

# Detroit River Hawk Watch 2021 Season Summary



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*Red-tailed hawk. © 2021 Andrew Sturgess*

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## Abstract

The 2021 count was the 39<sup>th</sup> consecutive season of monitoring diurnal raptor and turkey vulture migration at the mouth of the Detroit River, and the 24<sup>th</sup> year of consistent coverage at Lake Erie Metropark. Due to the COVID-19 pandemic, special precautions were made to ensure the safety of the counter and volunteer staff. There were 532.33 hours of data collection with counts conducted on 82 days between 01 September and 30 November. This season, 94,616 total turkey vultures and raptors of 14 species were counted, which includes 1 unknown raptor. This total was 24% below the LTA (124,193) and 23% below the 10-year average between 2012 - 2021 (123,018). We compare this season's totals to the respective LTA for each species since 1998. Turkey vulture (17%), sharp-shinned hawk (9%), American kestrel (20%), merlin (38%), and peregrine falcon (47%) were the only species counted above the LTA. Osprey (-76%), bald eagle (-49%), Cooper's hawk (-87%), northern goshawk (-100%), red-shouldered hawk (-21%), broad-winged hawk (-63%), Swainson's hawk (-100%), red-tailed hawk (-18%), rough-legged hawk (-88%), and golden eagle (-31%) were significantly lower than their respective LTA (where values >15% are considered "significant" for the count). Zero northern goshawks and zero Swainson's hawks were counted this year.

## Methods

An hourly count of migrating diurnal raptors and turkey vultures was conducted each day between 1 September and 30 November 2021 with a total of 532 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<sup>1</sup>](#) except in the case of hourly weather recording. Hourly measurements were recorded directly from the [Grosse Ile Weather Station at Weather Underground](#). The reasoning behind this deviation was the difficulty of obtaining accurate wind conditions due to tree growth acting as a wind block at the site.

Counters attempted to estimate birds exiting kettles in a stream-like fashion during periods of large migration volume. Hourly results were reported at the end of the day to [HawkCount.org](#) where results are then used to build a raptor population index (RPI) to assess species population trends.

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. If the deviation between this year's total count of a given species was within  $\pm 15\%$  of the LTA, we considered that species to have been counted in "approximately average" numbers. If the deviation was greater than 15% from the LTA, we considered that deviation to be significant.

The COVID-19 pandemic forced USFWS and DRHW volunteer staff to maintain proper safety protocols<sup>2</sup> to ensure the safety of the paid counter and volunteer staff. The count site was fenced off from the public and counters were required to maintain social distancing to avoid possible infection or transmission of the virus. This practice, which was instituted for the Fall 2020 season was continued for the Fall 2021 season.

## Monthly Reports

The 2021 Detroit River Hawk Watch season was a slight return to normal regarding COVID-19 protocols, but everyone at DRHW felt it best to continue with social distancing measures. Through cooperative efforts and safety protocols, the fall raptor migration was allowed to be monitored for the 39<sup>th</sup> consecutive year.

Detroit River Hawk Watch welcomed back Kevin Georg as its primary counter for 2021. This is Kevin's fifth year with DRHW to go along with his 30+ years of experience performing raptor surveys. Detroit River Hawk Watch also welcomed two hawk watch apprentices: Shourjya Majumder and Erika Van Kirk. Both were instrumental in daily count management utilizing the Dunkadoo.org real-time raptor reporting tool.<sup>3</sup>

Figures 1 - 3 show daily temperature, wind, and pressure records<sup>4-6</sup> for the Detroit River Hawk Watch for the period 01 September to 30 November. Best flight counts during September and October were associated with rising barometer readings and winds coming from a northerly direction.

## September

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*Northern harrier image courtesy of M. Hainen*

September is the dawn of a new season filled with promise and hope. In recent past seasons, summer has often run past its allotted time and the Labor Day weekend has been hot and not very productive for counting hawks. One of the questions surrounding the ongoing climate change is whether the traditional hawk migration pathways will be changed, or possibly have changed already. Given that most hawk counting sites are subject to the vagaries of the winds each season, it is reasonable to look for changing wind patterns over the long term to see if they can help explain the considerable variability of species counts from year to year. This year's September had the distinction of showing both the good and bad of wind variability.

First the good; early September had a high-pressure system blow in on the first day. NE winds are usually a productive wind for our site with one caveat: if they are too strong, the buteos are pushed to the south and out of sight.

Broad-winged hawks are the stars of September. Each year, they attract more visitors to the count site than any other bird. They move through in large numbers in spectacular kettles in a fairly small window of time around the middle of the month. However, there are plenty of early arrivals of that species that move before the large movement in the middle of the month. Riding on the currents of the high-pressure winds during the first three days of the watch, we counted 162 of them. This was an auspicious start to the month as normal bird counts on those days are usually in the single digits.

Unfortunately, the good luck did not continue for the broad-wings as the best wind conditions did not materialize during the mass movement window. We ended up with almost 22,000 for the month, which is not an insignificant amount. In contrast, during the 2020 season we counted 64,000 in the month of September, nearly three times as many. The wind direction and strength are what determines each site's broad-wing count each year. They cruise on the winds and have a wide doorway through which to cross into the United States. For example, this year, eighty miles to the north of our site, some were reported crossing at Port Huron on a day that we had very strong SW winds and saw none.

We have not won the wind lottery lately as our broad-winged hawk numbers have been relatively low four out of the past five years. As another example of the effects that wind strength and direction can have, last year our colleagues at Holiday Beach, only eight miles away in Ontario, benefited from a strong NE wind and counted 45,000 birds. This year, with different winds, they had only five thousand. Each year we keep our fingers crossed that the winds will be kind to us and that the crossing point will be close enough for us to see one of nature's most remarkable sights.

Sharp-shinned hawks and American kestrels really start to move in the second half of September, sometimes hundreds of each species in a day. This movement continues into October before dropping significantly in November. We counted nearly 3,000 of our 6,500 total sharp-shinned hawks in September. This is a species that is not as affected by wind direction as much as others. With their shorter wings they have to work harder to stay aloft and do not surf on the winds like the buteos do. They fight their way into adverse winds, sometimes the only species to show up on a bad day. Unlike other species whose movements are condensed into more specific time frames, the sharp-shinned hawk does not surprise us if it makes an appearance on every day of the watch from the first day to last. The American kestrels are less plentiful, but are a frequent traveling companion with the sharp-shinned hawk in September and October. This small, colorful falcon is another species that can keep you busy on any given day.

Turkey vultures, the traditional migrants of October, are another species that starts to move in September, usually in the last week of the month. Detroit River Hawk Watch has one of the largest count totals in the U.S based on two big species counts: broad-wings and turkey vultures. This year, the vultures came through for us but our broad-winged hawk numbers were somewhat

disappointing. The surprise bird of September was a golden eagle on the last day of the month. Table 1 summarizes the total raptor survey from the LEMP Boat Launch site for the month of September. A total of 30,016 turkey vultures and raptors consisting of 13 species (plus one unknown buteo) were counted during the period 1 September to 30 September. This is in comparison to 20,788 and 12 species in 2020, and 67,528 and 11 species in 2019. Species surveyed included turkey vulture, osprey, bald eagle, northern harrier, sharp-shinned hawk, Cooper's hawk, red-shouldered hawk, broad-winged hawk, red-tailed hawk, golden eagle, American kestrel, merlin, and peregrine falcon. Neither northern goshawks nor Swainson's hawks were seen this month. One unidentified buteo (UB) was included in the monthly tally.

