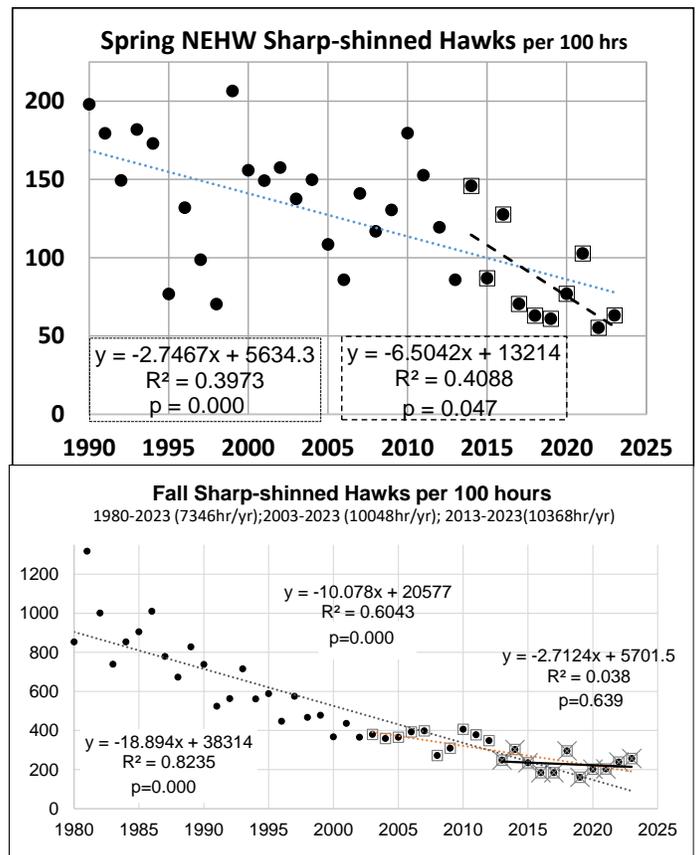
The data that you collect at your site is the result of a complex of biological systems. Nevertheless, it appears that you are documenting the change from a migrant to resident Redtail population.

Audubon CBC Results:



netapp.audubon.org/CBCObservation/Historical/ResultsBySpecies.aspx?1, Bronx-Westchester CBC Results: <https://www.hras.org/results-1924-2022>, excel file: <https://www.hras.org/results-1924-2022/s/count.xls>

Sharp-shinned Hawk. This year's Spring count for Sharpies (63 phh) is a sigh of relief from last year's record low of 55.3 phh. It is better than the 61 phh in 2019 and equal to the 63 phh in 2018. So, our spring Sharpies are tied for third lowest, still very low and cause for concern. This is different from our Fall data for Sharpies, which shows no trend up or down for the last 10 years. We do see reduced variation in the Spring data in the last 7 years, with 6 of those years relatively close. Perhaps this is a sign that the Spring Sharpies are beginning to stabilize. We saw similar reduced variation for Fall Sharpies, from 2002 to 2012 and again in the last 10 years, suggesting a more stable pattern for Spring Sharpies as well. Nevertheless, it is difficult to justify these two graphs. With more coverage in fall - 39 sites and 9000 hours in fall 2023 compared to 13 sites and 1900 hours in spring 2023 - it is likely that the fall data is more representative of what is happening with Sharpies. However, even the Fall data does not show a recovery, and the period of stasis in the last 10 years is at a lower level than the stasis during 2002 to 2012.

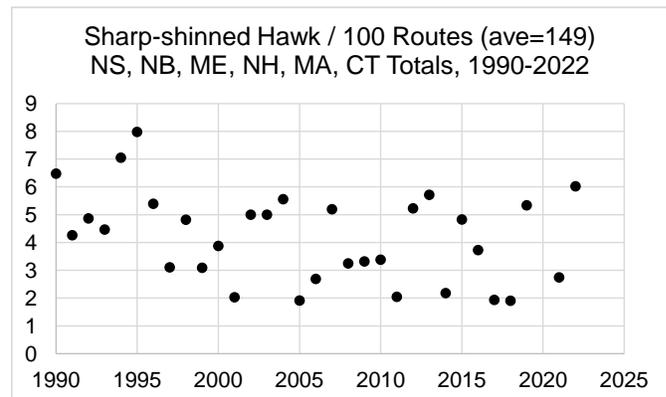


Since our Spring data represents breeding adults, the best comparison is the Breeding Bird Survey (BBS), conducted annually by the USGS and Environment Canada.

Detection of Sharpies is expectedly low during general surveys of birds, yet that detection would likely be the same from year to year, and that year-to-year trend is our interest. BBS data for each of the states and provinces in the NorthEast actually total only 200 Sharpies from 1990 to 2022. That's 31 years, excluding 2020 (COVID), in the 5 New England states of Connecticut, Massachusetts, Vermont, New Hampshire, and Maine, and the 2 provinces of New Brunswick and Nova Scotia. Since Rhode Island had only 1 Sharpie, in 2016, no trend is possible there. Each of these states/provinces was analyzed for Sharpie trends, with results from each shown in the table below.

Sharp-shinned Hawks in the NorthEast						
Breeding Bird Survey, 1990-2022						
Prov/State	Ave Routes	Total SS	R	R ²	P	Significance
NS	22.4	31	0.169	0.029	0.464	none
NB	19.4	27	-0.202	0.041	0.38	none
ME	36.6	61	-0.370	0.137	0.058	moderate
NH	22.3	20	-0.124	0.016	0.634	none
VT	18.4	28	-0.164	0.027	0.516	none
MA	18.6	20	-0.072	0.005	0.806	none
CT	11.8	13	-0.140	0.020	0.681	none
TOT	149.5	200	-0.347	0.120	0.052	moderate

The only state that showed a significant trend (decline) was Maine, which covered more routes and counted more Sharpies than the other states and provinces. Since several states had no Sharpies in some years, yearly totals for all regions were computed and used to see if there was a trend in breeding birds across the whole NorthEast. Results show a moderate linear decline in total Sharpies ($r = -0.347$, $p = 0.052$) over the years, very similar to the Maine data. However, the graph shows no trend up or down since 2000, more like our Fall data than our Spring data. This suggests that we can have more confidence in our Fall data and the current stasis for Sharpies.



In our 2019 edition of this Report, we found a strong correlation of Sharpies to total passerines (up to Robin size) documented in the BBS. As the passerines decreased, the Sharpies decreased also. For our Fall Sharpies to remain steady, the young of the year need to be adequately fed. So, the stasis of the last 10 years suggests that the passerine populations are likely sufficient to support the reduced Sharpie population. For our Spring Sharpies to still be in decline, the problems for Sharpies may well be either in migration itself or on their wintering grounds. Nevertheless, your time counting hawks has provided us with this important information. Together, our Spring and Fall data clearly show that Sharpies are still a species of concern.

References

Ziolkowski, D.J., Lutmerding, M., English, W.B., Aponte, V.I., and Hudson, M-A.R., 2023, North American Breeding Bird Survey Dataset 1966 - 2022: U.S. Geological Survey data release, <https://doi.org/10.5066/P9GS9K64>.

Battaly, G. NorthEast Hawk Watch, 2019 Hawk Migration Report, pp.30-31 "Sharp-shinned Hawks - 4th Record Low in 5 Years! Why?" <http://www.battaly.com/nehw/reports/NEHW2019.pdf>

Species Prevalence—*Fewer changes*

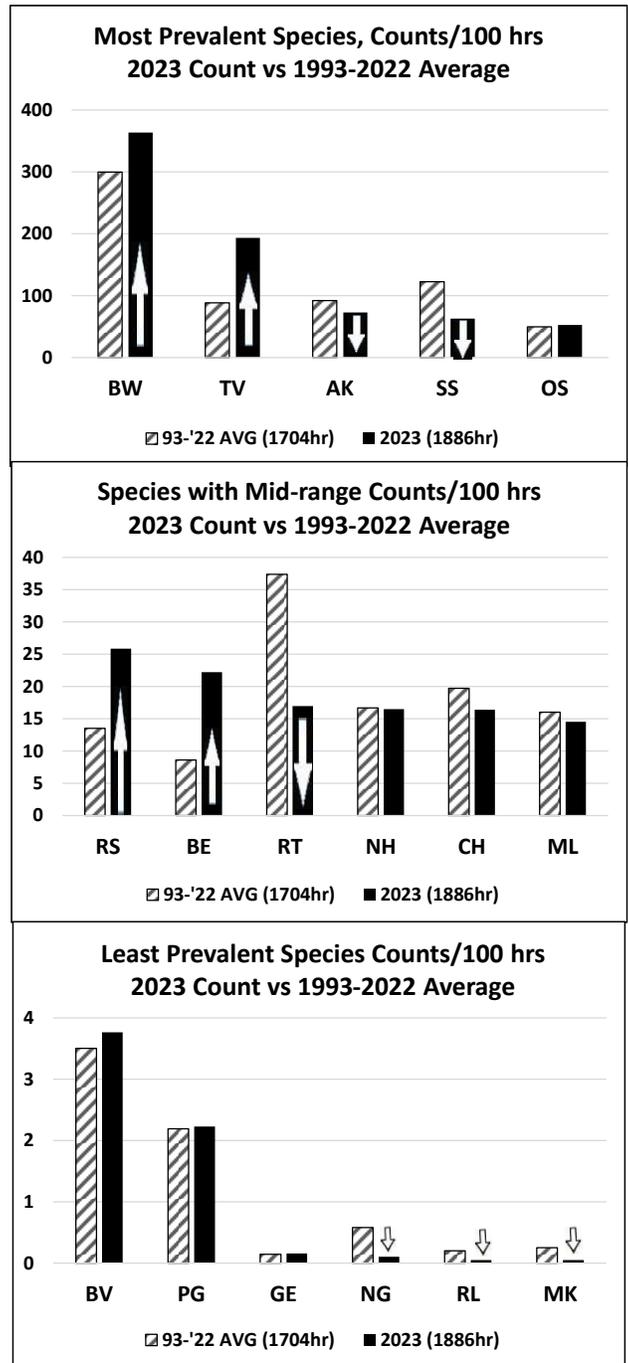
Prevalence charts are included for Most Prevalent, Mid-range, and Least Prevalent species. Above average, at average, and below average species are noted on the charts with up arrows, no arrows, and down arrows, respectively. A species is assumed to be at average when it is within 20% of the 30-year average. Two species were very close to that 20%, Broad-winged Hawks (+21%) and American Kestrel (-21%), which is seen on the charts as relatively small differences between the 30-year average and the 2023 count. Other above or below average species are obviously well separated and the differences very visible.

Our 5 most prevalent species did not change ranks this season - Broad-winged Hawks (1st), Turkey Vulture (2nd), American Kestrel (3rd), Sharp-shinned Hawk (4th), and Osprey (5th). Notably, Sharpies remain in 4th place this season, with only 186 actual fewer Sharpies than Kestrels. So, we can expect that there may be changes in rank in the future, especially if the Sharpies continue with an expected up and down to maintain their stasis. Other species with unchanged ranks from 2022 include Bald Eagle (7th), Cooper’s Hawk (10th), Black Vulture (12th), and Peregrine (13th).

The remaining species changed rank, mostly by exchanging places. Redtails (8th) dropped down 2 ranks while Red-shoulders (6th) gained 2 ranks. Harriers (9th) gained 2 ranks and Merlins (11th) dropped 2 ranks. Exchanges among our least prevalent species involve very small differences, generally representing equivalent ranks.

