

## **Greenlaw Mountain Hawk Watch Season Report - Fall 2022**

Our fourteenth season of fall observations and data collection has been completed. We had a good showing of birds with most species being observed in average to above average numbers. Overall, the weather was mild. Volunteer participation was strong. As always, migrating raptors were observed in close, up high, out on the horizon and on occasion, moving below the watch site.

Data was collected on forty-four days between August 25 and November 15 with a total of 289 observation hours logged. Forty-five volunteer observers contributed a total of 521.25 hours of their time. The total number of migrating hawks counted for the season was 7660. A total of fifteen raptor species were observed migrating past the site (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. 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 certain portions of the season in order to ensure accuracy of our 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 observation season begins on August 24. During this last week of August, favorable conditions were in short supply. Other than Osprey, none of our regularly occurring species were observed in significant numbers. 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: 31 (13-year average 115)

Observation hours: 12 (13-year average 24).

Observation days: 2 (13-year average 4).

#### **September**

The first significant movement of the season occurred on the 5<sup>th</sup>. On that day, 45 Sharp-shinned Hawks were counted along with smaller numbers of seven additional species. The first significant movement of Broad-winged Hawks occurred on the 6<sup>th</sup>,

producing 48 birds. Counts during the following week were very modest. On the 15<sup>th</sup>, strong west-northwest winds produced a very scattered flight of Broad-wings with 102 counted. This was the start of a three-day event. Strong winds from a favorable direction continued the following day producing another 726 Broad-wings. Near ideal conditions occurred on the 17<sup>th</sup>, producing **3325 Broad-wings**. As one would expect, numerous kettles containing more than one hundred birds were observed. Another 578 Broad-wings were counted when somewhat favorable conditions returned on the 19<sup>th</sup>. Three digit counts of Broad-wings occurred on three of the next four days of observations. The best day of the season for American Kestrel occurred on the 29<sup>th</sup>, when 34 were recorded. A nice movement of Sharpshins occurred on the 30<sup>th</sup>, resulting in a single day count of 60 for the species. A late Common Nighthawk was also observed that day. The last week of the month produced the first notable movements of Turkey Vultures.

Resident Merlin and American Kestrel remained in the vicinity of the hawk watch throughout the month. The number of songbirds on the mountain appeared to be very low.

Total number of migrant raptors: 6389 (13-year average 4265)  
Observation hours: 129 (13-year average 116)  
Observation days: 18 (13-year average 17)

## **October**

Generally weak weather systems and warm weather dominated the month, resulting in long periods of rather poor, to fair conditions. Daily counts tended to be modest. Migration seemed to chug along at a moderate pace. Two Red-shouldered Hawks were recorded on the 1<sup>st</sup>. Three additional Red-shoulders were recorded in the coming weeks of October. The second day of the month produced a diverse flight of raptors (11 species) and 3 **Sandhill Cranes**. These cranes passed directly overhead. The first significant movement of Red-tailed Hawks occurred on this day. For the next four weeks, daily counts for the species were low. This changed on the 28<sup>th</sup> when 39 were counted along with the first Rough-legged Hawk of the season (a light morph). A total of 10 Northern Harrier were also counted, which is a very good number for this species. Non-raptor movement on this day were significant, including the sighting of 5 distant **Sandhill Cranes**. The 30<sup>th</sup> produced a **Black Vulture** and two very late Broad-winged Hawks along with the latest Osprey of the season. As expected, vulture movement peaked this month (322 for the month). Resident immature and adult Northern Goshawks were observed. The immature bird was observed somewhat regularly.

Red Crossbills were observed daily as several dozen roamed around the mountain and small numbers moved south. Toward the end of the month, Pine Grosbeak began to arrive. On the 23<sup>rd</sup>, 1840 Double-crested Cormorant were counted. Many hundreds of migrating songbirds were observed on the 28<sup>th</sup>.

Total number of migrant raptors: 1022 (13-year average 848)

Observation hours: 113 (13-year average 117)  
Observation days: 18 (13-year average 18)

## **November**

The first cold front of the month moved through the region on the 2<sup>nd</sup>, producing a good showing of Red-tailed Hawks (34) and the second Rough-legged Hawk of the season. Many of these birds were quite close, providing lots of opportunities to study the variability of the species. The following day brought very light winds, a modest flight of raptors and significant movement of non-raptors. The highlight of this day was the sighting of 12 **Sandhill Cranes**. Resident Turkey Vultures seemed to stay a little later this year, but were not observed on the last day of the season. Resident immature and adult Northern Goshawks were observed. Like last month, the immature bird was observed somewhat regularly. At the end of the season, a single Red-tailed Hawk appeared to be hanging around along with several Bald Eagles.

Pine Grosbeak and Red Crossbills were observed daily. Observation hours were higher than average, contributing to a higher than average number of birds recorded for the month.

Total number of migrant raptors: 218 (13-year average 80.25)  
Observation hours: 35 (13-year average 24)  
Observation days: 6 (13-year average 5)

## **Non-raptors**

This year, movements of “songbirds” appeared to be far from the norm. During a typical year, migrant warblers and vireos are fairly abundant on the flanks of the mountain and can appear at the watch site. Relatively few of these birds were detected this year. Significant movements of songbirds, primarily robins and blackbirds, were observed in late in the season. Those movements appeared to be lighter than many of our earlier years. Migrating “winter finches” were largely absent. Movements of Double-crested Cormorant appeared to more typical of recent years. Migrating Sandhill Cranes were observed on three occasions. A flock of three was observed on October 2, a group of five on October 28 and a group of twelve on November 3. Northern Shrikes tend to be annual at the site. Unfortunately, none were observed this season.

