



Detroit River Hawk Watch 2015 Season Summary

Submitted by:

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Merlin (*Falco columbarius*). Andrew Sturgess.

Suggested Citation: Stein, J. and G. Norwood. 2015. *Detroit River Hawk Watch 2015 season summary*. U.S. Fish and Wildlife Service, Detroit River International Wildlife Refuge.

ABSTRACT

The 2015 count represented the 33rd consecutive year of monitoring diurnal raptor and turkey vulture migration from the mouth of the Detroit River and the 18th year of consistent coverage at Lake Erie Metropark (LEMP). There were 648 hours of data collection with counts conducted on 89 days between 1 September and 30 November. A total of 159,510 raptors of 17 species were recorded. Of the 16 regularly occurring species, turkey vulture (*Cathartes aura*), bald eagle (*Haliaeetus leucocephalis*), and northern harrier (*Circus cyaneus*) were detected above their long-term average (LTA) since 1998. Sharp-shinned hawk (*Accipiter striatus*), red-shouldered hawk (*Buteo lineatus*), broad-winged hawk (*Buteo platypterus*), red-tailed hawk (*Buteo jamaicensis*), golden eagle (*Aquila chrysaetos*), American kestrel (*Falco sparverius*), merlin (*Falco columbarius*), and peregrine falcon (*Falco peregrinus*) were detected in average numbers. All other species were detected below their LTA (Cooper's hawk [*Accipiter cooperii*], northern goshawk [*Accipiter gentilis*], rough-legged hawk [*Buteo lagopus*], Swainson's hawk [*Buteo swainsoni*], and osprey [*Pandion haliaetus*]).

METHODS

An hourly count of migrating diurnal raptors was conducted each day between 1 September and 30 November 2015. 648 hours of coverage occurred at the Lake Erie Metropark Boat Launch (LEMP; N 42.0792, W 83.1937). Observations began at 07:00 EST and ended at 15:00 EST, but was delayed a maximum of two hours due to declining day length during the latter part of the season.

All counting was conducted by allowing observers to freely scan the skies with 8 to 10X magnification binoculars. Spotting scopes with 20 to 60X magnification were used only to confirm the identification of raptors previously sighted by naked eye or by using 8 to 10X magnification binoculars to scan the skies. Days with excessive rain, exceptionally strong winds, or heavy fog were excluded. Raptors were determined to be migrating if they were observed crossing (and not returning) an imaginary line originating at the observer and running to the northwest and southeast.

Wind direction and speed, cloud cover, visibility, precipitation, humidity, and temperature were collected at the beginning of each hour with a Kestral 3000®, Nielsen-Kellerman, by the counter standing at the count site. Counts attempted to estimate birds exiting kettles in a stream-like fashion during periods of large migration volume. Results are reported in relation to LEMP's long-term averages since 1998 when consistent coverage began there.

MONTHLY REPORTS

SEPTEMBER

As is often the case, the first week of September featured conditions unfavorable to high-volume raptor movement. Hot temperatures, high humidity, hazy skies and south wind suppressed migratory activity. Not until the afternoon of 9 September did the lingering high pressure system weaken. After 9 September, temperatures remained high for the rest of the month but humidity dropped, clouds more frequently filled the sky, haze was less of a concern and the prevailing wind direction shifted from south to east, often leading to more consistent raptor movement. In particular, sharp-shinned hawk, northern harrier and American kestrel remained abundant throughout the rest of the month, with all

three species flying by in numbers not seen since September 2007.

In keeping with their traditional peak, osprey carried the bulk of the flight early in September. Including a high of 13 tallied on 6 September, 50 osprey were counted during the first ten days of the month, more than half of their overall total for the season. The first double-digit movement of American kestrels also appeared on 6 September (24), starting a run of strong kestrel activity that continued without interruption until the latter portion of the month. The season's first triple-digit raptor flight occurred three days later, on 9 September, when another 63 American kestrels flew past along with the season's first broad-winged hawks (24), peregrine falcon (1), and a nice showing of bald eagles (8), northern harriers (13) and sharp-shinned hawks (60). The high-quality flight then continued into the next day, 10 September, with a season high of 137 American kestrels and 15 bald eagles, a monthly high of 32 red-tailed hawks and above-average early September movement from broad-winged hawks (304), northern harriers (15) and sharp-shinned hawks (137).