The 21,969 broad-winged hawks counted during September were a slight improvement over the 16,294 broad-winged hawks counted during September 2020, but still a significant decrease from the 63,912 birds tallied during September 2019. By contrast, 4,112 turkey vultures more than doubled September 2020's tally of 1,788 turkey vultures and were 8X greater than the 504 birds tallied in 2019. Peregrine falcon numbers (26) were similar to the 28 counted in 2020 at this time. 2,918 sharp-shinned hawks in September were a significant improvement over the 1,956 sharp-shinned hawks tallied in September 2020, while bald eagle numbers (33) were an improvement over September 2020 (25), but still below that of September 2019 totals (54). American kestrel numbers (646) rebounded nicely from the 387 birds counted in September 2020 and are comparable to the 585 counted in September 2019 and 702 in September 2018. Finally, a golden eagle recorded on 30 September was an unusual pleasant surprise.

Daily photo highlights, non-raptor observations, and commentary from Andrew Sturgess were submitted to the [Detroit River Hawk Watch Facebook](#) page during the month of September. His photos and commentary, along with photos from Mark Hainen, Erika Van Kirk, and visitors to the site were compiled into a full document and archived. The September 2021 Facebook summary can be viewed [here](#). All of the images from Facebook Group contributors can be viewed [here](#).

## October

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*Sharp-shinned hawk image courtesy of J. Jourdan*

October is the favorite month of many hawk watchers and observers. The potential for species diversity in the middle month of the watch is what attracts those disciples. There is a chance that you can see all of the sixteen species that we normally tabulate in the space of one month. It is a month of transition, a mild summer-like start is not unusual, but during the month the trees change colors, drop leaves, and hints of the upcoming winter may appear.

The majority of our time is devoted to counting turkey vultures, sometimes by the thousands each day (this is the traditional time of year for an ailment known as “Clicker’s Thumb” to emerge). Turkey vultures are the October centerfold bird as they generate by a wide margin, the largest numbers of migrants during this month. We counted over 50,000 during October this year. This process is becoming more difficult due to progressive tree growth which, at times, obscures the movement of the birds. They disappear completely, and it’s hard to be sure whether you are observing the same group of birds when they reappear much further away.

The “Holy Grail” among these birds is a black vulture. The black vultures are expanding their range northward, but are still a very rare sight at our watch with only two being counted over the last decade, and none this season. The second part of the month is where interest really develops with a variety of birds like golden eagles, rough-legged hawks, and lots of buteos, mostly red-tailed hawks and red-shouldered hawks.

With the possibility of golden eagles arriving, it becomes necessary to look at all eagles more closely to sift through the local residents and identify migrants. The bald eagle has made a remarkable comeback in the last thirty years and is now very common at our site with adult resident birds and their offspring seen on a daily basis. Fortunately, there are minor differences between the two eagles in the shape of their bodies and the way they fly. These subtle clues help to arrive at a decision as to the identity of each bird. The first golden eagle was early, coming on the last day of September. Despite the pleasant surprise of an early start, only fourteen more golden eagles came in October, all in the last two weeks. Although not our best year, we did manage to count a total of 65 golden eagles this season.

Table 2 summarizes raptor totals for the period 01 October to 31 October 2021. A total of 57,911 raptors were counted (89% were turkey vultures) during the month. This compares to 77,205 in October 2020 and 51,204 in 2019. Bald eagle (35 vs. 30 in 2020), sharp-shinned hawk (3,482 vs. 2,965 in 2020), and American kestrel (422 vs. 252 in 2020) were seen in higher numbers than last year.

Osprey (5 vs. 9 in 2020), northern harrier (159 vs. 253 in 2020), Cooper's hawk (29 vs. 60 in 2020), red-shouldered hawk (320 vs. 609 in 2020), broad-winged hawk (18 vs. 677 in 2020), red-tailed hawk (1,555 vs. 2,493 in 2020), rough-legged hawk (1 vs. 8 in 2020), and peregrine falcon (30 vs. 66 in 2020) showed marked declines (but comparable to 2019 totals). Although no Swainson's hawks were recorded in October, one bird was photographed by Mark Hainen on 13 October in Monroe County. Rain washed out the count a total of four days this month (3<sup>rd</sup>, 15<sup>th</sup>, 25<sup>th</sup>, and 29<sup>th</sup>).

Daily photo highlights, non-raptor observations, and commentary from Andrew Sturgess and Mark Hainen were submitted to the [Detroit River Hawk Watch Facebook](#) page during the month of October. Their photos and commentary, along with contributions from other visitors to the site were compiled into a full document and archived. The October 2021 Facebook summary can be viewed [here](#). All of the images from Facebook contributors can be viewed [here](#).

## November

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*Golden eagle image courtesy of J. Jourdan*

In November, the final watch month the daily turkey vulture counts begin to drop into hundreds instead of thousands. The numbers continue to dwindle to a point that in the final two weeks it was a surprise to see even a moderately sized kettle. While the weather was rather mild and warmer than usual for the first weeks of this November, the final week of the watch had a wet blanket of snow on the ground.

Weather can be an issue during this month as it becomes more turbulent. Frequent changes of barometric pressure, wind direction, and wind intensity are common. This makes for a more erratic count with some days not conducive for travel and others with winds that are too strong for our site. The prevailing annual hope is that we catch the good flight days of red-tailed hawks and the hitchhikers, such as red-shoulders and rough-legs, among others, that come along for the ride.

This year we counted over 3,600 red-tailed hawks. Our biggest daily count in November was 255 birds. This was a far cry from our daily high November count, just two years ago of 1,858 borne on a north east wind with a high barometer; the most productive wind at our site. The weather we saw over the last two weeks of this year's watch was not favorable for migration and probably hurt our totals in a few species, this one in particular.

If you take the turkey vulture out of the equation, the red-tailed hawk is the most common migrant in November. They come with lots of variation in their plumage colors from belly-bands to patagial bars and can be very different in appearance. What they all share is an amazing ability to use the energy available in the atmosphere to fly with the greatest of ease. Given enough wind speed to provide lift, they can "kite." Remarkably, with a quick tweak of their wing shape and the

occasional twist of the tail, they can brake to a stop and hold a position precisely as they stare downward looking for prey.

On good days, these birds will travel in large numbers, but their kettles are never close to the size of the broad-winged hawks and turkey vultures. This species varies in number from year to year as do most of the birds that are wind dependent.

Our rough-legged hawk numbers were disappointing this year with only four being seen, compared to 27 during last season. We failed to see a single northern goshawk or Swainson's hawk; another disappointment: while these birds are very rare, we usually see one or two per season. We did have a minor moral victory on the final day as we saw four golden eagles to bring our season's total to 65 birds.

Table 3 summarizes raptor totals for the period 01 November to 30 November 2021. A total of 6,689 raptors were recorded which doubled 2020's count of 3,207 raptors. Turkey vultures (4,171) made up 62% of the monthly total while red-tailed hawks (2,026) made up another 30%. Both species showed significant increases in numbers relative to 2020 when 1,070 turkey vultures and 1,623 red-tailed hawks were counted. Golden eagles (50 vs. 37 in 2020) also showed a significant increase that resulted in 65 total birds for the season. Rain cancelled counts on the 14<sup>th</sup> and 25<sup>th</sup> days of the month and shortened counts on several days in between.

