

Detroit River Hawk Watch

2023 Season Summary



Submitted by:

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Juvenile Golden Eagle. Image courtesy of A. Sturgess.

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Abstract

The 2023 count was the 41st consecutive season of monitoring diurnal raptor and Turkey Vulture migration at the mouth of the Detroit River, and the 26th year of consistent coverage at Lake Erie Metropark. There were 570.5 hours of data collection with counts conducted on 87 days between 01 September and 30 November. This season, 215,444 total raptors and vultures of 16 species were counted. This total was 68% above the LTA (128,524) and 57% above the 10-year average between 2014-2023 (136,935). We compared this season's totals to the respective LTA for each species since 1998. The following birds were counted above the LTA: Turkey Vulture (76%), Bald Eagle (7%), Northern Harrier (13%), Sharp-shinned Hawk (16%), Broad-winged Hawk (75%), Golden Eagle (47%), American Kestrel (42%), Merlin (20%), and Peregrine Falcon (33%). The following birds were counted below the LTA: Osprey (-49%), Cooper's Hawk (-76%), American Goshawk (-68%), Red-shouldered Hawk (-16%), Swainson's Hawk (-70%), Red-tailed Hawk (-18%), and Rough-legged Hawk (-31%), where values $> \pm 15\%$ are considered "significant" for the count. There were 4 "unknown" raptors counted this year.

Methods

An hourly count of migrating diurnal raptors and vultures was conducted each day (weather permitting) between 1 September and 30 November 2023 totaling 570.5 hours of coverage at the Lake Erie Metropark Boat Launch (LEMP; N 42.0792, W 83.1937). Observation protocol was conducted according to [The Detroit River Hawk Watch Monitoring Protocol](#)¹ except in the case of hourly weather recording. Hourly measurements were recorded directly from the [Grosse Ile Weather Station at Weather Underground](#) rather than with a handheld Kestrel device.²

When counting migrants, counters wait until the raptor passes the west/southwestern boundary of the count site. During periods of large migration volume— typical of Broad-winged Hawks and Turkey Vultures— counters attempted to tally birds exiting kettles in a stream-like fashion. Hourly totals were reported via [Dunkadoo](#) to [Hawk Count](#) where results are then used to build a raptor population index (RPI) to assess species population trends.³

Results referenced below are reported as a percent deviation in relation to LEMP's long-term average (LTA) since 1998— when consistent coverage began at LEMP— as well as the ten-year average (TYA). If the deviation between this year's total count of a given species was within $\pm 15\%$ of the LTA or TYA, we considered that species to have been counted in "approximately average" numbers. If the deviation was greater than 15% from the LTA or TYA, we considered that deviation to be significant.

Background

During the summer of 2023, the southeast portion of Michigan, where the Detroit River Hawk Watch count site is located, had redder sunsets and much worse air quality than normal. These anomalies occurred due to the smoke from widespread fires that raged in

Canadian forests. This carried into the local atmosphere when certain conditions were met. It was reasonable to take this into consideration and wonder, with some concern, what effect this might have on the raptor populations that rely on these forests for breeding. As it turned out, atmospheric conditions were not the only departure from the norm this season. Despite the adverse conditions that could have affected the count, the number of raptors that passed by our site was much larger than usual.

The Detroit River Hawk Watch is located at the bottom of a natural geographical funnel that is created by the shores of three of the Great Lakes: Huron, Erie, and Ontario. This makes it a prime location for witnessing migration, however, all hawk watch sites are at the mercy of the winds that occur during the migration season.⁴ Not only do winds alter the specific flight pattern of raptors, but they also adjust their entire flight trajectory. Hurricanes, and other large weather extremes which are becoming increasingly more common, have an effect on the migratory paths of birds.⁵ Weather is only one of many variables that may alter the count from year to year, and substantial differences in numbers are common. The exact causes for these swings are hard to attribute to a specific cause with any real certainty, but we can still enjoy those years that provide an unusual bounty.

Monthly Narratives

September



Broad-winged Hawks kettling. Image courtesy of M. Hainen.

September usually is an important contributor to the season-long totals depending on one species that travels during the early part of the season. The main contributor during this month, of course, is the Broad-winged Hawk. Traveling together in large groups, this species quickly accumulates members as they “kettle and stream” towards South America. Located closer to the start of their migration route, the Detroit River Hawk Watch count numbers pale in comparison to places like Veracruz, Mexico and the Isthmus of Panama.

Nonetheless, the flights at LEMP are still an impressive sight and favorable conditions will bring greater numbers of birds to our watch site, more so than any other species.

This month can be a little slow to get rolling since summerlike conditions tend to linger in the first two weeks. This year we had favorable conditions the first day of the count with 17 Broad-winged Hawks passing by, however, warm southwest winds took over, causing a week-long absence. They more than made up for the brief hiatus with over 107,500 birds seen during the season, almost all of which occurred in September (Table 1). We were very satisfied to see 67,000 birds last year, so this was a standout year— our largest total since 2014 (Figure 2).

The annual Hawk Fest at Lake Erie Metropark is held on the third weekend of September to take advantage of the Broad-winged Hawk's peak passage during that time frame, hopefully providing visitors with spectacular views. Since these birds travel in large groups, it is possible to see thousands in one hour but not many during the rest of the day. They are reliably unpredictable and elusive birds that can be hard to track when flying very high in clear blues skies. Occasionally, to the delight of all present, they fly right over the site at easily visible altitudes. Thus, this year's Hawk Fest visitors were rewarded handsomely, so long as they were there at the appointed hour of their passing.

Over the summer, this was a species of greatest concern. Since they live and rely on forests, we hypothesized that they may have suffered losses or reproductive consequences during the forest fires in Canada. While we may not know the exact effects of the forest fires for some time, we do know that this year's numbers exceeded our hopes and expectations by a significant amount. Nature has seemed to evolve to deal with natural phenomena over timescales that humans find very difficult to fathom. We are often concerned with short term consequences, but the fates of species are determined over a much longer period.

This wasn't the only species that exceeded expectations this year, as most of our September migrants that travel during the first month of the watch also turned up in larger numbers than usual, as seen in Table 1. The beloved "sharpie", or Sharp-shinned Hawk, came roaring out of the gate this year with 3,783 birds in September. This surpassed both the September 2022 and 2021 total of 2,890 and 2,918 respectively. The American Kestrel, a common traveling companion with the Sharp-shinned, also exceeded past years' totals. They came in at 985 this September, compared to 755 in September 2022 and 646 in September 2021. Northern Harriers were more plentiful, with 355 this September. Last September we counted 233, while in September of 2021 we had 191. These all contributed to this September's total of 115,170 birds counted. Although we had over 35,000 more birds than last September, we had less species diversity, only seeing 11 species rather than last year's 12.