Data is now being collected on non-raptor movements, which will allow us to monitor changes in the number of birds moving past the mountain, as well as the timing of their migration.

## **Species Accounts**

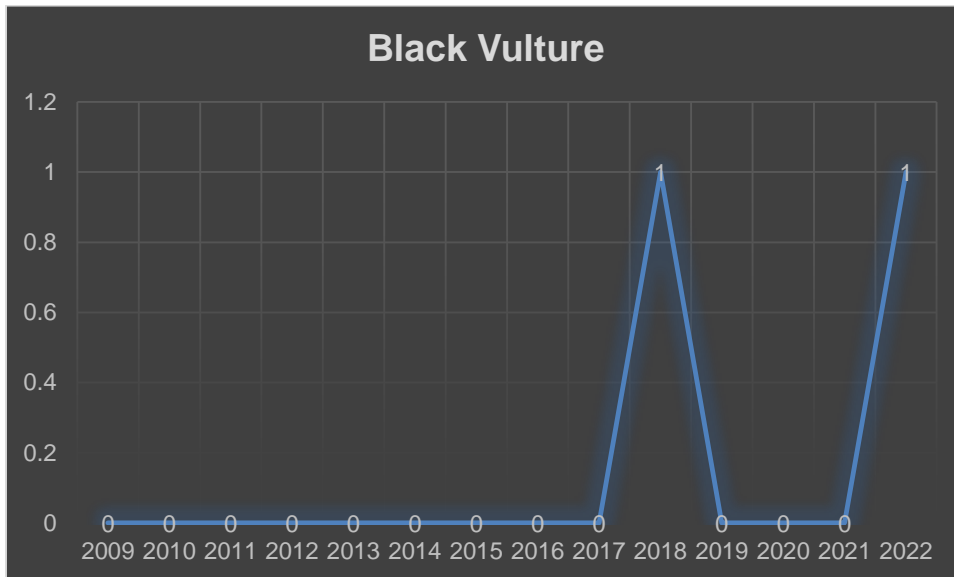
### **Black Vulture**

Earliest Observation\*: October 30

Latest Observation: October 30

Single Day High Count: One  
Peak: None  
Season Total 1  
Thirteen-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.

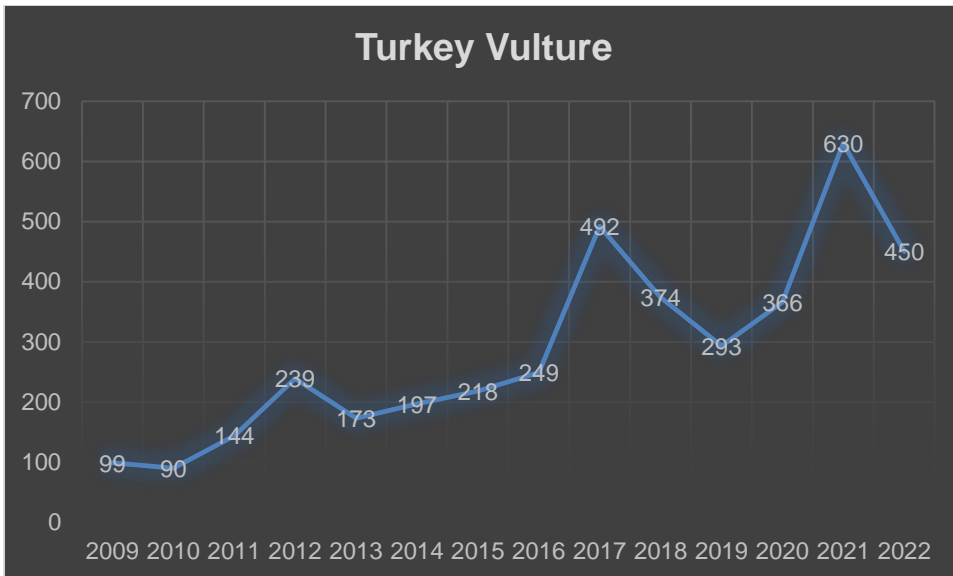


### **Turkey Vulture**

Earliest Observation: September 5  
Latest Observation: November 15  
Single Day High Count: 58 (October 10)  
Peak: October  
Season Total: 450  
Thirteen-year average: 274

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 25

Latest Observation: October 30

Single Day High Count: 12 (September 6)

