



## Detroit River Hawk Watch 2018 Season Summary

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Broad-winged Hawk kettle. © 2018 Andrew Sturgess

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## Abstract

The 2018 count was the 36<sup>th</sup> consecutive season of monitoring diurnal raptor and turkey vulture migration at the mouth of the Detroit River, and the 21<sup>st</sup> year of consistent coverage at Lake Erie Metropark. There were 551 hours of data collection with counts conducted on 81 days between 1 September and 30 November. 120,712 total turkey vultures and raptors of 15 species were counted, which includes 6 unknown buteos, 3 unknown falcons, and 5 unknown raptors. This total was only 5% below the long-term average (LTA) for the count site. We compare this season's totals to the respective LTA for each species since 1998. Turkey vultures (25%), American kestrels (24%), merlin (19%) and peregrine falcons (69%) were the only species counted above the LTA. Osprey (-68%), bald eagle (-55%), Cooper's hawk (-74%), northern goshawk (-89%), broad-winged hawk (-25%), Swainson's hawk (-28%), red-tailed hawk (-32%), rough-legged hawk (-39%) and golden eagle (-50%) were significantly lower than their respective LTA (where values >15% are considered "significant" for the count). Northern harrier (-9%), sharp-shinned hawk (-11%), red-shouldered hawk (-10%) numbers were insignificantly lower than the LTA. Two northern goshawk and three Swainson's hawk 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 2018 with a total of 551 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. Instead of recording wind direction, speed, relative humidity, barometric pressure and temperature using a Kestrel 3500® Pocket Weather Meter, the hourly measurements were recorded directly from the Grosse Ile Weather Station at Weather Underground. Reasoning behind this deviation was that local measurements from the LEMP count site had no bearing on whether raptors migrated past 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 Hawk Count 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 statistically significant.

## Monthly Reports

Our count this year seemed to have bookends of weather that belonged to another season. The first days of September could be over 90 degrees, and the gales of November came early and often to close the season, giving a winter vibe to the last weeks. Encroachment of these unseasonable weather conditions probably hurt our count somewhat, but overall it was still a productive year. To understand the impact of weather on bird migration<sup>2</sup> is to appreciate the challenge a hawk watch site can undertake when monitoring raptor passage. In the most general sense the ideal time for flying often occurs the day after a cold front – northerly winds, dropping temperatures, rising air pressure and clearing skies produce conditions suitable for a good migration. Evidence of this trend was observed at the count site this season.

Figures 1 – 3 show daily temperature, wind<sup>3</sup>, and pressure<sup>4</sup> records for the Detroit River Hawk Watch for the period 1 September to 30 November. Generally, the days with the best flight counts occurred when winds shifted from the south to more northerly directions and barometer was on the rise.

### September



Broad-winged hawk image courtesy of A. Sturgess

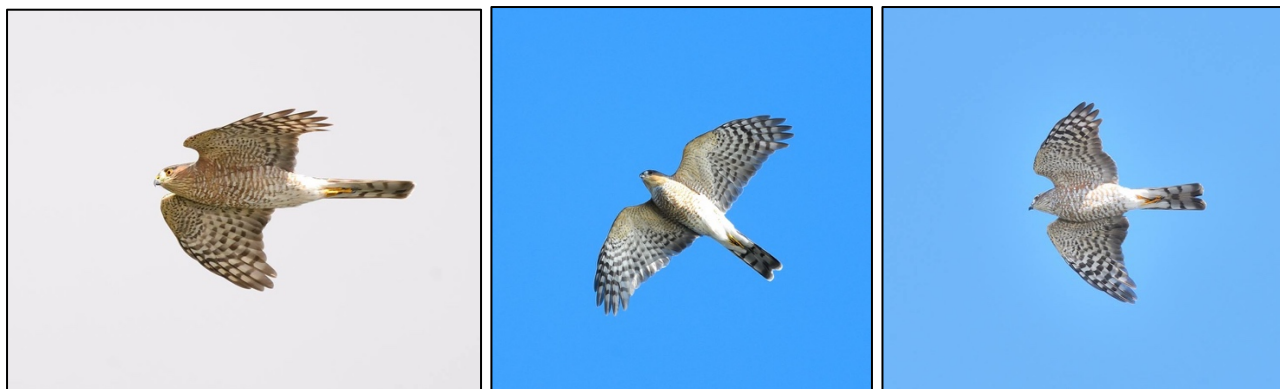
September is the month of the broad-winged hawk. When certain birds migrate, they travel in large flocks of wheeling kettles and streaming lines across the sky. The broad-winged hawk is one of those birds. Even with the modest numbers we see at DRHW relative to more southern sites, they can provide exhilarating sights with the sky filled with whirling masses of raptors. We are fortunate to be a part of that spectacle.

Of course, weather always influences each year's seasonal raptor counts. 2017 gave us a very low count of broad-winged hawks, but we had a nice rebound this September as kinder winds blew the birds to us on two big days, and many smaller flights on other days. Although the season got off to an inauspicious start when we were shut out on the first day of the watch, with only local raptors sighted, by the third day we had broad-wings on the move.

Daily temperatures matter, but wind direction is probably most important to the count site. For example, long-term (1981-2010) average temperatures for Grosse Ile, MI in September have been ~66°F (59 – 74°F)<sup>5</sup>. During September 2017 the average temperature was 65°F (45 – 84°F)<sup>6</sup> while 2018 saw the average monthly temperature climb another 2 degrees to 67°F (45 – 90°F)<sup>7</sup>. Though these single-digit increases don't seem significant, they are usually associated with periods of

strong southerly winds that either delay migration or push birds east or west of the count site. The two largest broad-winged hawk totals occurred during days when winds were out of the north (see Figure 1). In previous years the peak of broad-winged hawk migration had been associated with hot days and strong southerly winds, so this year's favorable winds helped produce a nice rebound.

You can't visit the Detroit River Hawk Watch long in September without hearing the call "Sharpie!" Sharp-shinned hawks averaged over fifty a day for the month and kept coming even stronger in October; the numbers diminished in the final third of the season. The frequency of the calls might make you think it's easy to distinguish these birds from others like Cooper's hawk and American kestrel. At this time of year, it is. There are plenty of American kestrels in the air to provide frequent looks at them. The mostly "local" Cooper's hawks, a similar-looking accipiter, yielded only 23 birds during the month compared to 1627 sharp-shinned hawks. Later in the season it can become harder to differentiate the two when the more challenging fall weather conditions of high winds and gloomy skies can produce a lot of "tweener" birds that seem to have characteristics of both accipiter species.



Sharp-shinned hawk images courtesy of A. Sturgess

One bird that should be the easiest to ID is the turkey vulture with its black presence, big dihedral and rocking flight. These birds start to migrate in late September, but they are really October birds. We had 1558 total on flights of only a few hundred per day during the last week of the month.

This year seemed to be an irruption year for blue jays. It can't be said with certainty that the numbers were greater this year (since we don't officially count them), but most observers felt that they were substantially higher with many impressive flights of thousands of birds per day.

Table 1 summarizes the total raptor survey from the LEMP Boat Launch site for the month of September. A total of 51,233 turkey vultures and raptors consisting of 14 species were counted during the period 2 September to 30 September. 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. Three unidentified buteos (UB) and two unidentified raptors (UR) were included in the monthly tally.

Figure 1 shows plots of daily weather patterns at the Grosse Ile Weather Station for the period 1 September to 30 September 2018. Daily raptor totals (in red) were added to the graphs so as to compare totals with such aspects as cloud cover, wind direction and velocity. As mentioned previously, broad-winged hawks were most numerous on 19 September (22,437 birds) and 22 September (10,319 birds) when northerly winds were present. The 46,916 broad-winged hawk total was a vast improvement over the same period in 2017 when only 10,009 birds were counted.