October



Massive flight of Turkey Vultures. Image courtesy of A. Sturgess.

October is the month in which the change of seasons becomes more evident. Trees take on more vibrant colors before shedding their leaves, and the dew point is sometimes reached— changing the appearance of natural areas, revealing spider webs and other details that normally remain unseen. A favorite month of many hawk watchers, diversity becomes a keyword, as many different species take to the flyways. The shortening days and cooler temperatures tell the birds that harsher weather is on the way, and that the time to move south has arrived once more. The migrating instinct is aroused from its slumber.

The Broad-winged flights are generally considered to provide the most impressive sights at the hawk watch, however, the Turkey Vultures, who also travel in large congregations, have a trick or two up their sleeves. This October, on the 17th day, a flight occurred which was very rare in its density and size. During the course of one hour, over 26,000 birds flew in formation by the site. Nearly 30,000 were counted on the day (Table 2). It was quite an extraordinary spectacle. Although this number of birds may seem ordinary at hawk watches farther south, this is an unusual sight at more northerly sites like DRHW. At LEMP, Turkey Vultures have become more difficult to track and count over the years as tree growth obscures our view of them traveling along the horizon, but for one glorious hour, that problem did not exist. It is difficult to know what combination of weather conditions caused the birds to assemble like this. Perhaps widespread rain, which had occurred leading up to the 17th, had caused a backup, allowing the birds to accumulate in much larger numbers than usual. The Turkey Vulture count was nearly 30,000 more than last season, and most of that difference came on one day (Table 4).

Rough-legged Hawks had been a cause for concern during the last couple of seasons, only seeing 4 in 2021 and 2022 (Table 4). They breed far to the north where climate change has been more pronounced, so we were not sure if our recent counts reflected that issue. This

year, we have welcomed 22 migrants, a number that more closely aligns with our historical averages.

One of the holy grail birds that we rarely see, the Swainson's hawk, did make an October appearance this year. It was hiding in a stream of Turkey Vultures, trying to slip by unnoticed. It pulled up for a moment to give us a good look at its impressive wingspan and help us positively identify the bird. We had not seen one of these large hawks since 2018, so it was a pleasant surprise to observe this one (Table 4).

With 30,000 more birds counted, we tallied 93,842 birds this October, representing a 30% increase over last October (Table 2). Similar to years past, the winner of the show was the Turkey Vulture, comprising 94% of the total.

November



Juvenile Golden Eagle. Image courtesy of A. Sturgess.

November is the month that previews winter in small doses. Weather systems arrive that deposit snow, instead of rain, and chilling winds can challenge the best technical clothing available. During these times, we take our guidance from the birds, as their down-based thermal system has proven itself over time. Although certain days can be rewarding with large numbers of eagles and hawks traveling through, there are a lot of days with little traffic as the season winds down.

While Golden Eagle numbers have been falling over the last two years, this species— like many others— had a significant year, coming in at 138 individuals. Most of these birds came through in November, sometimes numbering in the teens on a given day (Table 3). We had not seen these kinds of daily numbers in recent years, but the winds were in a good mood and delivered this year.

The newly named American Goshawk— formerly Northern Goshawk— which has now separated from the Eurasian Goshawk, is another bird that only makes occasional appearances at our site. This has been a bird that has concerned many birders for some time due to its declining numbers.³ This year we saw 5 throughout October and November, and we considered ourselves very fortunate.

One of the two species with lower numbers than last year was the Red- Tailed Hawk, a typical late migrant. Coming in at 3,618— compared to 4,299 last year and 3,643 in 2021— the bird was still within its normal variance. However, with such an above-average year for other species, we wonder what caused their slight decline. This bird tends to travel in loose congregations, surfing on the winds, so seeing hundreds in a day is not unusual. However, favorable winds in November can be fickle, and the birds may be just a few miles away out of view. Winter Raptor Surveys and the increasing use of tracking devices may help answer this question.

After a decrease in birds in November last year, this year we received similar numbers to 2021— counting 6,432 birds this November, 2,617 birds last November, and 6,689 birds in November 2021 (Table 3). Whether this means the birds are not traveling as far, traveling later, or the weather conditions were more in our favor, is hard to say. Similarly to past years, Turkey Vultures and Red-Tailed Hawks made up a majority of the month’s numbers, 54% being Turkey Vultures and 34% Red-Tailed Hawks.

Species Accounts

Total

A sum of 215,444 diurnal raptors and turkey vultures (vs. 145,577 in 2022 and 94, 616 in 2021) migrated over the Lake Erie Metropark Boat Launch between 01 September and 30 November 2023. This year’s total was 68% above the LTA (128,524) and 57% above the TYA (136,935).

Turkey Vulture

There were 94,131 Turkey Vultures (vs. 65,773 in 2022 and 60,098 in 2021) that passed by the count site during the period 08 September and 25 November 2023, which is 76% above the LTA (53,627) and 47% above the TYA (64,228). The high count (29,796) occurred on 17 October 2023.



Turkey Vulture images courtesy of Mark Hainen.

Osprey

There were 53 Ospreys (vs. 16 in 2022 and 26 in 2021) that passed by the count site during the period 08 September and 02 October 2023, which is 49% below the LTA (104) but 33% above the TYA (40). The high count (10) occurred on 11 September 2023.



Osprey images courtesy of A. Sturgess and M. Hainen.

Bald Eagle

There were 172 Bald Eagles (vs. 92 in 2022 and 83 in 2021) that passed by the count site during the period 07 September and 29 November 2023, which is 7% above the LTA (160) and 10% above the TYA (156). The high count (15) occurred on 14 September 2023.



Bald Eagle images courtesy of A. Sturgess and B. Peregord (middle).

Northern Harrier

There were 506 Northern Harriers (vs. 392 in 2022 and 379 in 2021) that passed by the count site during the period 05 September and 24 November 2023, which is 13% above the LTA (448) and 20% above the TYA (421). The high count (65) occurred on 15 September 2023.



Northern Harrier images courtesy of A. Sturgess and M. Hainen.

Sharp-shinned Hawk

There were 7,008 Sharp-shinned Hawks (vs. 5,882 in 2022 and 6,571 in 2021) that passed by the count site during the period 01 September and 24 November 2023, which is 16% above the LTA (6,043) and 33% above the TYA (5,274). The high count (744) occurred on 15 September 2023.



Sharp-Shinned Hawk images courtesy of A. Sturgess and M. Hainen.