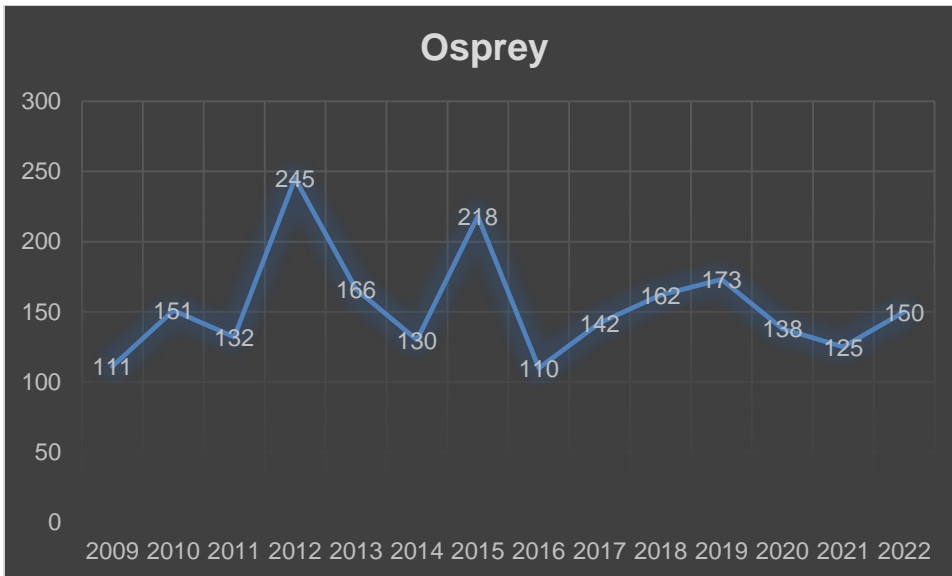
Peak: September

Season Total: 150

Thirteen-year average: 147

Our data are not showing a clear trend. Migration counts in New England suggest declining numbers. Increasing numbers of Bald Eagles might be stabilizing or reducing Osprey numbers. At the hawk watch, Osprey and Bald Eagle interactions appear to be increasing.

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



**Bald Eagle**

Earliest Observation: August 25

Latest Observation: November 15

Single Day High Count: 24 (September 17)

Peak: The heaviest period of movement occurred in mid-September. However, strong movements were observed during September, October and November.

Season Total: 258\*\*

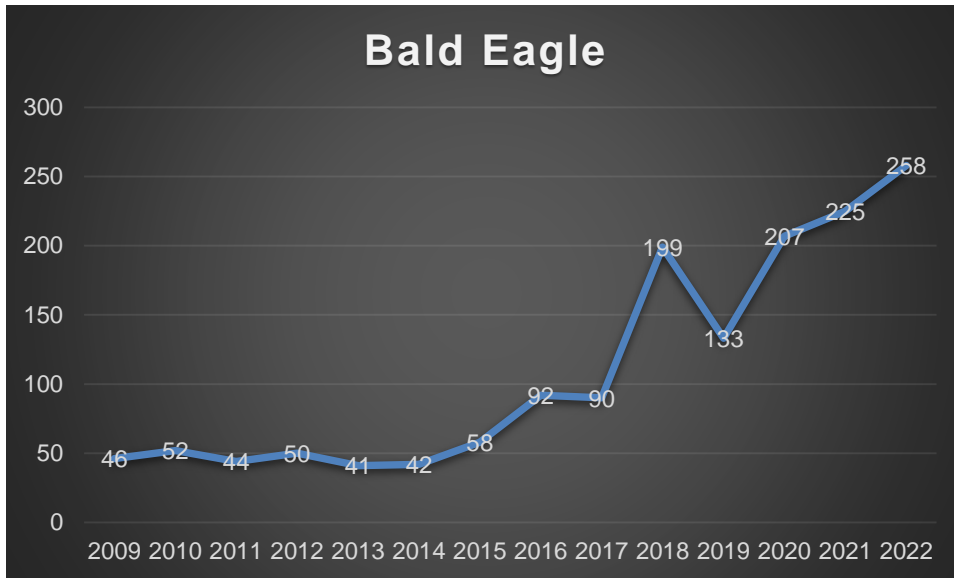
Thirteen-year average: 98

2016-21 average: 158

Another record high season count was recorded this season on the heels of 2020 and 2021 record highs. Bald Eagle populations appear to be 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.



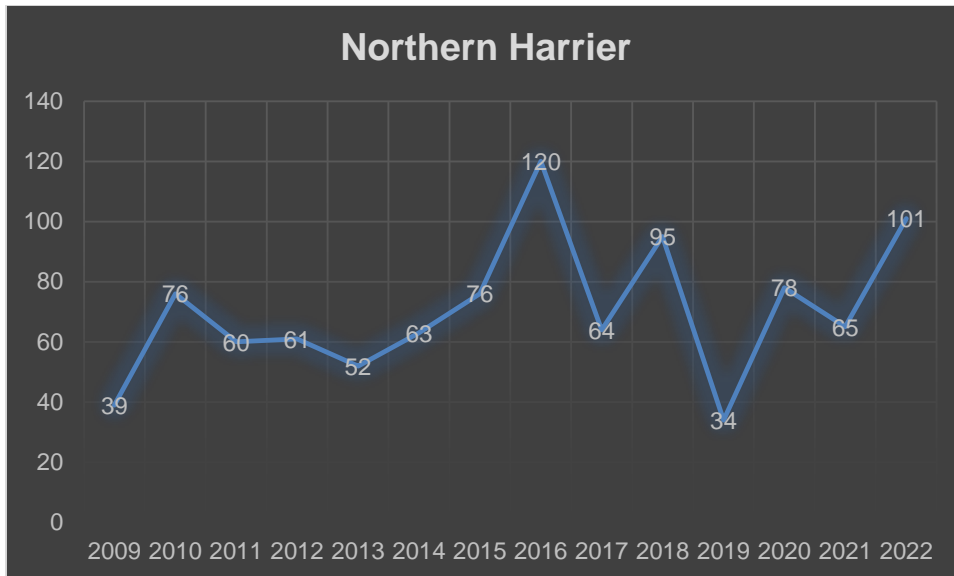
### Northern Harrier

Earliest Observation: August 25  
 Latest Observation: November 9  
 Single Day High Count: 10 (October 28)  
 Peak: September/October  
 Season Total: 101  
 Thirteen-year average: 68

Our counts have major highs and lows. Even so, the population appears stable.