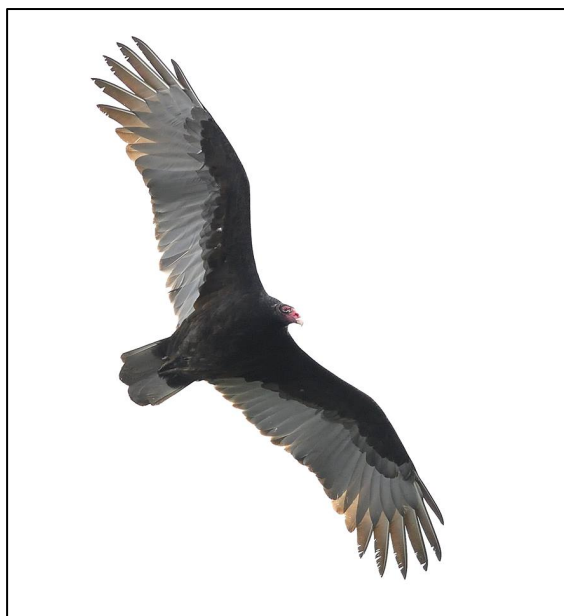
Sharp-shinned hawk numbers grew steadily from 6 September through the rest of the month with mid-month peaking at roughly 100 birds per day. 1628 birds kept counters and photographers busy. This is a bird whose numbers will continue to climb well into October and will be seen until the last day of the season.

Only 18 bald eagles (compared to 43 in 2017) and 28 osprey were counted in September. 724 American kestrel, 20 merlin and 27 peregrine falcons were highlights of the month, as well.

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 September. Their photos and commentary were compiled into a full document and archived on the website at <http://detroitriverhawkwatch.org>. The document can be viewed [here](#).

Detroit River Hawk Watch also welcomed back Kevin Georg as its Contract Counter for 2018. This is Kevin's second year with DRHW to go along with his 30+ years' experience performing raptor surveys, most recently at Mackinaw Straights, MI. His expertise in identifying distant raptors could not be more appreciated.

## October



Turkey vulture image courtesy of A. Sturgess

As September passes into the rearview mirror there is a sense of continuity as the turkey vultures that started to pass by the hundreds in the previous week now begin to pass by the thousands; a change that makes you realize that it makes really good sense to buy the most robust hand counters (clickers) that are available on the market. There is also a sense of change as the broad-winged hawks of September are to be replaced by bigger game. The larger buteos and eagles are approaching, and it becomes a waiting game anticipating the first exotics of the season. The weather has shaken the last remnants of summer, temperatures are starting to drop, and leaves begin to turn.



Turkey vultures are a significant fraction of the total number of birds that we see each year. With 57,000+ in October alone, they have exceeded the numbers of any other species for the season. Occasionally coming directly overhead over in large streams like gently-rocking butterflies floating on the wind, they create an impressive scene that makes you feel closer to migration since you have a seat in the very first row. Of course, they don't always travel directly overhead. The most common routes lately have been to the north of the boat launch. Over Grosse Ile, behind the tree line in the NE and emerging around the DTE Energy Trenton Channel Power Plant stacks now seems to be the preferred line. This presents some difficulties to the counters either due to very hazy, distant views or sighting issues as the trees obscure our vision of the birds. The openings that we used to use for counting are shrinking; it's now harder to be sure that the entire group is being counted. It requires close attention to achieve an accurate count.

Forty bald eagles were counted in the month of October. The bald eagle, osprey and peregrine falcon are survivors of the DDT era and their numbers have rebounded considerably over the past few years. Since we have "local" BE's nesting and living nearby, and the local area is a destination for wintering BE's due to our open waters during the freezing months, the sight of a BE in flight is no longer a rare sight. When the winds are up it is not uncommon to see six to eight birds of various ages flying in our line of site. This does complicate the counting of this species since we are making judgments based on flight direction and heights, among other factors, as to whether the bird is "migratory". It may be that we have applied a tougher standard to judge the bird's intent in more recent years. Although this may affect our counts it would be difficult to draw any negative conclusions from a diminished count since the bird is obviously thriving and populations are increasing.

Our first and second golden eagles appeared on 14 October. We had a relatively slow year this year for this species, but this was probably wind and weather related, since other hawk watch sites were blessed with better-than-average counts. These birds can travel at great heights and despite their great size can be missed in a high blue sky. Always an exciting bird to see this year we saw only half (50) of our long-term average of 99 birds. Our friends at Holiday Beach in Ontario, just a few miles away, had an even worse year with only 15 birds compared to our 49. What a difference a few miles and wind directions can make.

Table 2 summarizes raptor totals for the period 1 October to 31 October 2018. A total of 64,352 raptors were recorded with 57,892 consisting of turkey vultures. Rain days occurred on the 1<sup>st</sup> and 27<sup>th</sup> days of the month when no counts were made.

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 were compiled into a full document and archived on the website at [detroitriverhawkwatch.org](http://detroitriverhawkwatch.org). The document can be viewed [here](#).

## November



Golden eagle image courtesy of A. Sturgess

November is the box of chocolates month for hawk watching. You never know what may show up on the horizon. Case in point; a rare November Swainson's hawk showed up on 8 November. We saw a much larger than usual movement of sandhill cranes this year with many large flights going overhead. Turkey vultures are winding down from their October peaks, but they still provided the bulk of the count totals with 3005 for the month. The next most prominent bird is the red-tailed hawk with 1535 birds counted. These birds, along with red-shouldered hawks, tend to come in big numbers when winds and weather are favorable. Northerly winds of a high-pressure system on the heels of a passing low usually bring good results. Our count totals from year to year may depend on the number of these situations that occur at the right time of day in the right place.

Although November 2018 seemed normal at the beginning of the month, with the pattern of alternating highs and lows passing through, our season seemed to be cut somewhat short by persistent heavy overcast skies without the intervening highs that usually occur. The last week was therefore long on challenging weather conditions for watchers, but short on birds, with only 24 counted.

One of our core volunteer counters, Andrew Sturgess summarizes his thoughts on the season well

"Despite the truncated end to the season, overall, it was a nice rebound year from our low numbers of last year. On a personal note, I had an opportunity to visit one of the sites where birds are much more concentrated in vast numbers during October when I went to Panama for a short visit. It helped me put our site into perspective. I now see Detroit River Hawk Watch as a tributary that contributes variable numbers of birds each year to what becomes a river of raptors migrating through that narrow isthmus. Our broad-winged hawk numbers have ranged from a high of a half a million in one day in 1999 to a low (last year) of approximately 10,500 birds. It may be that our site is so subject to the vagaries of weather that it is hard to draw meaningful RPI conclusions from year to year without factoring in weather conditions in some way. With changing climates affecting the pathways that raptors take from year to year, our observations remain important for more than one reason."

Table 3 summarizes raptor totals for the period 1 November to 30 November 2017. A total of 5127 raptors were recorded with turkey vultures (3005) and red-tailed hawks (1535) yielding 89% of the monthly total. Rain days occurred on the 1<sup>st</sup>, 9<sup>th</sup>, 15<sup>th</sup>, 18<sup>th</sup>, 24<sup>th</sup> and 26<sup>th</sup> days of the month when no counts were made.

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 November. Their photos and commentary were compiled into a full document and archived on the website at [detroitriverhawkwatch.org](http://detroitriverhawkwatch.org). The document can be viewed [here](#).