After a more subdued flight over the next two days, things picked up considerably on 13 September when broad-winged hawks (16,055) streamed by in their first substantial numbers of the season. Not to be overlooked, capping off a strong first two weeks of the season, northern harriers (42) also had a big day on 13 September, producing a season high. But over the next six days, from 14-19 September, besides sharp-shinned hawks continuing to engage in productive flights, a stretch of sub-optimal conditions led to limited overall movement with broad-winged hawks heard from infrequently; the only notable highlights were a monthly high of 288 sharp-shinned hawks on 17 September and a seasonal high of five merlins on 18 September. Their six-day break coming to an end, on 20 September a season high of 20,145 broad-winged hawks returned to the count sheet, streaming by in lengthy lines throughout the day. Then, similar to last year when peak broad-winged hawk movement occurred over the course of three days, the next two days also featured impressive broad-winged hawk counts, with 14,462 streaming by on 21 September and another 14,602 on 22 September.



Sharp-shinned hawk (*Accipiter striatus*). Andrew Sturgess.

Moving into the last week of the month, broad-winged hawks continued to engage in a series of smaller echo flights, with 871 more tallied on 23 September, 507 on 24 September and another 340 on 26 September. But besides sharp-shinned hawks pushing through steadily along with the broad-winged hawks, other species were heard from in limited numbers. Notably, on 28 September, peregrine falcons (5) achieved a season high and on 30 September, turkey vultures (1,280), relatively quiet for most of the month, achieved a monthly high. But of most interest during the last week of September were two sightings of individual birds, a black vulture observed on 25 September and a golden eagle observed on 27 September. Rarely seen this far north, it was only the fifth black vulture (*Coragyps atratus*) tallied

in the count's history, the last having been observed on 3 November 2013. Rarely seen this early in the season, it was the first golden eagle tallied in September since the fall of 2006.

OCTOBER

The limited movement that characterized the last week of September continued into the first two weeks of October. Consistently favorable conditions proved hard to come by early in the month. If there was a nice mix of blue sky and puffy white clouds, then the wind would be wrong, usually too strong and out of the north or south. And if the wind was in our favor, light and out of the east or northwest for example, then the sky would be overcast, suppressing any potential for a high-volume flight. Occasional rain showers, hazy skies and continuing unseasonably warm temperatures did little to improve matters during the first two weeks. But during the latter half of the month, an increasing number of days with light wind, a nice mix of clouds and sun and lower temperatures led to an uptick in migratory activity, a welcome change of pace.

Turkey vultures and sharp-shinned hawks were the only two species moving steadily through the first two weeks of October. While observed frequently, neither species engaged in particularly high-volume flights, with both waiting until the middle portion of the month before producing their monthly peak. On 1 October, a flight consisting of the season's first red-shouldered hawks (2), a nice October total of broad-winged hawks (231) and decent sharp-shinned hawk (217) and turkey vulture (1,451) activity started the month off well. The following day, 2 October, also featured an above-average flight, including 3,035 turkey vultures, 15 northern harriers and 118 sharp-shinned hawks. But a lengthy dry spell occurred thereafter, and for the next twelve days, migratory activity was limited.

The next day of notable movement didn't arrive until 14 October when turkey vultures (8,054) began to really assert themselves for the first time all season. In what was the beginning of their peak of movement, over the next five days vultures continued to be seen in substantial numbers. From 14-19 October, a total of 38,175 turkey vultures were counted, including a season high of 14,293 on 18 October. The increase in vulture activity coincided with increasing numbers for other species as well. Even Cooper's hawks, which missed their usual early October peak and were seen in limited overall numbers this fall, began to be seen with increasing frequency.

On 15 October, impressive October highs for American kestrel (65) and merlin (4) were tallied and both species were joined by a solid showing of sharp-shinned hawks (281) and northern harriers (14). Then, on the next day, 16 October, we counted a season high of 299 sharp-shinned hawks, a monthly high of 10 bald eagles and a nice flight of 30 red-tailed hawks, 21 American kestrels and nine Cooper's hawks. Continuing for a third straight day of above-average movement, on 17 October, along with 4,224 turkey vultures, we counted 160 more sharp-shinned hawks, 46 more red-tailed hawks and nine more Cooper's hawks.

