

Detroit River Hawk Watch 2025 Season Summary



Red-tailed Hawk. Photo by Andrew Sturgess.

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Season at a Glance

The 2025 fall migration season at the Detroit River Hawk Watch (DRHW) marked our 43rd year of observing the grand movement of raptors through the narrow corridor between Lake Huron and Lake Erie. Between September 1 and November 30, our team logged 584.5 hours of observation across 87 days of counting. By season’s end, over 150,000 raptors representing 16 species had passed overhead.



Turkey Vulture kettle. Photo by Andrew Sturgess.

During the 2025 count season, we experienced excellent weather throughout September and October. In late October, however, the winds shifted unfavorably, and that poor trend continued into November. Even with a slow November, we were fortunate to have such favorable conditions—and strong numbers—through the first seven weeks of the season.

This year produced several impressive totals. The 2025 count ranked among the top ten highest overall counts on record (9th). This was due in large part to our two most numerous species: broad-winged hawks and turkey vultures. We recorded the 14th-highest broad-winged hawk total and the 3rd-highest turkey vulture count. Additionally, two golden eagles were observed in September. Single golden eagles have been recorded migrating in September during six previous years, but this is the first time more than one has been documented.

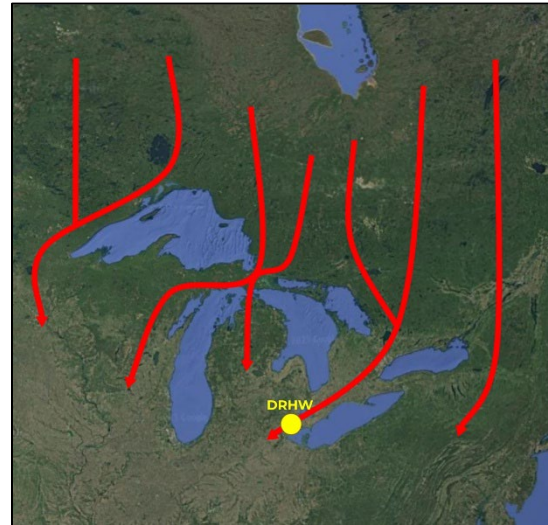
Table 1. 2025 season overview of notable count data.

Total Raptors Counted	151,131
Number of Species	16
Hours Watched	584.5
Highest Single-Day Count	24,314 (September 15 th)
Most Abundant Species	Turkey Vulture (90,859) Broad-winged Hawk (51,922) Sharp-shinned Hawk (4,053)

About the Watch

Background

Every autumn, thousands of raptors funnel through the stretch of sky where the Detroit River empties into Lake Erie, one of the most reliable migration corridors in eastern North America. The Detroit River Hawk Watch has been documenting this spectacle since 1983. The 2025 count was the 43rd consecutive season of monitoring diurnal raptor migration at the mouth of the Detroit River and the 28th year of consistent coverage (since 1998) at Lake Erie Metropark (LEMP).



Autumn raptor migration routes through the Great Lakes region.

Accurate information about raptor population status and its change is fundamental for avian conservation. Since 1934, hawk watches have been established across the Americas to count diurnal raptors as they migrate in the spring and fall (Hawk Migration Association 2022). Over 200 hawk watches are currently operating. The Raptor Population Index (RPI) was created in 2004 to establish a standardized count protocol and provide continental-scale statistical assessments of raptor population trends (Raptor Population Index 2022). The current RPI analyses (2009-2019) can be found at www.rpi-project.org.

Methods

An hourly count of migrating diurnal raptors was conducted from 0900 – 1600 hours EDT each day (weather permitting) between 01 September and 30 November 2025. The count was conducted at the LEMP boat ramp (N 42.0792, W 83.1937). Hourly weather and species totals were recorded on physical datasheets as well as entered directly into the Hawk Count website. Observation was conducted in accordance with The Detroit River Hawk Watch Monitoring Protocol (Detroit River Hawk Watch 2025).