Cooper's Hawk

There were 91 Cooper's Hawks (vs. 91 in 2022 and 52 in 2021) that passed by the count site during the period 09 September and 28 November 2023, which is 76% below the LTA (387) and 43% below the TYA (160). The high count (7) occurred on 17 October 2023.



Cooper's hawk images courtesy of J. Jourdan (middle) and M. Hainen (left and right).

American Goshawk

There were 5 American Goshawks (vs. 1 in 2022 and 0 in 2021) that passed by the count site during the period 28 October and 19 November 2023, which is 68% below the LTA (15) but 47% above the TYA (3). Only 1 individual of this species was seen each day it was observed.

Red-shouldered Hawk

There were 525 Red-shouldered Hawks (vs. 478 in 2022 and 502 in 2021) that passed by the count site during the period 01 October and 28 November 2023, which is 16% below the LTA (628) and 13% below the TYA (605). The high count (75) occurred on 17 October 2023.



Red-shouldered Hawk images courtesy of J. Jourdan (left), M. Hainen (middle), and A. Sturgess (right).

Broad-winged Hawk

There were 107,751 Broad-winged Hawks (vs. 67,350 in 2022 and 21,987 in 2021) that passed by the count site during the period 01 September and 28 October 2023, which is 75% above the LTA (61,502) and 76% above the TYA (61,009). The high count (26,190) occurred on 14 September 2023.



Broad-winged Hawk images courtesy of A. Sturgess J. Jourdan (left).

Swainson's Hawk

There was 1 Swainson's Hawk (vs. 0 in 2022 and 2021) that passed by the count site on 22 October 2023, which is 70% below the LTA (3) but 9% below the TYA (1).

Red-tailed Hawk

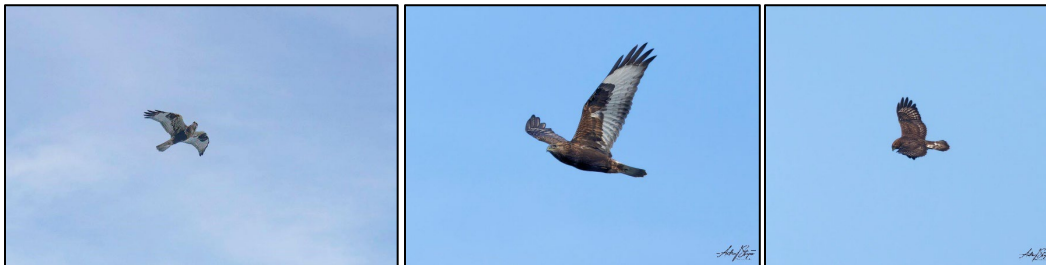
There were 3,618 Red-tailed Hawks (vs. 4,299 in 2022 and 3,643 in 2021) that passed by the count site during the period 09 September and 29 November 2023, which is 18% below the LTA (4,430) and 6% below the TYA (3,867). The high count (806) occurred on 07 November 2023.



Red-tailed Hawk images courtesy of A. Sturgess and M. Hainen.

Rough-legged Hawk

There were 22 Rough-legged Hawks (vs. 4 in 2022 and 4 in 2021) that passed by the count site during the period 15 October and 20 November 2023, which is 31% below the LTA (32) but 8% above the TYA (20). The high count (3) occurred on 22 October 2023.



Rough-legged Hawk images courtesy of A. Sturgess and M. Hainen (left). The left image depicts a light morph, and the two right images depict dark morphs.

Golden Eagle

There were 138 Golden Eagles (vs. 44 in 2022 and 65 in 2021) that passed by the count site during the period 21 October and 26 November 2023, which is 47% above the LTA (94) and 69% above the TYA (82). The high count (19) occurred on two days: 07 November and 15 November 2023.



Golden Eagle images courtesy of A. Sturgess and J. Jourdan (left).

American Kestrel

There were 1,294 American Kestrels (vs. 981 in 2022 and 1,068 in 2021) that passed by the count site during the period 01 September and 29 November 2023, which is 42% above the LTA (911) and 56% above the TYA (827). The high count (114) occurred on 14 September 2023.



American Kestrel images courtesy of A. Sturgess.

Merlin

There were 60 Merlins (vs. 79 in 2022 and 67 in 2021) that passed by the count site during the period 01 September and 19 November 2023, which is 20% above the LTA (50) and 7% above the TYA (56). The high count (4) occurred on 15 September 2023.



Merlin image courtesy of A. Sturgess.

Peregrine Falcon

There were 65 Peregrine Falcons (vs. 62 in 2022 and 70 in 2021) that passed by the count site during the period 09 September and 23 November 2023, which is 33% above the LTA (49) and 7% above the TYA (61). The high count (4) occurred on two days: 15 October and 18 November 2023.



Peregrine Falcon images courtesy of A. Sturgess.

Unknown Raptors

There were 3 Unknown Buteos and 1 Unknown Falcon that passed by the count site during the period 09 September and 25 November 2023. There were no other Unknown Raptors seen this season (vs. 0 in 2022 and 1 in 2021). This is 90% below the LTA (41) and 88% below the TYA (34).

Discussion

Detroit River Hawk Watch counted 215,444 diurnal raptors and Turkey Vultures this season, making it the 3rd highest count year since 1998 (Table 4). This year's total was 68% above the long-term average and 57% higher than the ten-year average. While the season totals of the past ten years are higher on average, many specific species' all-time highs were prior to this decade. As mentioned in year's past, the season total data seems to follow a cyclic nature— spiking every three to four years and then falling sharply after that spike (Figure 1). These spikes were more pronounced from 2007 through 2014, but the past decade has shown less drastic changes. Though this year does show a significant increase, being 30% over last year's total. Whether this increase can be attributed to the previously observed cyclic pattern or perhaps a more-than-usual number of birds migrating due to a combination of factors, is hard to say. Migratory behavior is determined by a number of components such as internal clocks, food and habitat availability, length of day, and more⁶ (Akesson 2017). This makes conclusions on a single year's worth of data—as well as predictions for the future— difficult to determine.

For whatever reasons may be, this year was a great one. As seen in Table 4, many species achieved their ten-year record highs (e.g., Turkey Vulture, Sharp-shinned Hawk, Golden Eagle, and American Kestrel). This year had the second highest Turkey Vulture numbers of all time as well. While not the highest in the last decade, the Broad-winged Hawk count was the third highest of all time and the best in nine years. Other notable species include Merlins and Peregrine Falcons which DRHW has on average seen more in the past decade than ever before. Although a decrease in sightings since 1998, the Osprey had a great year with a count significantly over its ten-year average.