## Species Accounts

### TURKEY VULTURE

62,455 turkey vultures migrated through the count site during the period 3 September to 30 November 2018, which is 17% above 2017 (53,393 birds), and 25% above the LTA (Table 4). The high count (6913) occurred on 14 October.



Turkey Vulture images courtesy of A. Sturgess (left) and M. Hainen (right)

### OSPREY

Only 38 ospreys migrated past the count site during the period 5 September to 14 November, which is 12% better than 2017 (34 birds) but still 68% below the LTA of 120 birds (Table 4). 9 birds were counted in October and the single bird on 14 November was a later-than-expected find. The high count (7) occurred on 20 September.



Osprey images courtesy of J. Palland (left) and A. Sturgess (right)



### BALD EAGLE

Only 78 bald eagles migrated past the count site during the period 5 September and 30 November, which is only 33% of the total birds counted in 2017 (238) and 55% below LTA of 178 birds (Table 4). High count for the season occurred on 14 October when 7 birds passed through. Local pairs of Bald Eagles were seen almost daily but were relatively easy to discount due their habit of flying up and down the river and not passing overhead at high altitudes.



Bald Eagle images courtesy of A. Sturgess (left) and M. Hainen (right)

### NORTHERN HARRIER

416 northern harriers passed by the count site during the period of 2 September and 28 November, which is a 29% increase relative to 2017 (323 birds) but still 9% below the LTA of 458 birds (Table 4). A high count of 51 harriers occurred on 22 October.



Northern Harrier images courtesy of A. Sturgess (left) and M. Hainen (right)

### SHARP-SHINNED HAWK

5429 sharp-shinned hawks passed by the count during the period 2 September and 30 November, which is 32% increase over 2017 (4116 birds) but still 11% below the LTA of 6121 birds (Table 4). The high count occurred on 13 October when 420 sharpies were counted.



Sharp-shinned Hawk images courtesy of M. Hainen (left) and A. Sturgess (right)

### COOPER'S HAWK

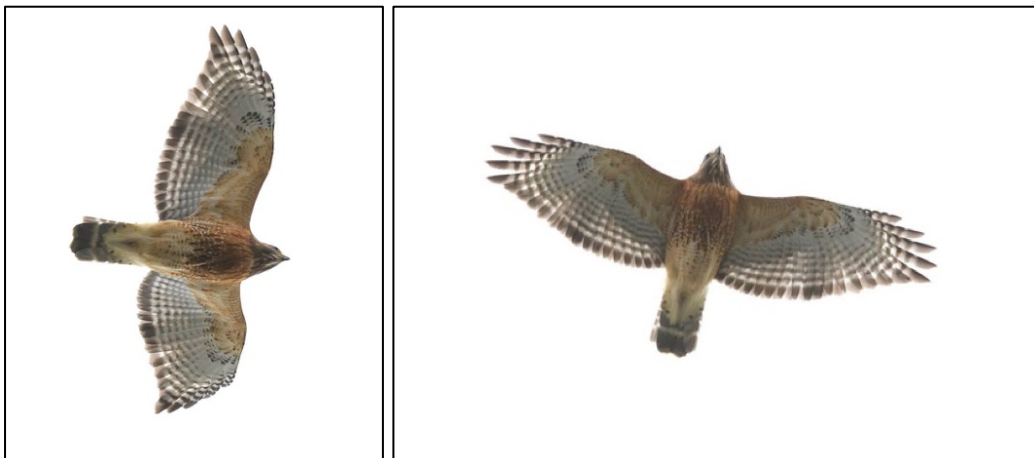
119 Cooper's hawks migrated past the count site during the period 8 September and 25 November, which is the same number as in 2017 (120 birds) but still 74% below the LTA of 457 birds (Table 4). High counts of 9 birds occurred on 20 October and again on 17 November.

### NORTHERN GOSHAWK

Only 2 goshawks were counted this year, which is the same as in 2017, but still 89% below the LTA of 19 birds (Table 4). Birds were observed on 14 November and 23 November.

### RED-SHOULDERED HAWK

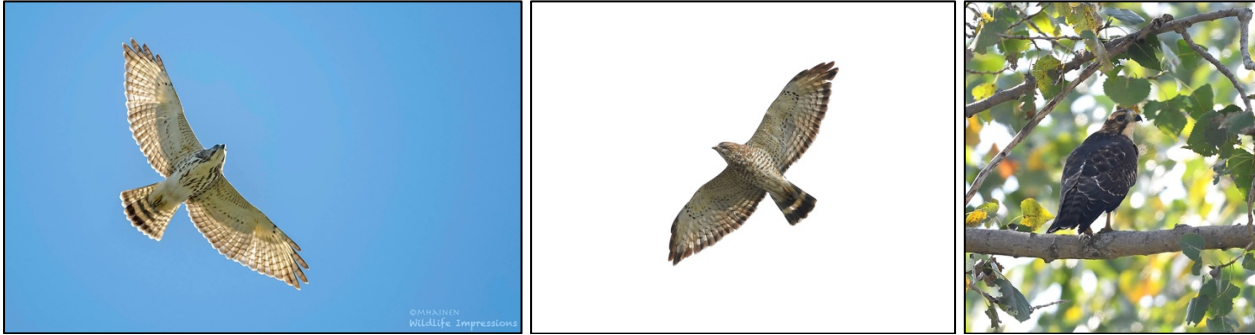
568 red-shouldered hawks were counted between 22 September and 23 November, which is 60% increase over 2017 (354 birds) but still 10% below the LTA of 629 birds (Table 4). A high count of 111 birds occurred on 26 October.



Red-shouldered Hawk images courtesy of A. Sturgess

### BROAD-WINGED HAWKS

2017's total of 10,392 broad-winged hawks was 84% below the LTA of 63,666 birds (Table 4). This year's total of 47,223 was an increase of more than 350% but still 25% below the LTA. Favorable winds (north) during their normal peak of migration brought 22,437 birds on 19 September and another 10,319 birds on 22 September. Broad-winged hawks were tallied between the period 6 September and 26 October. The image below (right) is probably the first broad-winged hawk to have ever landed at the site.



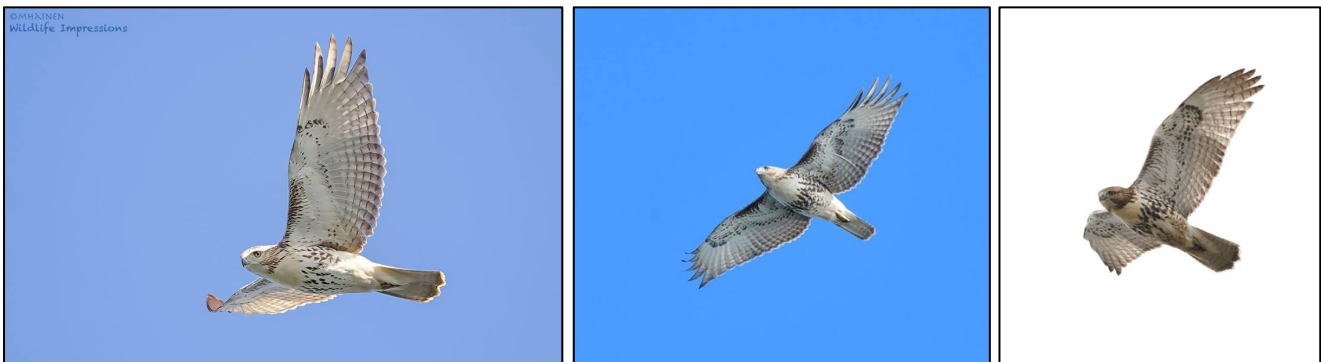
Broad-winged Hawk images courtesy of M. Hainen (left) and A. Sturgess (middle, right)

### SWAINSON'S HAWK

Three Swainson's hawks were counted this year, which is always a treat for counters and visitors alike. Birds were counted on 8 September, 22 September, and 8 November. The 3 Swainson's Hawks are 25% below the LTA of 4 birds (Table 4).

