

Greenlaw Mountain Hawk Watch Season Report - Fall 2023

Our fifteenth season of fall observations and data collection has been completed. It was a challenging season with unusual weather and lower than expected volunteer participation. Despite the challenges, we observed a record number of migrating raptors. Broad-winged Hawk numbers were up, while many others were down. As always, migrating raptors were observed in close, up high, out on the horizon and on occasion, moving below the watch site. The big Broad-wing days produced large numbers of low flying birds, which were quite a sight.

Data was collected on forty-two days between August 22 and November 12 with a total of 271.25 observation hours logged. Twenty-three volunteer observers contributed a total of 244 hours of their time. The total number of migrating hawks counted for the season was 9228. A total of thirteen raptor species were observed migrating past the site, representing all the regularly occurring species recorded at Greenlaw Mountain each fall (species accounts can be found later in the report).

Count Protocols

As in previous seasons, most of this year's counts were conducted on days considered to have favorable winds and lacked significant precipitation. However, an above average number of days with southerly flows, fog and rain occurred this season requiring more time to be spent collecting data during less than favorable conditions. Hawks moving roughly east to west, or on occasion north to south, were considered migrants. The presence of resident raptors required some species to be watched more closely during portions of the season to ensure accuracy of counts. Partial and full-year residents near the site included Bald Eagle, Broad-winged Hawk, Red-tailed Hawk, American Kestrel, Merlin, Osprey, Sharp-shinned Hawk, Northern Goshawk and Turkey Vulture. Eagles and vultures are typically the most difficult to monitor as the daily movements of these resident birds can be great. The official counter used 10x binoculars and 25x wide angle spotting scope for scanning and/or identification.

A Quick Look at the Season

August

Our fifteenth season began on August 22. With a short day. Only three migrants were counted. The next observation day was the 31st. This day like the 22nd was slow. The only regularly occurring raptor species observed in significant numbers on either day, was Osprey. Resident raptors observed near the watch site included Turkey Vulture, Osprey, Bald Eagle, Sharp-shinned Hawk, Broad-winged Hawk, Merlin and American Kestrel. Some of these residents were observed interacting with migrants passing overhead.

Total number of migrant raptors: 13 (14-year average 109)

Observation hours: 11.25 (14-year average 23).
Observation days: 2 (14-year average 4).

September

Above average temperatures, fog and/or rain occurred repeatedly during the first two weeks of the month. The first significant movement of the season occurred on the 1st. On that day, a modest count of 62 migrating raptors was recorded. The first significant movement of Broad-winged Hawks occurred on the 15th as a light northerly flow developed. A total of 1950 migrating hawks made the count. The remnants of hurricane Lee arrived on the 16th with heavy winds and rain, which blew stopped-over migrating songbirds right off the mountain. That was about it for most warbler species. Slow clearing occurred on the 17th, resulting in a modest flight. The next day brought another major rain event. Strong northwest winds arrived on the 20th producing heavy movement of Broad-wings. Over 2200 raptors were counted. The five o'clock hour was memorable as nearly 500 low flying Broad-wings passed directly over the site in late day sun. Lighter northwest winds occurred the next day resulting in another strong movement of Broad-winged Hawks. On that day, over 2800 hawks were counted. Maximum kettle size was 200. Once again, there was great viewing. In addition to numerous Broad-wings, an adult, Red-shouldered Hawk was spotted and a Sharp-shin interacting with an American Goshawk was observed directly overhead. The following day, September 22, brought another 500+ hawks past the mountain, including a kettle of 150 Broad-wings. That was it for significant Broad-wing movements. These days of heavy movement, along with the lighter movements produced a record braking season count of 7656 Broad-wings. The last week of the month was dominated by near calm conditions. The only exception occurred on the 25th as heavy northeast winds arrived. The 27th produced the first significant movement of Turkey Vultures.