However great this year was for DRHW, there were still some species with lower numbers than last year. While many of them were counted within variance (e.g., Red-shouldered Hawk, Swainson's Hawk, Red-tailed Hawk, and Rough-legged Hawk), others like the Cooper's Hawk are still significantly down.

Outreach

The Detroit River Hawk Watch is actively engaged in bringing outreach to the community in an attempt to increase interest not only in the hawk watch, but in raptor conservation as well. We provide each visitor with pamphlets that help explain hawk migrations and give in-depth hawk identification information and the likelihood of seeing each species. We love pointing out the landmarks the counters use to communicate where the birds are so visitors have the best possible chance of seeing birds.

Hawk Watch Apprentices

Our 2023 apprentices came from near and far to learn the art and science of conducting a count. They spent the season alongside our professional counter and dedicated volunteers learning about hawk migration, identification, and data management. They also played a key role in visitor engagement and education!

Jackie Quinones

Jackie Quinones completed her BS in Environmental Science and Policy concentrating in Wildlife Ecology and Management at the University of Maryland in 2022. Her wildlife journey began there while studying the effects of native and invasive deer. Upon graduating, she traveled to Kenya to learn more about community-based wildlife conservation. She discovered her love for birds there. Before coming to the Detroit River Hawk Watch, she has supported grassland bird habitat in Maryland as well as monitored newly introduced California Condors in Redwood National Park. In addition to working at the Hawk Watch, she also volunteered at Black Swamp Bird Observatory's migratory banding station. She plans to continue working with birds in Florida, where she will monitor Snail Kites during their breeding season. Jackie helped out Detroit River Hawk Watch for the whole season.



Sabrina Salome

Sabrina graduated from Michigan State University in 2015 with a BSc in Zoology. Afterwards, she spent a few years volunteering, birding, and visiting Mexico, Costa Rica, and southern Africa before returning to Michigan. Upon returning, she worked as a laboratory manager for the Mara Hyena Project for five years. She is big into bird photography and has volunteered at Michigan Audubon for a number of years on both monitoring and outreach projects. Sabrina helped out Detroit River Hawk Watch from the beginning of our season to mid-October.

Sam Heilman

Sam Heilman received his BS in Biology from Hope College. His interest in birding started while working on a wildlife monitoring project at a constructed wetland, where he learned how to better identify birds and wildlife. After graduation, he moved to Ohio to work for the Wilds Restoration Ecology Department, helping with forest restoration and the monitoring of songbird communities in restored forests. He later worked at the Crane Trust in Nebraska, supporting a study on wet meadow invertebrate communities. After this, he started his Master's degree at University of Michigan at the School for Environment and Sustainability. He is currently completing his Master's Thesis on how vegetation and landcover surrounding grassland restoration sites affect bird communities. Sam helped out Detroit River Hawk Watch from mid-October through the end of our season.



Image courtesy of A. Sturgess

The Detroit River Hawk Watch was featured in an article published on the MLIVE website 19 Oct 2023 for the over 29,000 Turkey Vultures that migrated over the site on October 17. You can find the article [here](#).

Since 04 December 2022 the [Detroit River Hawk Watch Facebook Group](#) has added another 440 new members for a 12 December 2023 total of 2478 members. Thank you all for following and supporting us.



Photo courtesy of the Huron-Clinton Metropolitan Authority.

HawkFest 2023 was held on September 16 and 17. The event was free to all visitors upon entering the park. Various vendors were present as well as members of the Michigan Hawking Club, who brought live raptors so that visitors could get up close to them and learn about them (as pictured to the left). Learn more about the event [in this News Herald article](#).

Migratory and Non-Raptor Highlights

Non-raptor highlights, which include waterfowl, loons, shorebirds, migratory songbirds, passerines, and even some small mammals are happy distractions that occupy the volunteer counters between raptor flights. These sightings help alleviate slow raptor days, when weather and dull skies test the patience of our counters. The [Detroit River Hawk Watch Facebook Page](#) contains hundreds of photos by our volunteer counters and visitors. Some of the highlights are below.

In addition to counting raptors, we also try to count a few other migrant species— given that we have the bandwidth. When Eastern Monarch Butterflies are making their trek from Southern Canada to Mexico each fall, they pass right through our hawk watch site. We tally each Monarch we see to further support research on their abundance and migration routes. We also count migratory Corvids such as the American Crow and Blue Jay, which fly right over our site. On 13 September 2023, we had our all-time season high of 512 Monarchs in one day.



Monarch Butterfly images courtesy of A. Sturgess and M Hainen (middle).



It is a common sight to see murders upon murders of American Crows in one day; they often seem like rivers flowing across the sky.

American Crow image courtesy of A. Sturgess

Similarly to crows, Blue Jays also migrate in large flocks; on 19 September we counted 16,600 of them. Sometimes a few stop to fuel up on the way, enjoying the 'peanut house' in particular.



Blue Jay image courtesy of A. Sturgess and M. Hainen.

Many migrating warblers, like this Cape May Warbler, enjoy foraging in the surrounding trees. On slow days, our volunteer counters love watching them hop around from branch to branch.



Cape May Warbler image courtesy of M. Hainen.

A Little Gull, to the delight of many, made a return this year. We loved watching it fly around with the Bonaparte's Gulls.



Little Gull images courtesy of J. Jourdan (left) and A. Sturgess (middle and right).



We witnessed many waterfowl, some close, but many far out above the lake migrating. This year we saw many Northern Shovelers in particular.

Northern Shoveler image courtesy of A. Sturgess.

American White Pelicans also made their return this year.



American White Pelican images courtesy of A. Sturgess and M. Hainen.

Terns, Gulls, and Kingfishers dove and caught fish in front of the volunteer counters, bringing much joy.



Caspian Tern (left), Ring-billed Gull (middle), Belted Kingfisher (right) images courtesy of M. Hainen, A. Sturgess, and B. Peregord, respectively.

We even saw some raptors hunting, like this Peregrine Falcon trying to snag one of these Dunlin.



Image courtesy of A. Sturgess.



Image courtesy of J. Quinones.

An Eastern Meadow Vole that the apprentices and volunteers affectionately named Lenny.

Acknowledgements

Detroit River Hawk Watch is a collective effort supported by members of the United States Fish and Wildlife Service (USFWS) and a dedicated core of volunteers. Thank you to Jerry Jourdan, who provided much appreciated technical guidance on this report. The success of the Detroit River Hawk Watch itself would not be possible without the dedication of volunteers who log hundreds of hours counting hawks in all-weather situations. Thanks go out to Kevin Georg, our Primary Counter, and to the DRHW crew of Andrew Sturgess, Bill Peregord, Carolyn Small, Don Sherwood, Frank Kitakis, Jerry Jourdan, Mark Hainen, Michelle Peregord, Paisley McGee, Patrick Mulawa, Rosemary Brady, and Hawk Watch Apprentices Jackie Quinones, Sabrina Salome, and Sam Heilman.