After 17 October, things quieted down for a few days raptor-wise before ramping up once again on 22 October, just in time for our usual late October peak for buteos and golden eagles. In what was one of the season's best days for both volume and variety, 22 October featured impressive totals for multiple species in a flight that included a late season osprey and the season's first triple-digit showing of red-tailed hawks (143), as well as 4,188 turkey vultures, 15 northern harriers, 194 sharp-shinned hawks, 19 Cooper's hawks, 73 red-shouldered hawks and three golden eagles. Not to be outdone, the next day, 23 October, featured another big flight with a season high of 134 red-shouldered hawks, 274 red-tailed

hawks, 4,019 turkey vultures, four golden eagles and a lingering, late-season broad-winged hawk.

After intermittent rain and overcast skies shut things down on 24 October, activity picked up once again on 25 October with season highs for golden eagle (16) and Cooper's hawk (22), a monthly high for northern harriers (17), above-average showings from red-tailed hawk (147) and red-shouldered hawk (78) and the season's first northern goshawk (1). The next day, 26 October, featured another engrossing flight with several highlights, including the season's last thousand-strong flight of turkey vultures (2,162), the season's first rough-legged hawks (2), a monthly high of red-tailed hawks (476) and another impressive showing from northern harriers (15), golden eagles (11) and red-shouldered hawks (74). Then, continuing their strong late October showing, on 27 October another eleven golden eagles made their way across and were joined by 84 more red-tailed hawks, 29 more red-shouldered hawks and a season high of two northern goshawks. But after 27 October, overcast and drizzly conditions led to limited movement for the rest of the month. The only noteworthy occurrence from there on out was a late Osprey seen on 29 October.

NOVEMBER

Unlike previous falls, when the first week of November produced some of the season's largest flights, it was mostly quiet this season to start the month. Similar to early September, a lingering high pressure system suppressed migratory activity. Unseasonably warm temperatures, high humidity, hazy skies and south wind all contributed to a surprisingly slow start to the month. A change in our fortunes came on 7 November when cooler temperatures, more clouds and a westerly wind shift sent raptors aloft. But after a three-day stretch of high-quality movement from 7-9 November, warm temperatures, high humidity and south wind returned, limiting overall movement. Not until the latter portion of November, when temperatures finally began to drop to a more seasonable level, more cumulus began to be seen and days with wind out of the north and west began to increase, did migratory activity begin to increase as well.

Limited but consistent raptor movement characterized the first week of November. Several different species were moving, including sharp-shinned hawk, Cooper's hawk, northern harrier, red-tailed hawk, red-shouldered hawk and golden eagle, but none were seen in substantial numbers. Most early November days ended with an overall count that came in less than triple digits. And with a lengthy run of south wind, many migrants were observed crossing well to our north. That all came to a halt on 7 November, though, when changing conditions compelled red-tailed hawks to take to the skies in larger numbers. Usually peaking in late October, this year's peak of red-tailed hawk movement came a little later but was no less impressive.

On 7 November, red-tailed hawks (327) led an above-average flight that also included solid showings from turkey vulture (278), red-shouldered hawk (36) and golden eagle (6). Then, on the next day, 8 November, red-tailed hawks (646) nearly doubled the previous day's output and were joined by monthly highs of red-shouldered hawks (54) and Cooper's hawks (8), as well as another nice flight of turkey vultures (301), northern harriers (14), bald eagles (9) and golden eagles (4). Achieving a season high, red-tailed hawks (660) outdid themselves once again the following day, 9 November, for a three-day peak of 1,633 red-tailed hawks. Also on 9 November, the season's last triple-digit showing of turkey vultures (332) pushed through along with the red-tailed hawks, as did six more bald eagles, five more golden eagles, eight more northern harriers and 39 more red-shouldered hawks.

After 9 November, sub-optimal conditions led to limited movement until 16 November when a late

American kestrel was observed and northern harriers (9) and rough-legged hawks (2) began to be seen with greater frequency. Rough-legged hawks, in particular, finished the season strong, with a majority of sightings for this species occurring during the second half of November. On 17 November, a monthly high of northern harriers (23) was joined by another high-quality November flight of 192 red-tailed hawks, 17 red-shouldered hawks and four golden eagles. Then, after waiting through four days of poor conditions, on 22 November migratory activity picked up once more with a flight again led by red-tailed hawks (149), but also comprised of noteworthy late November showings from turkey vulture (41), bald eagle (9), golden eagle (5), northern harrier (20), rough-legged hawk (2) and red-shouldered hawk (22).