The percent deviation of 2025 species counts in relation to LEMP's Long Term Averages (LTA) since 1998 as well as 10-Year Averages (TYA) can be found in Appendix A. Scatter plots with trend lines from the regressions can be found in Appendix B.

Season Story

September

September was marked by very low winds, most of which came from the east. We saw long stretches of consistent weather; three to five days of steady winds that tended not to deviate from their established direction. Interestingly, while the mornings often began with ideal conditions, winds tended to flip to the southeast by late afternoon. However, wind speeds remained so low



September at DRHW. Photo by Jo Patterson.

throughout the month that these shifts never became truly adverse. The favorable morning air initiated strong day flights, and the gentle afternoon breezes simply weren't powerful enough to shut them down.

The atmosphere remained stable and drought conditions were increasingly evident. Rain was scarce: only five days recorded precipitation, totaling 1.87 inches, with a single-day maximum of just 0.89 inches (Weather Spark 2025). Temperatures ranged from an average high of 77.9°F to an average low of 56.2°F, with an average of 67.1°F (National Weather Service Detroit/Pontiac 2025a). Clear blue skies dominated most days, lending the month a bright, unbroken character.

The month began with excellent north–northeast winds, and the season's first day set the tone: over 100 raptors streamed past, riding the favorable air. The first week continued with mostly north and east winds before transitioning to a stronger run of south and west flow. Even so, skies stayed generally cooperative, partly cloudy with broad windows of sunshine, setting the stage for a strong September movement.

The second week featured light, variable winds, often shifting with little conviction. But with them, came our first big day of the season. Over 7,000 broad-wings migrated over DRHW on September 11th, more than were recorded the entire 2024 season.

By the third week, faint easterlies became the standard. These were gentle, almost hesitant winds, but they proved favorable at just the right time. The mid-September broad-winged

hawk movement, always the critical window of the month, arrived on cue and found conditions nearly ideal. More than 50,000 broad-wings passed through over the course of the month. The bulk of the flight occurred between September 11th and 20th, peaking with a stunning 23,901 birds on the 15th.

The fourth week brought a mix of wind directions, something of a sampler of the entire month, yet still remained soft and manageable. The period opened under overcast skies but quickly returned to the prevailing trend of clear, dry weather.

Other species were equally impressive as the broad-wings. Sharp-shinned hawks surged past the 3,000 mark, weaving through the sky with their characteristic buoyant intensity, and American kestrels approached a thousand. In the final days of September, turkey vultures began their migration in earnest. Before October, their true peak even arrived, they had already tallied more than 2,000 birds. Seeing hundreds of both broad-wings and vultures moving together on the same day offered one of the most spectacular displays of the season, especially when layered with the full diversity of other migrants. Overall, September delivered steady conditions, minimal weather disruptions, and some of the most memorable daily flights of the season.