Daily photo highlights, non-raptor observations, and commentary from Andrew Sturgess were submitted to the [Detroit River Hawk Watch Facebook](#) page during the month of November. His photos and commentary were compiled into a full document and archived on the website at [detroitriverhawkwatch.org](#). The November 2021 Facebook highlights can be accessed [here](#), and contributor photos are archived [here](#).

## Species Accounts

Table 4 summarizes the 2021 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 2012 – 2021 (TYA) are also given. 2021 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 (-).

### TURKEY VULTURE

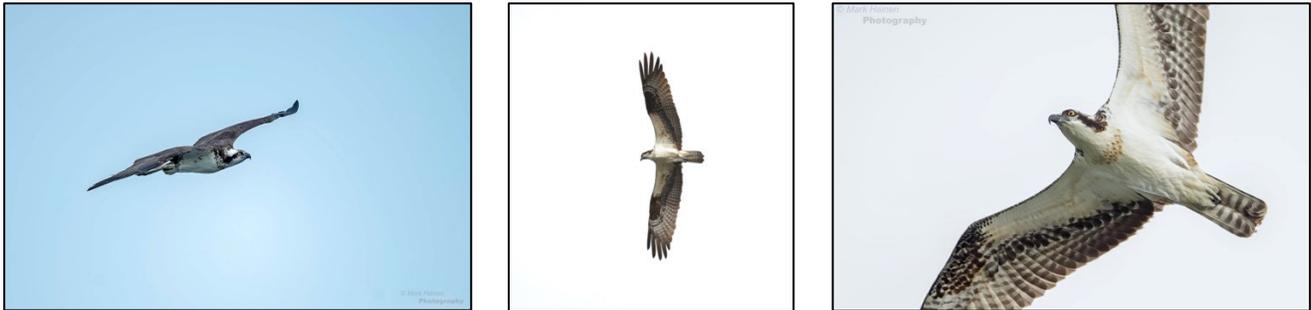
60,098 turkey vultures migrated through the count site during the period 15 September to 26 November 2021, which is 17% below 2020 totals (72,585), but 17% above the LTA (51,433). This year's tally was 1% above the TYA (59,539). High counts (9,571; 7,980; and 7,242) occurred on 26 October, 19 October, and 18 October, respectively.



*Turkey vulture images courtesy of A. Sturgess and M. Hainen*

### OSPREY

26 osprey (vs. 31 in 2020) migrated through the count site during the period 01 September to 18 November 2021, which is 76% below the LTA (109), and 45% below the TYA (47). A high count of 4 birds were reported on 15 September with late-season birds reported on the 16<sup>th</sup> and 18<sup>th</sup> November.



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

### BALD EAGLE

83 bald eagles (vs. 73 in 2020) were tallied between 03 September and 30 November 2021. This year's count was 49% lower than the LTA (163) and 56% lower than the TYA (187). The season's high count occurred on 19 September when 9 bald eagles passed by the count. Local juvenile and adult bald eagles entertained and distracted counters during the season, but were not counted unless high in the atmosphere or purposely heading west across the channel.



*Bald eagle images courtesy of M. Hainen and A. Sturgess*

**NORTHERN HARRIER**

379 northern harriers (vs. 421 in 2020) migrated through the count site between 01 September and 30 November 2021 with a high count of 40 birds occurring on 01 October. The season total is 15% below the LTA (448) but equal to the TYA (379).



*Northern harrier images courtesy of A. Sturgess and J. Jourdan*

**SHARP-SHINNED HAWK**

6,571 sharp-shinned hawks (vs. 5,050 in 2020) passed by the count site during the period 02 September and 30 November 2021, which is 9% above the LTA (6,010) but 41% above the TYA (4,667). The high count (497) occurred on 17 October.



*Sharp-shinned hawk images courtesy of M. Hainen and A. Sturgess*

### COOPER'S HAWK

Only 52 Cooper's hawks (vs. 105 in 2020) migrated past the count site between 12 September and 29 November 2021. This year's total is 87% below the LTA (411) and 78% below the TYA (234). The high count (7) occurred on 16 November.



*Cooper's hawk images courtesy of M. Hainen and A. Sturgess*

### NORTHERN GOSHAWK

No goshawks were counted this year. This species continues to decline in yearly counts with only 2 birds counted in 2020. The LTA is 16 while the TYA is only 5 birds.

### SWAINSON'S HAWK

This year no Swainson's hawks were counted. The LTA (4) and TYA (2) were not met. One bird was found by Mark Hainen in Monroe County on 13 October that is presumed to have crossed south of the count site.

### RED-SHOULDERED HAWK

502 red-shouldered hawks (vs. 825 in 2020) were tallied between 30 September and 29 November 2021. This season's flight is 21% below the LTA (638) and 17% below the TYA (602). A high count of 136 birds occurred on 28 October.



*Red-shouldered hawk images courtesy of A. Sturgess and M. Hainen*

### BROAD-WINGED HAWKS

21,987 broad-winged hawks (vs. 16,971 in 2020) migrated past the count site between 01 September and 22 October 2021. While the modest increase over 2020 was an improvement, the

2021 fall season total was 63% lower than the LTA (59,332) and 58% below the TYA (52,644). The big flight this year occurred on 16 September when 8,493 birds were counted. 4,222 birds were also tallied on 19 September.



*Broad-winged hawk images courtesy of A. Sturgess*

### RED-TAILED HAWK

3,643 red-tailed hawks (vs. 4,241 in 2020) passed by the count site between 01 September and 30 November 2021. This year's tally is 18% below the LTA (4,469) but only 2% below the TYA (3,721). The high count of 576 and 279 birds occurred on 28 October and 26 October, respectively.



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

### ROUGH-LEGGED HAWK

Only 4 rough-legged hawks (vs. 27 in 2020) migrated past the count site between 28 October and 18 November 2021. This year's tally is 88% below the LTA (33), and 83% below the TYA (24). Single birds were also recorded on 10 November and 16 November.



*Rough-legged hawk image courtesy of M. Hainen*

### GOLDEN EAGLE

65 golden eagles (vs. 55 in 2020) migrated past the count site between 30 September and 30 November 2021. This year's count was 31% below the LTA (94) and 14% below the TYA (75). High counts of 6 golden eagles occurred on 01 November and 04 November.



*Golden eagle images courtesy of A. Sturgess*

### AMERICAN KESTREL

1,068 American kestrels (vs. 641 in 2020) passed by the count site between 01 September and 28 October 2021. Despite seeing almost twice as many birds as last year, none were seen in November. This year's count is 20% above the LTA (892) and 48% above the TYA (721). High counts of 129 birds on 15 September and 121 birds on 16 October were recorded.



*American kestrel images courtesy of A. Sturgess and M. Hainen*

### MERLIN

67 merlin between 14 September and 28 November 2021 equaled last season's total of 67 birds. This year's tally is 38% above the LTA (48), and 31% above the TYA (51). High counts of 4 merlin occurred on four different dates.



*Merlin image courtesy of A. Sturgess*

### PEREGRINE FALCON

70 peregrine falcons (vs. 102 in 2020) were tallied between 02 September and 22 November. This year's tally is 47% above the LTA (48) and 25% above the TYA (56). High counts of 4 birds occurred on four different dates.