Besides a small movement of red-tailed hawks (83) and red-shouldered hawks (14) on 25 November, not much in the way of migration occurred between 22 November and the count's final two days, 29 and 30 November, when an unprecedented late season burst of activity surprised and delighted those of us there to witness it. Warming up for a grand finale on 30 November, red-tailed hawks (143), red-shouldered hawks (26), Cooper's hawks (5) and a season high of three rough-legged hawks put on a remarkable showing on 29 November. But that was only prelude to what was in store the next day, 30 November. In an unprecedented display of late November movement, red-tailed hawks (576) flooded the viewing area on the season's last day. Joined by 27 more red-shouldered, two more rough-legged hawks and two more golden eagles, this surprising late-season push of red-tailed hawks proved a fitting end to an active fall of hawk watching.

SPECIES ACCOUNTS

BLACK VULTURE

One on 25 September (Table 1). This year's lone representative was only the fifth black vulture in the count's history. The last was observed on 3 November 2013.

High Count: (1) 25 September

TURKEY VULTURE

73,601 between 1 September and 30 November was 52% above the previous 17-year average. After coming close the previous two seasons, turkey vultures exceeded the 70,000 individuals tallied plateau for only the second time in the watch's history. As expected, October once again featured the heaviest vulture activity, with peak movement occurring during the middle portion of the month, from 14 October to 19 October.

High Count: (14,293) 18 October

OSPREY

81 between 1 September and 5 November was 41% below the previous 17-year average. More active than recent seasons, osprey numbers climbed into the eighties for the first time since 2011. While the majority of osprey movement was concentrated in the month of September, this season also featured several October sightings, as well as the first November individual tallied since 2007.

High Count: (13) 6 September

BALD EAGLE

219 between 2 September and 30 November was 26% above the previous 17-year average. After two phenomenal seasons that saw upwards of 350 individuals counted for the first time in the watch's history, bald eagle numbers declined this year, returning to a similar total as that of the 2010-2012 seasons.

High Count: (15) 10 September



Bald eagle (*Haliaeetus leucocephalus*). Andrew Sturgess.

NORTHER HARRIER

632 between 1 September and 30 November was 37% above the previous 17-year average. Starting and ending the season strong, northern harriers had their best fall since 2007. Peaking in mid-September, somewhat earlier than usual, for a second season in a row northern harriers engaged in an unexpectedly strong surge of November movement. The 156 harriers counted this November were the most in the watch's history.

High Count: (42) 13 September

SHARP-SHINNED HAWK

5,540 between 3 September and 30 November was 14% below the previous 17-year average. Sharp-shinned hawks had their most active season since 2010. As expected, peak sharp-shinned hawk movement occurred during the last two weeks of September, but a significant push of adult sharp-shinned hawks in mid-October led to the season's daily high count.

High Count: (299) 16 October

COOPER'S HAWK

250 between 1 September and 30 November was 52% below the previous 17-year average. Highly variable from season to season, this fall Cooper's hawks were observed in their lowest numbers in the count's history. Never able to generate consistent high-volume movement, Cooper's hawks missed their usual early October peak, instead engaging in a short flurry of activity later in the month that quickly fizzled.

High Count: (22) 25 October

NORTHERN GOSHAWK

Five between 25 October and 8 November was 77% below the previous 17-year average. In a season of limited movement, northern goshawk numbers failed to reach double digits for a third straight fall. All five goshawks observed this year were juvenile.

High Count: (2) 27 October

RED-SHOULDERED HAWK

763 between 1 October and 30 November was 17% above the previous 17-year average. Exhibiting their customary late October peak of movement and remaining active through the month of November, red-shouldered hawks exceeded their long-term average for a second straight season.

High Count: (134) 23 October

BROAD-WINGED HAWK

73,567 between 9 September and 23 October was 5% above the previous 17-year average. Broad-winged hawks engaged in an uncharacteristically protracted peak of movement this fall. Tallied in substantial numbers on 13 September, it wasn't until a three-day window from 20-22 September, when 49,209 streamed past, that broad-winged hawks again returned to the count sheet. Of note, a single dark morph Broad-winged Hawk was observed on 21 September.

High Count: (20,145) 20 September

SWAINSON'S HAWK

One on 20 September was hidden amongst a lengthy stream of broad-winged hawks.