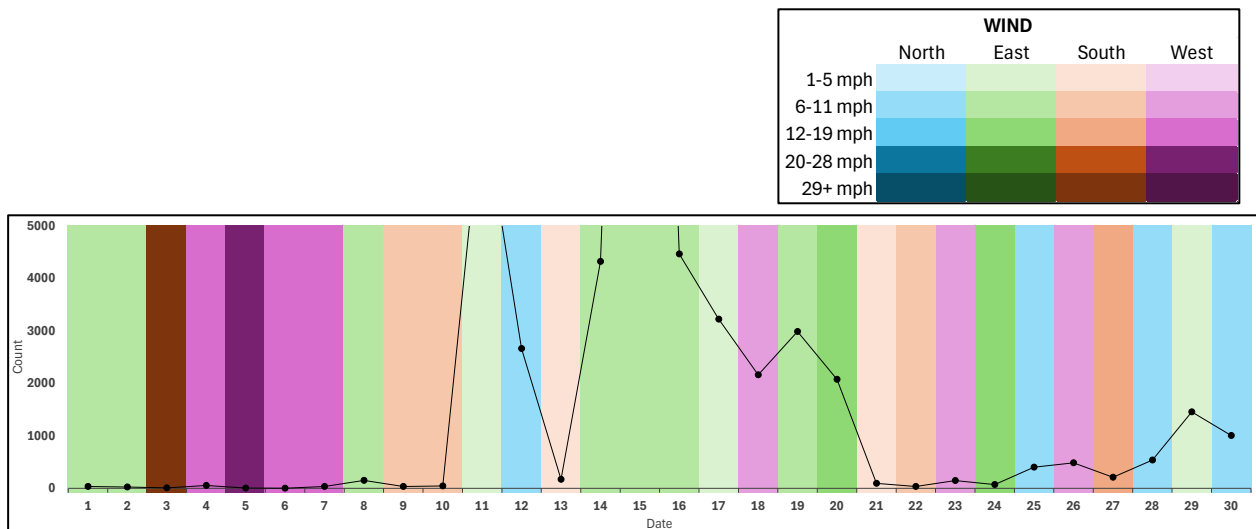


Figure 1. Daily count and prevailing wind direction and velocity for September 2025.

October

October opened under deepening drought conditions, and the landscape made it obvious. The grass had grown brittle, and the trees held their summer greens far longer than usual. Only in the final days of the month did the foliage finally begin to turn. Rain remained scarce: a mere 0.73 inches fell across six days, and aside from those brief drizzles, the skies stayed largely dry and



October at DRHW. Photo by Jo Patterson.

untroubled (Weather Spark 2025). Temperatures began with lingering September warmth but quickly settled into a more familiar autumn crispness; ranging from an average high of 66.1°F to an average low of 46.0°F, for a monthly mean of 56.0F (National Weather Service Detroit/Pontiac 2025b). Most days unfolded beneath clear or lightly clouded skies, with puffy cumulus and rolling stratus filling the gaps.

The first week brought a gentle pattern of winds that shifted from east to south, never gaining much strength and offering stable, quiet migration conditions. These calm starts set a relaxed tone for observers, with early hours revealing only scattered singles and small pulses. Sharp-shinned hawks and turkey vultures drifted through in modest numbers, their flight largely unhurried in the stagnant air.

The second week was decidedly better: light to gentle north and east winds held day after day, landing right in our “sweet spot” for movement. These mornings had that unmistakable feel, cool, steady, and inviting, and the birds responded. An uptick in red-tailed hawks and red-shouldered hawks accompanied the vulture surge. Sharpies, harriers, and kestrels remained active as well, with some mornings producing steady streams that threaded through the open sky.

By the third week, the winds began in the northeast but soon swung through the compass, first south and then west, producing some of the strongest breezes of the month. Gusts exceeded 40 mph (October 21st), making conditions less favorable for smaller migrants. Yet, even in these heavier winds, turkey vultures pushed through with remarkable persistence. The counts of our “early movers” began to dwindle while the late season species took the stage.

The final week continued under westerlies before ultimately returning to fresh east and north winds that carried the month to its close. These final shifts brought cooler, sharper mornings and restored a more classic late-October feel. Low-banked cumulus piled over the horizon and rough-legged hawks made their first appearances of the season.

With steady winds, mostly clear skies, and no major weather disruptions, October delivered a smooth, consistent month of migration, and one of the most memorable vulture movements the site has ever recorded. Turkey vultures defined October; their movement proved exceptional, finishing as the third-highest total on record with more than 90,000 birds. They appeared in steady sheets through much of the second and third weeks, taking full advantage of the light and moderate airflows. Many days stretched well past 4 p.m. as streams of birds continued pouring through, and the count logged long hours to keep pace. Even when smaller migrants thinned out, the vultures remained undeterred, filling the sky with sweeping kettles and long gliding lines. Their lines often extended from Canada to our treetops, offering some of the most dramatic spectacles of the season.