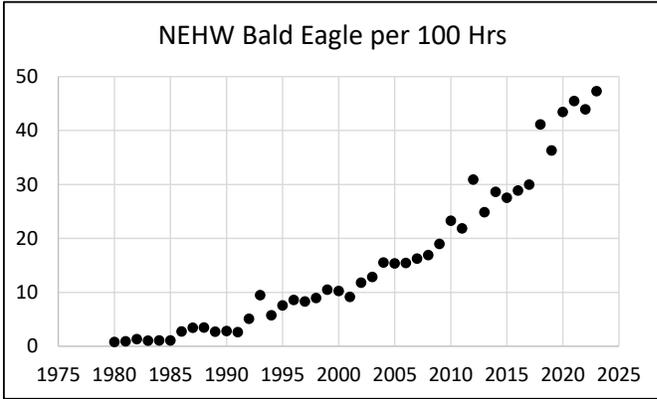
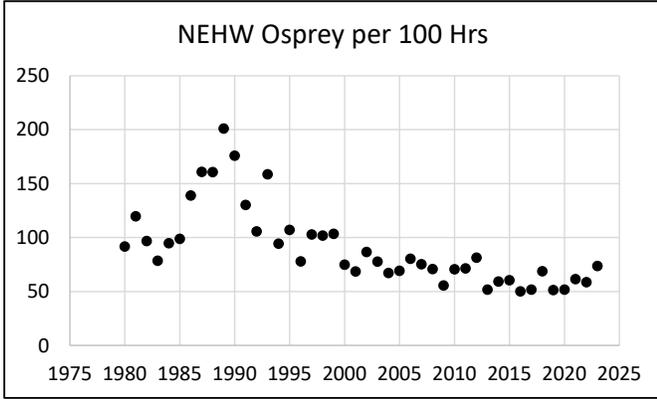
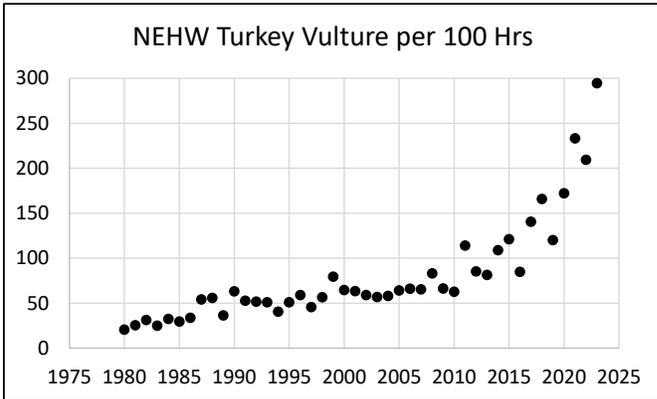
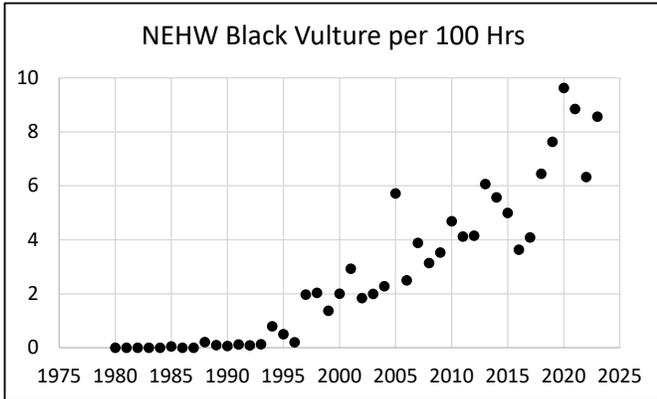
HISTORY TABLE - 20 year table

DAILY SITE TABLES

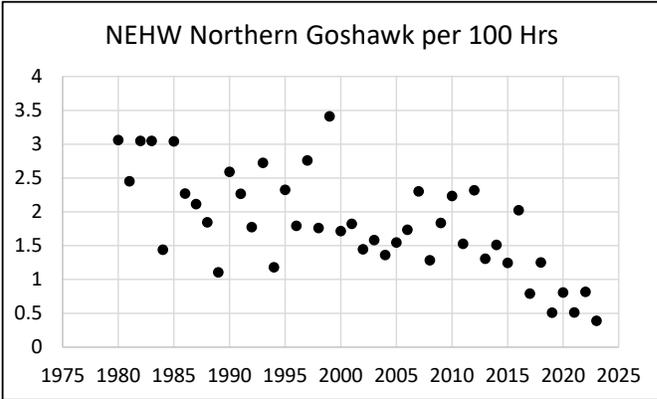
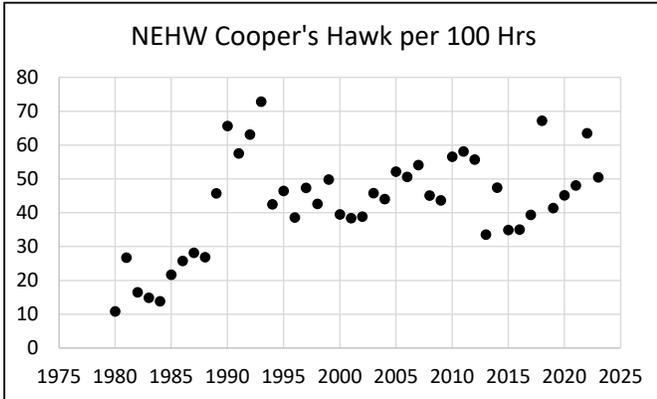
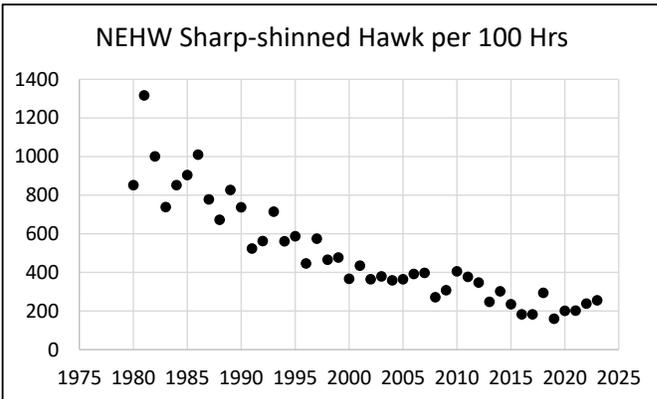
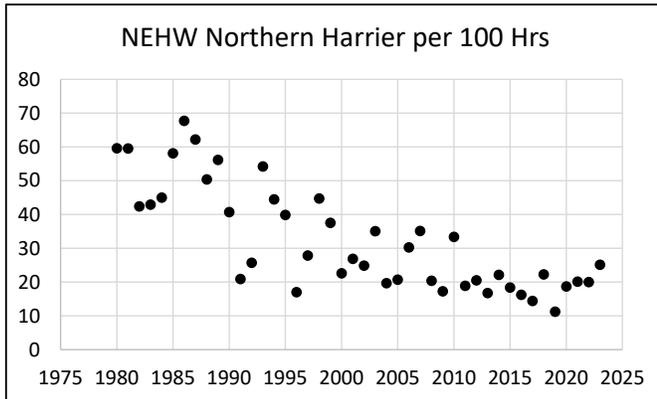


NorthEast Hawk Watch Fall Migration Trends, 1980–2023

Vultures, Osprey, Bald Eagle

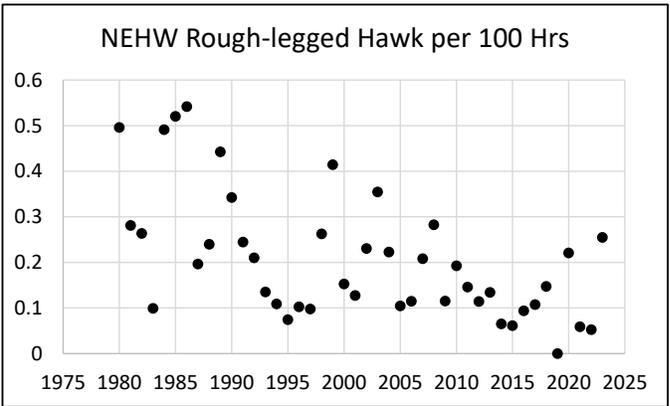
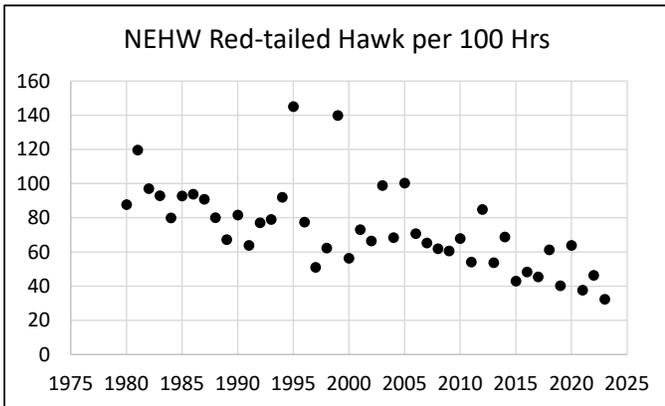
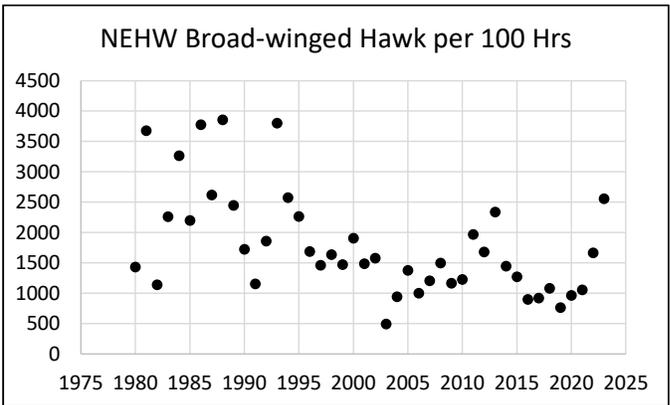
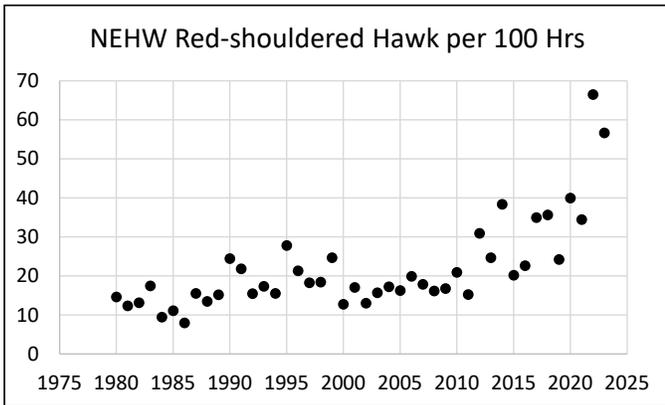


Harrier, Accipiters

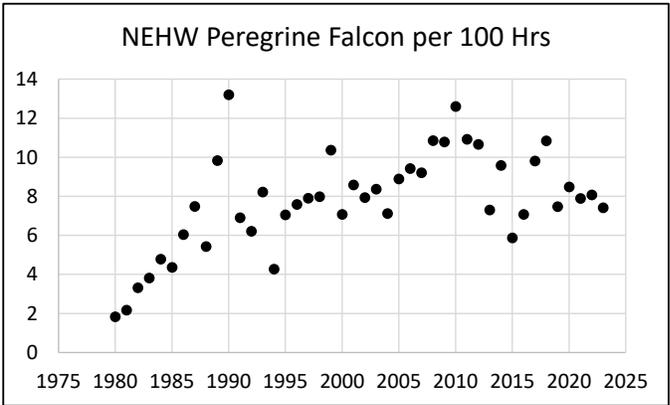
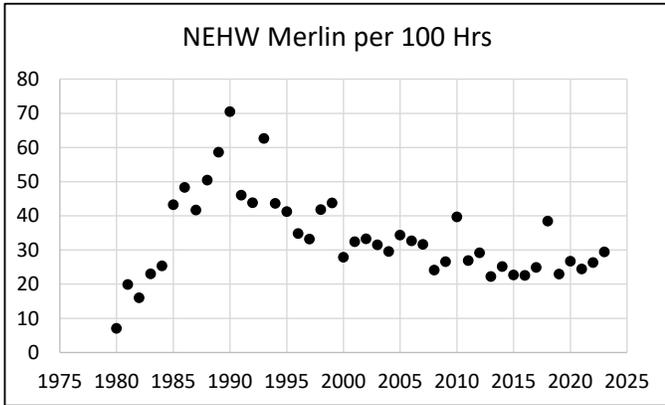
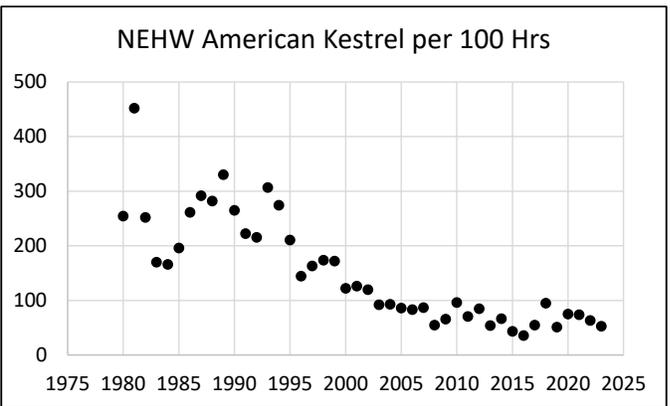
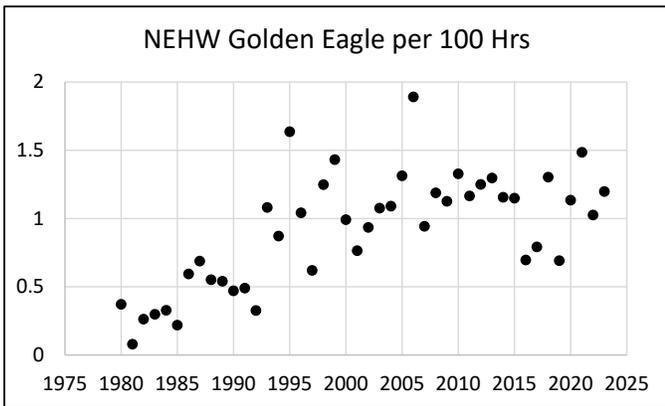


NorthEast Hawk Watch Fall Migration Trends, 1980–2023

Buteos



Golden Eagle, Falcons



FALL 2023 - A Very Big Year!