*Peregrine falcon images courtesy of A. Sturgess and M. Hainen*

### UNKNOWN RAPTOR

1 unknown buteo was tallied on 01 September 2021. The LTA is 45 and the TYA is 63.

### TOTAL

94,616 diurnal raptors and turkey vultures (vs. 101,200 in 2020) migrated through the Lake Erie Metropark Boat Launch between 01 September and 30 November 2021. This year's tally is 24% below the LTA (124,193) and 23% below the TYA (123,018).

Figure 4 shows total numbers for 2021 plotted against the previous totals since 1998. Totals for 2021 appeared to signify an overall population leveling, but weather may have played a large role in numbers of raptors missed by the count site that could have continued the upward trend.

## Migratory and Non-Raptor Highlights

Non-raptor highlights, which include waterfowl, grebes, loons, shorebirds, migratory songbirds, and passerines are the happy distractions that occupy the counters between raptor flights. During the first week of September, these sightings may be the only thing to prevent one's questioning the purpose of a hawk watch as heat and boredom can mess with the psyche. With special thanks to Andrew Sturgess and Mark Hainen, daily narratives and special observations were reported to both [HawkCount](#) and the [Detroit River Hawk Watch Facebook Page](#). Non-raptor photo highlights were compiled for [September](#), [October](#), and [November](#) 2021. Their contributions, as well as those from other visitors have been archived as documents that can be accessed through the Detroit River Hawk Watch website. Readers are encouraged to click on the links and enjoy the quality photographs and stories. Some of the highlights include:

- 22 ruby-throated hummingbirds counted at the site on 14 September 2021.
- 605 monarch butterflies migrated through the count site on 15 September 2021.



*Sandhill crane fly-over on 09 September 2021. Image courtesy of A. Sturgess*



*Fall passerine migration had visitors and counters scanning the trees instead of skies. Images courtesy of M. Hainen.*

*“The side-show attraction today was the attack of the cormorants of a school of bait fish out in the lake. They poured out by the hundreds, flying low over the water in a single file formation from behind Horse Island. They settled in a tight group with just their heads and necks above water, resembling a field of black stalks emerging from the ground. The gulls, intent on thievery, circled over them providing a soundtrack of cries and screams, which surely is what the fish would have done if they were capable.” – A. Sturgess, 20 Sep 2021.*



*American white pelican flight over the park on 25 September 2021. Images courtesy of A. Sturgess.*



*37,251 blue jays were Mark Hainen's responsibility to count during the 28 September 2021 hawk watch. Images courtesy of M. Hainen and A. Sturgess.*

- 5 Hudsonian godwits and another 35,000 blue jays passed by the counters on 02 October 2021.



*Caspian terns and ring-billed gulls routinely fish in the channel in front of the counters. Images courtesy of A. Sturgess.*



*A Northern watersnake took up residence in the rocks below the counters' feet this season. Image courtesy of A. Sturgess.*



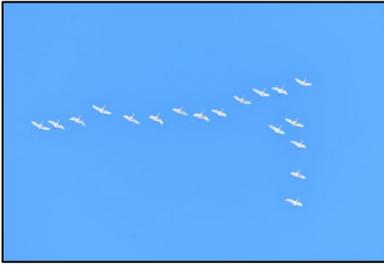
*6000+ American crows counted on 24 October 2021. Counters are grateful that they flap continuously; otherwise we'd have 6000+ unknown raptors during October. Image courtesy of M. Hainen.*



*A horned grebe made an appearance in front of the counters on 30 October 2021. Image courtesy of A. Sturgess.*



*Slow days of November are relieved by the presence of Bonaparte's gulls in the channel. Images courtesy of A. Sturgess.*



*First tundra swans of the season appeared overhead on 19 November 2021. Image courtesy of A. Sturgess.*



*Local red-tailed hawks went after a local bald eagle to end the season on 30 November 2021. Image courtesy of A. Sturgess*

## 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. Due to the COVID-19 pandemic outreach programs such as the annual Hawk Festival and educational seminars were cancelled in 2021. A few programs were presented using remote (ZOOM) programs. Highlights from 2021:



The **8<sup>th</sup> Annual International Hawk Migration Week**, hosted by The Hawk Migration Association of North America (HMANA), was celebrated during 18-26 September 2021.

**Oakland Audubon Society's Young Birder's Club** visited Detroit River Hawk Watch on 18 September 2021.

Once again Detroit River Hawk Watch wishes to acknowledge the efforts of webmaster Andrew Kling at Roofball Productions for continuing to update/manage the Detroit River Hawk Watch website at [detroitriverhawkwatch.org](http://detroitriverhawkwatch.org).



Natalie Cypher hosted **Young Explorers: Be a Junior Hawk Watcher, Part 1** on 02 Oct 2021 that was sponsored by the DNR Outdoor Adventure Center.



Since 05 December 2020 the **Detroit River Hawk Watch Facebook Group** has added another 201 new members for a 03 December 2021 total of 1,714 members. Thank you all for following and supporting us.

## **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. Thanks to the efforts of Jessica Fletcher and the USFWS, the Fall 2021 count was able to move forward in a safe manner for both the volunteer staff and the public as the COVID-19 pandemic continues to make its presence known. 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, Don Sherwood, Rosemary Brady, Patrick Mulawa, Frank Kitakis, Mark Hainen, Michael McEvoy, Alex Gilford, Bill Peregord, Michelle Peregord, and 2021 apprentices Shourjya Majumder and Erika Van Kirk.

Detroit River Hawk Watch is also grateful to those 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 and Mark Hainen, both of whom provided wonderful photos and stories for the DRHW Facebook Page. Daily narratives, insights and predictions provided by Andrew were posted to Facebook 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), Hawk Migration Association of North America (HMANA), DTE Energy, and the Huron-Clinton Metropolitan Authority (HCMA) at the Lake Erie Metropark. Volunteers are always welcome and are invited to come out to the boat launch at LEMP to join in our efforts. Keep looking up!



*Images courtesy of Detroit River Hawk Watch*



## References:

1. Detroit River Hawk Watch. 2011. The Detroit River Hawk Watch Monitoring Protocol: A Review and Implementation for Scientific Integrity. U.S. Fish and Wildlife Service. Grosse Ile, Michigan.
2. Fletcher, J., Detroit River Hawk Watch 2020 FWS Volunteer Safety Training (DRHW\_Covid119\_SafetyTraning\_2020.08.28.pptx)
3. <https://dunkadoo.org/explore/detroit-river-international-wildlife-refuge/detroit-river-hawk-watch-fall-2021>
4. <https://www.timeanddate.com/weather/@4994850/historic?month=9&year=2021>
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6. <https://www.timeanddate.com/weather/@4994850/historic?month=11&year=2021>