### RED-TAILED HAWK

3039 red-tailed hawks passed by the count site between 3 September and 29 November, which is 22% better than 2017 (2483 birds) but still 32% below the LTA of 4494 birds (Table 4). A high count of 442 birds occurred on 03 November.



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

### ROUGH-LEGGED HAWK

22 rough-legged hawks migrated past the count site between 2 November and 21 November, which is a 37% decrease from 2017 (35 birds) and 39% below the LTA of 37 birds. On 14 November a high count of 12 birds were tallied. Both light-morph and dark-morph birds were observed and photographed.

### GOLDEN EAGLE

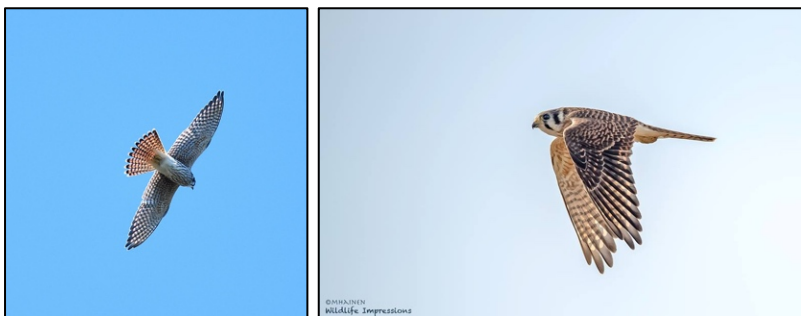
Last year's 96 golden eagles represented 95% of LTA of 102 birds (Table 4). This year only 50 birds passed through the count site between 3 September and 20 November, which represents 50% of the (now) LTA of 99 birds. A high count of 18 birds was counted on 3 November.



Golden Eagle images courtesy of A. Sturgess

### AMERICAN KESTREL

1126 American kestrels passed by the count site between 2 September and 17 November, which is twice the number counted in 2017 (538 birds) and 24% higher than the LTA of 905 birds (Table 4). High counts for our smallest falcon occurred on 11 October (62), 13 October (57), and 16 October (67). This is good news for a species that has shown regional declines for several years.



American Kestrel images courtesy of A. Sturgess (left) and M. Hainen (right)

### MERLIN

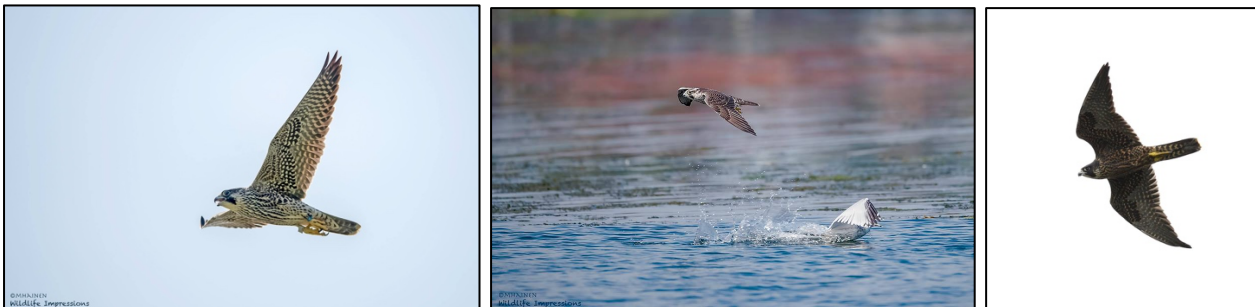
56 merlin passed by the count site between 7 September and 19 November, which is only 3 birds fewer than in 2017 and 19% above the LTA of 47 birds (Table 4). High counts of 5 birds were made on 7 October and again on 16 October.



Merlin images courtesy of A. Sturgess (left, middle) and M. Hainen (right)

### PEREGRINE FALCON

74 peregrine falcons between 8 September and 20 November were 69% above the LTA of 44 birds (Table 4) and 7 more birds than counted in 2017. A high count of 10 peregrines were counted on 4 October.



Peregrine Falcon images courtesy of M. Hainen (left, middle) and A. Sturgess (right)

### UNKNOWN RAPTOR

14 unknown raptors, consisting of 0 accipiter, 6 buteos, 3 falcons, and 5 “raptors” eluded the counters this year. DRHW normally is unable to identify 51 raptors each year (LTA), so 72% below the LTA is actually a good thing!

### TOTAL

Detroit River Hawk Watch had 120,712 diurnal raptors and turkey vultures migrate through the Lake Erie Metropark Boat Launch between 2 September and 30 November, which is only 5% below the LTA of 126,528 (Table 4). Curiously, 0 birds were counted on the 1<sup>st</sup> day of each months of September, October and November. The recovery can be attributed to the rebound in broad-winged hawk migration and the continued increases in turkey vulture numbers.

Figures 1 – 3 show daily raptor totals overlaid onto daily weather plots for Grosse Ile, MI.

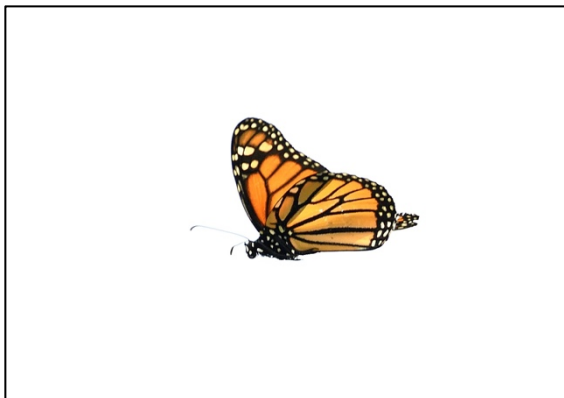
Figure 4 shows total numbers for 2018 plotted against the previous totals since 1998.

Examination of the curve appears to show a more cyclic nature to yearly migration with 2018 showing an upturn after recent years downturn leveled off in 2017. If the trend continues, we



should expect 2019 totals to exceed LTA. Of interest is the observation that the cycles appear to be increasing, with higher peaks (2011 and 2014) and deeper valleys (2016 and 2017).

## Migratory and Non-Raptor Highlights



Traditionally this section is reserved for seasonal narratives of non-raptors, which includes waterfowl, grebes, loons, shorebirds, migratory songbirds, and passerines. Perhaps the most notable sighting during the season was the abundance of Monarch Butterflies that were reported throughout the Great Lakes Region during the month of September. Migrating Horned Grebes stopped by the count during mid-September and offered some nice photos. Contributing photographer Jan D. Palland photographed a Ring-billed Gull chasing a mid-day Brown Bat flying through

the boat launch area on 18 September. A Ross' Goose was a one-day wonder in the park on 22 September. Almost 11,000 Blue Jays passed overhead on 28 September, another 9000 would pass overhead on 4 October, and the species would continue in heavy numbers throughout October. During foggy weather in mid-October the trees behind the count provided some nice fall warbler action, with Blackpoll, Black-throated Green, Tennessee and Cape May Warblers providing additional photo opportunities for visiting photographers. By the end of October American Crows were migrating past the site in the thousands (per day); luckily, they could be differentiated from the raptor population by their constant wing-beats. A resident Great Horned Owl provided some entertainment during the slow days of November. As did flocks of Horned Grebes, and winter-arriving scaup, mergansers and Tundra Swans that arrived by the thousands on select days. Up to 60 Sandhill Cranes were observed flying overhead on 18 November, and another 165 were counted on 21 November. (Monarch Butterfly image courtesy of A. Sturgess)

Daily narratives and special observations were reported to the [Detroit River Hawk Watch Facebook Page](#). With special thanks to Andrew Sturgess and Mark Hainen, both exceptional photographers, photo highlights were compiled for [September](#), [October](#) and [November](#) 2018. Their contributions, as well as those from other visitors (thank you Jan Palland) have been archived as documents that can be accessed through the Detroit River Hawk Watch website ([detroitriverhawkwatch.org](http://detroitriverhawkwatch.org)). Readers are encouraged to click on the links and enjoy the quality photographs and stories. (images courtesy of M. Hainen, J. Palland, and A. Sturgess)





## Outreach



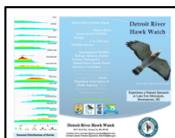
With special thanks to webmaster Andrew Kling at Roofball Productions, Detroit River Hawk Watch has a new website at [detroitriverhawkwatch.org](http://detroitriverhawkwatch.org). Andrew was extremely helpful building and transferring content from the previous website host.