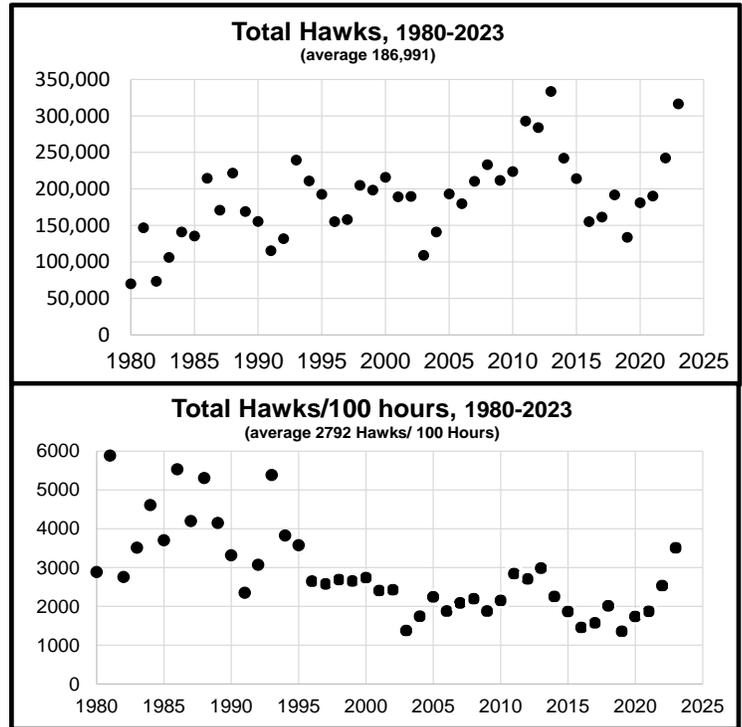
Fall of 2023 was the year when you counted the 2nd highest Total Hawks of our history! That's 316435 hawks, 2nd only to the 333394 counted in 2013. Wow! This was a very good year! Furthermore, when we account for effort, the Total Hawks/ 100 hours (PHH) is the best since 1995. There were 3507 Total Hawks PHH this season compared to 3577 in Fall 1995. This was also 1000 hawks PHH more than in Fall 2022, and 72% above the 20-year average, an amazing increase over our record low of 1358 Hawks PHH, just 4 years ago in 2019.

Hawk Watch Sites

Just as our Total Hawks have varied from year to year, there is also variation among our watch sites. Even with our high count this season, there were more sites with below average than above average Total Hawks. Eleven sites were above average, 18 sites were below average, and 11 sites were at average.

We had 40 sites again this season, with a net change of 4 sites. We welcome the return of Helderberg in Region 41 and Boothe Memorial in the Coastal Region. They provide important additions to our count. The two sites that did not count this season were Cooper in Region 45 and Mohonk in Region 41. Cooper counted for 12 years, beginning in 2011, and Mohonk counted for 28 years, beginning in 1987. We appreciate their years of contribution, and hope they can return in futures years.

The 40 sites are organized based on degrees latitude, with Regions 40 to 45, plus a southern coastal region, CO. Each region includes all sites with latitudes within that one-degree block. For these discussions, site records refer to new high counts compared to all the data we have for the site, but averages refer to the last 10 years at each site. Above average counts refer to those that were at least 20% higher than average, while below average refers to those that were at least 20% lower than average. Counts within the range of +/- 20% are considered average. Summary Tables provide site information at a glance, including the number of years with coverage, the total number of hawks counted at the site, and a comparison of Total Hawks in 2023 to their 10-year average.



Region 45

3% of hawks, 3% of XBV*, 34 hawks/hour, 220 hawks/day, 29 XBV/day, 3% of hours. [*Note: XBV=Hawks without Broadwings and both vultures]

Region 45 has one site this season, Greenlaw Mountain NB. It is our furthest north site, a little more than a mile inside Canada on the Passamaquoddy Bay, an arm of the Bay of Fundy.

Site History Summary for Region 45

Site	Years	Grand Total	2023 cf.Avg
Greenlaw	15	85906	Above

With average effort, **Greenlaw Mountain** had the NorthEast high count for American Goshawk (11), representing a third of all Goshawks counted in the NorthEast. They had site records for Total Hawks (9228) and hawks/hour (34), due mostly to their record Broad-winged Hawk count (7656), which was 86% above average. Cooper's Hawk (20) was also a record high, and there were above average counts for two other species, Bald Eagle (180) and Red-shouldered Hawk (6). There was an additional record, unfortunately a record low, for Sharp-shinned Hawk (434). Merlin (27) and Peregrine (12) were both below average. All other species were at average.

Region 44

8% of hawks, 4% of XBV, 61 hawks/hour, 297 hawks/day, 29 XBV/day, 5% of hours. [*Note: XBV=Hawks without Broadwings and both vultures]

Region 44 includes Cadillac Mountain and Clarry Hill in Maine; and Mount Philo in Vermont. This region counted 8% of the hawks in the NorthEast in 5% of the hours, averaging 297 hawks/day and 61 hawks/ hour, the most of all the regions, and 29 XBV/day.

Site History Summary for Region 44

Site	Years	Grand Total	2023 cf.Avg
Cadillac Mt NB	29	83128	At Avg
Mt. Philo SP VT	6	14997	Above
Clarry Hill ME	13	168972	Above

Cadillac Mountain had average Total Hawks (3195) for their average effort (236 hr), resulting from a mix of above and below average species counts. Their one Goshawk tied a record low from 2002, while their one Golden Eagle was their first since 2013 making 2023 only their 8th year with a Golden. These single counts were counterbalanced by a record high for Turkey Vulture (349), and above average counts for 4 other species: Bald Eagle (132), Northern Harrier (110), Red-shouldered Hawk (2), and Broad-winged Hawk (1271). Cooper's Hawk (8), Kestrel (282), and Peregrine (18) were below average. In its 6th year of counting, **Mt. Philo** had record high Broad-

winged Hawk (3759) that was twice their average, resulting in record Total Hawks (4054) and record Hawks/Hr (110). This was balanced by average counts for Turkey Vulture (141), Sharp-shinned Hawk (29), Cooper’s Hawk (7), and Kestrel (38). All other species were below average. Similar to Mt. Philo, **Clarry Hill** had good, above average Broad-winged Hawk (17194), resulting in above average Total Hawks (18926) and Hawks/Hr (122). The Broadwing count was one of 5 in the NorthEast above 15000. However, with below average effort (155 hr), all other species had below average counts. The only exception was Turkey Vulture (894), which was at average. Notable among their below average counts were Goshawk (4) and Golden Eagle (3).

“COLD is a four-letter word and so is SLOW. Both describe the day on Clarry Hill. 20F at the start of the watch with NNW to NW winds 8 to 12 MPH. 10 Imm. BEs and 7 Adults traveling with a half a dozen common Ravens. All RTs adult, Adult RS , Adult Goshawk @ 8:45 AM right over the hill. A single Juv. NH. escorted by a pair of SSs.” Thom McCullough, Clarry Hill ME 11/20/2023

Region 43

3% of hawks, 4% of XBV, 15 hawks/hour, 97 hawks/day, 26 XBV/day, 7% of hours

Region 43 includes Interlakes School, Alton Bay, and Concord School in New Hampshire, and Mt. Ascutney State Park and Putney Mountain in Vermont. This region counted 3% of the hawks of the NorthEast in 7% of the hours, averaging 97 hawks/day, substantially more than the 82 hawks/day in 2022. The region also counted 4% of XBV, averaging 26 XBV/day, unchanged from 2022, and 15 hawks/ hour.

Site History Summary for Region 43

Site	Years	Grand Total	2023 cf.Avg
Interlakes School NH	19	11932	Below
Alton Bay NH	4	6964	---
Mt. Ascutney SP VT	4	380	---
Concord School NH	13	1915	Above
Putney Mt VT	40	219025	Below

In 2021, **Interlakes School** had a banner year with 7212 Broadwings. With their coverage limited to 2 days each season, the high count that year exaggerates their average count, resulting in below average Broadwing (177) and Total Hawk (244) counts this season. However, compared to their median counts, both are above average. So, this was a good season at Interlakes. They had a site record for Northern Harrier (3) and tied the record for Red-shouldered Hawk (2). Other above average species include Bald Eagle (10), Sharp-shinned Hawk (31), Red-tailed Hawk (2) and American Kestrel (4). **Alton Bay**, with more days per season but fewer seasons, has a similar situation that results in below average counts for Broadwings (1152) and Total Hawks (1356). However, when using the median instead of the mean, both counts are

actually average. As counts at a new site vary from year to year, this season brought new site records. Turkey Vulture (73) was a new high, and both Northern Harrier (5) and Red-shouldered Hawk (3) tied previous highs. Notably, Sharp-shinned Hawk (87) was above average. **Mt. Ascutney** is also experiencing the varied counts of a new site. With fewer hours (21) than in 2 previous years, they counted 8 species, including 3 new site records. The records were Turkey Vulture (16), Red-shouldered Hawk (2), and Red-tailed Hawk (5). Other species included Osprey (2), Bald Eagle (2), Sharp-shinned Hawk (1), Cooper's Hawk (4) and Peregrine Falcon (2).

Concord School had a good season. They counted their 3rd Northern Harrier in 13 years, and averaged 15 hawks/ hour, almost twice their average. In addition to the Harrier, they had above average counts for 4 species, including Bald Eagle (2), Sharp-shinned Hawk (4), Cooper's Hawk (2), and Broad-winged Hawk (250). **Putney Mountain** counted 17 species this season! This includes 8 American Goshawks, 3 Rough-legged Hawks, 8 Golden Eagles, and a Swainson's Hawk. The Goshawk count was surpassed only by Greenlaw Mountain, and the Swainson's was one of only 2 in the NorthEast this season. Species that were above average include Black Vulture (6), Turkey Vulture (623), and Bald Eagle (168). Northern Harrier (81), Sharp-shinned Hawk (1338), and Merlin (45) were at average. All other species were below average, including Broad-winged Hawk (4671).

Region 42

17% of hawks, 11% of XBV, 30 hawks/hour, 175 hawks/day, 20 XBV/day, 20% of hours.

Region 42 includes Pack Monadnock in New Hampshire, Helderberg Escarpment in New York, Booth Hill in Connecticut, and eight sites in Massachusetts— Mount Watatic, East St. Adams, Wachusett Mountain, Pinnacle Rock, Barre Falls, Mount Holyoke, Shatterack Mountain, and Blueberry Hill. This region counted 17% of the hawks of the NorthEast in 20% of the hours, averaging 175 hawks/day and 30 hawks/hour. While the percent of hawks in the NorthEast is lower than in 2022, the averages are higher, suggesting there were more hawks this season in Region 42, and a larger gain in other regions. Region 42 also counted 11% of XBV and averaged 20 XBV/day, similar to last year.

Site History Summary for Region 42

Site	Years	Grand Total	2023 cf.Avg
Pack Monadnock NH	39	247418	At Ave
Mount Watatic MA	36	255460	Above
Helderberg Esc NY	20	32336	Below
East St. Adams MA	3	6436	- - -
Wachusett Mt. MA	44	482694	Above
Pinnacle Rock MA	26	7311	At Ave
Barre Falls MA	24	128229	Below

Mount Holyoke MA	4	2773	- - -
Shatterack Mt MA	20	71121	At Ave
Blueberry Hill MA	38	180544	Above
Booth Hill CT	25	68245	Below

This was an average season for **Pack Monadnock**, with average counts for Total Hawks (13058) and 9 of the 16 species counted. They had a site record for Black Vulture (3), which first occurred in 2021, documenting this species' spread into the northeast. Two other species were above average, Bald Eagle (196) and Peregrine Falcon (61). The Peregrines just missed the site record. Highlights included 6 American Goshawks, 1 Rough-legged Hawk, and 10 Golden Eagles. The Goshawk count was the lowest since they started covering full seasons in 2005, definitely a concern for that species. Other below average species include Osprey (122), Red-tailed Hawk (212), and American Kestrel (92). The Broadwing (10256) count, one of 10 in the NorthEast above 10000, is average. **Mount Watatic** had an above average year with a site record for Bald Eagle (189) and 4 other above average species, including Turkey Vulture (49), Red-shouldered Hawk (7), Merlin (18), and Broad-winged Hawk (12225). The above average Broadwings, also one of 10 above 10000, resulted in above average Total Hawks (12815) and double the hawks/ hour (166). Two species were notably below average: Osprey (32) and Kestrel (22). **Helderberg** has been adjusting to a change in coverage, returning this season with reduced hours. Consequently, all counts are below average. However, when looking at hawks per hundred hours, they did remarkably well, with record high counts for Bald Eagle (15, 79 PHH), Broad-winged Hawk (854, 4495 PHH), and Total Hawks (989, 5205 PHH). Welcome back! **East St. Adams** increased coverage (103 hours) in their 3rd season. This resulted in a medley of record high counts, and a Golden Eagle as a special treat. The new records were Osprey (8), Bald Eagle (33), Sharp-shinned Hawk (84), American kestrel (8), Merlin (7), and Peregrine (4). It's great to see the increases!

Wachusett added days (86) and hours (469), almost ensuring above average counts for all. Their 5 Rough-legged Hawks was tied for the NorthEast high and also a site record. Three other site records include Bald Eagle (323), Red-shouldered Hawk (178), and Golden Eagle (8). Other above average species include Turkey Vulture (811), Bald Eagle (323), Northern Harrier (40), Red-shouldered Hawk (178), and Red-tailed Hawk (145). Broad-winged Hawk (15073) was above average and one of the 5 Broadwing counts in the NorthEast above 15000. Even with the added coverage, there were 2 species below average, American Kestrel (97) and Peregrine Falcon (17). **Pinnacle Rock** had an average year for Total Hawks (278) with a mix of above and below average species counts. Their Turkey Vulture (59) count was a site record, and there were above average counts for 3 species, Red-shouldered Hawk (6), Red-tailed Hawk (37), and Merlin (7). The Osprey (18) count was average, but all other species were below average, including Broad-winged Hawk (8) and Sharp-shinned Hawk (90). **Barre Falls** counted on 1 good day this season. The count included Broad-winged Hawk

(561), Red-tailed Hawk (1) and American Kestrel (1). **Mount Holyoke** also had a single day of coverage, counting fewer total hawks but more species. Their count included Black Vulture (2), Osprey (2), Bald Eagle (3), Sharp-shinned Hawk (3), Cooper’s Hawk (7), Broad-winged Hawk (186), American Kestrel (1), and Peregrine Falcon (1).