**Table 1.** Raptor totals for the Detroit River Hawk Watch during September 2021.  
(table courtesy of hawkcount.org)

**Month Summary: September 2021**

		Black Vulture	Turkey Vulture	Osprey	Bald Eagle	Northern Harrier	Sharp-shinned Hawk	Cooper's Hawk	Northern 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
Date	Hrs	BV	TV	OS	BE	NH	SS	CH	NG	RS	BW	SW	RT	RL	GE	AK	ML	PG	UA	UB	UF	UE	UR	Total
2021-09-01	6			1		1					1		1			1				1				6
2021-09-02	7			1		1	8				91		7			14		1		1				123
2021-09-03	8			2	1	9	11				70					7								100
2021-09-04	6			3		1										1								5
2021-09-05	6.5			1			1				9		1			1		1						14
2021-09-06	8			1		1	5				16		1			3								27
2021-09-07	7																							0
2021-09-08	7						1																	1
2021-09-09	5.5						2				8					2								12
2021-09-10	7				2	8	7				20					6								43
2021-09-11	6.5															6		1						7
2021-09-12	6						1	1					1			1		1						5
2021-09-13	6			1		4	1				5					6		1						18
2021-09-14	6.5						2									9	1	2						14
2021-09-15	8		15	4	3	22	176				2870		2			129		2						3223
2021-09-16	7.5		24	2	6	15	74	2			8493		8			111	2	1						8738
2021-09-17	7					4	316				8					14								342
2021-09-18	7		12		1	5	44	1			948		8			22		1						1042
2021-09-19	7.5		10		9	23	255	0			4222		5			79	3							4606
2021-09-20	6						311									6								317
2021-09-21	4						1										1							2
2021-09-22	1																							0
2021-09-23	0																							0
2021-09-24	7		37			5	237				72		1			6	3	1						362
2021-09-25	4.5		80		2	3	90				1434		2			4	2							1617
2021-09-26	7.5		202	1	1	12	310				601		1			35	4	1						1168
2021-09-27	7.5		60			6	135				16					28	2	4						251
2021-09-28	7.5		715		1	1	92				931		5			25	2	4						1776
2021-09-29	8		1274	2	3	34	462	1			1728		10			89	1	2						3606
2021-09-30	7.5		1683		4	36	376	5		5	426		9		1	41	2	3						2591
<b>Total: Sep 2021</b>	<b>191</b>	<b>0</b>	<b>4112</b>	<b>19</b>	<b>33</b>	<b>191</b>	<b>2918</b>	<b>10</b>	<b>0</b>	<b>5</b>	<b>21969</b>	<b>0</b>	<b>62</b>	<b>0</b>	<b>1</b>	<b>646</b>	<b>23</b>	<b>26</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>30016</b>
<b>Total: Sep 2020</b>	<b>209</b>	<b>0</b>	<b>1788</b>	<b>22</b>	<b>25</b>	<b>131</b>	<b>1956</b>	<b>10</b>	<b>0</b>	<b>2</b>	<b>16294</b>	<b>0</b>	<b>125</b>	<b>0</b>	<b>0</b>	<b>387</b>	<b>19</b>	<b>28</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>20788</b>

**Table 2.** Raptor totals for the Detroit River Hawk Watch during October 2021.  
(table courtesy of hawkcount.org)

Month Summary: October 2021																								
		Black Vulture	Turkey Vulture	Osprey	Bald Eagle	Northern Harrier	Sharp-shinned Hawk	Cooper's Hawk	Northern 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
Date	Hrs	BV	TV	OS	BE	NH	SS	CH	NG	RS	BW	SW	RT	RL	GE	AK	ML	PG	UA	UB	UF	UE	UR	Total
2021-10-01	6.5		326	1		40	322				2		1			51								743
2021-10-02	7		87			9	109						1			5		3						214
2021-10-03	0																							0
2021-10-04	7.5		22		1	6	101									1		1						132
2021-10-05	5		221			10	127	1		1	3		11			5	1	2						382
2021-10-06	6.5		127			11	73				2		1			5	4	1						224
2021-10-07	7		759	1	5	5	95			1	2		7			3		2						880
2021-10-08	7					3	48									1		2						54
2021-10-09	7		19			1	38	2			1		1			3	2							67
2021-10-10	4		64	1	3		29						2			1								100
2021-10-11	7		22			1	51						1			6	3	2						86
2021-10-12	6		672		3		97						2			17	1	4						796
2021-10-13	7		2390			3	152			1			15			73	4	1						2639
2021-10-14	7		305			5	211	1					1			48	3	1						575
2021-10-15	0																							0
2021-10-16	7.5		2456		5	1	417	3		1			23			121		1						3028
2021-10-17	8		3863		2	2	497	4		6	2		70			30	4	1						4481
2021-10-18	8		7242		5	6	112	3		34	3		133			7								7545
2021-10-19	8		7980	2	4	18	393	1		1			68		2	23	2	2						8496
2021-10-20	6.5		2429		2	6	244	2		10			86		1	9	1							2790
2021-10-21	3.5		514			1	74	1					5			2								597
2021-10-22	8		2515		1	3	19	5		4	3		88		1	2								2641
2021-10-23	7.5		3578			15	60			3			39			4								3699
2021-10-24	4.5		576		1	2	17			21			21											638
2021-10-25	0																							0
2021-10-26	9		9571		2	5	31	1		87			279		4	3		4						9987
2021-10-27	7		27			2	117	2		1					1									150
2021-10-28	7.5		5350		1	4	20	3		136			576	1	5	2								6098
2021-10-29	0																							0
2021-10-30	7		57				1			1			7					1						67
2021-10-31	7		643				27			12			117				1	2						802
<b>Total: Oct 2021</b>	<b>184</b>	<b>0</b>	<b>51815</b>	<b>5</b>	<b>35</b>	<b>159</b>	<b>3482</b>	<b>29</b>	<b>0</b>	<b>320</b>	<b>18</b>	<b>0</b>	<b>1555</b>	<b>1</b>	<b>14</b>	<b>422</b>	<b>26</b>	<b>30</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>57911</b>
<b>Total: Oct 2020</b>	<b>196</b>	<b>0</b>	<b>69727</b>	<b>9</b>	<b>30</b>	<b>253</b>	<b>2965</b>	<b>60</b>	<b>1</b>	<b>609</b>	<b>677</b>	<b>0</b>	<b>2493</b>	<b>8</b>	<b>18</b>	<b>252</b>	<b>34</b>	<b>66</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>77205</b>