Detroit River Hawk Watch is also grateful to all visitors (some regular) who came out on many occasions to assist with sightings and provide a break during particularly slow days. Special acknowledgement is made to Andrew Sturgess, Bill Peregord, Don Sherwood, Jerry Jourdan, Mark Hainen, Michelle Peregord, and Sabrina Salome, all of whom provided wonderful photos and videos for the DRHW Facebook Page. Daily narratives, insights, and predictions provided by Andrew— as well as by apprentices Jackie Quinones and Sam Heilman while he was away— were posted to both [HawkCount](#) and the [Detroit River Hawk Watch Facebook Page](#) and received many compliments from followers of the Detroit River Hawk Watch. Of course, the success of the count would not be possible without financial and site support from USFWS, the International Wildlife Refuge Alliance (IWRA), the Huron-Clinton Metropolitan Authority (HCMA) at the Lake Erie Metropark, Hawk Migration Association of North America (HMANA), and DTE Energy. Volunteers are always welcome and are invited to come out to the boat launch at LEMP to join in our efforts. Keep looking up!



Detroit River Hawk Watch's first day of the 2023 count.

Image courtesy of J. Fletcher.



Our professional counter, Kevin, shielding from the high winds at the count site.

Image above courtesy of J. Quinones.



Our volunteer counters keeping their eyes on the sky!

Image above courtesy of J. Fletcher.



Detroit River Hawk Watch's last day of the 2023 season.

Image courtesy of J. Fletcher.



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Tables and Figures

Table 1. Raptor totals for the Detroit River Hawk Watch during September 2023.

Monthly Summary: September 2023

Date	Obs Hours	Turkey Vulture	Osprey	Bald Eagle	Northern Harrier	Sharp-shinned Hawk	Cooper's Hawk	American Goshawk	Red-shouldered Hawk	Broad-winged Hawk	Swainson's Hawk	Red-tailed Hawk	Rough-legged Hawk	Golden Eagle	American Kestrel	Merlin	Peregrine Falcon	Unknown Accipiter	Unknown Buteo	Unknown Falcon	Unknown Eagle	Unknown Raptor	Total
		TV	OS	BE	NH	SS	CH	AG	RS	BW	SW	RT	RL	GE	AK	ML	PG	UA	UB	UF	UE	UR	
Sep 1, 2023	7					7				17					4	1							29
Sep 2, 2023	7														2								2
Sep 3, 2023	7														1	1							2
Sep 4, 2023	7					1									2								3
Sep 5, 2023	7				4	2									1								7
Sep 6, 2023	2					1									1								2
Sep 7, 2023	7			1		4									3								8
Sep 8, 2023	7	22	1	2	4	28				14					19								90
Sep 9, 2023	8	68		1	6	61	3			124		7			63	1	1			1			336
Sep 10, 2023	7.5	61	2		5	171	2			200		7			36	1	2						487
Sep 11, 2023	7	35	10	4	26	256				74		3			62	2							472
Sep 12, 2023	6	37	3	3	12	333				7699		1			57	3							8148
Sep 13, 2023	9	49	4	5	23	167	3			13595		8			79	3	1						13937
Sep 14, 2023	9	38	4	15	42	293				26190		9			114	3	1						26709
Sep 15, 2023	8.5	39	4	10	65	744				5093		3			99	4							6061
Sep 16, 2023	7	35	3	4	25	545				2213		1			74	1	1						2902
Sep 17, 2023	7	79	3	5	11	145				19520		11			94	1	3						19872
Sep 18, 2023	7	85	2		4	124				20929		2			24	1	1						21172
Sep 19, 2023	8	71	1	5	11	140				11015		1			62	2	2			1			11311
Sep 20, 2023	6.5	47	2		17	110				18		1			24	1	2						222
Sep 21, 2023	7.5	22	8	5	48	278				10		1			21								393
Sep 22, 2023	7	120	1	6	15	88				469		3			55	1	1						759
Sep 23, 2023	7	89		1	2	18				233		1			4	1	1						350
Sep 24, 2023	7	196			2	34				48		6			12								298
Sep 25, 2023	5.5	54	1		1	31				24		1			1		2						115
Sep 26, 2023	7	127	2		8	32				56		2			5		1						233
Sep 27, 2023	2.5					1																	1
Sep 28, 2023	7	70																					70
Sep 29, 2023	7	290			3	12				30		5											340
Sep 30, 2023	7	498		5	21	157	3			71		13			68	2	1						839
Sep 2023 Total	206	2132	51	72	355	3783	11	0	0	107642	0	86	0	0	985	31	20	0	1	1	0	0	115170
Sep 2022 Total	208	7284	14	31	232	2876	24	0	3	67322	0	181	0	0	755	25	22	0	0	0	0	0	78769
Season Total	571	94131	53	172	506	7008	91	5	525	107751	1	3618	22	138	1294	60	65	0	3	1	0	0	215444

Table 2. Raptor totals for the Detroit River Hawk Watch during October 2023.