Shatterack Mountain had an average Total Hawks (3289) this season, punctuated with a site record for Cooper’s Hawk (53). There were 2 species above average, including Turkey Vulture (293) and Bald Eagle (39), and 4 species at average, including Northern Harrier (15), Sharp-shinned Hawk (253), American Goshawk (1), and Peregrine Falcon (5). While one Goshawk is average due to historical numbers, this was the first Gos since 2017, making this one special. **Blueberry Hill** had a good season, with above average Total Hawks (3325), resulting from above average counts for 5 species. These include Turkey Vulture (292), Northern Harrier (30), American Kestrel (122), Merlin (17), and Peregrine Falcon (9). Species at average include Sharp-shinned Hawk (204), Red-shouldered Hawk (21), and Broad-winged Hawk (2526). All other species were below average, including American Goshawk (1), which was missed in 3 of the previous 10 years. **Booth Hill** had a below average year for Total Hawks (587), yet tied a site record for Red-tailed Hawk (8). Three other species were above average, including Turkey Vulture (56), Cooper’s Hawk (4), and Red-shouldered Hawk (5). Two species were at average, including Sharp-shinned Hawk (13) and American Kestrel (5). All other species were below average.

Region 41

40% of hawks, 39% of XBV, 44 hawks/hour, 279 hawks/day, 51 XBV/day, 32% of hours.

Region 41 has 10 sites, five in Connecticut, four in New York, and one in New Jersey. The Connecticut sites include Johnnycake, Chestnut Hill, Botsford Hill, Maltby Lakes, and Quaker Ridge. The New York sites include Bear Mountain, Mount Peter, Chestnut Ridge, and Hook Mountain. The single New Jersey site is Purple Chickadee. This region counted 40% of the hawks in 32% of the hours. This is a slightly higher percentage than last year, and represents the highest of the regions. The hawks per hour and per day are substantially higher than last year.

Site History Summary for Region 41

Site	Years	Grand Total	2023 cf.Avg
Johnnycake CT	32	87800	Below
Chestnut Hill CT	41	141818	Above
Botsford Hill CT	30	88369	Above
Bear Mountain NY	27	78059	Above
Maltby Lakes CT	3	4151	---
Mount Peter NY	44	355016	Below
Chestnut Ridge NY	40	539722	Above

Hook Mountain NY	44	461266	Above
Quaker Ridge CT	44	791016	Above
Purple Chickadee NJ	7	21617	Above

Johnnycake had a below average season for Total Hawks (916) and most species, but had above average counts for three species, Northern Harrier (6), Red-shouldered Hawk (9), and Red-tailed Hawk (12). The most prevalent species were Broad-winged Hawk (826) and, notably, Bald Eagle (18). **Chestnut Hill** had an above average season for Total Hawks (6794), mostly due to a Broad-winged Hawk (6670) count that was double the average. Sharp-shinned Hawk (63) was also above average. Species at average include Bald Eagle (24), Northern Harrier (2), Cooper's Hawk (10), and Merlin (2). All other species were below average. **Botsford Hill** had above average Total Hawks (4968) due to 2000 more Broad-winged Hawks (4868) than average. This also raised the hawks/ hour (97) to double the average. Bald Eagle (31) and Northern Harrier (7) were above average. The Red-shouldered Hawk (1) was a special addition to the season, as it is only the 2nd Shoulder counted since 2009. While Cooper's Hawk (5) was average, all other species were below average. **Bear Mountain** also had above average counts for Total Hawks (2703) and Broad-winged Hawk (2412), and these resulted in a site record for hawks/ hour (25). Black Vulture (12) and Turkey Vulture (49) were also above average, and Northern Harrier (8) was at average. This occurred despite coverage (107 hours) that was less than half of average. When accounting for the reduced coverage, the average species also includes Osprey (20), Bald Eagle (41), Cooper's Hawk (17), American Kestrel (32), and Merlin (4).

For its 3rd season, **Maltby Lakes** counted 6 species in 2 hours, including Osprey (2), Bald Eagle (4), Sharp-shinned Hawk (1), Cooper's Hawk (3), Broad-winged Hawk (38), and American Kestrel (2). At 26 hawks/ hour, this was an excellent 2 hours choice! **Mount Peter**, along our western boundary, had 1/3rd fewer hours (299) this season, resulting in below average counts for most species and Total Hawks (3732). Despite the reduced effort, they had above average Turkey Vulture (1282) and average counts for Bald Eagle (107) and Peregrine Falcon (14). When accounting for the lower hours, both of these species are above average, and Northern Harrier (26) is at average, as is hawks/ hour (13). Their big treat for Halloween was a Golden Eagle! **Chestnut Ridge** had a banner year, with American Goshawk (1), Rough-legged Hawk (2), and Golden Eagle (17), along with site records for 6 species and Total Hawks (39293). The Total Hawks were 8000 more than the previous high of 31016 in 1986! The 6 new records include Black Vulture (202), Turkey Vulture (6249), Bald Eagle (334), Broad-winged Hawk (25833), Merlin (144), and Peregrine Falcon (45). Both Vultures were NorthEast high counts, and the Golden Eagles were tied for NorthEast high. The Broadwing count was one of only 2 sites with more than 25000. While Red-tailed Hawk (112) was below average and American Kestrel (377) was at average, all other species were above average. This was a very good season!

Hook Mountain had a good season with above average counts for 7 species and Total Hawks (16122), a site record for Turkey Vulture (1982), the 1st Rough-legged Hawk since 2010, 7 Golden Eagles, and a Short-eared Owl! Total Hawks were more than double average, as was Red-shouldered Hawk (830), while Broad-winged Hawk (10171) was triple average and the best count since 2011. The Short-eared Owl, seen on Nov 10, was one of two in the NorthEast. Other above average species include Black Vulture (114), Northern Harrier (146), Cooper’s Hawk (274), and American Kestrel (302), while species at average include Osprey (207), Bald Eagle (169), Sharp-shinned Hawk (1722), and Merlin (76). Notably below average were Red-tailed Hawk (92) and Peregrine Falcon (16). **Quaker Ridge** had an extraordinary year! They had a whooping Total Hawks (45267) that was 2nd only to their 46217 in 1986. This was the NorthEast high, along with NorthEast high counts for 6 species: Bald Eagle (446), Northern Harrier (313), Sharp-shinned Hawk (4568), Red-shouldered Hawk (1608), and Broad-winged Hawk (32108), and a tie for Golden Eagle (17). Additionally, they counted the only 2 Mississippi Kites in the NorthEast. They had site records for 5 species, including Black Vulture (118), Turkey Vulture (3632), Cooper’s Hawk (938), Rough-legged Hawk (4), and Bald Eagle. Except for the below average Red-tailed Hawk (162) and average Peregrine Falcon (33), all other species were above average. **Purple Chickadee** put in more hours (429) in this 7th season, and had an exceptional year, with Total Hawks (6689) that was triple average, site records for 6 species including Golden Eagle (8), and above average counts for all but 2 species. The other site records include Turkey Vulture (327), Bald Eagle (92), Broad-winged Hawk (5088), Red-tailed Hawk (128), and a tie for Peregrine Falcon (19). Several species had more than twice the average counts, including the Bald Eagle, Red-shouldered Hawk (156), and Red-tailed Hawk, while the counts for Broadwing and Total Hawks were almost triple average.

Region 40

24% of hawks, 17% of XBV*, 39 hawks/hour, 257 hawks/day, 34 XBV/day, 21% of hours.

Region 40 has one site in New York, Lenoir Wildlife Sanctuary, and five sites in New Jersey—State Line, Wildcat Ridge, Montclair, Scott’s Mountain, and Chimney Rock, which has reported in the last 7 years as Washington Valley. This region counted 24% of the hawks and 17% of XBV in 21% of the hours, slightly more than last season. The average of 257 hawks/day is a big increase over 2021, but the 34 XBV/day is unchanged.

Site History Summary for Region 40

Site	Years	Grand Total	2023 cf.Avg
State Line NJ	16	130750	Above
Lenoir Wildlife NY	25	65291	Above
Wildcat Ridge NJ	26	145100	Above
Montclair NJ	44	733597	Above

Scott's Mountain NJ	22	284298	Below
Chimney Rock NJ	33	433598	Above

Years and Grand Total represent data available in NEHW files. The 2023 cf.Avg compares the 2023 Total Hawks to the prior 10 year average.

State Line had a good season with 2 record highs, above average Total Hawks (17344), the 1st American Goshawk (1) in 3 years, and a record 40 hawks/ hour. The species with site records were Bald Eagle (389) and Broad-winged Hawk (10957), which was one of the 10 sites above 10000. Amazingly, the Broadwing count was almost 4 times average. While Turkey Vulture (3407) was above average, there were 4 species at average, including Black Vulture (78), Northern Harrier (70), Merlin (58), and Peregrine Falcon (53). All other species were below average. **Lenoir** also did well, with a site record for Broad-winged Hawks (3530), at 4 times average, Total Hawks (4419), at 2 times average, and above average counts for 4 other species. They had their best Merlin (19) count since 2009, and above average counts for Osprey (176), Bald Eagle (111), and Peregrine Falcon (12). Their Sharp-shinned Hawk (154) was at average, but their American Kestrel (40) was below average. **Wildcat Ridge** had record low hours (113) this season, representing only half the average effort and resulting in below average counts for most species. Despite this, they had good counts for several species and for Total Hawks (7467), which was twice the average. The Broad-winged Hawk (7242) count was a remarkable 3 times average. Red-shouldered Hawk (14) was at average, and the 2 Golden Eagles were a season highlight. Even with half the hours, they were rewarded with 66 hawks/hour, a site record.

Montclair also had a good season, with a site record, Total Hawks (16579) that are more than twice average, and above average counts for 4 species. The site record was for Turkey Vulture (2923) as it continually increases in the region. Above average species included Black Vulture (119), Golden Eagle (2), and Broad-winged Hawk (11768). The Broadwing count, which was one of the 10 sites above 10000, was the best since the 15824 counted in 2000 and a remarkable 4 times average. An additional 3 species had average counts, including Bald Eagle (121), Northern Harrier (43), and Red-shouldered Hawk (256). All other species were below average, the most notable being Osprey (62). With last year's count of 39, this is the 2nd year with fewer than 100 Osprey. **Scott's Mountain** was below average with Total Hawks (9591) and most species, even with 2000 more hawks this season than in 2022. Still, Northern Harrier (119) was above average, and there were 4 species at average, including Bald Eagle (245), Cooper's Hawk (192), Red-shouldered Hawk (212), and Peregrine Falcon (47). The Broad-winged Hawk (6822) count was 2300 more than in 2022 but still below average. All other species were below average, including Red-tailed Hawk (380), with a count lower than 400 for the first time at this site. The Golden Eagles (10) were the highlight of the season. **Chimney Rock** experienced a change in coverage beginning

in 2017 with a drop to 1/3rd the effort. Thus, while the History Summary above refers to the long-term site, these comparisons will compare to the years beginning in 2017. 2023 was an above average year with site records for Broad-winged Hawk (17617) and Total Hawks (19268), and a tied record for Golden Eagle (5). The Broadwing count was one of the 10 sites above 10000 this season. There were also above average counts for Bald Eagle (169), Northern Harrier (44), Cooper’s Hawk (141), and Peregrine Falcon (15), and average counts for Sharp-shinned Hawk (730), Red-shouldered Hawk (150), and American Kestrel (221).

Region CO

5% of hawks, 22% of XBV, 16 hawks/hour, 93 hawks/day, 74 XBV/ day, 11% hours

Region CO includes four coastal sites, Lighthouse Point and Boothe Memorial in Connecticut, and Fire Island and Fort Tilden in New York. These four sites counted 5% of the hawks of the NorthEast, averaging 93 hawks/day, and 16 hawks/hour. They also counted 22% of XBV, averaging 74 XBV/day, which is the highest of the regions. These percentages and averages are the same as last year.

Site History Summary for Region CO

Site	Years	Grand Total	2023 cf.Avg
Lighthouse Pt CT	44	670536	At Avg
Boothe Memorial CT	12	38828	Above
Fire Island NY	42	152643	Above
Fort Tilden NY	6	14339	Above

Years and Grand Total represent data available in NEHW files. The 2023 cf.Avg compares the 2023 Total Hawks to the prior 10 year average.

With an average season for Total Hawks (8268), **Lighthouse Point** continues as the Cooper’s Hawk (1007) Capitol of NorthEast and tied the NorthEast highs for Rough-legged Hawk (5), Short-eared Owl (1) and Swainson’s Hawk (1). They had an extraordinary season for these rarities and for Golden Eagle (8). This was the best count for Goldens since 2013, and the best count for Roughlegs since 2004. Swainson’s have been almost regular, with one in 2022, two in 2021, and one in 2019. The Short-eared is less regular, with one in 2021 and three in 2017. In addition, they also had a new site record for Turkey Vulture (1781), and average counts for Bald Eagle (262), Northern Harrier (287), and Sharp-shinned Hawk (2059). **Boothe Memorial** returned to count after a 3-year hiatus. With reduced coverage (22 hours), they successfully counted 13 species. The most prevalent was Broad-winged Hawk (553), followed by Turkey Vulture (254), Sharp-shinned Hawk (100), Bald Eagle (44), Osprey (35), and American Kestrel (34). Total Hawks (1079) was average for the coverage.