Detroit River Hawk Watch had the pleasure this year to again participate in the annual Hawk Fest, which is hosted by the Huron Clinton Metroparks and supported by the International Wildlife Refuge Alliance. DRHW hosted a table at the festival, which was held on 15-16 September 2018 in conjunction with the peak of the broad-winged hawk migration. Though weather was hot, and big kettles of hawks failed to materialize, there were still plenty of birds flying to get visitors' attention.



DRHW also participated in the Hawk Migration Association of North America's National Conference (HMANA 2018, Detroit Airport Marriott Hotel) during 12-14 October 2018. Jerry Jourdan gave a [presentation describing the Detroit River Hawk Watch](#) as the Premier Citizen Science Initiative for the USFWS and Detroit River International Wildlife Refuge. Jerry also acted as Moderator for a roundtable discussing Dunkadoo and Trektellan data entry software packages. DRHW also sponsored a table at the conference with flyers, displays, and handouts for visitors.



Two new flyers were developed for visitors attending the hawk watch. One is an [overview of the count site](#) with identification photos and distribution graphs, while the second flyer is a [landmark identification guide](#) for visitors.



Detroit River Hawk Watch also compiled 25-year and most recent 10-year raptor population index (RPI) trends for the hawk watch site<sup>8</sup>. The document can be viewed [here](#) and will be incorporated into the website in early 2019.

## Acknowledgements

The success of the Detroit River Hawk Watch 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, Raburn Howland, Rosemary Brady, Mark Hainen, Patrick Mulawa, John Elliott, Don Sherwood, and Frank Kitakis. Thanks also go out to those visitors 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. The success of the count would not be possible without financial and site support from the United States Fish and Wildlife Service, The International Wildlife Refuge Alliance, Hawk Migration Association of North America, and the Huron Clinton Metroparks. Volunteers are always welcome and are invited to come out to the boat launch at LEMP to join in our efforts!



Image courtesy of Detroit River Hawk Watch

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8. Jourdan, J.S., and Fletcher, J., *Raptor Population Index (RPI) Summary for the Detroit River Hawkwatch and Holiday Beach Conservation Area, 2018*, Detroit River Hawk Watch Advisory Committee and U.S. Fish and Wildlife Service.

**Table 1.** Raptor totals for the Detroit River Hawk Watch during September 2018.  
(table courtesy of hawkcount.org)

## Month Summary: Sep, 2018

		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	
Date	Obs Hrs	BV	TV	OS	BE	NH	SS	CH	NG	RS	BW	SW	RT	RL	GE	AK	ML	PG	UA	UB	UF	UE	UR	TOTAL
2018-09-01	8																							0
2018-09-02	7					4	1									1								6
2018-09-03	4		42			4							1		1									48
2018-09-04	7					5	1									1								7
2018-09-05	7			1	1	5							1			3								11
2018-09-06	8		4		1	5	3				9		5			17								44
2018-09-07	7		11		1	8	10				20		14			17	2							83
2018-09-08	8		7			5	44	1			773	1	5			60	2	2						900
2018-09-09	4					1	9				78					1	1	1						91
2018-09-10	0																							0
2018-09-11	9		17	1		5	58				1292		25			63	2	1					1	1465
2018-09-12	8		3	2		9	100				962		6			36	1			1				1120
2018-09-13	7.5					1	27				36					1								65
2018-09-14	7.5			9	2	9	160				1099		4			31	2	1						1317
2018-09-15	8		3	4	2	10	210				2573		5			86	1							2894
Date	Obs Hrs	BV	TV	OS	BE	NH	SS	CH	NG	RS	BW	SW	RT	RL	GE	AK	ML	PG	UA	UB	UF	UE	UR	TOTAL
2018-09-16	9		7	2	3	5	88	2			801		5			8				2				923
2018-09-17	7			4		5	104	1			475					15								604
2018-09-18	7.5		4			3	109				821		1			37	4	3						982
2018-09-19	9		11		1	13	121	1			22437		14			126	2							22726
2018-09-20	6			7		12	86				3208		2			9		1						3325
2018-09-21	7					3	3									1		2						9
2018-09-22	8.5		25			1	28	1		1	10319	1	4			9	1	4						10394
2018-09-23	8.5		125	2	2	10	94				1252		16			150	1	2						1654
2018-09-24	4		44		1		20	1			98					2		1						167
2018-09-25	1				1		1																	2
2018-09-26	7.5		106			1	53				109		4			6		2						281
2018-09-27	7.5		110		1	6	66	6			190		1			4						1		385
2018-09-28	7		199	2		2	111				12		8				1	3						338
2018-09-29	7.5		510		3	8	96	7			200		11			39		3						877
2018-09-30	7.5		321	1	1	4	25	3			152		6			1		1						515
<b>Total: Sep 2018</b>	<b>204.5 hours</b>	<b>0</b>	<b>1558</b>	<b>28</b>	<b>18</b>	<b>144</b>	<b>1628</b>	<b>23</b>	<b>0</b>	<b>1</b>	<b>46916</b>	<b>2</b>	<b>138</b>	<b>0</b>	<b>1</b>	<b>724</b>	<b>20</b>	<b>27</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>51233</b>
<b>Total: Fall 2018</b>	<b>204.5 hours</b>	<b>0</b>	<b>62455</b>	<b>38</b>	<b>78</b>	<b>416</b>	<b>5429</b>	<b>119</b>	<b>2</b>	<b>568</b>	<b>47223</b>	<b>3</b>	<b>3039</b>	<b>22</b>	<b>50</b>	<b>1126</b>	<b>56</b>	<b>74</b>	<b>0</b>	<b>6</b>	<b>3</b>	<b>0</b>	<b>5</b>	<b>120712</b>