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: August 27

Latest Observation: November 15

Single Day High Count: 60 (September 30)

Peak: September/October

Season Total: 579

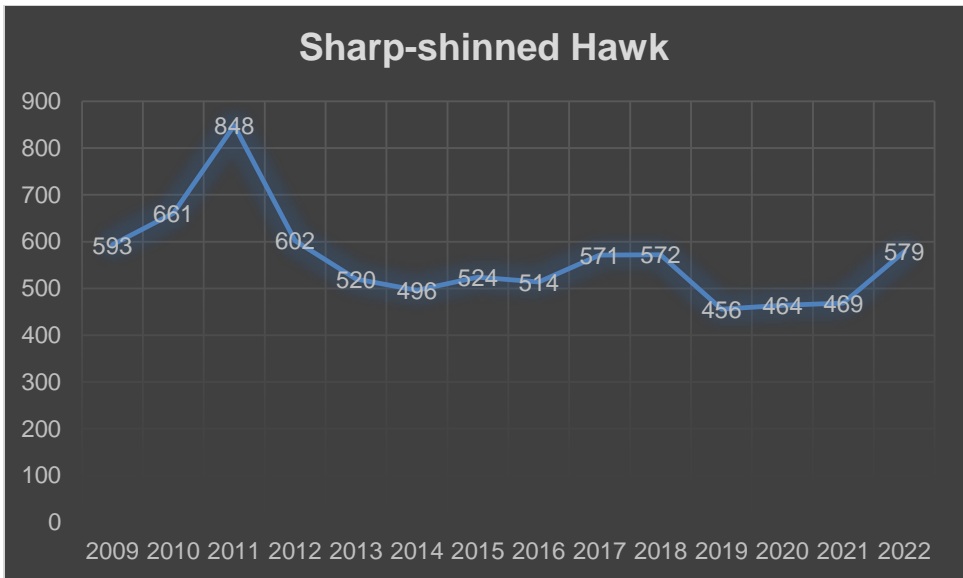
Thirteen-year average: 561

Even though the 2022 counts for this species are in line with our thirteen-year average, the overall trend 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.



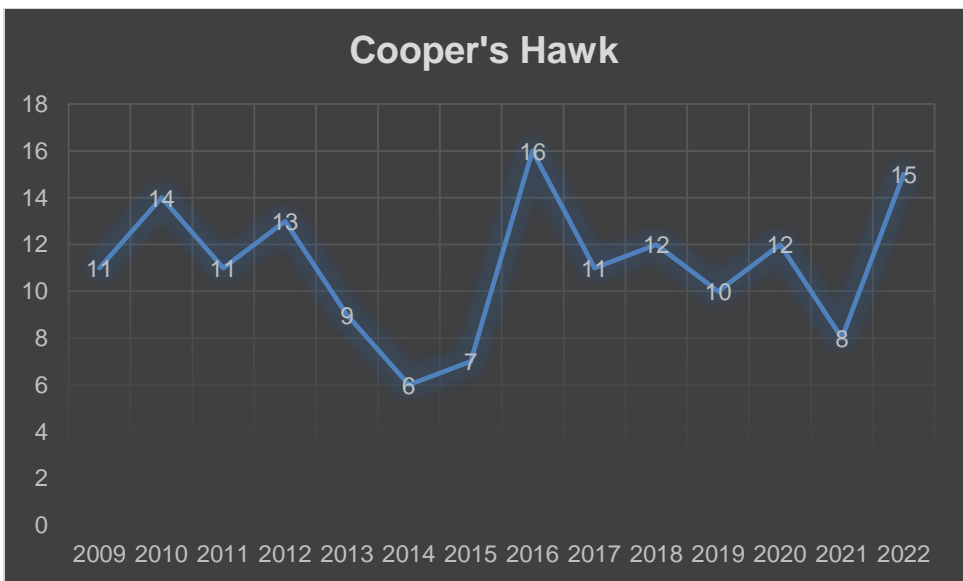


**Cooper's Hawk**

Earliest Observation: September 7  
 Latest Observation: November 15  
 Single Day High: 2 (October 10 and 22)  
 Peak: October  
 Season Total: 15  
 Thirteen-year average: 11

Our counts suggest that this small population could be stable.

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

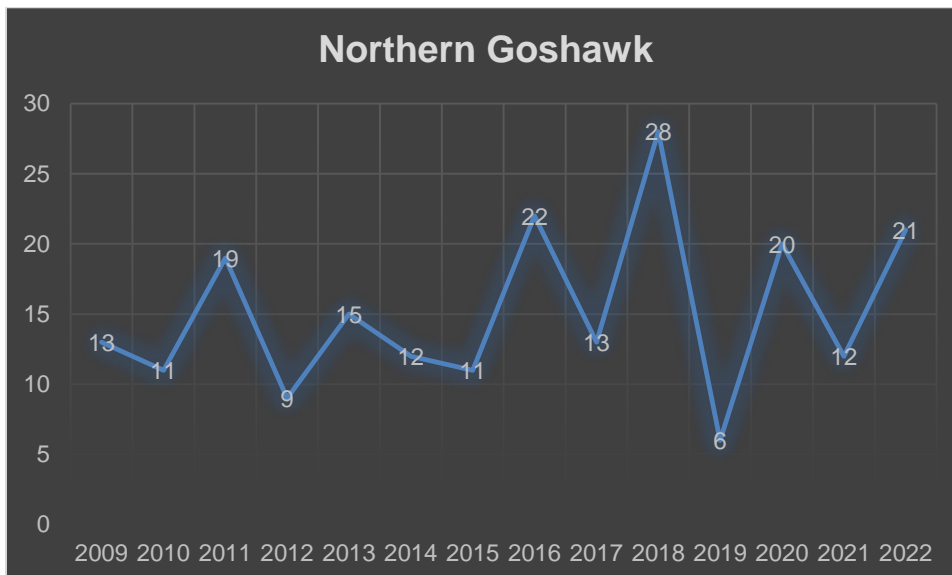


### **Northern Goshawk**

Earliest Observation: September 7  
Latest Observation: November 3  
Single Day High Count: 4 (October 29)  
Peak: October  
Season Total: 21  
Thirteen-year average: 15

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.