With an above average season for Total Hawks (3701), **Fire Island** continues as the Merlin (1218) Capitol of the NorthEast and also had the NorthEast highs for American

Kestrel (634) and Peregrine Falcon (103). They had 2 site records, for Osprey (1199) and Bald Eagle (22), above average counts for Northern Harrier (257) and Sharp-shinned Hawk (229), and an average count for Red-tailed Hawk (2). This was a good season on the barrier beach! **Fort Tilden**, in its 6th year of regular counting, had the NorthEast high for Osprey (1795), one of the 3 Short-eared Owls in the NorthEast, and above average Total Hawks (3145). Both the Osprey and Total Hawks were site records. Other above average species include Bald Eagle (31) and Sharp-shinned Hawk (536). Notably, even though there were more hours (148) than in 3 other years, there were record low counts for Cooper's Hawk (45), American Kestrel (341) and Merlin (219).

"The unequivocal highlight was a Short-eared Owl. I first saw it chasing a Raven, but another observer later told me the Raven chased the owl first. In any event, ... the owl veered out to the ocean." Steve Walter, Fort Tilden NY 10/15/2023

Hawks

As we read through the site reports above, we can imagine being there and sharing the experiences of hawk watching - newbies might thrill at the sight of a Grey Ghost flying overhead, regulars who haven't seen a Roughleg in years might jump up to soak in every second as that once-in-5-years bird flies by, or you just feel great comfort as that Merlin zooms past your kneecaps telling you that all is good in the world. The experiences are the things that bring us back each season, for more of what nourishes us. Exploring the data collected on those days helps us understand a bit more about those hawks and how they migrate across the NorthEast.

The Fall 2023 Seasonal Summary Table provides a quick summary of the hawks counted at all 40 of the sites described above, along with the totals for each species. Species are listed vertically, with the highest count for each species highlighted. These are actual counts and are naturally influenced by effort, so the number of days and hours of effort are also included. Collectively, we counted for a remarkable 9022 hours and counted an amazing 316,435 hawks!

NorthEast Fall 2023 Seasonal Totals

Reg	Site	Days	HRS	BV	TV	OS	BE	NH	SS	CH	AG	RS	BW	RT	RL	GE	AK	ML	PG	UR	Other	Total	XBV
45	Greenlaw Mt NB	42	271	0	345	126	180	77	434	20	11	6	7656	140	0	0	140	27	12	54	0	9228	1227
44	Cadillac Mt ME	58	236	0	349	119	132	110	707	8	1	2	1271	38	0	1	282	59	18	98	0	3195	1575
	Mt. Philo SP VT	9	37	0	141	17	53	2	29	7	0	1	3759	3	0	0	38	1	0	3	0	4054	154
	Clarry Hill ME	21	155	0	894	63	200	63	239	16	4	30	17194	130	0	3	66	12	5	7	0	18926	838
43	Interlakes School NH	2	10	0	14	1	10	3	31	0	0	2	177	2	0	0	4	0	0	0	0	244	53
	Alton Bay NH	15	92	0	73	1	9	5	87	1	0	3	1152	8	0	0	3	9	1	4	0	1356	131
	Mt. Ascutney SP VT	6	21	0	16	2	2	0	1	4	0	2	0	5	0	0	0	0	2	4	0	38	22
	Concord School NH	5	21	0	25	1	2	1	4	2	0	0	250	4	0	0	1	0	0	15	0	305	30
	Putney Mt VT	70	513	6	623	93	168	81	1338	72	8	26	4671	292	3	8	144	45	23	0	1SW	7602	2302
42	Pack Monadnock NH	80	568	3	286	122	196	90	1198	167	6	188	10256	212	1	10	92	108	61	62	0	13058	2513
	Mount Watatic MA	11	77	1	49	32	189	8	197	29	0	7	12225	4	0	0	22	18	1	33	0	12815	540
	Helderberg Esc NY	5	19	14	56	2	15	1	10	6	0	0	854	20	0	0	5	2	4	0	0	989	65
	East St. Adams MA	22	103	0	0	8	33	0	84	3	0	1	1178	0	0	1	8	7	4	13	0	1340	162
	Wachusett Mt MA	86	469	4	811	155	323	40	335	144	1	178	15073	145	5	8	97	38	17	267	0	17641	1753
	Pinnacle Rock MA	31	179	0	59	18	7	2	90	16	0	6	8	37	0	0	0	7	1	27	0	278	211
	Barre Falls MA	1	4	0	0	0	0	0	0	0	0	0	561	1	0	0	1	0	0	0	0	563	2
	Mount Holyoke, MA	1	6	2	0	2	3	0	3	7	0	0	186	0	0	0	1	0	1	1	0	206	18
	Shatterack Mt MA	23	129	0	293	16	39	15	253	53	1	11	2525	36	0	0	26	9	5	7	0	3289	471
		Blueberry Hill, MA	44	235	0	292	18	15	30	204	22	1	21	2526	33	0	0	122	17	9	15	0	3325
	Booth Hill CT	5	26	0	56	2	7	0	13	4	0	5	486	8	0	0	5	0	0	1	0	587	45
41	Johnnycake CT	10	34	0	14	11	18	6	10	7	0	9	826	12	0	0	1	0	0	2	0	916	76
	Chestnut Hill CT	9	48	0	0	8	24	2	63	10	0	0	6670	0	0	0	5	2	0	10	0	6794	124
	Botsford Hill CT	10	51	0	0	10	31	7	33	5	0	1	4868	0	0	0	7	0	0	6	0	4968	100
	Bear Mountain NY	29	107	12	49	20	41	8	67	17	0	6	2412	12	0	0	32	4	3	20	0	2703	230
	Maltby Lakes CT	1	2	0	0	2	4	0	1	3	0	0	38	0	0	0	2	0	0	1	0	51	13
	Mount Peter NY	58	299	42	1282	42	107	26	444	38	0	63	1477	135	0	1	45	4	14	12	0	3732	931
	Chestnut Ridge NY	91	690	202	6249	361	334	240	3663	582	1	931	25833	112	2	17	377	144	45	200	0	39293	7009
	Hook Mountain NY	74	485	114	1982	207	169	146	1722	274	0	830	10171	92	1	7	302	76	16	12	1SE	16122	3855
	Quaker Ridge CT	96	755	118	3632	526	446	313	4568	938	0	1608	32108	162	4	17	614	128	33	50	2MK	45267	9409
		Purple Chickadee NJ	75	429	22	327	56	92	38	469	129	0	156	5088	128	0	8	91	18	19	48	0	6689
40	State Line NJ	70	440	78	3407	414	389	70	982	221	1	257	10857	292	0	0	243	58	53	22	0	17344	3002
	Lenoir Wildlife NY	18	101	16	270	176	111	4	154	36	0	21	3530	30	0	0	40	19	12	0	0	4419	603
	Wildcat Ridge NJ	25	113	10	4	6	24	2	37	68	0	14	7242	26	0	2	9	5	2	16	0	7467	211
	Montclair NJ	65	479	119	2923	62	121	43	700	199	0	256	11768	97	0	2	111	49	22	107	0	16579	1769
	Scott's Mountain NJ	89	633	0	0	113	245	119	1227	192	0	212	6822	380	0	10	105	48	47	71	0	9591	2769
	Chimney Rock NJ	24	162	0	0	55	169	44	730	141	0	150	17617	57	0	5	221	54	15	10	0	19268	1651
CO	Lighthouse Pt CT	82	469	9	1781	743	262	287	2059	1007	0	102	711	252	5	8	499	248	80	213	SE1SW	8268	5767
	Boothe Memorial CT	7	22	1	254	35	44	8	100	29	0	2	553	6	0	0	34	3	5	5	0	1079	271
	Fire Island NY	64	384	0	0	1199	22	257	229	32	0	0	0	2	0	0	634	1218	103	5	0	3701	3701
	Fort Tilden NY	22	148	0	6	1795	31	119	536	45	0	1	7	8	0	0	341	219	35	1	0	3145	3132
Totals	1456	9022	773	26562	6639	4267	2267	23051	4554	35	5108	230606	2921	21	108	4770	2656	668	1422	6*	316435	58494	

*2 Swainson's Hawk; 3 Short-eared Owls, 2 Mississippi Kites; BV Black Vulture, TV Turkey Vulture, OS Osprey, BE Bald Eagle, NH Northern Harrier, SS Sharp-shinned Hawk, CH Cooper's Hawk, NG Northern Goshawk, RS Red-shouldered Hawk, BW Broad-winged Hawk, RT Red-tailed Hawk, RL Rough-legged Hawk, GE Golden Eagle, AK American Kestrel, ML Merlin, PG Peregrine Falcon, UR Unidentified Raptor, XBV Total without Broad-winged Hawks or Vultures

To account for effort that varies from year to year and region to region, the NorthEast Fall Hawks by Region Table summarizes the 2023 Fall data by Region and by hawks/hundred hours (PHH). Converting the counts to PHH allows us to compare across regions and species, and the resulting table reveals information about our hawks that we cannot easily see from the Seasonal Totals Table. For example, comparing

NorthEast Fall 2023 Hawks / 100 Hours by Region

Reg	Sites	Days	HRS	BV	TV	OS	BE	NH	SS	CH	AG	RS	BW	RT	RL	GE	AK	ML	PG	Total	XBV
45	1	42	271	0	127	46	66	28	160	7	4.1	2	2822	52	0.0	0.0	52	10	4	3402	452
44	3	88	428	0	324	47	90	41	228	7	1.2	8	5196	40	0.0	0.9	90	17	5	6119	600
43	5	98	656	1	114	15	29	14	223	12	1.2	5	953	47	0.46	1.2	23	8	4	1455	387
42	10	309	1815	1	105	21	46	10	132	25	0.5	23	2528	27	0.3	1.0	21	11	6	2980	346
41	11	453	2900	18	467	43	44	27	381	69	0.0	124	3085	23	0.2	1.7	51	13	4	4363	793
40	6	291	1928	12	342	43	55	15	199	44	0.1	47	2999	46	0.1	1.3	38	12	9	3872	519
CO	4	175	1023	1	200	369	35	66	286	109	0.0	10	124	26	0.49	0.8	147	165	22	1583	1258
2023	40	1456	9022	9	294	74	47	25	256	50	0.4	57	2556	32	0.3	1.3	53	29	8	3508	648
2022	40	1577	9560	6	209	59	44	20	238	63	0.8	66	1667	46	0.1	1.0	63	26	8	2535	652
2021	45	1676	10167	9	233	62	45	20	203	48	0.5	34	1056	38	0.1	1.5	74	24	8	1870	572
2020	43	1821	10405	10	172	52	43	19	201	45	0.8	40	963	64	0.2	1.1	75	27	8	1738	594
10yrAv	42		10368	6	144	57	35	18	225	46	1.1	34	1240	52	0.1	1.1	61	26	8	1965	575

vertically across regions for the same species, there are 9 times more Osprey in the coastal region (CO) than any other region. Alternatively, comparing horizontally, there are twice as many Bald Eagles as Harriers in Region 44, but only half as many in the coastal region. So, this Table has much to tell us.

From an overview of the Region Table, we can easily see that Osprey and all 3 falcons are also coastal, and surprisingly, so are Coops! And Roughlegs visited the coast in numbers equivalent to those in Region 43 this season! We also see that Bald Eagles have a preference for the northerly regions, and Goshawks definitely prefer the north. Vultures still prefer the lower middle latitudes, as do Sharpies, Shoulders, and, this season, Golden. Redtails are spread across the regions and appear to be randomly disbursed, as the preferred region is different from year to year. Broadwings are also spread across the regions, providing good views across the NorthEast. The Broadwing PHH count for Region 44 dominates the Broadwing column, but is misleading this season. The two sites (of 3) that count almost all of the Broadwings in the region reduced Sep hours by 1/3rd compared to 2022, while the Sep Broadwing count increased from 13628 to 22178. The results are real, but exaggerated a bit, making a true year-to-year comparison difficult for that region. They chose good days to count!