**Table 2.** Raptor totals for the Detroit River Hawk Watch during October 2018.  
(table courtesy of hawkcount.org)

## Month Summary:Oct, 2018

		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	
Date	Obs Hrs	BV	TV	OS	BE	NH	SS	CH	NG	RS	BW	SW	RT	RL	GE	AK	ML	PG	UA	UB	UF	UE	UR	TOTAL
2018-10-01	3																							0
2018-10-02	7			1			5											1					2	9
2018-10-03	7		97	1	1	2	28				1					4		1						135
2018-10-04	8.5		1314	1	1	3	105	5		2	24		11			13	1	10						1490
2018-10-05	3.75			2	1	14	38	2			1					3								61
2018-10-06	7		74	1		2	69						1			6								153
2018-10-07	7.5		2406			20	90				103		5			18	5	1			2			2650
2018-10-08	6.5		41		2	2	56	1					1			5		1			1			110
2018-10-09	7		201			3	225						1			14		1						445
2018-10-10	6		262		1	1	218	3			2					5		1						493
2018-10-11	8		3169	1	2	2	206	3			6		10			62	1	3						3465
2018-10-12	8		6385		1	14	151	3			71		32			23	1	1						6682
2018-10-13	7.5		3284	1	1	10	420	3		2	45		47			57	3	2						3875
2018-10-14	8		6913		7	10	187	2		6	25		95		2	19	3	3						7272
2018-10-15	7		2049		1	4	68	2					9			2	2							2137
Date	Obs Hrs	BV	TV	OS	BE	NH	SS	CH	NG	RS	BW	SW	RT	RL	GE	AK	ML	PG	UA	UB	UF	UE	UR	TOTAL
2018-10-16	7		1814			4	230			1			6			67	5	3						2130
2018-10-17	7.5		6506			3	160	4		4	7		36			11		4						6735
2018-10-18	7		5619		1	4	101	2		13	11		78			14		1					1	5845
2018-10-19	6.5		1727	1		7	237			1			18		1	27	2	1						2022
2018-10-20	5		852			8	176	9			2		16			8		1						1072
2018-10-21	8.5		3224		2	10	131			7	1		94			4		1						3474
2018-10-22	9		1698		3	51	386	4		14	3		62			28	2	1						2252
2018-10-23	8		6533		4	6	101	2		46	1		272		2	6	2	2						6977
2018-10-24	8		1391		5	4	41	4		22	1		117		3			2						1590
2018-10-25	7		405		2	12	102	5		53	1		126		1	1	1							709
2018-10-26	5		720		1	5	21	1		111	2		112							1				974
2018-10-27	0																							0
2018-10-28	2.5		5				17	3		19			12											56
2018-10-29	8		1109		4	7	29	2		43			188		6	1	2							1391
2018-10-30	6.5		84			2	22	1		6			17		2		1							135
2018-10-31	4.5		10				3																	13
<b>Total: Oct 2018</b>	<b>201.75 hours</b>	<b>0</b>	<b>57892</b>	<b>9</b>	<b>40</b>	<b>210</b>	<b>3623</b>	<b>61</b>	<b>0</b>	<b>350</b>	<b>307</b>	<b>0</b>	<b>1366</b>	<b>0</b>	<b>17</b>	<b>398</b>	<b>31</b>	<b>41</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>64352</b>
<b>Total: Fall 2018</b>	<b>406.25 hours</b>	<b>0</b>	<b>62455</b>	<b>38</b>	<b>78</b>	<b>416</b>	<b>5429</b>	<b>119</b>	<b>2</b>	<b>568</b>	<b>47223</b>	<b>3</b>	<b>3039</b>	<b>22</b>	<b>50</b>	<b>1126</b>	<b>56</b>	<b>74</b>	<b>0</b>	<b>6</b>	<b>3</b>	<b>0</b>	<b>5</b>	<b>120712</b>