Total number of migrant raptors: 8218 (14-year average 4417)
Observation hours: 111.25 (14-year average 117)
Observation days: 14 (14-year average 17)

October

The first days of the month brought additional near calm conditions, which are generally not good for raptor movements (no lift). However, winds on the 2nd were adequate to produce a significant movement of Turkey Vultures, Sharp-shinned Hawks and American Kestrels (combined species total of 126 for the day). The following days brought rain and fog (Oct. 5-8). A strong southerly flow continued through the 11th. Good winds moving around the backside of a low-pressure system arrived on the 13th. Unfortunately, rain arrived at Noon, putting an end to the flight before most of the birds got off the ground. On the 14th and 15th, northwest winds produced good movements of raptors. This included the season's single day high for Sharp-shinned Hawk (41) and a good number of vultures (48) on the 15th. Afternoon showers slowed counts on the 14th. Modest flights of vultures occurred on the 17th, 18th and 21st. On the 23rd, a good late day movement of Red-tailed Hawks was observed. By day's end, 34 were counted. This was also a pretty

good harrier day with 6 observed. Relatively strong northwest winds on the 31st produced a single day record high of 33 Bald Eagles. The most common migrant songbird of the month was the Pine Siskin.

Total number of migrant raptors: 859 (14-year average 848)
Observation hours: 116 (14-year average 117)
Observation days: 18 (14-year average 18)

November

The first two days of the month produced modest flights dominated by Turkey Vultures and Red-tailed Hawks. Flat winds and southerly flows followed. Heavy west-northwest winds arrived on the 8th. These winds appeared too heavy for significant raptor movement, resulting in a very short day. Strong northwest winds also occurred on the 11th resulting in another slow day. Less intense winds occurred in the 12th. As the winds backed off, small numbers of raptors began to move. The last hour of the day was quite good with outstanding viewing of a “Northern” Red-tailed Hawk going for the decoy, two others passing nearby and an adult, Red-shouldered Hawk soaring overhead. A nice end to the season.

Total number of migrant raptors: 138 (14-year average 90)
Observation hours: 32.75 (14-year average 24)
Observation days: 7 (14-year average 5)

Species Accounts

Black Vulture

Earliest Observation: None
Latest Observation: None
Single Day High Count: 0
Peak: None
Season Total 0
Fourteen-year average: <1

Black Vultures continue to be rare in NB. During migration, they are most likely to be observed from mid to late season.

Turkey Vulture

Earliest Observation*: September 26
Latest Observation: November 12
Single Day High Count: 51 (October 2)
Peak: October
Season Total: 345
Fourteen-year average: 287

Our data show a very clear upward trend. A warming climate and abundant food sources are likely responsible for increasing populations in NB, as well as counts at

Greenlaw Mountain.

Turkey Vultures are mid to late season migrants. They often move late in the day and can form large flocks.

Osprey

Earliest Observation: August 31
Latest Observation: October 26
Single Day High Count: 23 (September 15)
Peak: September
Season Total: 126
Fourteen-year average: 138

Over the last ten years, we have documented declining numbers of Osprey.

Osprey migrate from early to mid-season. They are strong flyers and are often observed “powering through” under less-than-ideal conditions including wet weather.

Bald Eagle

Earliest Observation: August 22
Latest Observation: November 12
Single Day High Count: 33 (October 31)
Peak: A clear peak did not occur.
Season Total: 180
Fourteen-year average: 110
2016-22 average: 172

Even though we recorded fewer Bald Eagle this year than the last three, trends are quite clear. These birds are making a very strong comeback.

Note - For many years, we were intentionally overcautious while counting Bald Eagles. Only high-flying birds moving east to west were deemed migrants. We now have a better handle on their movements, which is allowing our counts to be more representative of the actual number of eagles passing the site. The spike occurring in 2016 represents the change in counting. Even so, our most recent data suggest a very strong rise in numbers.

Bald Eagles migrate throughout our count season. High wind days can be the most productive.

Northern Harrier

Earliest Observation: September 1
Latest Observation: November 6
Single Day High Count: 7 (October 3)
Peak: October

Season Total: 77
Fourteen-year average: 68

Our counts have major highs and lows. Even so, the regional harrier population appears stable. This year, a slightly average number of these birds were counted despite a very wet breeding season.

Northern Harriers are ground nesters. As such, they are likely more susceptible to human disturbance. Ground nesters can also be more susceptible to moist conditions resulting from above average rainfall or major rain events.

Harriers are observed in migration throughout our count season. They have light wing-loading and are often observed late in the day.