Monthly Summary: October 2023

Date	Obs Hours	Turkey Vulture	Osprey	Bald Eagle	Northern Harrier	Sharp-shinned Hawk	Cooper's Hawk	American Goshawk	Red-shouldered Hawk	Broad-winged Hawk	Swainson's Hawk	Red-tailed Hawk	Rough-legged Hawk	Golden Eagle	American Kestrel	Merlin	Peregrine Falcon	Unknown Accipiter	Unknown Buteo	Unknown Falcon	Unknown Eagle	Unknown Raptor	Total
		TV	OS	BE	NH	SS	CH	AG	RS	BW	SW	RT	RL	GE	AK	ML	PG	UA	UB	UF	UE	UR	
Oct 1, 2023	7	724		3	8	163			2	23		12			47	1	3						986
Oct 2, 2023	7	262	2	2	12	124	4			3		3			34	2	1						449
Oct 3, 2023	7	180			5	55									3								243
Oct 4, 2023	7	51				59									7		2						119
Oct 5, 2023	3				1	5									1								7
Oct 6, 2023	7	1213				34			1			5			24		1						1278
Oct 7, 2023	7	1023			5	84	1	1				9			38	1							1162
Oct 8, 2023	7	1963			11	81	3		4	2		19			49	1							2133
Oct 9, 2023	7	1212			6	41	3			5		11			21								1299
Oct 10, 2023	6.5	696		1	2	34				2		3			11		2						751
Oct 11, 2023	7	1411		6	6	44	1		1	1		14			4								1488
Oct 12, 2023	8.5	8680		1	4	19	2		1	5		7			4		2		1				8726
Oct 13, 2023	7.5	10611		2	5	18	5		9	21		43											10714
Oct 14, 2023	0																						0
Oct 15, 2023	8.5	4349			3	233			5	1		30	1		4		4						4630
Oct 16, 2023	6	1554		1	3	438	2					6			7		2						2013
Oct 17, 2023	7	29796		2	11	471	7		75	36		152			7								30557
Oct 18, 2023	7	2693			5	116	1		2			11	1		8	1							2838
Oct 19, 2023	4	509			1	61	1					1											573
Oct 20, 2023	5	717				91	1					2			1								812
Oct 21, 2023	7	1728		1	2	168	4		19	2		83	1	1	9	1	2						2021
Oct 22, 2023	8	6191			7	91	2		37	6	1	116	3	2	2	2							6460
Oct 23, 2023	7	1615		2		132	1		8	1		48	2		4		1						1814
Oct 24, 2023	7	1955		2	4	169	1		4			166	1	2	5	2							2311
Oct 25, 2023	3.5				2	11									1								14
Oct 26, 2023	7	52		2	1	99						6			4		3						167
Oct 27, 2023	7	854				62	1					21	1		3	1	2						945
Oct 28, 2023	8	4685		3	1	25	3	1	54	1		105	2	2	1	1	1						4885
Oct 29, 2023	5.5	1112			7	32	3	1	24			146	2										1327
Oct 30, 2023	7.5	2417		1	2	53	1		28			261	1	2	2	3	2						2773
Oct 31, 2023	7	265		9	1	23			2			41	1	4	1	1							347
Oct 2023 Total	200.5	88518	2	38	115	3036	47	2	277	109	1	1321	15	13	302	16	29	0	1	0	0	0	93842
Oct 2022 Total	206.24	57381	2	35	143	2961	43	1	330	28	0	2828	0	17	226	43	38	0	0	0	0	0	64076
Season Total	570.5	94131	53	172	506	7008	91	5	525	107751	1	3618	22	138	1294	60	65	0	3	1	0	0	215444

Table 3. Raptor totals for the Detroit River Hawk Watch during November 2023.

Monthly Summary: November 2023

Date	Obs Hours	Turkey Vulture	Osprey	Bald Eagle	Northern Harrier	Sharp-shinned Hawk	Cooper's Hawk	American Goshawk	Red-shouldered Hawk	Broad-winged Hawk	Swainson's Hawk	Red-tailed Hawk	Rough-legged Hawk	Golden Eagle	American Kestrel	Merlin	Peregrine Falcon	Unknown Accipiter	Unknown Buteo	Unknown Falcon	Unknown Eagle	Unknown Raptor	Total
		TV	OS	BE	NH	SS	CH	AG	RS	BW	SW	RT	RL	GE	AK	ML	PG	UA	UB	UF	UE	UR	
Nov 1, 2023	7.5	742		1	1	23			17			86	1	1									872
Nov 2, 2023	7	1202		6	2	5	1		1			39	1	3	1	1	2						1264
Nov 3, 2023	7	44			3	7						7			1		2						434
Nov 4, 2023	6	29		1	1	4			2			2		2									41
Nov 5, 2023	5					1			2			3	1										7
Nov 6, 2023	7	217		2	2	14	1					24		5	3		1						269
Nov 7, 2023	7	465		4	8	48	3		70			806	1	19			2						1426
Nov 8, 2023	5	40		1		1	1	1				104		7			1						156
Nov 9, 2023	7	95		4	2	3	1		5			63		5		1	1						180
Nov 10, 2023	7	30		10	4	7	6		19			54	1	9		1							141
Nov 11, 2023	0																						0
Nov 12, 2023	7	87		1	1	10	5		32			361		16									513
Nov 13, 2023	7	58		2	1	9			5			61		4			1						141
Nov 14, 2023	7	23		1	4	20	3		13			165		12		3							244
Nov 15, 2023	7	32		1	1	7			6			117	1	19		1							185
Nov 16, 2023	6					4	1					2		3		1							11
Nov 17, 2023	5					1						3		2		1							7
Nov 18, 2023	7	6		10	1	5	1	1	14			55		1		1	4						99
Nov 19, 2023	7.5	15		7		10	2	1	21			94		4		3							157
Nov 20, 2023	5.5	18		2	3	4	3		24			78	1	7			1						141
Nov 21, 2023	0																						0
Nov 22, 2023	6	4			1	2	1		4			20		1									33
Nov 23, 2023	5.5	1		1		2	1		2			15					1						23
Nov 24, 2023	6	1		4	1	2	1		2			22		3									36
Nov 25, 2023	6	2					1		8			25		1					1				38
Nov 26, 2023	3			2										1									3
Nov 27, 2023	0																						0
Nov 28, 2023	4			1			1		1			3				1							7
Nov 29, 2023	4.5			1								2				1							4
Nov 30, 2023	4.5																						0
Nov 2023 Total	164	3481	0	62	36	189	33	3	248	0	0	2211	7	125	7	13	16	0	1	0	0	0	6432
Nov 2022 Total	159	1014	0	26	18	46	23	1	145	0	0	1290	4	27	0	11	2	0	0	0	0	0	2607
Season Total	570.5	94131	53	172	506	7008	91	5	525	107751	1	3618	22	138	1294	60	65	0	3	1	0	0	215444

Table 4. Detroit River Hawk Watch species totals between 1998 - 2023. Additionally, Table 4 summarizes the 2023 species totals for the Detroit River Hawk Watch between the period 01 September to 30 November. Totals for previous years, as well as the Long-term Average (LTA) and 10-year average between 2014 - 2023 (TYA) are also given. 2023 deviations from the LTA and TYA are also shown in light blue (+ deviation) and light red (- deviation). Values greater than +/- 15% are considered significant and are shown in dark blue (+) and dark red (-). While continuous coverage at LEMP began in 1998, standardized counting protocols were not implemented until 2011.