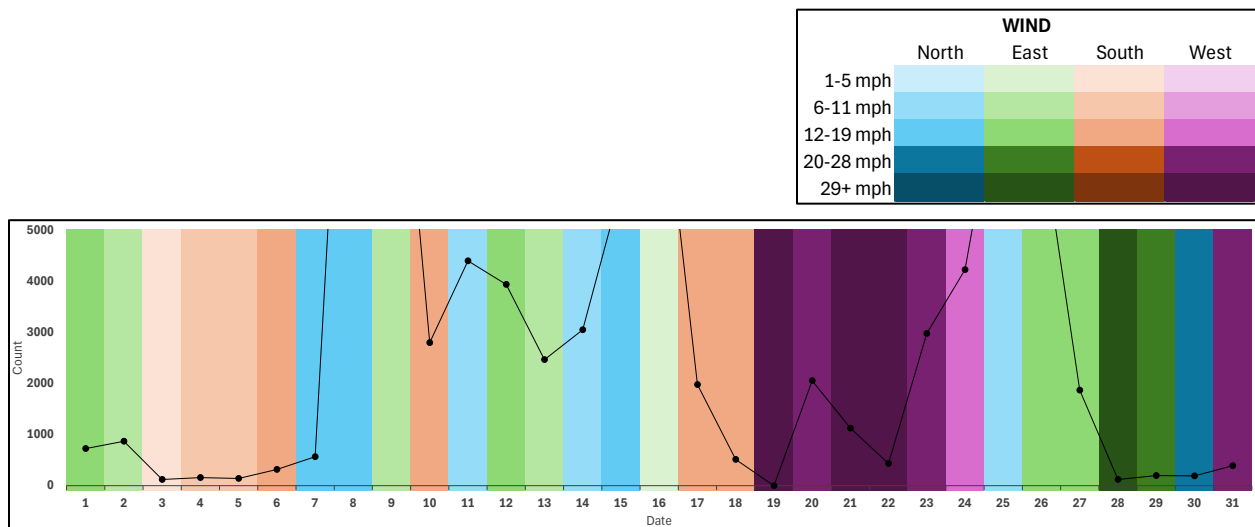


Figure 2. Daily count and prevailing wind direction and velocity for October 2025.

November

November opened with a blast of western winds, and conditions only worsened. Temperatures dropped quickly, ranging from an average maximum of 46.2°F to an average low of 28.3°F, with an overall average of 37.2°F (National Weather Service Detroit/Pontiac 2025c). Precipitation was frequent but light, totaling 0.60 inches across two days of measurable



November at DRHW. Photo by Jo Patterson.

precipitation. An additional fifteen days brought mist and haze; along with two brief periods of accumulating snow that left the ground sparkling white (Weather Spark 2025). Skies remained predominantly overcast. Even on days that began with patches of blue, cloud cover inevitably thickened by afternoon, giving the month its signature dim, muted character.

Wind was the defining challenge. The month began with strong west winds that regularly reached near-gale force, pushing hard across the river and sending spray and chop eastward. These winds arrived almost daily through the first week. As a result, the usual surge of turkey vultures, often totaling a couple thousand in the opening days, never materialized.

The second week brought a shift, but not an improvement. A cold snap settled over the region, keeping daytime highs below freezing for several days. Light snow fell on the 9th, followed by heavy overcast and raw, moisture-laden air. Northerly winds did appear briefly, but they were too strong, wet, and turbulent to produce meaningful movement; after three days, they veered back to the west.

By the third week, conditions moderated slightly. The relentless west flow weakened, and a brief stretch of east winds brought calmer mornings. However, the improvement was marginal; wind speeds remained too strong for substantial passage. A short-lived period of near-calm air arrived late in the week, but it flipped between north, east, and west with little stability. The 19th and 22nd produced our biggest flights of the month, totaling 445 and 324, respectively. These were the only days when the red-tailed hawk count broke into the hundreds—a feat much more frequently achieved in past years. In effect, the third

week represented the least turbulent weather of the month, yet it was still not quite enough to recover the numbers we were hoping for.