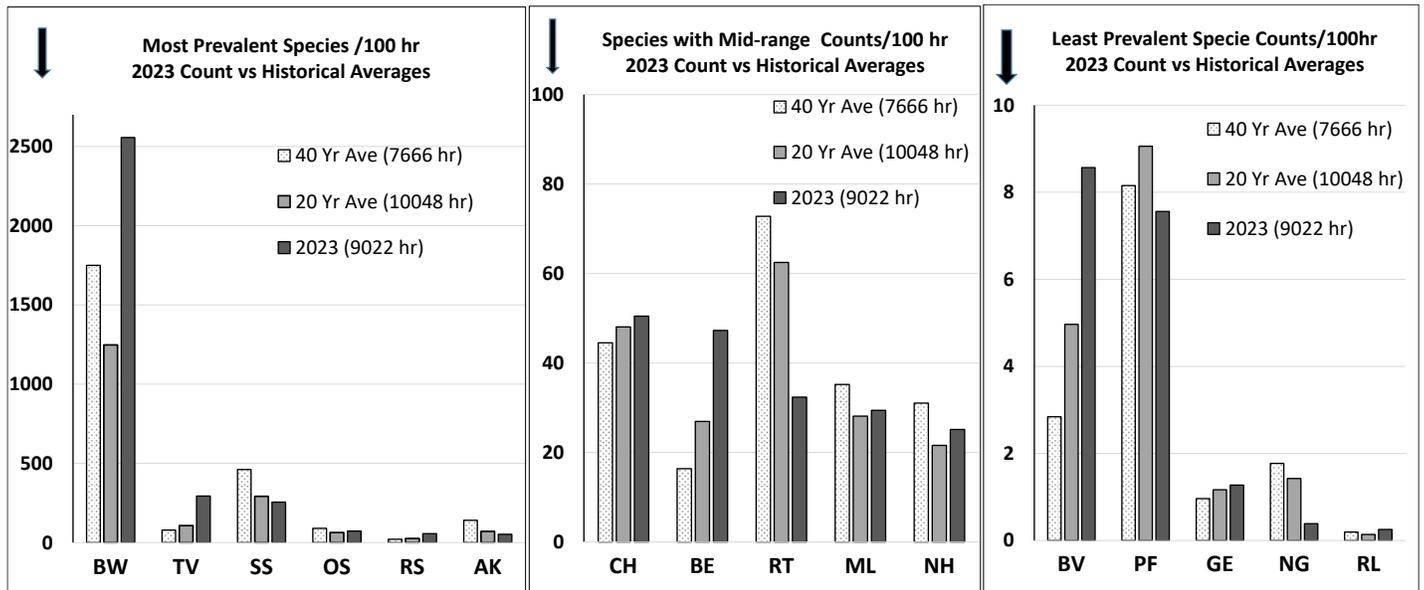
The bar chart showing the annual distribution of Total Hawks since 2000 shows that the 2023 distribution is very similar to 2022. With 1000 more hawks PHH than 2022, our count returned to the mid 1990's. That's 10 hawks more for every hour counting, and we see from the chart that hawks were added to all regions. These are good times!

Reg	2020	2021	2022	2023
45	10	15	12	18
44	25	30	28	35
43	15	20	10	12
42	20	15	22	25
41	12	18	20	28
40	10	12	15	20
CO	10	12	15	18

Species Prevalence - Year of the Broadwing!

With the 2023 experience, you saw more hawks in your region - wonderful! But, which species did you see? Were you awe-struck by kettling Broadwings circling overhead? Or were you amazed when a Merlin attacked the owl decoy 3 times in a row? Species prevalence gives us a glimpse at your most frequent experiences.

Our Species Prevalence charts are arranged from most prevalent to least prevalent species. To accommodate the different magnitude of the counts, three different charts are used, each with different vertical scales. Prevalence refers to our current 2023 data, shown on the charts as the darkest bars. These are the bars that decrease in sequence from left to right. The 40-year average (lightest bar) and the 20-year average (gray bar) are included and provide an historical trend for each species.



Our first look at the charts, and Wow! We not only reached the 40-year Broadwing average, we added another 46%! The Broadwing bar for 2023 dwarfs all other bars! (Remember the vertical scales - the 100 on the middle chart is only a tiny 4% of the 2700 on the left chart.) So, the big take-away is that 2023 was the Year of the Broadwing!

Other changes in rank are important to note. Turkey Vulture regained 2nd rank, trading places with Sharpies. This happened in only one other year, 2021, but will likely happen more regularly going forward. Osprey jumped 3 ranks, from 7th to 4th, as Red-shouldered dropped 1 rank and Cooper’s Hawk dropped 2. Bald Eagle and Black Vulture both gained 1 rank, as they continue to increase in the NorthEast. Their gains were exchanges with Redtail and Peregrine, which each dropped 1 rank. All other species maintained the same rank as 2022.

“A very good day. Birds were flying surprisingly high for the wind speed, ... small kettles of Broad-winged Hawks began to appear. Sharp-shinned Hawks were all around, mixing with the BW kettles. There were also good numbers of Osprey and American Kestrels leaving town. ... we observed two Merlins snagging birds for breakfast. One meal was a Barn Swallow.” Dana Campbell Lighthouse Point 9/15/2023

Species - Flying High: 2 records, 4 highs

There were 2 record high counts this season, Turkey Vulture (26562, 294 PHH) and Bald Eagle (4267, 47 PHH). With 10 site records for Turkey Vulture and 9 site records for Bald Eagle, this is no surprise. Both species are becoming regular at most sites, and are continuing to increase throughout the NorthEast. The Vulture graph shows a marked increase this season over the previous 2 years (still exponential with a steep rise), while the Eagle graph shows a more gradual increase (becoming more linear). Note that the Bald Eagle count of 4624 in 2021 was our actual high count, but there were 1400 more hours that year, reducing the PHH count.

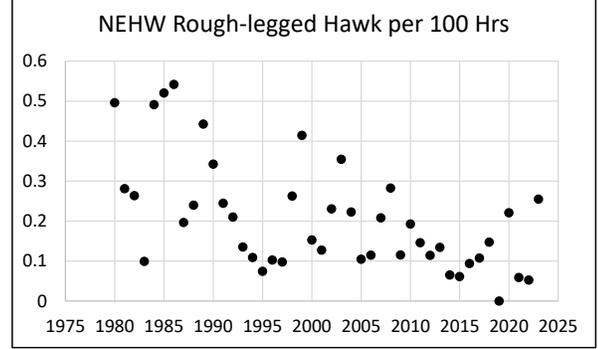
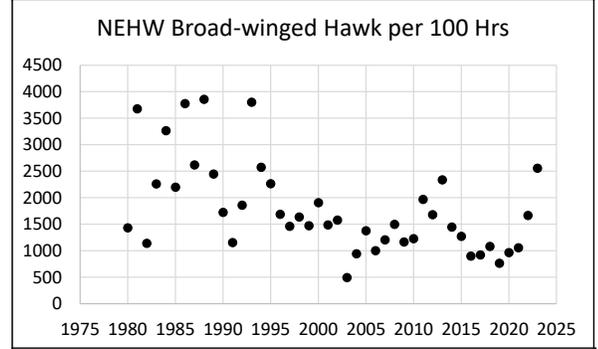
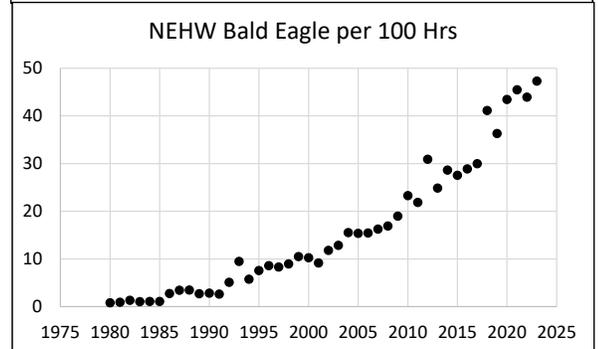
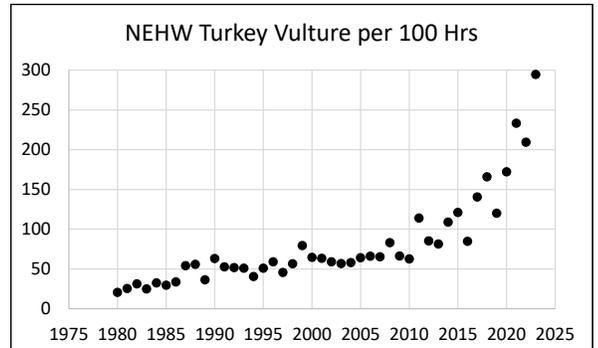
Other species that were above average include Black Vulture (773, 9 PHH), Red-shouldered Hawk (5108, 57 PHH), Broad-winged Hawk (230606, 2556 PHH), and Rough-legged Hawk (21, 0.3 PHH). This was our 3rd highest season for Black Vulture, which is steadily increasing, though at a far slower rate than Turkey Vulture. The Red-shouldered count was 2nd only to the amazing 2022 count that was 67% higher than the earlier record.

While our Broadwings were 2nd highest to the 261313 counted in 2013, there were actually 7 other years when the PHH counts were higher than 2556! We see from the graph that those counts occurred on or before 1994. The Broadwings certainly came through this year! Thank you for being there to count them!

Our 21 Roughlegs this season is a sigh of relief, having none in 2019 and very low numbers in 2021 and 2022. This is well above the average of 13. Roughleg is an irruptive migrant, so this was a good year with some very special views at 7 sites.

Species - Flying Steady: 5 species

Species with average counts include Osprey (6639, 74 PHH), Northern Harrier (2267, 25 PHH), Cooper’s Hawk (4554, 50 PHH), Merlin (2656, 29 PHH), and Peregrine



Falcon (668, 8 PHH). While both Osprey and Northern Harrier have counts that are average for the long term, for both it is the best in more than 10 years - Osprey the best since 2012, and Harrier the best since 2010. The Merlin count is similar. Except for a good count in 2018, this season was the best since 2010. The Peregrine count has not changed much in the last 5 years, hovering around 8 PHH, compared to higher counts in the early 2010's. This may be a reflection of a population that is transforming from migrants to residents, as we see more overwintering in the NorthEast.

Species - Flying Low: 2 species, 2 record lows

This season we had 2 species below average and 2 species with record low counts. Sharp-shinned Hawk (23051, 256 PHH) and American Kestrel (4766, 53 PHH) were both below average. The Sharpies are slowly improving over the last 4 years, with each year slightly better than the previous. The Kestrels, having improved after a low of 36 PHH in 2016, are slowly declining over the last 3 years, with each year slightly worse than the previous.

American Goshawk (35, 0.4 PHH) and Red-tailed Hawk (2921, 32 PHH) had record lows this season. The Goshawk records were for both the actual counts and the PHH counts, whereas the Redtail record was for the PHH count. Goshawk first dropped below 1 Gos PHH in 2017. This season, it dropped below 0.5 Gos PHH - that's fewer than 1 Gos in 200 hours! Goshawk are becoming rare in the NorthEast. In contrast, Redtails are very much present. Their record low represents a behavior change rather than a population change.

Specialties - 3 Species

This was a 3-specialty season. We had Swainson's Hawk (2), Mississippi Kite (2), and Short-eared Owl (3). The first Swainson's flew over Putney Mt. on Halloween - definitely a 'treat' - and the second passed over Lighthouse Pt. on Nov. 12. It was the first in 2 years for the Kites and Owls. Both Mississippi Kites flew past Quaker Ridge. The first, on Aug 31, was a great start to the season, while the second waited until Oct 15. That same day, Oct 15, there were 2 Short-eared Owls seen along different coasts, one at Lighthouse Point in CT and the other at Fort Tilden in NY. A month later, the third Short-eared flew past Hook Mountain on Nov. 10.

"... the obvious highlight was an adult MIKI, right at 9:35 am when the watch began. Bird was very low flying over the main building and when it got into better light I saw the white head, black wings, and black tail. Very quick, but a real treat." Harry Wales Quaker Ridge CT 8/31/2023

Watch List - Losing Goshawks! Redtails resident? Harriers off the list

The NEHW Watch List is a summary of the species that had record low counts in the last 9 years. We monitor these species to determine if they continue to decline or appear to recover. Species are arranged from lowest to highest according to the Watch List value, WL. A check mark indicates a Record Low and has a value of 1, and the numbers indicate the rank for that season above the record low in that year. WL is simply the average rank for that species over the 9 years. The species with the lowest WL values are most at risk of decline, as their recent counts have been among the lowest for the species since 1980.

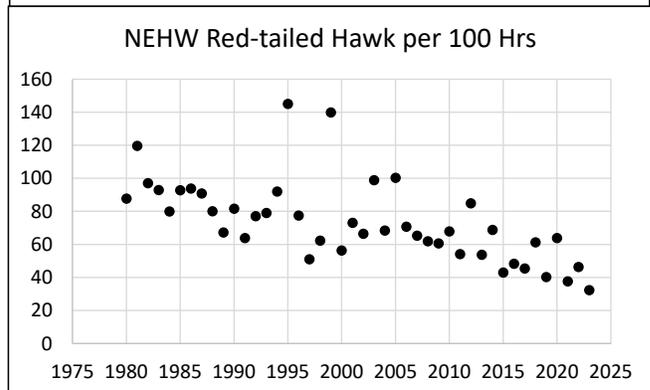
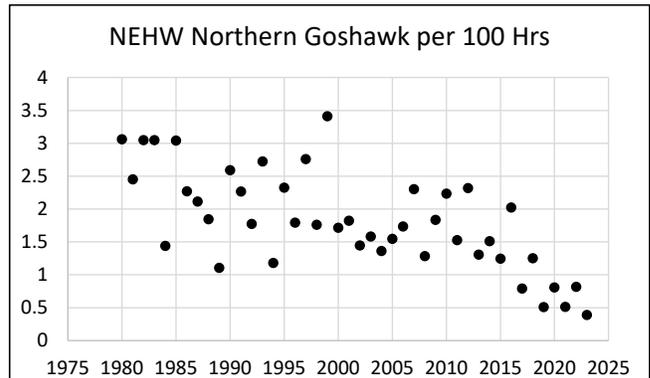
NEHW Watch List: Declining Species

	2015	2016	2017	2018	2019	2020	2021	2022	2023	WL	Status
Sharp-shinned Hawk	✓	✓	✓	6	✓	4	5	7	9	3.9	M
American Goshawk	4	20	✓	4	✓	3	2	5	✓	4.6	R
American Kestrel	✓	✓	5	15	3	10	10	7	4	6.2	M
Northern Harrier	4	✓	✓	14	✓	8	11	11	21	8.0	M
Red-tailed Hawk	✓	2	2	9	✓	14	✓	4	✓	3.9	xCS
Osprey	3	✓	3	9	2	5	9	7	18	6.3	xFS

Check mark indicates a Record Low year. The numbers indicate the rank above record low when record low = 1. WL= average rank of all years. Species with lower WL are at greater risk of continued declines in migration counts. Status: M=migrant, R=resident, x=population not threatened, CS=climate shift, FS=flyway shift

Our 2 record lows this season are species already on the Watch List from prior years. For **American Goshawk**, this is the 3rd year since 2015 with a record low, resulting in a WL value of 4.6. Similar to the consistent low counts of our Spring Goshawks, counts for the last 5 years have been the lowest since 1980. Goshawks are likely residents in our region, so this represents a true population decline. Sound the alarm! We are **losing our Goshawks!**

For **Red-tailed Hawk**, this is the 4th year with a record low, resulting in a WL value of 3.9. This is similar to our Spring Redtails, with the lowest counts in the most recent years. For Redtails, however, this does not represent a population decline. In the Spring section, Redtails on Christmas Bird Counts in Massachusetts were shown to increase in recent years as average December temperatures increased, suggesting that more Redtails are overwintering.