Year	Hours	TV*	OS	BE	NH	SS	CH	AG	RS	BW	SW	RT	RL	GE	AK	ML	PG	UNK	Total
1998	451	19743	135	111	807	4968	378	17	517	63689	5	3782	17	33	1046	95	52	86	95481
1999	481	17559	58	69	556	6534	299	23	556	45711	8	3504	76	208	664	30	49	47	75951
2000	510	29421	133	83	138	7132	408	49	875	57585	5	5754	55	188	790	34	24	37	102711
2001	526	28237	213	115	757	14715	693	46	858	19386	3	8153	55	120	1026	50	48	45	74520
2002	562	42644	238	185	696	7307	572	22	962	91499	3	6565	63	79	2277	64	52	15	153243
2003	545	54975	234	147	1005	10643	709	28	533	84085	12	5789	31	60	2128	72	82	0	160533
2004	479	36893	201	118	214	5027	461	49	869	27381	0	6155	101	79	470	38	20	0	78076
2005	456	29699	218	116	291	5623	432	18	299	56229	8	2619	30	45	1018	55	37	0	96737
2006	476	51722	196	162	616	7013	628	7	1019	50718	8	6025	27	124	1314	40	38	0	119657
2007	599	62882	195	211	818	9909	724	6	1026	69574	2	9406	29	124	1275	41	67	8	156297
2008	465	35173	140	141	149	3593	294	10	185	36216	0	2507	18	89	404	19	23	0	78961
2009	519	54989	46	118	169	3259	335	24	615	20016	4	2474	13	117	441	39	35	14	82708
2010	565	122325	63	220	465	6504	834	21	488	79572	5	3207	29	76	675	52	40	18	214594
2011	592	52745	85	235	278	5331	763	26	487	195858	5	4100	19	167	664	21	21	169	260974
2012	619	43285	70	222	248	3590	468	18	450	40923	4	2986	14	51	531	38	30	182	93110
2013	643	69723	71	350	234	3230	460	3	532	49629	5	3473	43	69	681	53	46	112	128714
2014	628	69768	56	354	423	4627	472	9	804	184860	4	4616	34	129	563	46	51	115	266931
2015	648	73601	81	219	632	5540	250	5	763	72461	1	4830	23	100	816	48	37	102	159509
2016	636	38528	23	142	377	4456	169	4	448	17529	0	2917	19	77	551	41	28	89	65398
2017	637	53393	34	238	323	4116	120	2	354	10392	2	2483	35	96	538	59	67	11	72263
2018	542	61967	38	81	413	5324	120	3	568	47246	3	3041	22	49	1104	56	74	14	120123
2019	575	52438	41	107	344	4167	128	3	779	64440	0	4983	14	62	718	37	53	3	128317
2020	568	72585	31	73	421	5050	105	2	825	16971	0	4241	27	55	641	67	102	4	101200
2021	532	60098	26	83	379	6571	52	0	502	21987	0	3643	4	65	1068	67	70	1	94616
2022	574	65773	16	92	392	5882	91	1	478	67350	0	4299	4	44	981	79	62	0	145544
2023	571	94131	53	172	506	7008	91	5	525	107751	1	3618	22	138	1294	60	65	4	215444
LT Average	554	53627	104	160	448	6043	387	15	628	61502	3.385	4430	32	94	911	50	49	41	128524
LT s	62	23083	76	78	229	2536	239	15	226	45582	3	1776	22	46	468	18	20	55	57033
LT Min	451	17559	16	69	138	3230	52	0	185	10392	0	2474	4	33	404	19	20	0	65398
LT Max	648	122325	238	354	1005	14715	834	49	1026	195858	12	9406	101	208	2277	95	102	182	266931
2023 Mean %	3	76	-49	7	13	16	-76	-68	-16	75	-70	-18	-31	47	42	20	33	-90	68
10-Yr Average	591	64228	40	156	421	5274	160	3	605	61099	1	3867	20	82	827	56	61	34	136935
10-Yr s	42	14996	19	91	89	991	122	3	172	53553	1	861	11	33	269	13	21	47	63571
10-Yr Min	532	38528	16	73	323	4116	52	0	354	10392	0	2483	4	44	538	37	28	0	65398
10-Yr Max	648	94131	81	354	632	7008	472	9	825	184860	4	4983	35	138	1294	79	102	115	266931
2023 Mean % Dev. from 10-Yr Average	-3	47	33	10	20	33	-43	47	-13	76	-9	-6	8	69	56	7	7	-88	57
* - A single black vulture (<i>Coragyps atratus</i>) was observed migrating on 25 September 2015.															- 10-Yr Maximum			- Long Term Maximum	

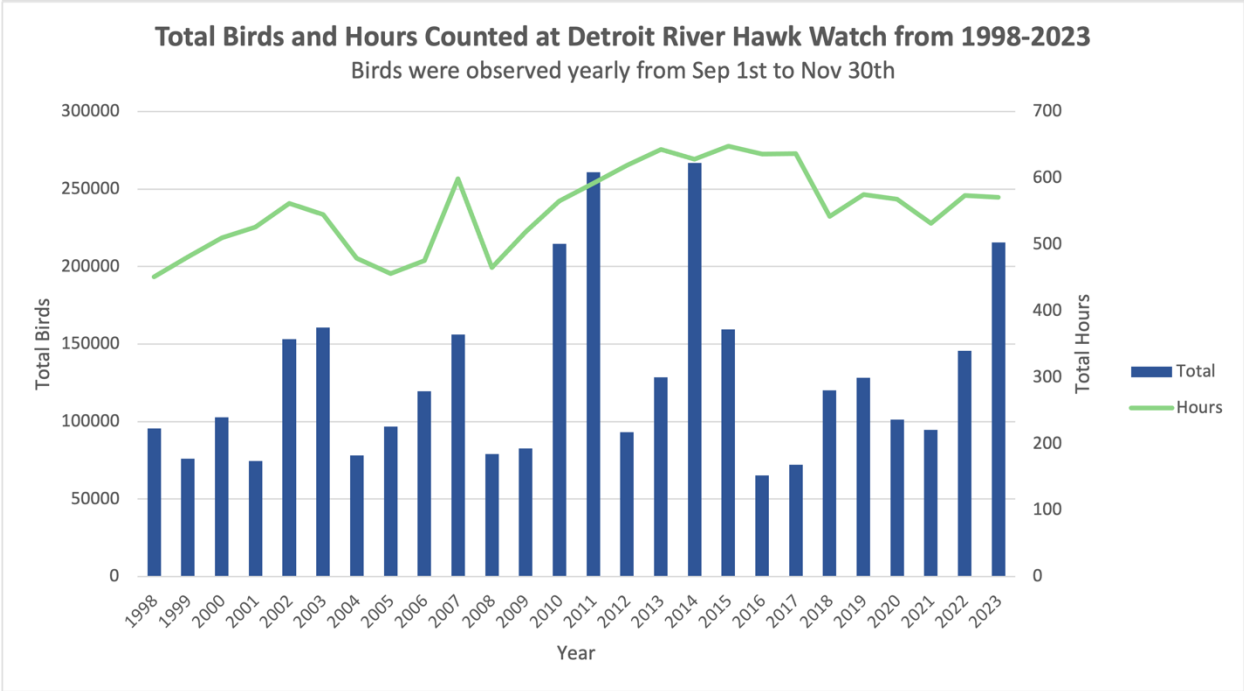


Figure 1. The yearly bird totals plotted against the respective hours observed since 1998.