Sharp-shinned Hawk

Earliest Observation: September 1
Latest Observation: November 12
Single Day High Count: 41 (October 15)
Peak: September/October
Season Total: 434**
Fourteen-year average: 562

A record low count was recorded for this species. The overall trend for the species at our site is clearly downward. Counts from New England are documenting similar declines.

Sharp-shins prey mostly on songbirds, many of which are being reported in diminishing numbers throughout Eastern North America. These small hawks also take insects on the wing.

These small birds of prey, which are sometimes called “Sharpies” tend to favor light wind conditions and can take advantage of very light vertical winds.

Cooper's Hawk

Earliest Observation: September 15
Latest Observation: November 11
Single Day High: 3 (September 15)
Peak: September/October
Season Total: 20**
Fourteen-year average: 11

This year's count was a record high. Our data suggest that the small population of these birds in NB is stable, perhaps increasing.

Cooper's Hawks or “Coops” sightings are most likely to be observed from mid to late season.

American Goshawk

Earliest Observation: September 6

Latest Observation: November 12

Single Day High Count: 2 (October 23 and November 12)

Peak: October

Season Total: 11

Fourteen-year average: 14

Significant fluctuations in our annual counts are evident. Even so, the long-term numbers appear stable.

This species is a partial migrant (some birds winter in NB, while others leave). Some researchers argue that they are not true migrants. However, significant numbers are observed annually as they head south. Few, if any are observed heading north during the fall months. These birds are considered mid to late season migrants.

Red-shouldered Hawk

Earliest Observation: September 1

Latest Observation: November 12

Single Day High Count: 1 (multiple)

Peak: A clear peak is not evident in our data.

Season Total: 6

Fourteen-year average: 5

Our data are showing significant ups and downs. The 2023 count is average.

The Red-shouldered Hawk in New Brunswick, Canada is at its northeastern limit. With a warming climate, we might expect to see increasing numbers of this buteo. Our data have yet to indicate such a change.

Red-shouldered Hawks or "Shoulders" as they are often called, are a mid to late season migrant.

Broad-winged Hawk

Earliest Observation: August 22

Latest Observation: October 3

Single Day High Count: 2749 (September 21)

Peak: Mid-September

Season Total: 7656**

Fourteen-year average: 3776

Prior to the last three years, our data had been indicating a decline for the species. Strong showings in 2021, 2022 and 2023 have made that trend less apparent.

Broad-wings are an early season migrant, relying heavily on thermals, updrafts and

light to moderate winds during migration. This species forms large flocks during migration. They tend to be the most abundant bird of prey in eastern North American forests.

Habitat loss likely represents the greatest threat to the Broad-winged Hawk. Declining populations of amphibians, insects and birds could present additional stresses.

Red-tailed Hawk

Earliest Observation: September 15
Latest Observation: November 12
Single Day High Count: 34 (October 23)
Peak: Late October
Season Total: 140
Fourteen-year average 180

Red-tailed Hawks are thought to be “short stopping”, which tends to result in fewer individuals being counted at fall hawk watches (some of the birds might move after the last day of counting).

This species is considered to be very adaptable, allowing them to do well in a quickly changing world. Red-tails favor open areas such as farmland and roadsides. They are a late season migrant. During migration, they can be observed moving under a wide variety of conditions.

Swainson’s Hawk

Earliest Observation: None
Latest Observation: None
Single Day High Count: 0
Peak: None
Season Total: 0
Fourteen-year average: <1 (records in 2014, 2017 and 2019)

Swainson’s Hawk are native to western North America. Occurrences in Eastern North America happen annually. Even so, sightings at most hawk watch sites east of the Mississippi River are rather rare. We have been quite lucky, documenting several individuals since 2009. At this point in time, our data do not show a clear trend.

In NB, these birds are most likely to be confused with Rough-legged Hawks.

Rough-legged Hawk

Earliest Record:
Latest Record:
Single Day High Count:
Peak:

Season Total:

Fourteen-year average: <1

Our first seven years of counts didn't produce a single record. Four of the last eight count years produced one or more individuals, which is clearly an upward trend.

Rough-legged Hawk sightings have been increasingly uncommon at most Northeastern Hawk Watches. The declining numbers are likely caused by greater numbers of birds wintering north of the US border or "short stopping". Such changes in behaviour are likely caused by warming temperatures and late snows.