The fourth week opened with the strongest winds of the season, severe-gale conditions that sent November out with a literal blast. A major seiche, the largest in several years, drove Lake Erie’s water far offshore, producing 10–15 m waves and a dramatic 6-foot drop in water levels along the shoreline. The lake rocked back and forth like water sloshing in a giant bathtub, a motion that persisted for days as the winds howled across the basin. This sustained wind event, and some early season snow, resulted in two canceled days and two shortened days of counting. Over the final seven days of the 2025 season, we tallied only fifteen individuals, a forgettable end to a difficult month.

Several species recorded near-record lows. The month’s standout non-migrant was our lingering osprey, a resident bird that held on through November 8th, before finally departing as the first snow arrived. Turkey vultures remained uncharacteristically scarce all month, and late-season species such as red-tailed hawks, rough-legged hawks, red-shouldered hawks, and golden eagles appeared in far lower numbers than expected.

In total, November delivered a cold, wind-dominated, and largely unproductive stretch of the season. Between persistent overcast, repeated gales, poorly timed cold snaps, and a near-complete lack of usable northerlies, the month offered few opportunities for migration to build. It ended quietly; with the last day a blustery landscape locked in early-winter snow and daily counts reflecting one of the weakest November flights in recent memory.

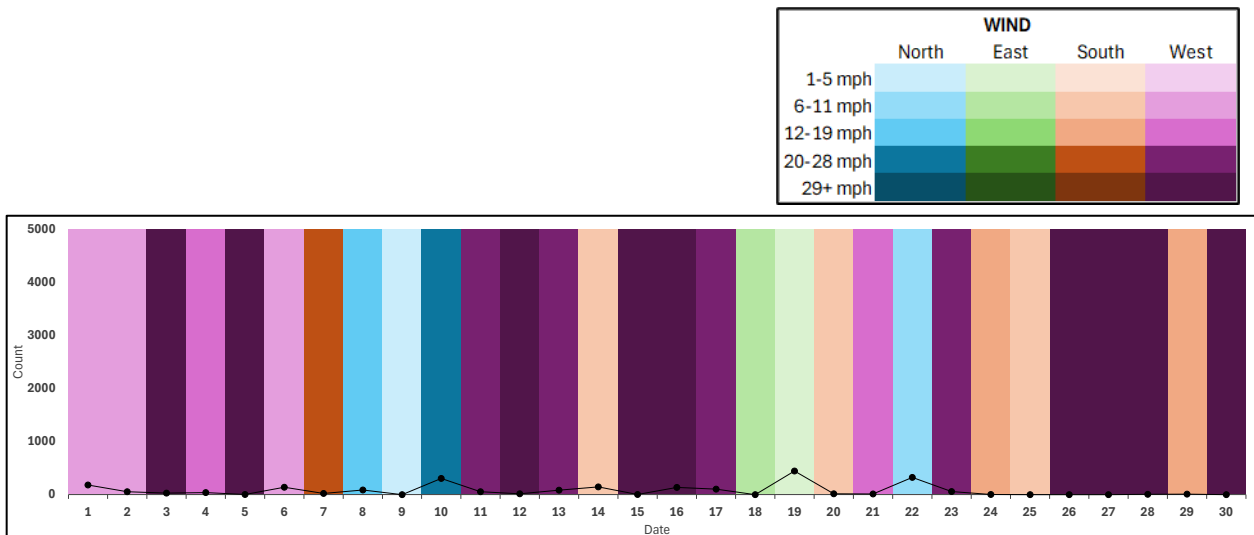


Figure 3. Daily count and prevailing wind direction and velocity for November 2025.

Totals and Species Notes

151,131 total migrating raptors were counted during the 2025 season. The final count is 19% above the LTA and 28% above the TYA. Turkey vultures had an exceptional year, ending 68% above the LTA and 42% above the TYA. Red-shouldered hawks (-54% LTA, -50%TYA), Red-tailed hawk (-53% LTA, -44%TYA), and Rough-legged hawk (-78%LTA, -63%TYA) all had a notable poor season (Appendix A).

Table 2. 2025 species total counts.