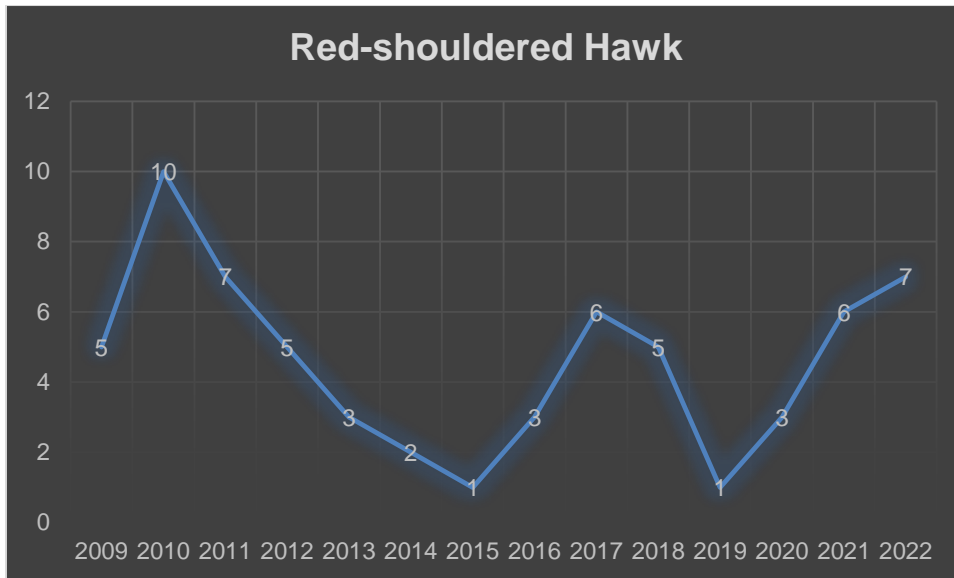
### **Red-shouldered Hawk**

Earliest Observation: September 29  
Latest Observation: October 27  
Single Day High Count: 1 (multiple)  
Peak: October  
Season Total: 7  
Thirteen-year average: 4

At this point in time, our data are not showing a clear trend.

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 25

Latest Observation: October 30 (a very late record for nearly any region of North America)

Single Day High Count: 3325 (September 17)

Peak: Mid-September

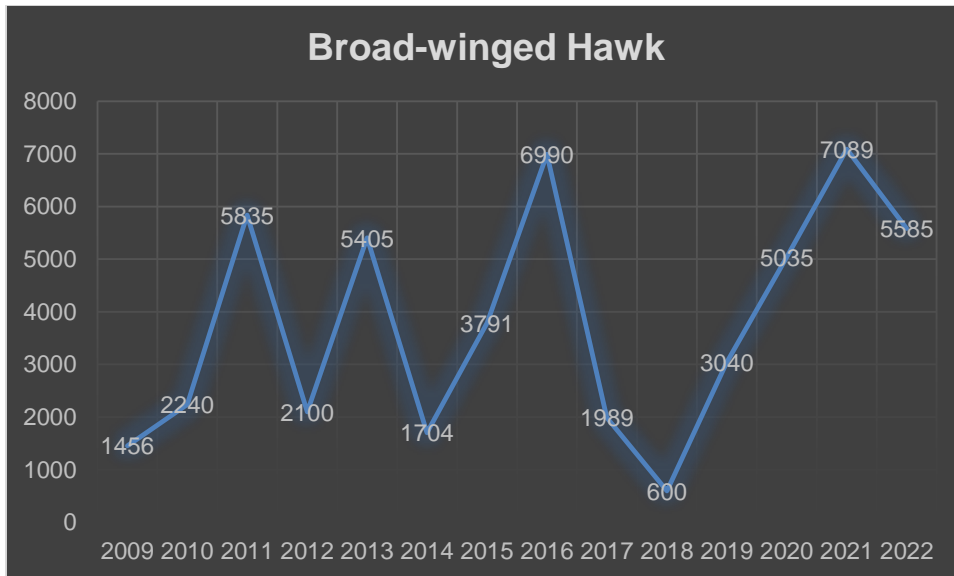
Season Total: 5585

Thirteen-year average: 3637

Prior to the last two years, our data had been indicating a decline for the species. Strong showings in 2021 and 2022 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.