Golden Eagle

Earliest Observation: None

Latest Observation: None

Single Day High Count: 0

Peak: None

Season total: 0

Fourteen-year average: 1

Trends are a bit unclear for this species.

Our lack of sightings this season and low counts in Maine suggest that it might have been another off year for regional populations. Golden Eagles passing Greenlaw Mountain are thought to be part of the Gaspé population.

American Kestrel

Earliest Observation: September 1

Latest Observation: October 26

Single Day High Count: 22 (October 2)

Peak: Early to mid-September with big spike on October 2 (this unusual peak was almost certainly caused by the flat winds of late-September).

Season Total: 140

Fourteen-year average: 164

Our counts suggest a downward trend.

Declines of American Kestrel are well documented. The causes of the decline are likely complex. However, many other aerial insectivores are in decline, which suggests a loss of prey base. Loss of nest cavities could also be contributing to the decline. This species will occupy nest boxes. Information on construction and placement is available online.

This is an early to mid-season migrant.

Merlin

Earliest Observation: September 1

Latest Observation: October 29
Single Day High Count: 3 (multiple dates in September and October)
Peak: September/October
Season Total: 27
Fourteen-year average: 37

Our counts are showing a downward trend.

Merlin tend to be very direct in-flight and can be quite aggressive. Migrants can appear throughout the count season.

Peregrine Falcon

Earliest Observation: September 17
Latest Observation: October 18
Single Day High Count: 3 (October 3)
Peak: October
Season Total: 12
Fourteen-year average: 22

Despite low numbers recorded this year, our suggests an upward trend.

The species seems to be doing well in its recovery from pesticides and persecution.

Peregrines are exceptionably strong flyers, often “powering through” during less than favorable conditions. Peak flights typically occur during mid-season. Individuals can show up at any time.

Unidentified Accipiter
Season Total: 9

Unidentified Buteo
Season Total: 4

Unidentified Falcon
Season Total: 5

Unidentified Eagle
Season Total: 2

Unidentified Raptor
Season Total: 34

Migrating Raptor Combined Season Total: 9228**

* Earliest and latest observations, as well as totals refer only to hawks counted as

migrants.

** A record high or low count.

Non-raptors

Lack of cold fronts combined with the prevalence of wet/stormy weather had a notable effect on early to mid-season migrants on the mountain. Tropical systems and other heavy rain/wind events appeared to have the most profound effect, almost completely removing warblers and vireos from the mountain. Such changes were most notable after the passing of post-tropical system Lee.

Later in the season, migrating Pine Siskin, which were observed daily during October and November. Unfortunately, migrating “winter finches” such as grosbeaks and crossbills appeared to be almost completely absent. Bohemian Waxwings were scarce. Northern Shrikes were absent, which is a notable change from the first decade or so of observations at the site. Movements of Double-crested Cormorant appeared to be more typical of recent years. No rarities were observed.

Personal Notes

Each season brings new opportunities for learning and to make a difference in an increasingly crowded and badly damaged world. Up in the great blue, we see birds of prey, songbirds, waterfowl, waders, dragonflies and butterflies on their southward journeys. For me, such wonders create an ever-growing passion that rarely wains. My hope is that passion for hawks is contagious and that more people will begin to watch the skies.

See you all on the mountain next year and thank you for your help!

Special thanks to all the volunteers including: Mike Bamford, Hank Scarth, Gary Lenehan, Cathy and Isabelle Simon, Suzzanne Bonnel, Steve Gillis, Milda Markauskas, Brigitte Greene, Don McPhail, Jasper Soucoup, Ian Stead, Donna Smythe, Graham Forbes, Jobin Varughese, Dorothy Chase, Judith Dewer, Peter Fraser Duguid, Abigail Scher, Keely Mueller-Classen, Emily Williams, Dorothy Diamond, Nathie

I would like to name Dorothy Chase as the volunteer of the year. At the age of 77 and only four months after a hip replacement, Dorothy hiked up to the hawk watch showing grit and enthusiasm. She is an inspiration to others.

Thank you all!

We also thank the landowners who have granted permission for volunteers and the Official Counter to cross their land to reach the summit. As well, we thank Mr. Tom Beckerton for allowing us to locate the watch on his property.