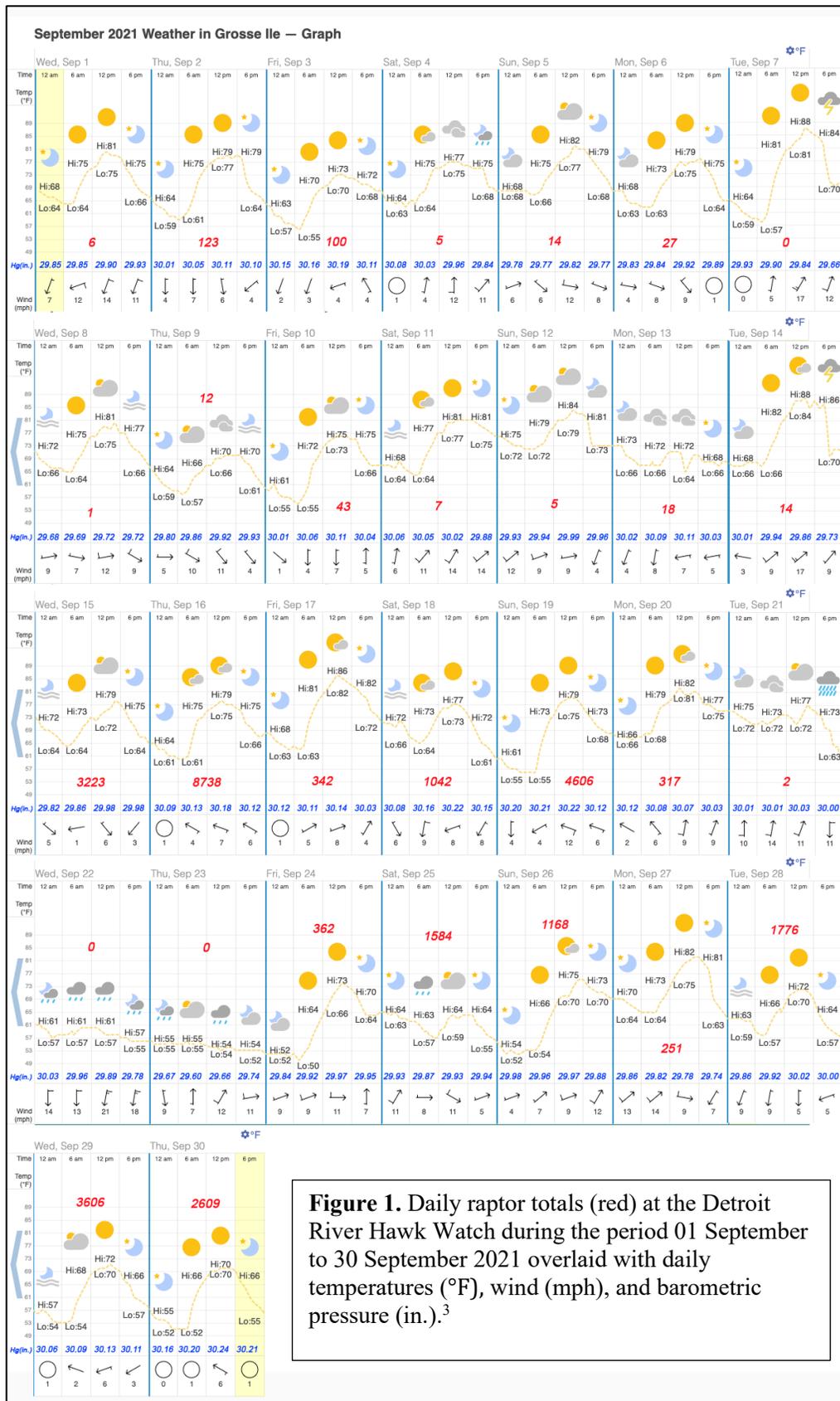
**Table 3.** Raptor totals for the Detroit River Hawk Watch during November 2021.  
(table courtesy of hawkcount.org)

		<b>Month Summary: November 2021</b>																						
		Black Vulture	Turkey Vulture	Osprey	Bald Eagle	Northern Harrier	Sharp-shinned Hawk	Cooper's Hawk	Northern 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
Date	Hrs	BV	TV	OS	BE	NH	SS	CH	NG	RS	BW	SW	RT	RL	GE	AK	ML	PG	UA	UB	UF	UE	UR	Total
2021-11-01	7.5		1346		1	3	22			15			254		6									1647
2021-11-02	7		287			1	17	1		4			190		4		2							506
2021-11-03	7		637		3	1	15			19			201		3			2						881
2021-11-04	7		782		2		12			19			198		6		2							1021
2021-11-05	7		205		2		8			13			104		2		1							335
2021-11-06	7		121			1	8	1					40		2		2							175
2021-11-07	7		120			2	10			10			81		2		1							226
2021-11-08	6		72		1	2	9						31		2									117
2021-11-09	6.5		134			1	5			14			63		2		1	1						221
2021-11-10	7		218			2	10	1		12			153	1	5		1							403
2021-11-11	6		5				1						21		4			1						32
2021-11-12	5.5		15				4						8				2							29
2021-11-13	3		5			1							1											7
2021-11-14	0																							0
2021-11-15	6		1			1	2			4			42		1			2						53
2021-11-16	7		160	1	1	3	7	7		32			235	1	3		2	1						453
2021-11-17	4						1																	1
2021-11-18	6.5		21	1	1		5			2			44	1	1		1	2						79
2021-11-19	7		7			1	7	1		16			168				1	3						204
2021-11-20	5		3			1	6			1			11		1									23
2021-11-21	2																1							1
2021-11-22	6.5		3		2		5			7			59		1			2						79
2021-11-23	6.5		20			3	6			3			77		1									110
2021-11-24	6		4		1	1	1						2											9
2021-11-25	0																							0
2021-11-26	6		5			2							12											19
2021-11-27	3						1						2											3
2021-11-28	2												4				1							5
2021-11-29	6					1	7	2		6			21											37
2021-11-30	6				1	2	2						4		4									13
<b>Total: Nov 2021</b>	<b>163</b>	<b>0</b>	<b>4171</b>	<b>2</b>	<b>15</b>	<b>29</b>	<b>171</b>	<b>13</b>	<b>0</b>	<b>177</b>	<b>0</b>	<b>0</b>	<b>2026</b>	<b>3</b>	<b>50</b>	<b>0</b>	<b>18</b>	<b>14</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6689</b>
<b>Total: Nov 2020</b>	<b>163</b>	<b>0</b>	<b>1070</b>	<b>0</b>	<b>18</b>	<b>37</b>	<b>129</b>	<b>35</b>	<b>1</b>	<b>214</b>	<b>0</b>	<b>0</b>	<b>1623</b>	<b>19</b>	<b>37</b>	<b>2</b>	<b>14</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3207</b>
<b>Total: Fall 2021</b>	<b>537</b>	<b>0</b>	<b>60098</b>	<b>26</b>	<b>83</b>	<b>379</b>	<b>6571</b>	<b>52</b>	<b>0</b>	<b>502</b>	<b>21987</b>	<b>0</b>	<b>3643</b>	<b>4</b>	<b>65</b>	<b>1068</b>	<b>67</b>	<b>70</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>94616</b>
<b>Total: Fall 2020</b>	<b>568</b>	<b>0</b>	<b>72585</b>	<b>31</b>	<b>73</b>	<b>421</b>	<b>5050</b>	<b>105</b>	<b>2</b>	<b>825</b>	<b>16971</b>	<b>0</b>	<b>4241</b>	<b>27</b>	<b>55</b>	<b>641</b>	<b>67</b>	<b>102</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>101200</b>