Species	Count
Turkey Vulture	90,501
Broad-winged Hawk	51,922
Sharp-shinned Hawk	4,053
Red-tailed Hawk	2,037
American Kestrel	964
Northern Harrier	519
Red-shouldered Hawk	281
Bald Eagle	187
Cooper's Hawk	75
Golden Eagle	73
Merlin	55
Peregrine Falcon	49
Osprey	29
Rough-legged Hawk	7
American Goshawk	1
Swainson's Hawk	1

Turkey Vulture

The undisputed leader once again. With 90,859 individuals, Turkey vultures made up 60% of the season's total count, notably above average for DRHW. Their steady rise over the past two decades continues, a testament to their adaptability and expanding range across the Great Lakes. Their kettles dominated the midseason skies, sometimes filling the horizon in every direction.



Photo by Andrew Sturgess.

Osprey



Photo by Andrew Sturgess.

Osprey consistently have one of the lowest species counts at our site as we are not along their main ocean-based flyway. With 29 individuals counted, our local pairs made a larger impression than the migrants. Most notably, two resident osprey were observed as late as November 8th. The locals nest in the park and are frequently seen fishing by the boat ramp.

Bald Eagle

Bald eagles are another species that have relatively low yearly counts but notable resident representatives. During the 2025 season, we counted 187 migrating Bald eagles. The antics of our resident eagles kept us entertained as they fell off buoys, went for swims, and harassed golden eagles. Resident adult and juvenile eagles are often easy to differentiate from migrating individuals as they are seen fishing and soaring aimlessly while the migrant's eyes are locked forward, flying south with purposeful wingbeats.



Photo by Andrew Sturgess.

Northern Harrier



Photo by Andrew Sturgess.

Northern harriers can be seen migrating throughout the entire three-month watch. They tend to fly low, skirting trees over Gibraltar and skimming waves on the river. We counted over 519 harriers, putting this year notably above our long-term average for the species.

Sharp-shinned Hawk

Our third highest species counted made up just 3% of the season's total. Although it can be hard to compete with the broad-wings and vultures, this fan favorite had a solid showing. The Sharp-shinned hawk is facing concerning declines across much of its range due to habitat loss and degradation, so we were happy to see 4,053 of them this season.



Photo by Andrew Sturgess.

Cooper's Hawk



Photo by Andrew Sturgess.

Another species with notable resident birds. We saw much more of the local adult pair and juvenile than we did of the migrants. Cooper's hawks have perfected living in suburban landscapes and are frequent predators at backyard feeders. This affinity to stable year-round food hotspots may be resulting in fewer Cooper's hawks needing to migrate. As such, we have recorded decreasing numbers of Cooper's at DRHW, with 75 this year being the second lowest count (52 in 2021) since consistent coverage began at LEMP.

Red-shouldered Hawk

The secretive cousin of the conspicuous red-tailed hawk begins to show up in October. Juveniles can be difficult to tell apart at times, but the translucent crescents at their wingtips and faster wingbeats often give them up. With only 281, this is the second lowest count (185 in 2008) of red-shouldered hawks since consistent coverage began at LEMP. The poor November conditions contributed to the unfortunate new record.



Photo by Andrew Sturgess.

Broad-winged Hawk



Photo by Jerry Jourdan.

Broad-winged hawks set the highest day count of the season on September 15th with 23,901 migrants. With 51,922 counted, they made up 34% of the season count. After fewer than 7 thousand in 2024, we were relieved to return to average. Good eastern winds during their narrow migration window certainly helped this season. A single juvenile bird as noted on November 10; this was the latest broad-winged hawk ever recorded at Detroit River Hawk Watch, and one of only two November records. The previous one being on November 1st 2014.

Red-tailed Hawk

Red-tails hold the fourth highest species count of 2025; but at 2,037 birds, the tails did not have a spectacular year. This species' main migration window is in November, so with our stint of blustery conditions, we came out several thousand short of our average. This year sets the second lowest count of Red-tailed hawks (2,028 in 2024) since consistent coverage began at LEMP.



Photo by Andrew Sturgess.

Rough-legged Hawk



Photo by Andrew Sturgess.