Additional thanks to committee members Hank and Carolyn Scarth, Jim Wilson,

Joanne Savage, Don MacPhail, Johanne McInnis, Kavitha Jagadeesan

Primary support for this season came from the **New Brunswick Wildlife Trust Fund** (NBWTF), private donors and our volunteers. We would also like to recognize the Peskotomukati First Nation for their interest in raptor conservation.

The NBWTF receives its money from the sale of hunting, trapping and fishing licenses as well as conservation license plates. Please consider supporting projects like the Greenlaw Mountain Hawk Watch through the purchase of conservation plates. Thank you!

Todd Watts
Project Co-ordinator and Official Counter
Greenlaw Mountain Hawk Watch
Saint John Naturalists' Club
buteobuz@gmail.com
506 321-2125



Greenlaw Mountain Hawk Watch

Greenlaw Mountain Hawk Watch A Project of the Saint John Naturalists Club Species Sightings 2009-2023



Species	Year 2023	Year 2022	Year 2021	Year 2020	Year 2019	Year 2018	Year 2017	Year 2016	Year 2015	Year 2014	Year 2013	Year 2012	Year 2011	Year 2010	Year 2009	Avg. 2009-2023
Turkey Vulture	345	450	630**	366	293	374	492	249	218	197	173	239	144	90*	99	287
Black Vulture	0	1	0	0	0	1**	0	0	0	0	0	0	0	0	0	<1
Osprey	126	150	125	138	173	162	142	110*	132	130	166	245**	132	151	111	148
Bald Eagle	180	258**	225	207	133	199	90	92	56	42	41*	50	44	52	46	110
Golden Eagle	0	0	1	1	0	4**	2	2	1	1	0	0	1	0	0	1
Northern Harrier	77	101	65	78	34*	95	64	120**	76	63	52	61	60	76	39	70
Sharp-shinned Hawk	434*	579	469	464	456	572	571	514	524	496	520	602	848**	661	593	562
Cooper's Hawk	20**	15	8	12	10	12	11	16	7	6*	9	13	11	14	11	11
Northern Goshawk	11	21	12	20	6*	28**	13	22	11	12	15	9	19	11	13	15
Red-shouldered Hawk	6	7	6	3	1*	5	6	3	1	2	3	5	7	10**	5	5
Broad-winged Hawk	7656**	5585	7089	5035	3040	600*	1989	6990	3791	1704	5405	2100	5835	2240	1457	3776
Red-tailed Hawk	140	194	148	216	112	272	151	211	106*	148	132	332**	241	222	152	188
Rough-legged Hawk	0	2	0	3**	0	2	0	1	0	0	0	0	0	0	0	<1
Swainson's Hawk	0	0	0	0	1	0	2**	0	0	1	0	0	0	0	0	<1
American Kestrel	140	153	183	136	134	164	166	147	158	155	200**	173	199	193	129*	164
Merlin	27	34	34	29	24*	45	34	34	35	44	42	48**	33	43	38	37
Peregrine Falcon	12	34**	12	25	21	28	30	11*	24	24	12	23	24	24	13	22
Gyrfalcon	0	0	0	0	0	0	0	0	0	0	0	0	1**	0	0	<1
Snowy Owl	0	0	0	0	0	0	0	0	0	1**	0	0	0	0	0	<1
Unidentified Accipiter	9	7	6	11	5	2	5	7	6	1	0	3	2	5	1	4
Unidentified Buteo	4	4	4	5	3	4	10	2	1	3	0	2	4	5	3	4
Unidentified Falcon	5	9	8	5	4	15	7	4	6	3	4	4	2	3	1	5
Unidentified Eagle	2	1	1	1	1	3	5	1	2	0	1	1	0	1	3	2
Unidentified Raptor	34	55	54	67	59	76	75	73	68	60	66	69	65	88	55	66
Unidentified Owl	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	<1
Totals	9228**	7660	9080	6822	4510	2663*	3859	8609	5225	3094	6481	3979	7672	3889	2760	5726
Observation Hours	271.25	289	274	285	270.5	342	325.25	324.25	262.75	275.75	259.5	257	258	266.25	256.75	281.2
Birds per hour of observation	34	26.5	33.1	23.9	16.7	7.8	11.9	26.6	19.9	11.2	26.4	15.5	29.7	14.6	10.7	20.6