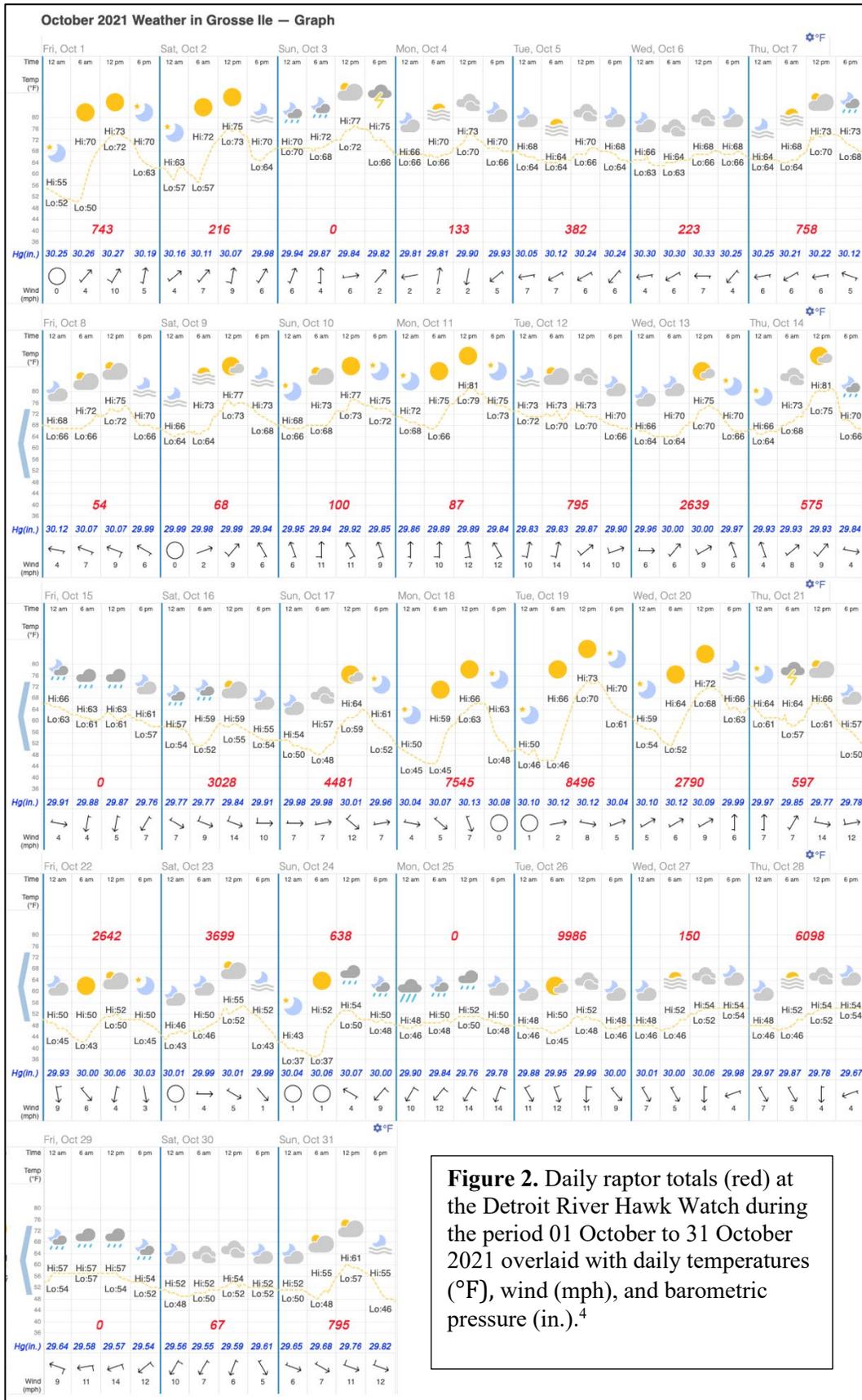
**Table 4. Detroit Rivers Hawk Watch species totals between 1998 - 2021. Bottom of the table shows 2021 Mean Standard Deviation from the Long-term Average (LTA).**  
Numbers in red indicate those species totals for 2019 that were recorded less than the LTA. Values greater than 15% are considered "significant".

Year	Hours	TV*	OS	BE	NH	SS	CH	NG	RT	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	
LTA Average	552	51433	109	163	448	6010	411	16	638	59332	4	4469	33	94	892	48	48	45	124193	
s	64	22280	76	80	238	2636	233	15	232	46465	3	1843	22	46	480	17	21	56	56347	
Min	451	17559	23	69	138	3230	52	0	185	10392	0	2474	4	33	404	19	20	0	65398	
Max	648	122325	238	354	1005	14715	834	49	1026	195858	12	9406	101	208	2277	95	102	182	266931	
10-yr Average	603	59539	47	187	379	4667	234	5	603	52644	2	3721	24	75	721	51	56	63	123018	
2021 Mean % Dev./from LTA	-4	17	-76	-49	-15	9	-87	-100	-21	-63	-100	-18	-88	-31	20	38	47	-98	-24	
2021 Mean % Dev./from 10-yr Average	-12	1	-45	-56	0	41	-78	-100	-17	-58	-100	-2	-83	-14	48	31	25	-98	-23	

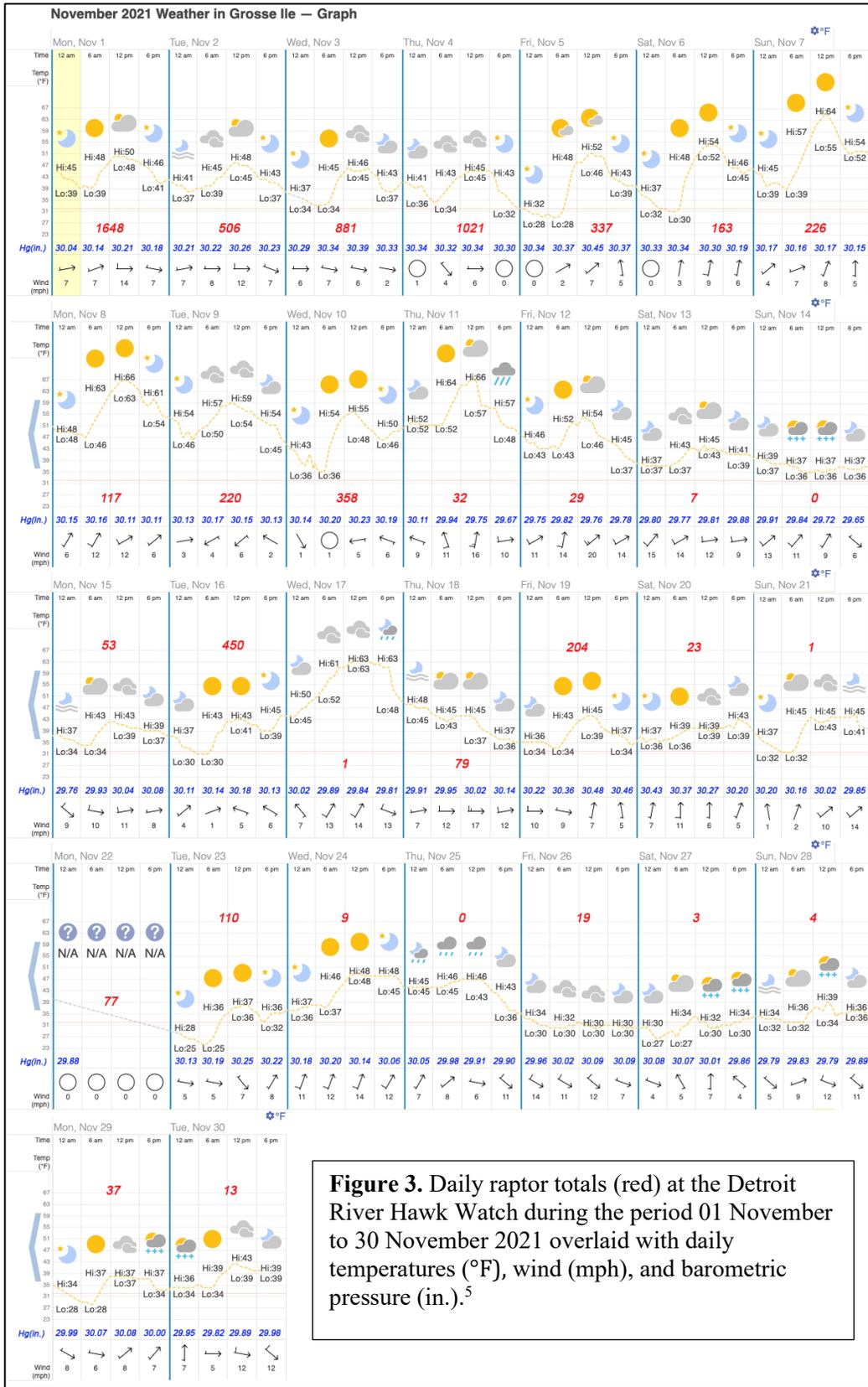
\* - A single black vulture (*Coragyps atratus*) was observed migrating on 25 September 2015.