High Count: (1) 20 September

RED-TAILED HAWK

4,830 between 3 September and 30 November was 1% above the previous 17-year average. Red-tailed hawks put in another strong showing this fall. Not seen with regularity until late October, their peak was later than normal this season, from 7-9 November, when a three-day total of 1,633 red-tailed hawks was tallied. Then, in an unprecedented display of late November movement, red-tailed hawks set a new last-day high this season with 576 individuals tallied on 30 November.

High Count: (660) 9 November

ROUGH-LEGGED HAWK

23 between 26 October and 30 November was 40% below the previous 17-year average. After two seasons of above-average movement, rough-legged hawk numbers declined this fall, returning to similar totals as those observed during the 2005-2012 seasons. As occurred last season, late November featured the highest concentration of sightings for this species.

High Count: (3) 29 November

GOLDEN EAGLE

100 between 27 September and 30 November was 3% below the previous 17-year average. Golden eagle numbers came in at their long-term average. A three-day peak of late October movement netted 38 eagles from 25-27 October. Of note, the individual tallied on 27 September was the first September golden eagle sighting since the 2006 season.

High Count: (16) 25 October

AMERICAN KESTREL

816 between 1 September and 16 November was 13% below the previous 17-year average. Observed consistently up until mid-October, this was the best season of American kestrel movement at LEMP since the fall of 2007.

High Count: (137) 10 September

MERLIN

48 between 3 September and 30 November was 4% above the previous 17-year average. For the second season in a row, merlins were seen in numbers equal to their long-term average.

High Count: (5) 18 September

PEREGRINE FALCON

37 between 9 September and 29 November was 12% below the previous 17-year average. In a fairly typical season, peregrine falcons engaged in their usual late September peak and were observed in numbers consistent with their long-term average.

High Count: (5) 28 September

NON-RAPTOR HIGHLIGHTS

There were several notable non-raptor highlights this season. On two separate days in September, several small groups of American white pelicans (*Pelecanus erythrorhynchos*) were observed. Three red-headed woodpeckers (*Melanerpes erythrocephalus*) flew by in September, one on 3 September, another on 10 September and a third on 20 September. Late in the day on 9 September, 16 common nighthawks (*Chordeiles minor*) flew overhead. A large flock of 71 snow geese (*Chen caerulescens*) wandered through the viewing area on 26 October. An American bittern (*Botaurus lentiginosus*) flew directly in front of us on 1 November. And last but not least, two Franklin's gulls (*Larus pipixcan*) visited us in November, one on 13 November, the other on 15 November.

WATERFOWL

All throughout September and during the early part of October, small numbers of wood ducks (*Aix sponsa*) were observed flying past. At multiple points throughout the season, but mostly in September, small numbers of pied-billed grebes (*Podilymbus podiceps*) could be seen foraging in the channel. Small numbers of horned grebes (*Podiceps auritus*) began to appear in mid-October and continued to be seen through late November. Small flocks of blue-winged teal (*Anas discors*) were noted passing by on four separate occasions in September and October. A lone green-winged teal (*Anas crecca*) flew past on 10 October. Three American wigeon (*Anas americana*) were noted on 19 September and another eight on 9 October. Small numbers of northern shovelers (*Anas clypeata*) were observed on two separate dates in late September. Gadwall (*Anas strepera*) were less abundant this season, with small numbers observed on only three dates over the course of the season. Northern pintail (*Anas acuta*) were also observed infrequently, with two sightings in September and one in November. On 3 November and 15 November, two American black ducks (*Anas rubripes*) flew past. Canada geese (*Branta canadensis*) began arriving in large numbers in late September and remained noticeable throughout the rest of the season, with an apparent uptick in activity in late November. Tundra swans (*Cygnus columbianus*) were again early this season, with the first swans being seen in late October. Many more tundra swans began to arrive by early November and were seen often throughout the rest of the month.