**Table 3.** Raptor totals for the Detroit River Hawk Watch during November 2018.  
(table courtesy of hawkcount.org)

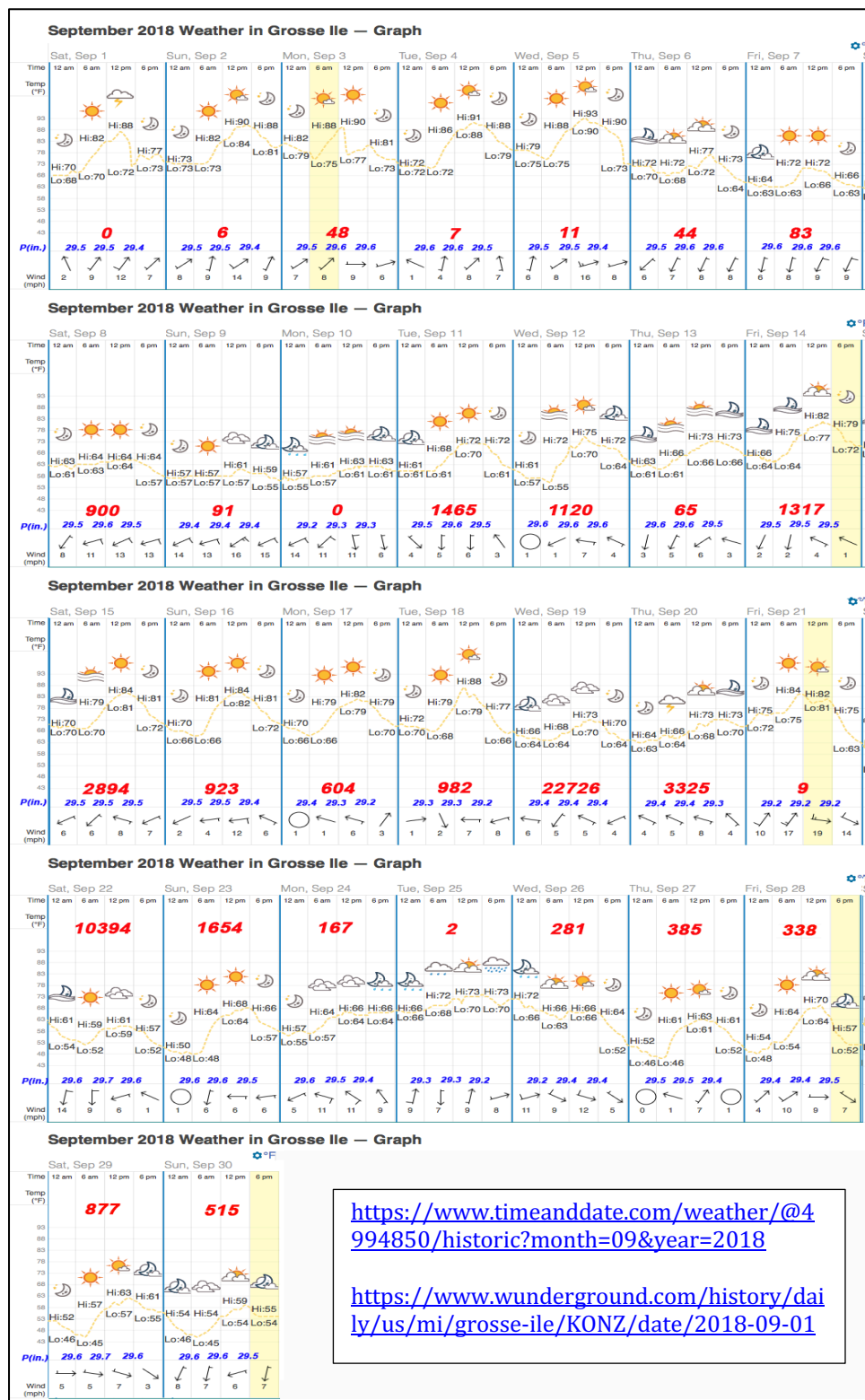
## Month Summary: Nov, 2018

		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		
Date	Obs Hrs	BV	TV	OS	BE	NH	SS	CH	NG	RS	BW	SW	RT	RL	GE	AK	ML	PG	UA	UB	UF	UE	UR	TOTAL	
2018-11-01	0																							0	
2018-11-02	7		72			14	51	1		7			41	4	2	2								194	
2018-11-03	7		1203		4	9	50	5		44			442	4	18		1	3						1783	
2018-11-04	5		191			3	6	4		3			61		4		1							273	
2018-11-05	6		178		2		4						4											188	
2018-11-06	3		12																					12	
2018-11-07	5.5		35				3						3					1						42	
2018-11-08	7.5		294				8			3		1	21							2				329	
2018-11-09	0																							0	
2018-11-10	6		57		1	1				1			7				1							68	
2018-11-11	7		153			1	11	2		7			29	1	1		1							206	
2018-11-12	6					1		1		1														3	
2018-11-13	6		76			2	4	1		11			51			1								146	
2018-11-14	7		314	1	1	8	11	5	1	29			188	12	3			1						574	
2018-11-15	0																							0	
Date	Obs Hrs	BV	TV	OS	BE	NH	SS	CH	NG	RS	BW	SW	RT	RL	GE	AK	ML	PG	UA	UB	UF	UE	UR	TOTAL	
2018-11-16	3												1											1	
2018-11-17	7		237		4	1	9	9		26			200		2	1								489	
2018-11-18	0																							0	
2018-11-19	6.5		18			3	2	2		34			104		1		1							165	
2018-11-20	7		87		2	3	7	1		27			219		1			1						348	
2018-11-21	7		45		4	6	3	1		8			51	1										119	
2018-11-22	3		21				2			11			65											99	
2018-11-23	6.5		9		1	4	6	2	1	5			36											64	
2018-11-24	0																							0	
2018-11-25	6.75		1			2		1					2											6	
2018-11-26	0																							0	
2018-11-27	7					3							4											7	
2018-11-28	6					1							4											5	
2018-11-29	5												2											2	
2018-11-30	7		2		1		1																	4	
Total: Nov 2018	144.75 hours	0	3005	1	20	62	178	35	2	217	0	1	1535	22	32	4	5	6	0	2	0	0	0	0	5127
Total: Fall 2018	551 hours	0	62455	38	78	416	5429	119	2	568	47223	3	3039	22	50	1126	56	74	0	6	3	0	5	120712	

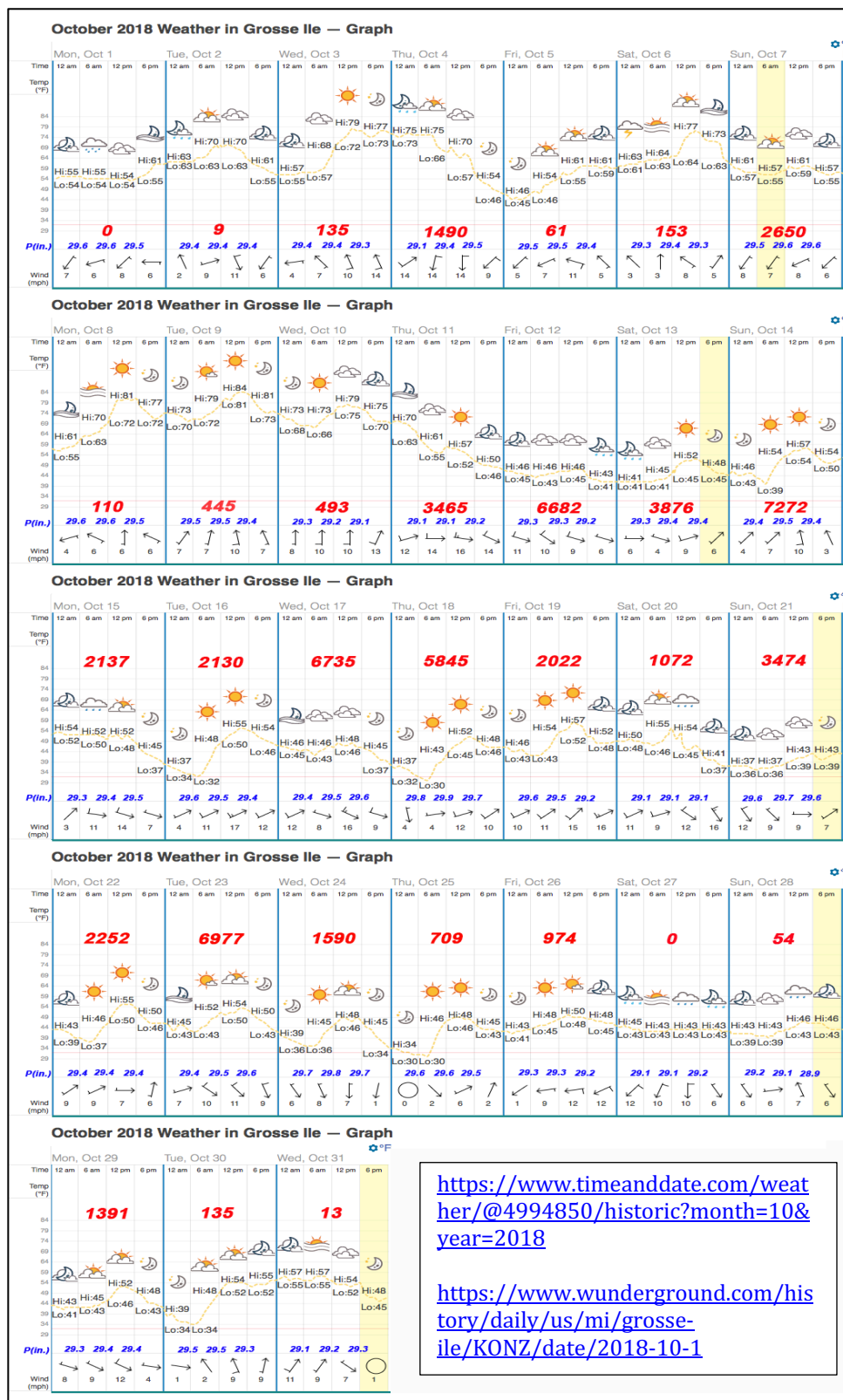
**Table 4.** Detroit Rivers Hawk Watch species totals between 1998 - 2018. Bottom of the table shows 2018 Mean Standard Deviation from the long-term Average (LTA). Numbers in red indicate those species totals for 2018 that were recorded less than the LTA. Values greater than 15% are considered "significant".

Year	Hours	TV*	OS	BE	NH	SS	CH	NG	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	636.75	53393	34	238	323	4116	120	2	354	10392	2	2483	35	96	538	59	67	11	72263
2018	551	62455	38	78	416	5429	119	2	568	47223	3	3039	22	50	1126	56	74	14	120712
Average	552	49989	120	173	458	6121	457	19	629	62883	4	4494	36	99	905	47	44	51	126528
s	68	23302	75	80	253	2782	212	15	242	48050	3	1964	23	47	509	17	18	57	59785
Min	451	17559	23	69	138	3230	119	2	185	10392	0	2474	13	33	404	19	20	0	65398
Max	648	122325	238	354	1005	14715	834	49	1026	195858	12	9406	101	208	2277	95	82	182	266931
2018 Mean % Dev from LTA	0	25	-68	-55	-9	-11	-74	-89	-10	-25	-28	-32	-39	-50	24	19	69	-72	-5