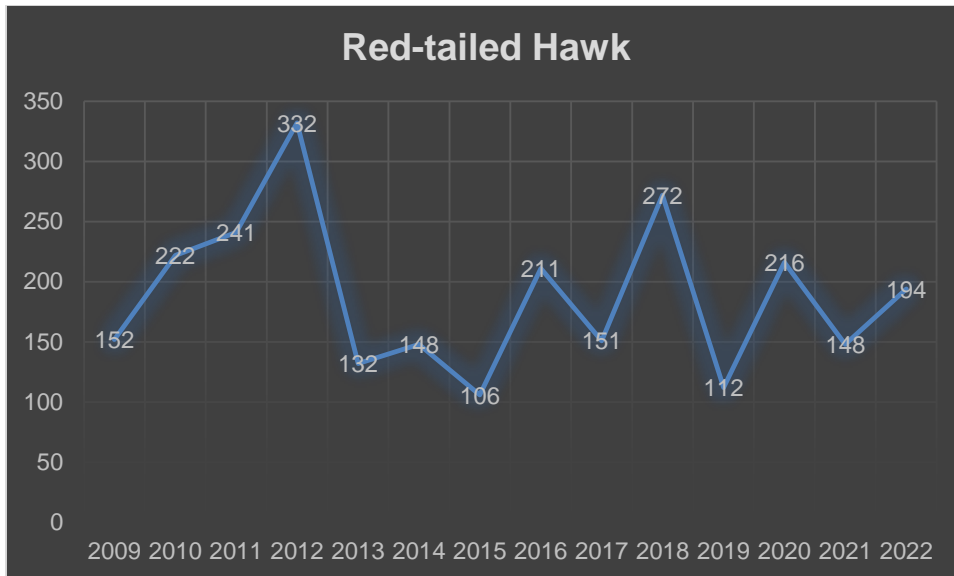


### **Red-tailed Hawk**

Earliest Observation: August 27  
 Latest Observation: November 15  
 Single Day High Count: 39 (October 28)  
 Peak: Late October  
 Season Total: 194  
 Thirteen-year average 188

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

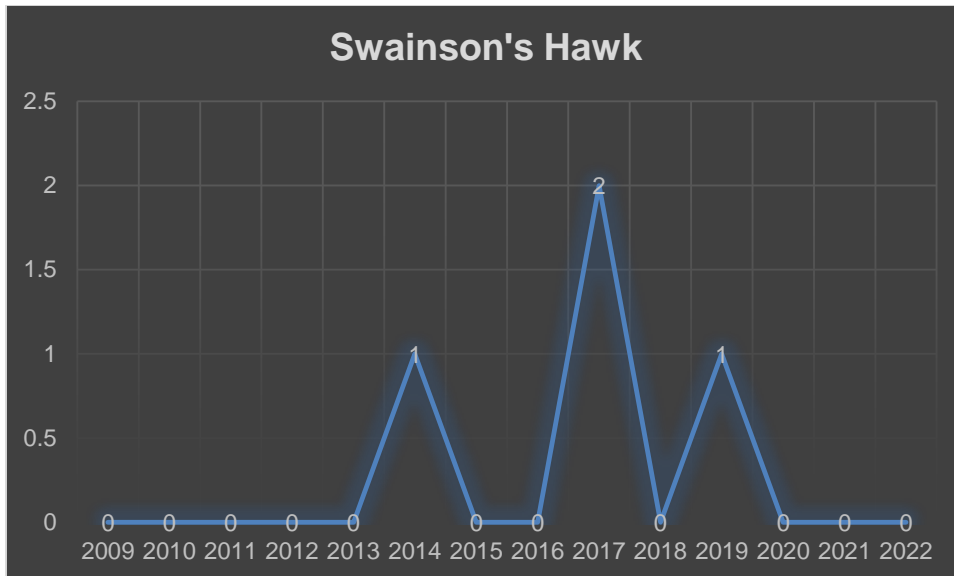
Peak: None

Season Total: 0

Thirteen-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: October 28

Latest Record: November 2

Single Day High Count: 1

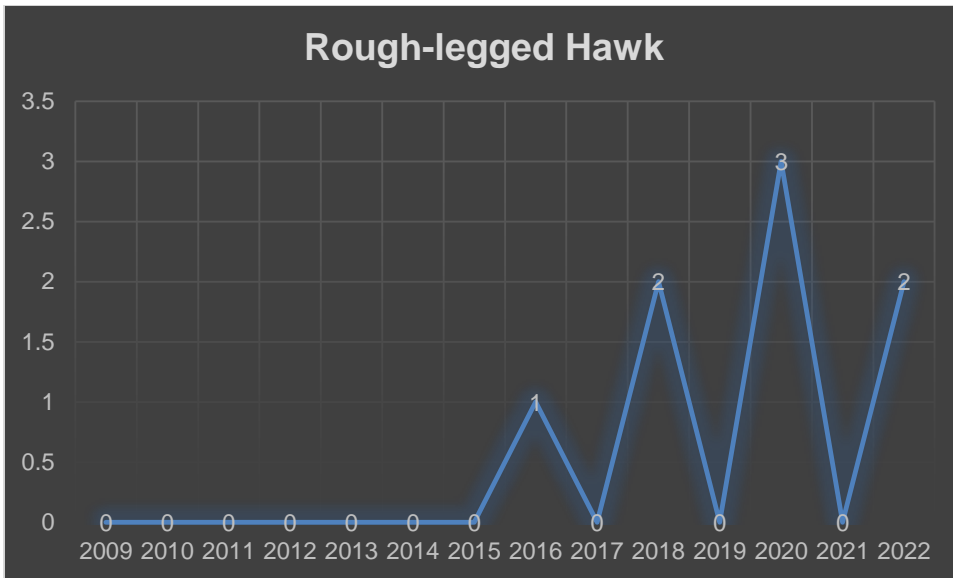
Peak: Late October/early November

Season Total: 2

Thirteen-year average: <1

Our first seven years of counts didn't produce a single record. Four of the last seven 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