Red-tailed Hawks in the NorthEast Breeding Bird Survey, 1990-2022						
Prov/State	Ave Routes	Total RT	R	R ²	P	Significance
NS	22.4	136	-0.036	0.001	0.845	none
NB	19.4	25	-0.112	0.013	0.715	none
ME	36.6	72	0.289	0.083	0.144	none
NH	22.3	84	0.480	0.230	0.011	strong
VT	18.4	74	0.147	0.021	0.457	none
MA	18.6	225	0.608	0.369	0.000	very strong
CT	11.8	147	0.560	0.314	0.001	very strong
RI	2	20	0.194	0.038	0.591	none
TOT	151.5	783	0.546	0.298	0.001	very strong

If Redtails are transitioning from migrant to residents, there should be no decline in breeders in the region. Breeding Bird Survey data is available by state/province for Redtails. Using Redtails/route for each, we see a very strong increase in Redtails in Connecticut and Massachusetts, and also an increase in New Hampshire. Other more northerly states show no increase, and also no decrease. Consequently, there is no evidence of decline in our Retail breeding population.

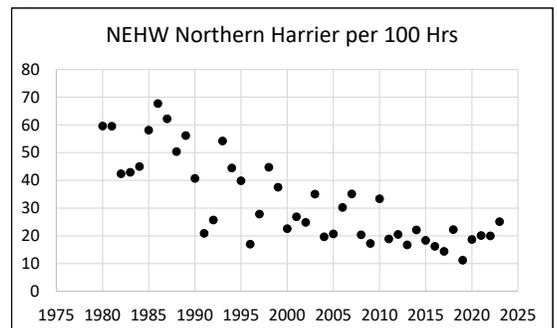
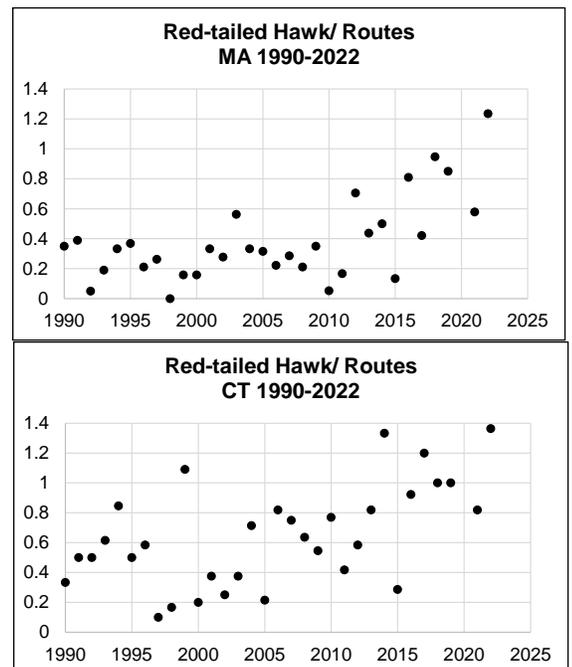
With more Redtails seen in winter and more breeding in our region, it is safe to say that Redtails are declining only in migration. We are documenting the transition of Redtails in the northeast from migrants to residents. Good work! We have the data because you collected it!

References

Ziolkowski, D.J., Lutmerding, M., English, W.B., Aponte, V.I., and Hudson, M-A.R., 2023, *North American Breeding Bird Survey Dataset 1966 - 2022*: U.S. Geological Survey data release, <https://doi.org/10.5066/P9GS9K64>.

Good news! **Northern Harrier** is coming off the Watch List!

Although there were 3 years with record low counts - 2016, 2017, and 2019 - the 2023 count was higher than 20 other years, almost half the 44 years on record. Also, the WL value of 8.0, puts the average rank in the last 9 years at 18% of those 44 years. So, we can celebrate the removal of Harriers from the Watch List! Throw a party for the good news!

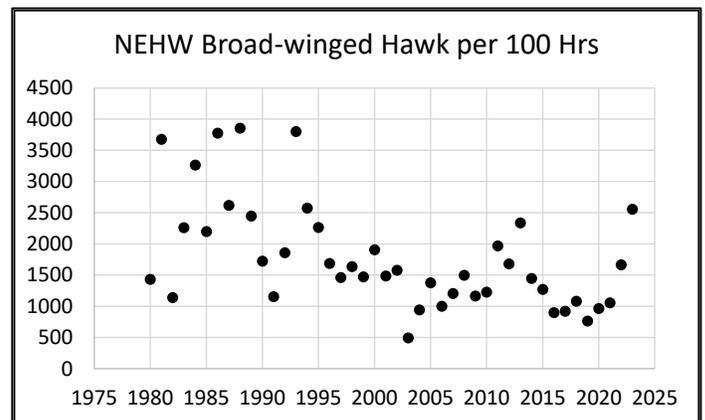


“When the Grey Ghost was high in the fog/haze, it was like a ghostly apparition. It disappeared in the haze, being out of view more than in view - aptly named.” Drew Panko and Anthony DeLuca Fire Island 10/3/2023

Regarding our other Watch List species, **Sharp-shinned Hawk** is still our most-at-risk-species, with a WL of 3.9. However, with a rank of 9th in 2023, there is a sense of relief, and hope for continued stasis. Last year we considered removing **American Kestrel** from the Watch List since 3 of the 8 years at that point had ranks at 10 or above. It stayed on the list, and the 2023 rank of 4th certainly justifies keeping it there. Kestrels remain a species of concern.

The 2023 Broad-winged Hawk Season - best count since 1994!

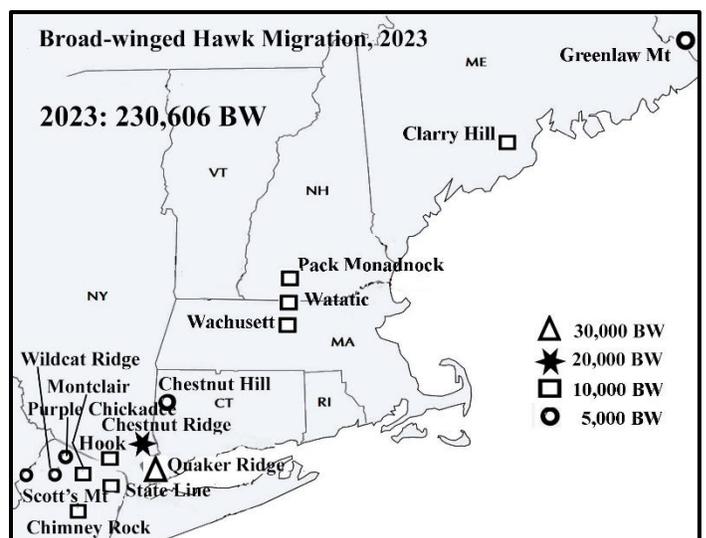
We counted 230,606 Broadwings (2556 PHH) this season. That’s 71,000 more than in 2022, and 123,000 more than 2021! We need to return to 2013 to get as good an actual count (261313) and to 1994 for as good a PHH count (2574 PHH). Congratulations to all for being there and achieving this count!



Year of the Broadwings

We saw in Species Prevalence that the 2023 Broadwings dwarfed not only all other species but also the 40-year average. In Regional Distribution, we saw that Broadwings were distributed across all regions except on the coast. Do these translate to more Broadwings seen by everyone?

More sites with big numbers. There were 15 sites with more than 5000 Broadwings! That’s 50% more than the 10 sites in 2022 and almost quadruple the 4 sites in 2019. Five of the 15 sites had more than 5000 Broadwings but fewer than 10,000, including Greenlaw Mountain (7656), Chestnut Hill (6670), Purple Chickadee (5088), Wildcat Ridge (7242) and Scott’s Mountain (6822). Five sites had more than 10000 but fewer than 15000, including Pack Monadnock (10256), Mount Watatic (12225), Hook

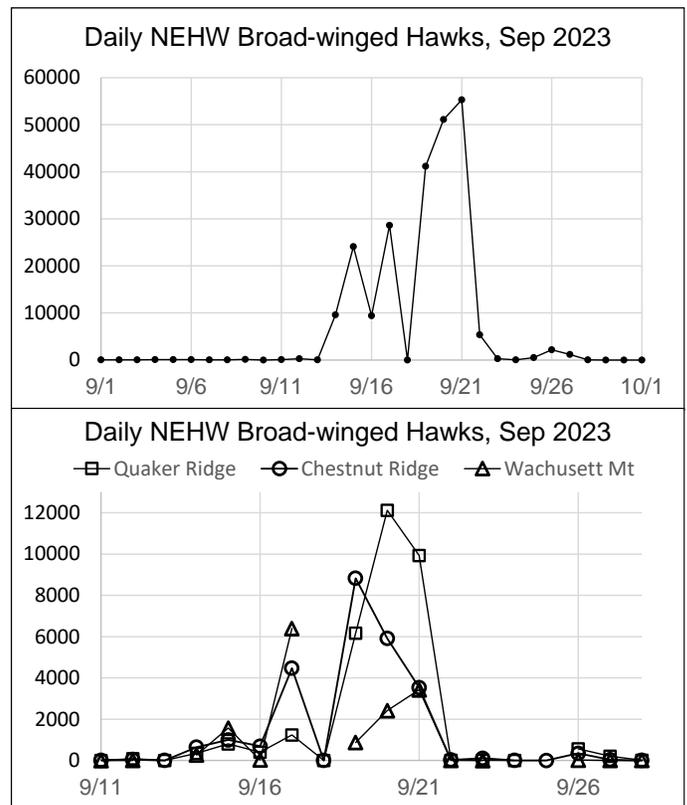


Mountain (10171), State Line (10857), and Montclair (11768). Three sites had more than 15000 but fewer than 20,000, including Clarry Hill (17194), Wachusett (15073), and Chimney Rock (17617). Then there were the 2 amazing sites - Chestnut Ridge with 25833 and Quaker Ridge with 32108! For Chestnut Ridge, this topped their 1986 count of 23069. For Quaker Ridge, it topped all counts since 1995 when they counted 36630. The map shows a flight pattern similar to 2022, with Broadwings filling the skies over more easterly and southerly sites than in 2021 when the flight path was further north and west.

“Today was a high-water mark for the flight of BWAH this year. After rains yesterday, the BWAH restarted their push in the morning but activity picked up dramatically after 1:30pm with several large kettles. . . . Spotted lanternflies continue to torment.” Chris Takacs State Line NY 9/19/2023

More Grand Counts. There were 23 occasions when a watch site counted 1000 or more Broadwings this season. That is up from 20 in 2022, and substantially higher than the average of 15 since 2015. From the Comparative Broadwing table we see that these 1000+ days (in bold) are spread across all regions, substantiating the Regional Distribution.

Different temporal distribution. This season’s distribution of Broadwings across the days of September is different from most years. Broadwings usually come in 2 to 3 peaks, with the 1st peak higher than the others. This season the highest peak came later, with double the counts of the earlier peaks. Note, however, that the 1st peaks are at the same level as in other years. So, it’s the later peak that dwarfed other seasons. It also puts our season much later than usual. The median date this season, when half the Broadwings are through, was Sep 20. This compares with Sep 17 in both 2022 and 2021. We see this high pulse of Broadwings on both the region and site graphs. While Wachusett and Chestnut Ridge contributed to the Sep 17 peak, the flood of Broadwings came through Quaker Ridge for the later peak. There were also large counts at Chimney Rock and Clarry Hill in that later pulse (not shown), even with their limited number of days counting.



Fewer days. The Comparative Broadwing table shows only 11 days when we counted 500 or more Broadwings across the NorthEast this season. There were 20 days in 2022, and our average since 2015 is 15. Also, there were only 8 days with Grand Counts, compared to 11 days in 2022. So, 2023 had many more Broadwings that were concentrated in fewer days than in other years.