The location of the count site does not effectively capture migration of divers (e.g., canvasback [*Aythya valisineria*], redhead [*Aythya americana*], and scaup [*Aythya marila* and *A. affinus*]) through the region, which typically number in the tens of thousands offshore from lakes St. Clair to Erie during the fall and winter. However, the first lesser scaup were noted in late October and continued to be seen regularly for the duration of the count, often observed by the thousands over the lake. For a fourth straight season, common loons (*Gavia immer*) were quite abundant, with multiple sightings during all three months. Flocks of red-breasted mergansers (*Mergus serrator*) arrived in late October and were seen often during the month of November. First sighted on 30 October, hooded mergansers (*Lophodytes cucullatus*) were abundant as well, with small numbers flying past throughout the month of November. Sightings of small numbers of common mergansers (*Mergus merganser*) occurred on multiple dates in November. The first ruddy ducks (*Oxyura jamaicensis*) were seen by mid-October and small numbers of this species continued to be seen through November. Common goldeneye (*Bucephala clangula*) arrived in late October and, more abundant than previous seasons, continued to be seen frequently during the month of November. Bufflehead (*Bucephala albeola*) were first observed in early November and were seen often for the rest of the month. Flocks of canvasback were observed on two days in late October and on several days in late November. A flock of redhead was observed once in late October and then again in late November.

SHOREBIRDS

Killdeer (*Charadrius vociferus*) were seen and heard overhead at various points throughout the season, from early September to late November. Small numbers of both spotted (*Actitis macularia*) and solitary sandpipers (*Tringa solitaria*) were observed on multiple dates in September. A single pectoral sandpiper (*Calidris melanotos*) flew by on 6 September. Six least sandpipers (*Calidris minutilla*) flew by on 30 September. Two Wilson's snipes (*Gallinago delicata*) were observed on 11 September. Lesser yellowlegs (*Tringa flavipes*) were detected on multiple occasions during the months of September and October. Five greater yellowlegs (*Tringa melanoleuca*) were heard on 3 October. A large flock of dunlin (*Calidris alpina*) was observed out over the lake on 23 November.

GULLS AND TERNS

Less noticeable than previous seasons, the season's first Bonaparte's gulls (*Larus philadelphia*) arrived in late September, but not until early November did sizable numbers of this species begin to be seen with regularity. Great black-backed gulls (*Larus marinus*) were spotted on multiple occasions in late November. Herring gulls (*Larus argentatus*) were abundant for a third straight season and were seen particularly often during the month of November. Caspian (*Sterna caspia*) and Forster's terns (*Sterna forsteri*) were seen frequently during the month of September. Caspian terns were last sighted in early October, but Forster's terns appeared to stick around longer this season, continuing to be seen into early November.

WADING BIRDS

Less noticeable this season, black-crowned night herons (*Nycticorax nycticorax*) were seen only on a handful of occasions in October and November. Great blue herons (*Ardea herodias*) were observed throughout the season but could be seen flying past in greater abundance during the month of November, often during overcast conditions. Great Egrets (*Ardea alba*) were noted on several occasions during the months of October and November, with peak observation occurring in late October. A green heron (*Butorides virescens*) flew by on 18 September.

CORVIDS

The first migrant blue jays (*Cyanocitta cristata*) were detected on 15 September, a date that coincides with the usual arrival of this species. Blue jays were particularly abundant this season, filling the skies from late September through mid-October, with peak movement occurring on 30 September when more than 35,000 were estimated to have moved through. The first migrant American crows (*Corvus brachyrhynchos*) were detected on 14 October. Peak movement occurred during late October and early November, with the single largest flight estimated at more than 70,000 on 23 October.

ICTERIDS

The first red-winged blackbirds (*Agelaius phoeniceus*) of the season were seen moving through in early September and continued throughout the fall with flocks flying past into late November. Peak red-winged blackbird movement occurred during mid-October with a daily high count estimated at more than 2,400 on 16 October. More abundant than previous seasons, small numbers of rusty blackbirds (*Euphagus carolinus*) were detected in the red-winged blackbird flocks starting in early October, their numbers growing as the month wore on. In addition, a sizable flock of rusty blackbirds spent several weeks foraging in the trees near the count site during the months of October and November. Common grackles (*Quiscalus quiscula*) were seen mixed in among the flocks of blackbirds at multiple points throughout the season. Twelve brown-headed cowbirds (*Molothrus ater*) were noted on 22 November.