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

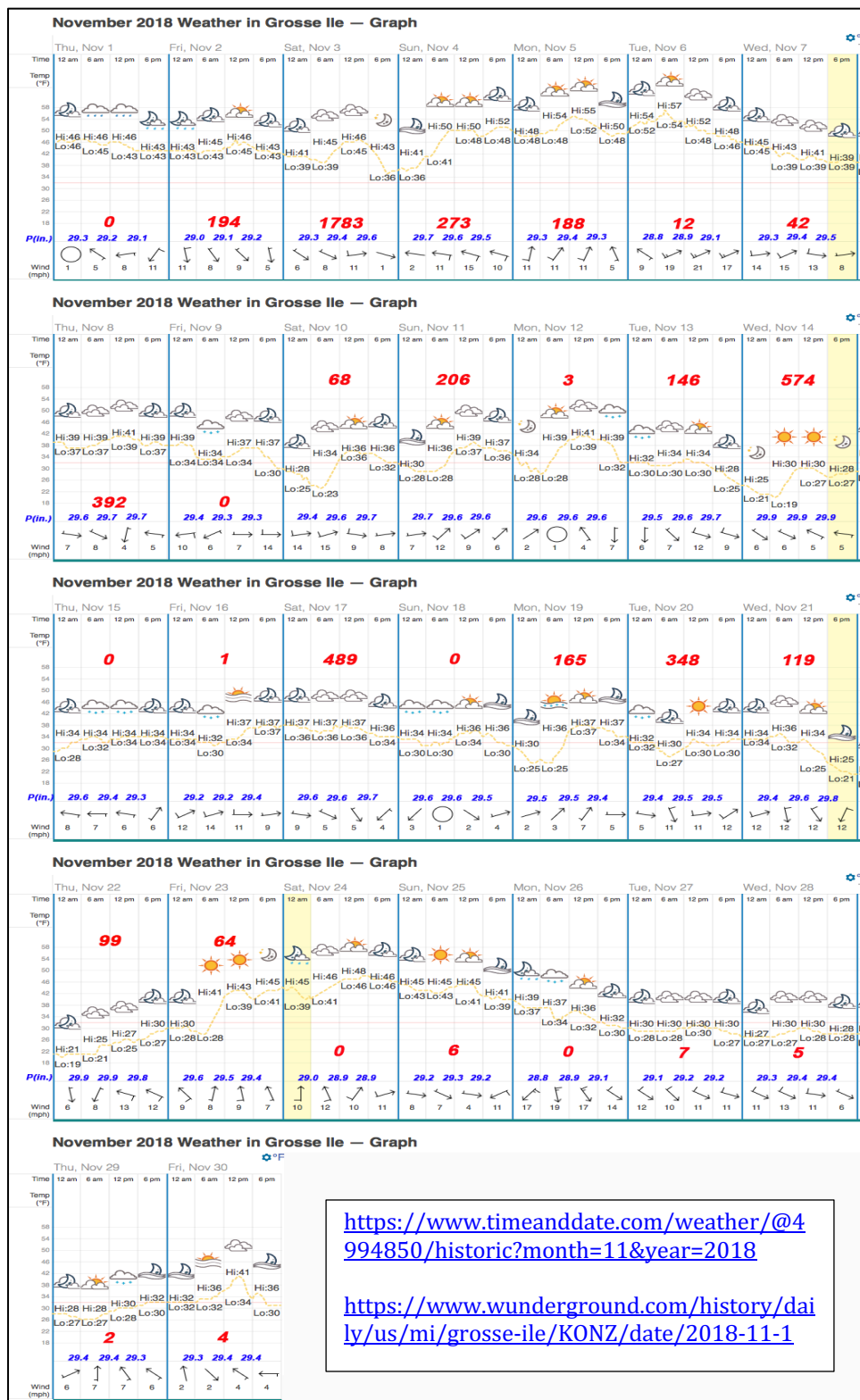


**Figure 1.** Daily raptor totals (red) at the Detroit River Hawk Watch during the period 1 September to 30 September 2018 overlaid with daily temperatures (°F), wind (mph) and barometric pressure (in.).

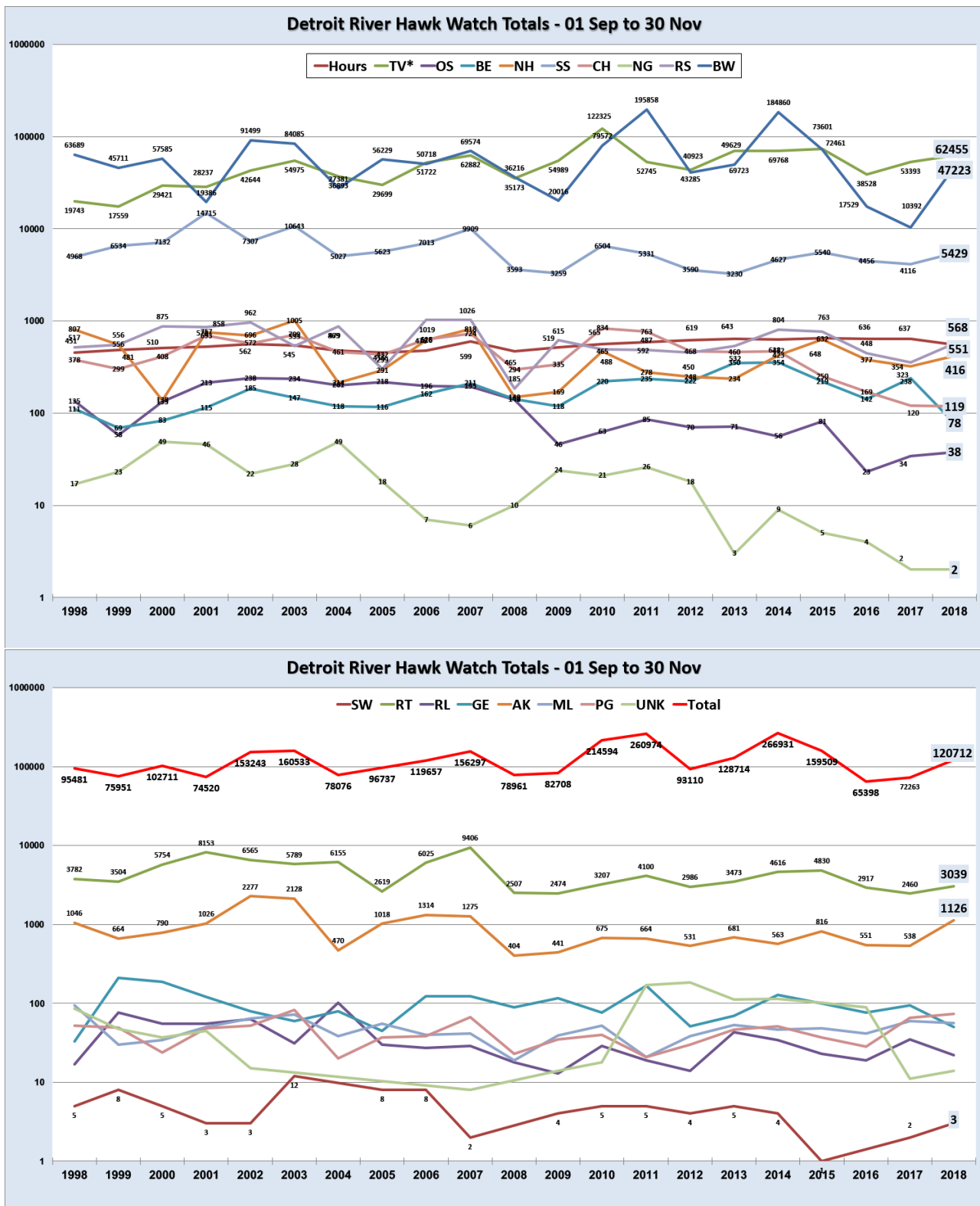


**Figure 2.** Daily raptor totals (red) at the Detroit River Hawk Watch during the period 1 October to 31 October 2018 overlaid with daily temperatures (°F), wind (mph) and barometric pressure (in.).





**Figure 3.** Daily raptor totals (red) at the Detroit River Hawk Watch during the period 1 November to 30 November 2018 overlaid with daily temperatures (°F), wind (mph) and barometric pressure (in.).



**Figure 4.** Detroit River Hawk Watch yearly totals counted at Lake Erie Metropark, Wayne Co., MI 1998 – 2018.