Were more Broadwings seen by everyone this season? There were more Broadwings across all regions. If you picked one of those 11 Grand Count days, you definitely saw more Broadwings in this **Year of the Broadwings!**

Broad-winged Hawk Comparative Counts during Flight Period, Fall 2023

	Site	9/12	9/13	9/14	9/15	9/16	9/17	9/18	9/19	9/20	9/21	9/22	9/23	9/24	9/25	9/26	9/27
45	Greenlaw Mt NB	1875			228	2156			2749	517	2		4	0	14	1	
44	Cadillac Mt ME	0		12		0	0	0	54	1137	0	0	0	2	0	0	
	Mt. Philo SP VT	44	107	3428	139	7	0										
	Clarry Hill ME			519		47			11383	4840				331	4		
43	Interlakes School NH								67	110							
	Alton Bay NH			36	1077		11		4		24						
	Concord School NH				30						0	79			7	134	
	Putney Mt VT	24	0	2006	752	526	403	99		174	53	240	88	1	176	30	6
42	Pack Monadnock NH	4	0	880	2841	253	1673		125	504	2543	1104	0	7	11	244	0
	Mount Watatic MA			708	2847	3	2441		88	1446	3241	1434					
	Helderberg Esc NY	0	0	171	269	339	145							0			
	East St. Adams MA	28		105	243	24	80		0	168	11	473	2	1			15
	Wachusett Mt MA	1		261	1568	25	6395		868	2415	3421	7	0			21	6
	Barre Falls MA				561												
	Mount Holyoke, MA				186												
	Shatterack Mt MA		4	396		68	249		323	45	1028	145				266	0
	Blueberry Hill, MA	2	188	670		53	474		229	88	219	228				366	7
Booth Hill CT	6	22	171		100	187											
41	Johnnycake CT	6	1	0		16	95		588	3	12						
	Chestnut Hill CT	0	431	656		177	1679		299	179	3241	8					
	Botsford Hill CT	4	8	411		46	293		1555	585	1946	20					
	Bear Mountain NY	1	3	208		261	717		5	4	1202	4				1	0
	Mount Peter NY	0	2	7	325	226	160		105	150	18	438				28	1
	Chestnut Ridge NY	47	3	645	997	689	4471	3	8829	5910	3534	27	106	5	0	343	35
	Hook Mountain NY	1		930	1104	705	3645		686	1404	1354	4	72			0	203
	Quaker Ridge CT	87	1	352	798	404	1239	4	6170	12123	9935	11	12	0		560	205
	Purple Chickadee NJ	3	2	42	223	307	546		642	275	2897	82					8
40	State Line NJ	2	0	59	400	1877	1279	0	2571	2939	1682	4		4		0	15
	Lenoir Wildlife NY				58	555	34		2535		345						
	Wildcat Ridge NJ	3			12				33	26	6910	243					14
	Montclair NJ	0		252	519	1067	458		3905	3568	1957	0					27
	Scott's Mountain NJ	30	12	205	1372	102	865	1	531	186	1855	829		31	0	177	521
	Chimney Rock NJ			262	804	1203	1002		8456	4577	1302						
CO	Lighthouse Pt CT	0	0	455		1	1		3	10	83	0	0	0	0	2	100
	Boothe Memorial CT			28	196	19			275	34							

Day Total 293 20 9588 24108 9413 28596 8 41147 51109 55307 5380 282 53 527 2190 1164

NORTHEAST HAWK WATCH - FALL 2023

PEAK DAILY SITE COUNTS - Fall 2023

BROAD-WINGED HAWK			RED-SHOULDERED HAWK			SHARP-SHINNED HAWK			AMERICAN KESTREL			OSPREY		
Quaker Ridge	9/20	12123	Hook Mountain	11/12	421	Chestnut Ridge	10/15	431	Fort Tilden	10/15	163	Fire Island	9/15	352
Clarry Hill	9/20	11383	Quaker Ridge	11/12	209	Quaker Ridge	10/15	343	Fire Island	10/13	148	Fort Tilden	9/20	218
Quaker Ridge	9/21	9935	Quaker Ridge	10/31	180	Lighthouse Point	9/15	306	Fire Island	10/15	117	Fort Tilden	9/14	206
Chestnut Ridge	9/19	8829	Quaker Ridge	11/20	126	Quaker Ridge	10/16	277	Fire Island	9/15	102	Fort Tilden	9/21	170
Chinmey Rock	9/19	8456	Quaker Ridge	11/2	123	Quaker Ridge	10/2	256	Fire Island	10/23	82	Fort Tilden	9/16	153
Wildcat Ridge	9/21	6910	Hook Mountain	11/6	94	Lighthouse Point	10/15	245	Lighthouse Point	9/15	69	Fort Tilden	10/1	143
Wachusett	9/17	6395	Quaker Ridge	11/8	93	Quaker Ridge	9/21	242	Cadillac Mt	9/21	68	Fort Tilden	8/31	143
Quaker Ridge	9/19	6170	Quaker Ridge	11/6	83	Chestnut Ridge	9/16	241	Quaker Ridge	10/2	64	Fort Tilden	9/15	133
Chestnut Ridge	9/20	5910	Chestnut Ridge	10/31	82	Lighthouse Point	9/20	236	Fire Island	10/16	64	Fire Island	8/31	124
Clarry Hill	9/21	4840	Hook Mountain	11/3	80	Quaker Ridge	10/17	227	Lighthouse Point	10/15	59	Fort Tilden	8/27	119
Chinmey Rock	9/20	4577	Quaker Ridge	11/1	76	Chestnut Ridge	10/16	223	Lighthouse Point	9/16	58	Fort Tilden	10/8	113
Chestnut Ridge	9/17	4471	Quaker Ridge	10/17	72	Hook Mountain	10/13	209	Quaker Ridge	9/27	53	Fire Island	9/14	100
Montclair Hawk Lo	9/19	3905	Quaker Ridge	11/5	66	Quaker Ridge	9/15	205	Hook Mountain	9/27	51	Fire Island	9/16	100
Hook Mountain	9/17	3645	Chestnut Ridge	11/21	64	Chestnut Ridge	10/13	199	Quaker Ridge	9/21	46	Lighthouse Point	9/26	88
Montclair Hawk Lo	9/20	3568	Quaker Ridge	10/16	63	Quaker Ridge	10/13	197	Cadillac Mt	9/6	44	Fire Island	10/1	80
Chestnut Ridge	9/21	3534	Chestnut Ridge	11/11	59	Hook Mountain	10/15	192	Cadillac Mt	9/20	41	Fort Tilden	10/2	79
Mt. Philo	9/15	3428	Chestnut Ridge	11/6	58	Quaker Ridge	9/20	185	Fort Tilden	10/16	40			
Wachusett	9/21	3421	Chestnut Ridge	11/2	57	Chestnut Ridge	9/17	171	Lighthouse Point	10/16	38	NORTHERN HARRIER		
Mount Watatic	9/21	3241	Quaker Ridge	11/11	55	Chestnut Ridge	9/20	170	Chinmey Rock	9/16	38	Fire Island	10/15	46
Chestnut Hill	9/21	3241	Chestnut Ridge	11/12	55	Quaker Ridge	9/27	168	Chestnut Ridge	10/2	37	Fire Island	10/16	27
State Line	9/20	2939	Chestnut Ridge	11/5	50	Chestnut Ridge	9/21	165	Chestnut Ridge	9/21	35	Fort Tilden	10/15	25
Purple Chic	9/21	2897	State Line	11/11	48	Quaker Ridge	9/16	165				Lighthouse Point	9/16	24
Mount Watatic	9/15	2847				Quaker Ridge	9/19	155	MERLIN			Lighthouse Point	10/15	23
Pack Monadnock	9/15	2841	GOLDEN EAGLE			Quaker Ridge	9/17	153	Fire Island	10/15	153	Fire Island	9/27	22
Greenlaw Mountair	9/20	2749	Quaker Ridge	11/12	5	Fort Tilden	10/15	151	Fire Island	10/13	140	Chestnut Ridge	9/16	22
State Line	9/19	2571	Lighthouse Point	11/12	3	Lighthouse Point	10/1	143	Fire Island	10/16	138	Fire Island	10/23	20
Pack Monadnock	9/21	2543	Chestnut Ridge	11/2	3	Quaker Ridge	9/28	142	Fire Island	9/16	108	Chestnut Ridge	10/15	20
Lenoir	9/19	2535	Quaker Ridge	11/8	3				Fire Island	9/15	89	Quaker Ridge	10/16	17
Mount Watatic	9/17	2441	Wachusett	12/16	3	COOPER'S HAWK			Fort Tilden	10/15	88	Fort Tilden	10/2	16
Wachusett	9/20	2415	Lighthouse	10/31& 11/11	2	Lighthouse Point	10/15	217	Fire Island	10/23	85	Clarry Hill	10/23	16
Greenlaw Mountair	9/19	2156	Hook Mt	11/6 11/12	2	Lighthouse Point	10/16	103	Fire Island	9/26	53	Hook Mountain	10/15	15
Putney Mountain	9/14	2006	Lighthouse	10/23	2	Lighthouse Point	10/13	78	Lighthouse Point	10/22	34			
Montclair Hawk Lo	9/21	1957	Putney Mountain	11/10	2	Quaker Ridge	10/17	71	Fire Island	10/1	32	TURKEY VULTURE		
Botsford Hill	9/21	1946	Chinmey Rock	11/8	2	Quaker Ridge	10/31	67	Fort Tilden	10/22	32	Chestnut Ridge	11/1	712
			Purple Chickadee	11/11	2	Lighthouse Point	10/1	54	Fire Island	9/14	32	Mount Peter	10/15	636
SHORT-EARED OWL			Scott's Mt	11/12	2	Quaker Ridge	10/16	54	Fire Island	9/19	31	Lighthouse Point	10/15	605
Lighthouse Point	10/15	1	Pack Monadnock	11/15	2	Quaker Ridge	10/15	53	Fire Island	10/22	27	Quaker Ridge	11/2	587
Fort Tilden	10/15	1				Chestnut Ridge	10/15	50	Fire Island	10/3	25	Quaker Ridge	10/31	579
Hook Mountain	11/10	1	BALD EAGLE			Quaker Ridge	10/24	46	Fire Island	9/21	22	Hook Mountain	11/3	504
			Mount Watatic	11/5	69	Chestnut Ridge	10/17	44	Fire Island	9/28	22	Lighthouse Point	10/16	494
RED-TAILED HAWK			Greenlaw Mountai	10/30	33	Quaker Ridge	10/23	41	Fire Island	11/1	21	Chestnut Ridge	10/31	488
Putney Mountain	11/2	92	Mount Watatic	9/15	32	Lighthouse Point	9/26	41	Lighthouse Point	9/20	19	Montclair	10/17	469
Mount Peter	11/11	45	Wachusett	11/5	29	Chestnut Ridge	10/24	41	Chimney Rock	9/19	16	Chestnut Ridge	10/15	456
Lighthouse Point	11/12	42	State Line	9/19	28	Quaker Ridge	10/13	40				Chestnut Ridge	11/2	454
Putney Mountain	10/31	41	Lenoir	9/19	27	Lighthouse Point	9/20	39	PEREGRINE FALCON			State Line	10/31	425
Pack Monadnock	11/1	38	Chinmey Rock	9/19	27	Lighthouse Point	10/23	39	Fire Island	10/8	12	State Line	11/2	417
Lighthouse Point	11/11	35	Lenoir	10/8	26				Fire Island	10/11	11	Montclair	11/2	402
Greenlaw Mountair	10/22	34	Quaker Ridge	9/19	26	NORTHERN GOSHAWK			Lighthouse Point	10/8	10			
Scott's Mt	11/11	34	Lighthouse Point	10/15	24	Putney Mountain	10/22	5	Pack Monadnock	10/4	9	BLACK VULTURE		
Pack Monadnock	11/2	34	Clarry Hill	10/31	24	Pack Monadnock	10/22	2	Lighthouse Point	11/14	8	Chestnut Ridge	10/5	44
Putney Mountain	11/5	32	Lighthouse Point	9/15	24	Greenlaw Mountai	10/22	2	Fire Island	9/30	8	State Line	11/3	29
Clarry Hill	10/31	29	State Line	10/31	23	Greenlaw Mountai	11/1	2	Pack Monadnock	10/13	7	Montclair Hawk Lo	10/25	26
Shatterack	10/23	27	Clarry Hill	10/23	23	Putney Mountain	10/31	1	Pack Monadnock	10/5	7	Chestnut Ridge	10/23	24
Putney Mountain	11/8	27	Quaker Ridge	11/5	23	State Line	11/13	1	Fire Island	10/1	7	Chestnut Ridge	10/8	23
State Line	11/11	25	State Line	9/27	23				Fire Island	10/2	7	Montclair Hawk Lo	10/16	23
Quaker Ridge	11/12	24	State Line	10/10	20	ROUGH-LEGGED HAWK			Lenoir	10/8	6	Montclair Hawk Lo	10/10	22
						Wachusett	12/8	3	Fort Tilden	10/8	6	State Line	10/25	20
MISSISSIPPI KITE			SWAINSON'S HAWK			Quaker Ridge	10/17	2	Fort Tilden	10/2	6	Hook Mountain	11/18	16
Quaker Ridge	8/31	1	Putney Mountain	10/31	1	Chestnut Ridge	10/16	2	Fire Island	10/22	6	Chestnut Ridge	10/15	15
Quaker Ridge	10/15	1	Lighthouse Point	11/12	1	14 other days		1	State Line	10/31	5	Montclair Hawk Lo	10/12	15