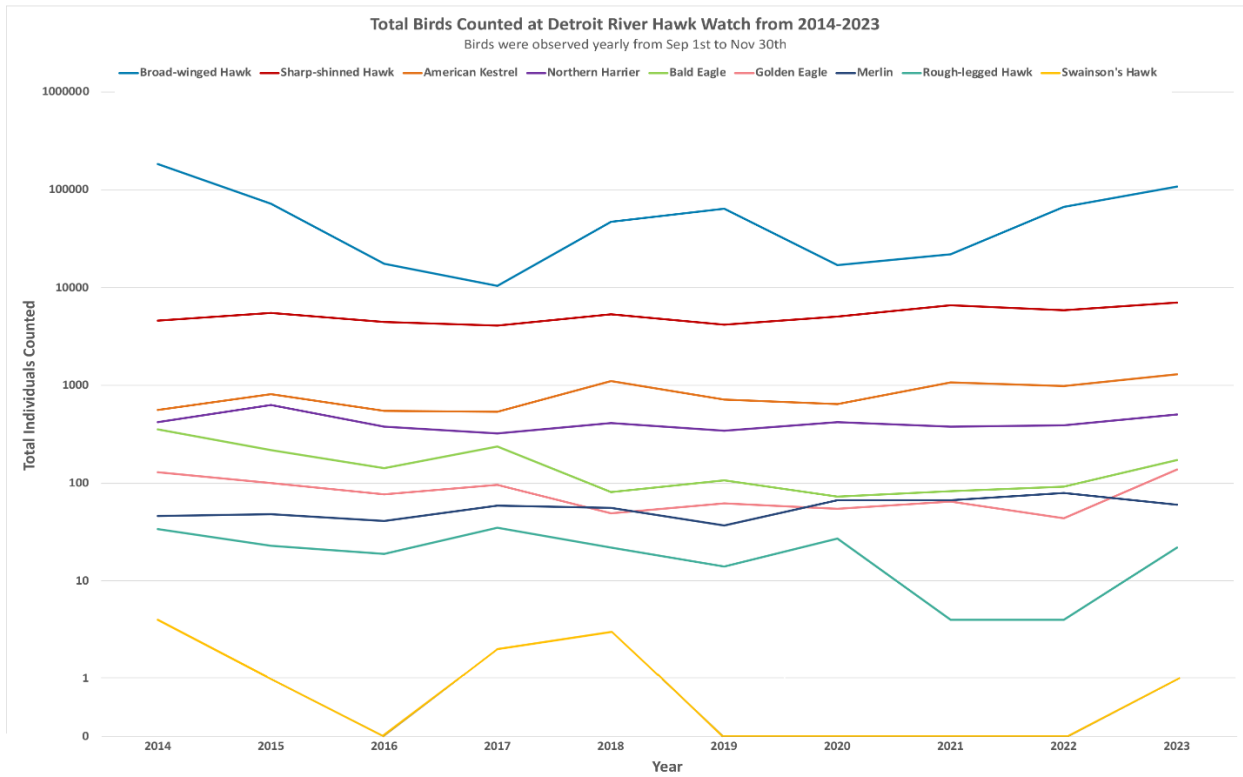
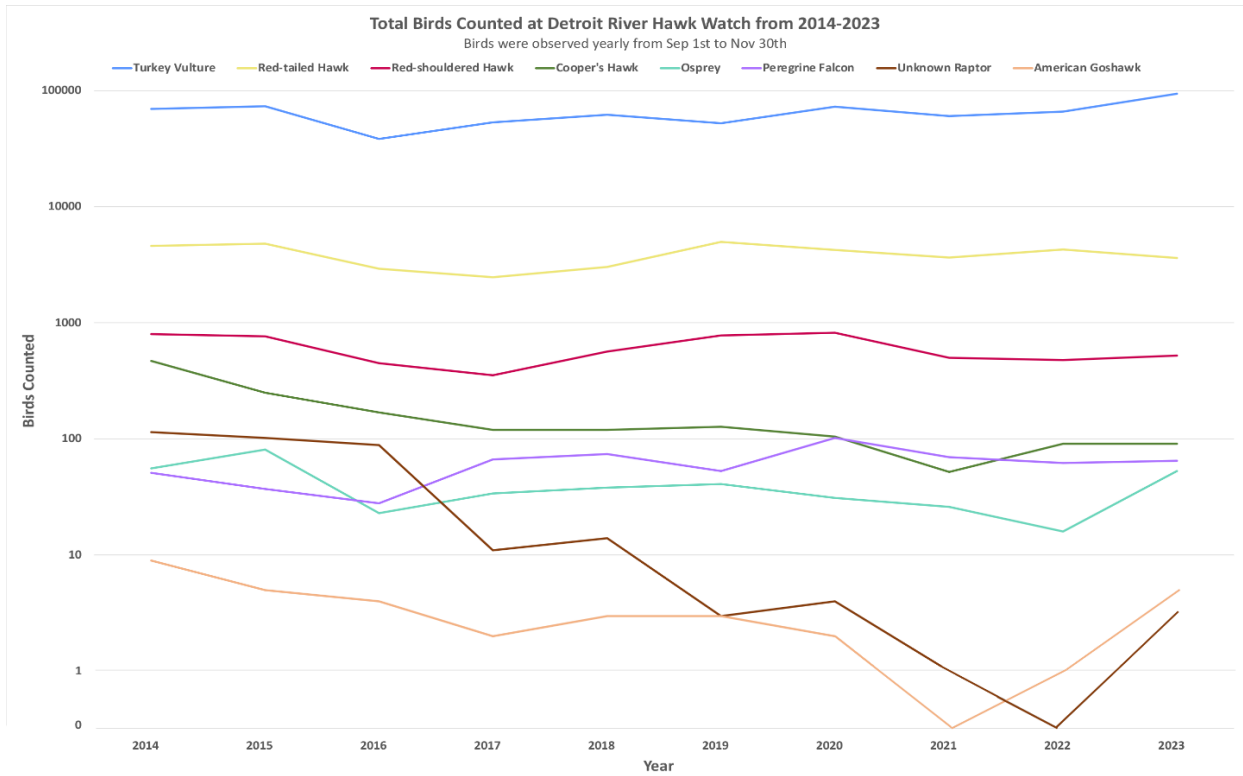


Figure 2. Total birds counted at Detroit River Hawk Watch from 2014-2023.