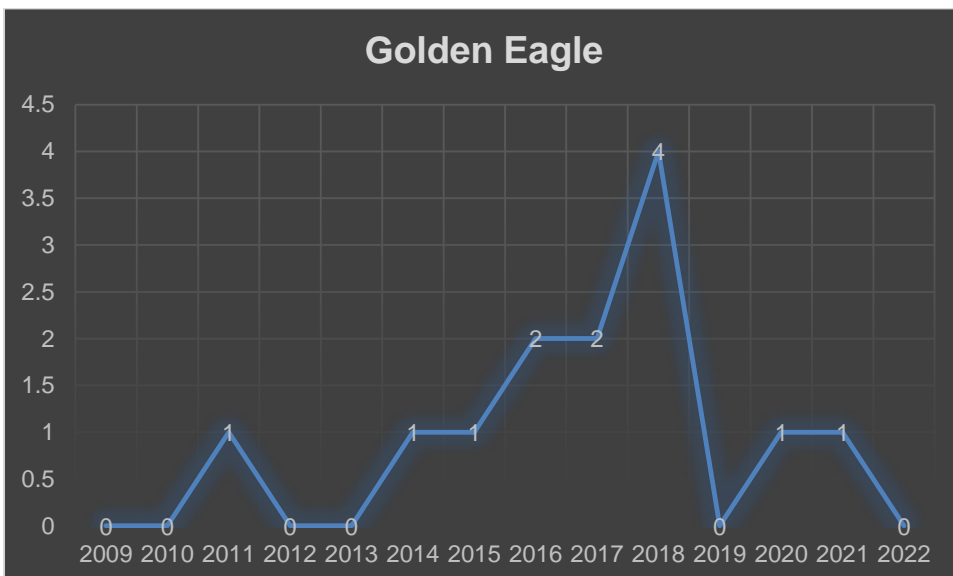
Peak: None

Season total: 0

Thirteen-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 an off year for regional populations. Golden Eagles passing Greenlaw Mountain are thought to be part of the Gaspé population.



### **American Kestrel**

Earliest Observation: September 2

Latest Observation: October 11

Single Day High Count: 34 (September 29)

Peak: Late-September

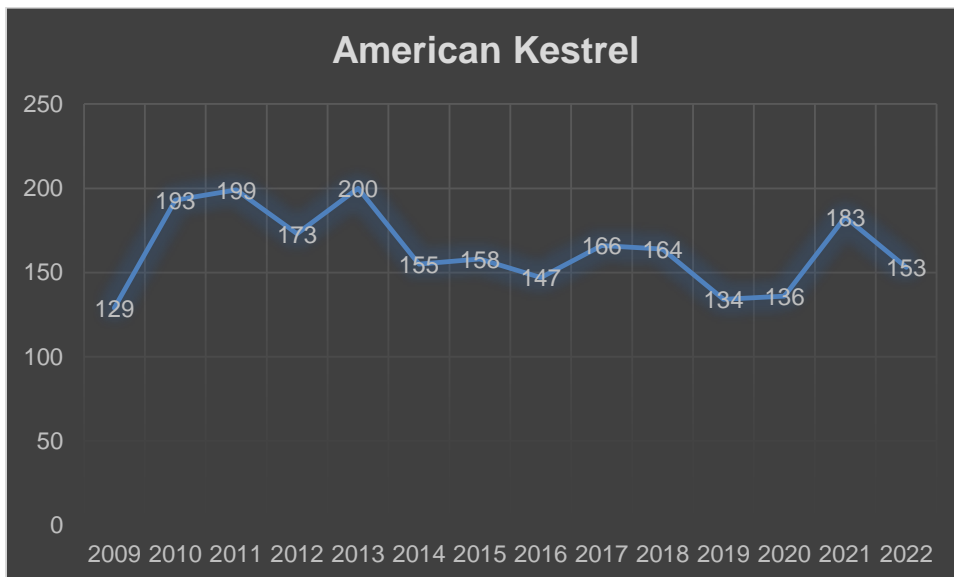
Season Total: 153

Thirteen-year average: 164

Our counts are showing 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 5

Latest Observation: November 15

Single Day High Count: 6 (October 2)

Peak: October

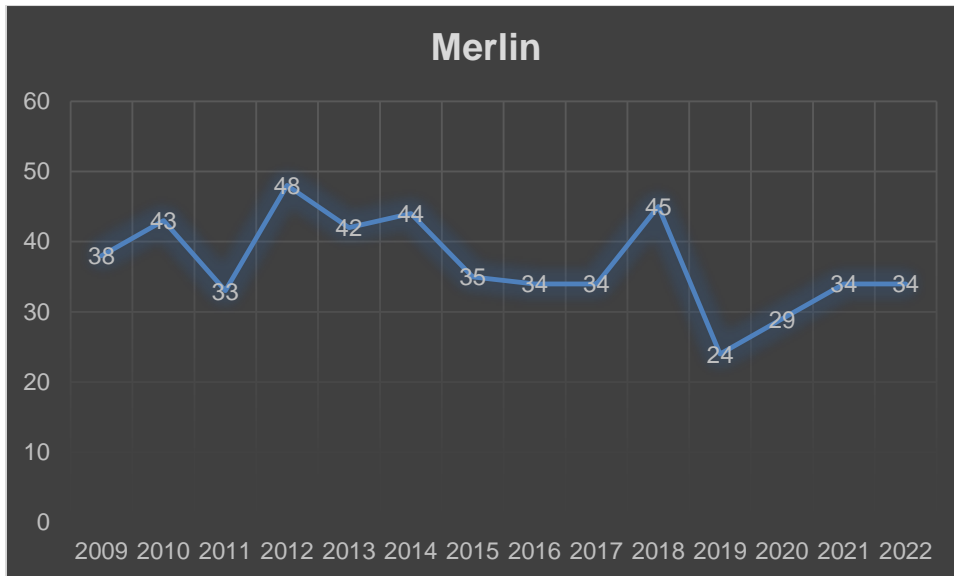
Season Total: 34

Thirteen-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 23

Latest Observation: November 9

Single Day High Count: 4 (September 25)