Another late migrant that is scarce even in the best of years. Three early rough-legs were tallied in October, one a dark morph. November would usually bring at least two dozen, but this year we only received four. The grand total of seven Rough-legged hawks puts 2025 well below the average for DRHW. Four was the final count in 2021 and 2022, leaving the 2025 season to take second place for the lowest Rough-leg count on record.

Golden Eagle

Golden eagles are potentially our most sought-after species. After the broad-wings leave, the attention of our visitors shifts to the goldens. We counted 73 golden eagles and we had them migrating much earlier in the season than usual. A golden eagle was counted on the 28th of September and another on the 30th. Single golden eagles have been recorded migrating in September during six previous years, but this is the first time more than one has been documented. The movement continued with almost three dozen in October, but the November conditions cut things short.



Photo by Andrew Sturgess.

American Kestrel



Photo by Mark Hainen.

Nine hundred and sixty-four American kestrel traveled past our site this year. Kestrels have been experiencing concerning declines, potentially due to habitat degradation and competition for nesting cavities by invasive species. We were pleased to see so many kestrel this year.

Merlin

A feisty little falcon, often seen harassing anything in its path as it bolts across the sky. One individual was photographed eating a dragonfly on the wing and another was observed taking a tree swallow in a puff of feathers. Merlin traveled between Sept. 4 and Nov. 20, with one notable bird taking up temporary residence in mid-November. The final count of 55 was good showing for the species.



Photo by Andrew Sturgess.

Peregrine Falcon



Photo by Andrew Sturgess.

Peregrine are the largest of our falcons and often put on an equally large show. It was not uncommon to observe them stooping on eagles or chasing ducks. We counted 49 during the 2025 season.

American Goshawk

American Goshawk are an infrequent rarity at DRHW. We photographed and counted a single migrating goshawk traveling on the outskirts of a turkey vulture kettle on October 11th.

Swainson's Hawk

Like the American goshawk, the Swainson's hawk is another infrequent rarity at our count site. A single Swainson's was observed traveling with a turkey vulture kettle on October 8th late in the afternoon.

More than Raptors

One hundred and five non-raptor species were observed at the count site during the 2025 season (Appendix C). Hundreds of swallows, including an estimated 500 purple martin, foraged by the boat ramp in September. Great blue heron and great egrets did stage in the marsh during their migration, but only several dozen were observed at a time; in past years hundreds could be seen on any given day. American white pelican put on impressive flights with a high count of nearly one thousand airborne at once. They continued to fly into November, but most had moved on by that point. All seven of the woodpecker species common in Michigan's Lower Peninsula visited the count. Ten species of warbler and three vireos were seen during their fall migration.



White-throated Sparrow. Photo by Mark Hainen.



Downy Woodpecker. Photo by Andrew Sturgess.



Blue-headed Vireo. Photo by Andrew Sturgess.



American White Pelicans. Photo by Andrew Sturgess.

Monarch Butterfly

Between September 1 and October 27, we counted 4,765 monarchs, with a peak of 971 on September 19 (Figure 4). Watching these delicate fliers hold their course in the same air currents that carry eagles never fails to humble us. Each sighting is a reminder of how migration connects the smallest and largest travelers of the continent.



Photo by Mark Hainen.



Photo by Andrew Sturgess.

Blue Jay

From mid-September to mid-October, the bright lines of Blue Jays became a daily feature over the count site, sometimes rivaling the raptors in spectacle. We tallied 125,320 blue jays in 2025, with a single day high of 11,920 on September 24 (Figure 4). Their flocks poured overhead in steady, purposeful waves, a living ribbon of motion that made even quiet raptor days feel alive with energy.

American Crow

When the marsh grew quiet and frost coated the mornings, American crows took their turn. This fall, we recorded 40,898 crows, with a daily high of 18,620 on October 26, a day when their dark masses seemed endless against the cold gray sky (Figure 4).



Photo by Andrew Sturgess.