SWIFTS AND SWALLOWS

Tree swallows (*Tachycineta bicolor*) were particularly abundant this season, seen often throughout September and lingering long into October with peak movement in late September. A single late tree swallow was observed on 25 November. Northern rough-winged swallows (*Stelgidopteryx serripennis*) were also abundant in September and continued to be seen regularly into early October, peaking in mid-September. Eight late northern rough-winged swallows were noted on 16 October. Barn swallow (*Hirundo rustica*) migration was observed through mid-September and rarely thereafter. Two late barn swallows were noted on 14 October. Small numbers of bank swallows (*Riparia riparia*) were observed on two days in early September. Purple martins (*Progne subis*) were abundant in early September but their migration slowed considerably by the middle of the month, which is consistent with previous seasons. First seen in early September, chimney swifts (*Chaetura pelagica*) were particularly abundant this season. With peak movement in mid-September, unusually large numbers of chimney swifts continued to be seen well into October this season.

SPARROWS AND FINCHES

Other than pine siskins (*Carduelis pinus*), which were noted often from early October on, winter finches were not particularly abundant this fall. No crossbills (*Loxia curvirostra* and *L. leucoptera*), evening grosbeaks (*Coccothraustes vespertinus*), or redpolls (*Carduelis flammea* and *C. hornemanni*) were seen or heard. American goldfinches (*Carduelis tristis*) were noted throughout the entirety of the count period with peak movement occurring during the months of October and November. House finches (*Carpodacus mexicanus*) were noted on multiple occasions during all three months. Dark-eyed juncos (*Junco hyemalis*) arrived in early October and remained noticeable throughout the rest of the season. The first white-throated sparrows (*Zonotrichia albicollis*) of the season were detected in early October as well and were also seen often thereafter. A single white-crowned sparrow (*Zonotrichia leucophrys*) was observed on 16 October. The first American tree sparrows (*Spizella arborea*) arrived in early November and were heard frequently throughout the rest of the month.

LARKS AND PIPITS

Horned larks (*Eremophila alpestris*) arrived in late September and were heard migrating overhead often thereafter, most frequently during late October and early November. American pipits (*Anthus rubescens*) were first detected in mid-October and were noted occasionally throughout the rest of the season.

WARBLERS AND VIREOS

Wood-warblers were abundant this September, moving through in good numbers, especially during the middle of the month. A total of 18 species of warblers were detected during the months of September and October including common yellowthroat (*Geothlypis trichas*), American redstart (*Setophaga ruticilla*), northern parula (*Parula americana*), pine (*Dendroica pinus*), blackpoll (*D. striatus*), Cape May (*D. tigrina*), Nashville (*Vermivora ruficapilla*), Tennessee (*V. peregrina*), Canada (*Wilsonia canadensis*), palm (*D. palmarum*), blackburnian (*D. fusca*), black-throated blue (*D. caerulescens*), black-throated green (*D. virens*), bay-breasted (*D. castanea*), black-and-white (*Mniotilta varia*), chestnut-sided (*D. pensylvanica*), yellow (*D. petechia*), and yellow-rumped warblers (*D. coronata*). Yellow-rumped warblers were particularly abundant this season, continuing to be seen in large numbers into mid-October. Warbling vireos (*Vireo gilvus*) could be heard singing often up until the middle of September. Red-eyed vireos (*V. olivaceus*) were detected on multiple dates in late September and early October. A single blue-headed vireo (*V. solitarius*) was observed on both 29 September and 4 October. A lone Philadelphia vireo (*V. philadelphicus*) was noted on 6 October.

ACKNOWLEDGMENTS

The spectacular flights seen here are a sight to behold, but often more enriching than the raptors are the lively conversation and capable assistance provided by this site's excellent array of regular volunteers: Pat Mulawa, Rosemary Brady, Andrew Sturgess, Frank Kitakis, Raburn Howland, John Elliott, Jim Lynch, Janet Fox, and Don Sherwood. Thank you all for another enjoyable season. In particular, we'd like to thank Andrew Sturgess for all his help, not only for his exemplary work as a spotter, assistant counter, and photographer, but also for providing the lead author with a place to stay once again this fall. Thanks so much, Andy. A longtime volunteer who served as primary counter on Saturday this season, Don Sherwood was again kind enough to provide the lead author with some much-needed time off, an appreciated effort on his part. Thanks, Don. We would like to extend our appreciation for program guidance and leadership from the Detroit River Hawk Watch Advisory Committee: Rosemary Brady, Dave Ewert, Joe Hemming, Raburn Howland, Jerry Jourdan, and Will Weber. Jerry Jourdan provided invaluable service updating our website and making it a wonderful resource (<http://www.drhawkwatch.org/>). For her help and support, we would also like to extend a special word of thanks to Joann Van Aken, Executive Director of the International Wildlife Refuge Alliance. We thank the DTE Energy Foundation for funding and the many individual who donate funds in order for us to continue this critical monitoring program.