Peak: October

Season Total: 34\*\*

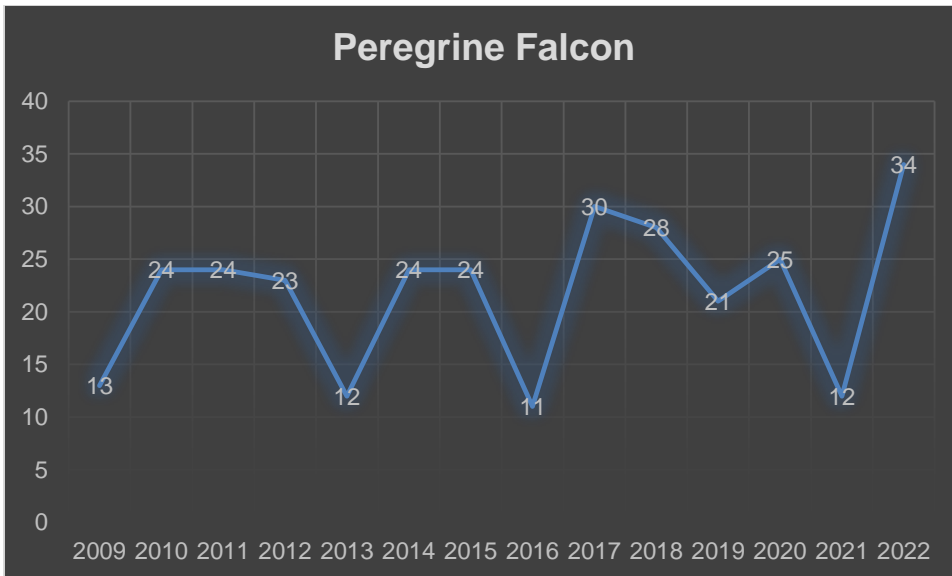
Thirteen-year average: 21

Our counts are beginning to show an upward trend.

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

Peregrines are exceptionally 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: 7

Unidentified Buteo  
Season Total: 4

Unidentified Falcon  
Season Total: 9

Unidentified Eagle  
Season Total: 1

Unidentified Raptor  
Season Total: 55

**Migrating Raptor Combined Season Total: 7660**

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

\*\* A record high or low count.

**Analysis of Flight Trends**

Yearly flights are strongly influenced by weather. The number of birds counted in fall migration can directly reflect the weather's effect on wintering birds, spring migration, breeding success, as well as its effect on daily flights during the fall months. Unfavorable wind conditions occurring during migration can cause raptors to move across a broader geographical area and at lower altitudes. When this occurs, detectability can be reduced. Deviation from 'normal' weather during the breeding season can strongly affect reproductive success and the number of

immature birds counted during migration. Human influences such as habitat degradation or loss can also impact flight trends. Typically, these trends can only be detected through long-term monitoring.

Extreme weather seems to be becoming the norm. Wet breeding seasons, post tropical events, droughts and major rain events have occurred repeatedly in recent years. Climatologists tell us that this will likely continue and increase in severity. Raptor populations could be adversely affected.

Declining populations of songbirds and insects could be responsible, at least in part, for declining populations of Sharp-shinned Hawks and American Kestrel. A recent study showed that 52% of the world's birds of prey are in decline.

The value of this project and its ability to detect trends increases significantly with the addition of each season's data. Maintaining a consistent effort is extremely important. Minimizing bias is also of high importance.

### **Threats**

Human caused threats to raptors include the use of pesticides, habitat destruction, invasive species (including "house cats"), and collisions with structures and/or their support lines. Extreme weather and other aspects of climate change represents an increasing threat.

### **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: Laraine Townsend, Mike Bamford, Hank and Caroline Scarth, Jim Russel, David Putt, Maria Recchia, Heather Dyble, Sharon McGladdery, Cathy and Isabelle Simon, Renz Abuhan, Elan Cole, Susan Belfry, Steve Gillis, Joshua Bojakra, Brittany Dixon, Emma Gorey, Vicki Cowen, Jan and Ray Riddel, Milda Markauskas, Brigitte Greene, Amanda Butt, German Garcia, Alex and Cassandra Dorman, Anna O'hare, Mark Nicol, Susan Tate, Luis Ferreira, Kate Jankowski, Kari Hartman, Ihara Hartman, Oliver Hartman, Hunter Green, Derek Hogan, Michelle Morison, Blake Ross, Mark D'Arcy, Caroline Lubbe-D'Arcy, Gail and Doug Richardson, and Anne Marie Leger.

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, Maureen Boone and Vicki Cowen.

Primary support for this season came from the **New Brunswick Wildlife Trust Fund** (NBWTF) with additional support from the New Brunswick Wildlife Trust Fund, the Hawk Migration Association of North America, private donors and our volunteers. I 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!

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