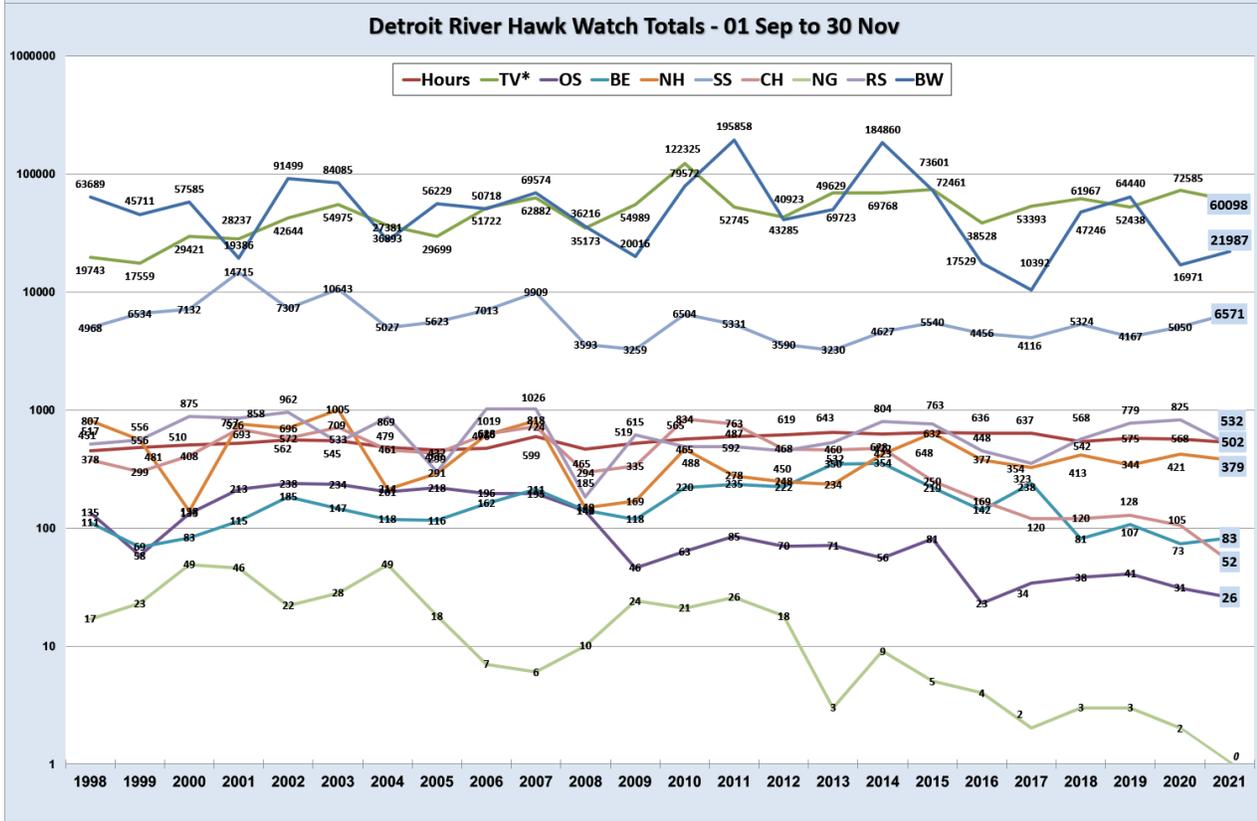
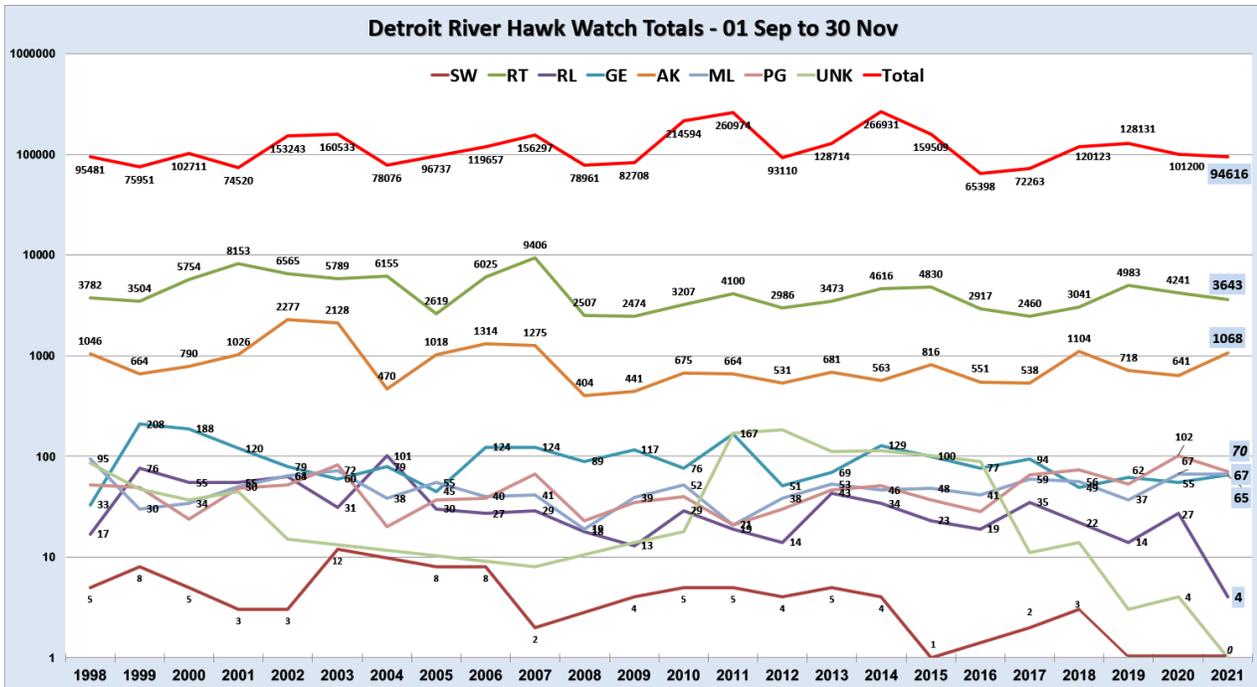
**Figure 1.** Daily raptor totals (red) at the Detroit River Hawk Watch during the period 01 September to 30 September 2021 overlaid with daily temperatures (°F), wind (mph), and barometric pressure (in.).<sup>3</sup>



**Figure 2.** Daily raptor totals (red) at the Detroit River Hawk Watch during the period 01 October to 31 October 2021 overlaid with daily temperatures (°F), wind (mph), and barometric pressure (in.).<sup>4</sup>



**Figure 3.** Daily raptor totals (red) at the Detroit River Hawk Watch during the period 01 November to 30 November 2021 overlaid with daily temperatures (°F), wind (mph), and barometric pressure (in.).<sup>5</sup>



**Figure 4.** Detroit River Hawk Watch yearly totals counted at Lake Erie Metropark, Wayne Co., MI 1998 – 2021.