Table 1. 1998–2015 season totals at Lake Erie Metropark Boat Launch with the 2015 percent deviation from the previous 17-year mean. Seasonal records in bold. See Table 2 for a reference to the species codes.

	Hours	TV*	OS	BE	NH	SS	CH	NG	RS	BW
1998	451	19,743	135	111	807	4,968	378	17	517	63,689
1999	481	17,559	58	69	556	6,534	299	23	556	45,711
2000	510	29,421	133	83	138	7,132	408	49	875	57,585
2001	526	28,237	213	115	757	14,715	693	46	858	19,386
2002	562	42,644	238	185	696	7,307	572	22	962	91,499
2003	545	54,975	234	147	1,005	10,643	709	28	533	84,085
2004	479	36,893	201	118	214	5,027	461	49	869	27,381
2005	456	29,699	218	116	291	5,623	432	18	299	56,229
2006	476	51,722	196	162	616	7,013	628	7	1,019	50,718
2007	599	62,882	195	211	818	9,909	724	6	1,026	69,574
2008	465	35,173	140	141	149	3,593	294	10	185	36,216
2009	519	54,989	46	118	169	3,259	335	24	615	20,016
2010	565	122,325	63	220	465	6,504	834	21	488	79,572
2011	592	52,745	85	235	278	5,331	763	26	487	195,858
2012	619	43,285	70	222	248	3,590	468	18	450	40,923
2013	643	69,723	71	350	234	3,230	460	3	532	49,629
2014	628	69,768	56	354	423	4,627	472	9	804	184,860
2015	648	73,601	81	219	632	5,540	250	5	763	72,461
Average	542	49,744	135	176	472	6,364	510	21	658	69,188
2015 % Mean Dev.	21	52	-41	26	37	-14	-52	-77	17	5

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

	SW	RT	RL	GE	AK	ML	PG	UNK	TOTAL
1998	5	3,782	17	33	1,046	95	52	86	95,481
1999	8	3,504	76	208	664	30	49	47	75,951
2000	5	5,754	55	188	790	34	24	37	102,711
2001	3	8,153	55	120	1,026	50	48	45	74,520
2002	3	6,565	63	79	2,277	64	52	15	153,240
2003	12	5,789	31	60	2,128	72	82	0	160,533
2004	0	6,155	101	79	470	38	20	0	78,076
2005	8	2,619	30	45	1,018	55	37	0	96,737
2006	8	6,025	27	124	1,314	40	38	0	119,657
2007	2	9,406	29	124	1,275	41	67	8	156,297
2008	0	2,507	18	89	404	19	23	0	78,961
2009	4	2,474	13	117	441	39	35	14	82,708
2010	5	3,207	29	76	675	52	40	18	214,594
2011	5	4,100	19	167	664	21	21	169	260,974
2012	4	2,986	14	51	531	38	30	182	93,110
2013	5	3,473	43	69	681	53	46	112	128,714
2014	4	4,616	34	129	563	46	51	115	266,931
2015	1	4,830	23	100	816	48	37	102	159,509
Average	5	4,775	38	103	932	46	42	53	133,261
2015 % Mean Dev.	-79	1	-40	-3	-13	4	-12	104	21

Table 2. Species codes used in Table 1.

TV: turkey vulture (*Cathartes aura*)
OS: osprey (*Pandion haliaetus*)
BE: bald eagle (*Haliaeetus leucocephalis*)
NH: northern harrier (*Circus cyaneus*)
SS: sharp-shinned hawk (*Accipiter striatus*)
CH: Cooper's hawk (*Accipiter cooperii*)
NG: northern goshawk (*Accipiter gentilis*)
RS: red-shouldered hawk (*Buteo lineatus*)
BW: broad-winged hawk (*Buteo platypterus*)
SW: Swainson's hawk (*Buteo swainsoni*)
RT: red-tailed hawk (*Buteo jamaicensis*)
RL: rough-legged hawk (*Buteo lagopus*)
GE: golden eagle (*Aquila chrysaetos*)
AK: American kestrel (*Falco sparverius*)
ML: merlin (*Falco columbarius*)
PG: peregrine falcon (*Falco peregrinus*)
UNK: unknown raptor species