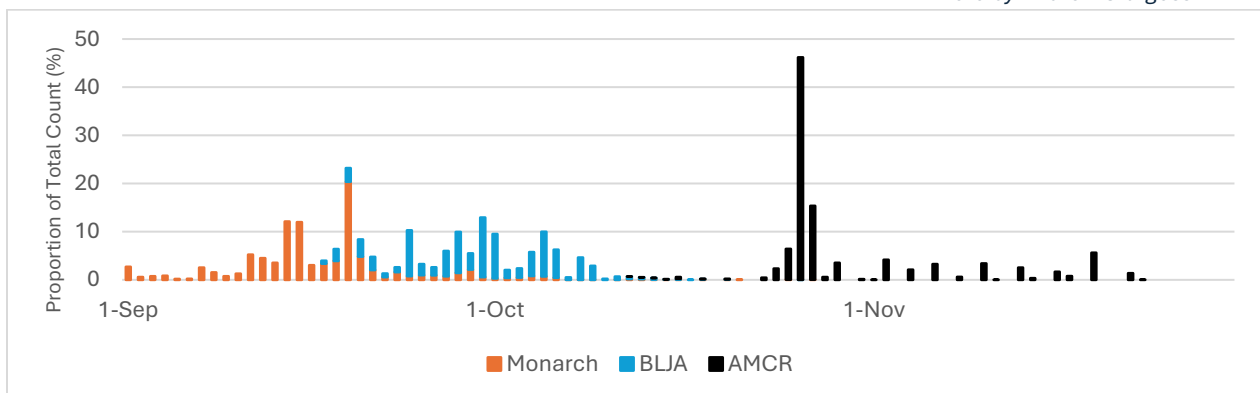


Figure 4. Distribution of Monarch Butterfly, Blue Jay, and American Crow throughout the 2025 season.

Community and Outreach

DRHW participates in outreach and community engagement in a variety of forms throughout the season to increase interest not only in the hawk watch but in raptor conservation as well. We provide those who visit the count site with pamphlets that detail information on raptor migration, species migration timelines, and hawk identification information. We teach visitors important landmarks so that they can also see the raptors when counters call out their locations.

One of our largest events, Hawk Fest, took place on September 20th and 21st at Lake Erie Metropark. 559 people visited the IWRA booth and hawk count site combined.

In addition to the ad hoc outreach all out volunteers provide at the count site throughout the year, we conducted specific outreach efforts through programming and at the count site with dedicated outreach staff and volunteers. Erika Van Kirk, Wave Reaume, and Shelly Andrews contributed 46.5 outreach hours.

Andrew Sturgess, Jerry Jourdan, and Mark Hainen contributed 217.5 hours to online community engagement through the Facebook page, posting our daily narratives and photos. The daily narratives and photographs make our site stand out in that we provide

Daily counts and narratives are submitted to three large listservs as well as posted to the Detroit River Hawk Watch Facebook Group. In the last year, the Facebook group added 799 new members for a total of 3,445! Thank you for following and supporting us.

Meet the Team

Jo Patterson was hired as this year’s contract counter after her apprenticeship in 2024. Erika Van Kirk completed her second season as the USFWS Coordinator this year. Erika has been involved with DRHW since her first apprenticeship in 2021.

The success of the Detroit River Hawk Watch itself would not be possible without the dedicated volunteers who logged 1,583.5 hours at the count site. Thanks go out to Andrew Sturgess, Don Sherwood, Bill Peregord, Michelle Peregord, Rosemary Brady, Mark Hainen, Johannes Postma, Jerry Jourdan, and Sam Heilman. Special acknowledgment is made to Andrew Sturgess, Mark Hainen, and Jerry Jourdan who provided wonderful photos and daily posts 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, Huron-Clinton Metropolitan Authority at the Lake Erie Metropark, Hawk Migration Association, and DTE Energy. Volunteers are always welcome and are invited to come out to the boat launch at Lake Erie Metropark to join in our efforts. Keep looking up!



First day of the 2025 season at DRHW. Photo by Erika Van Kirk.



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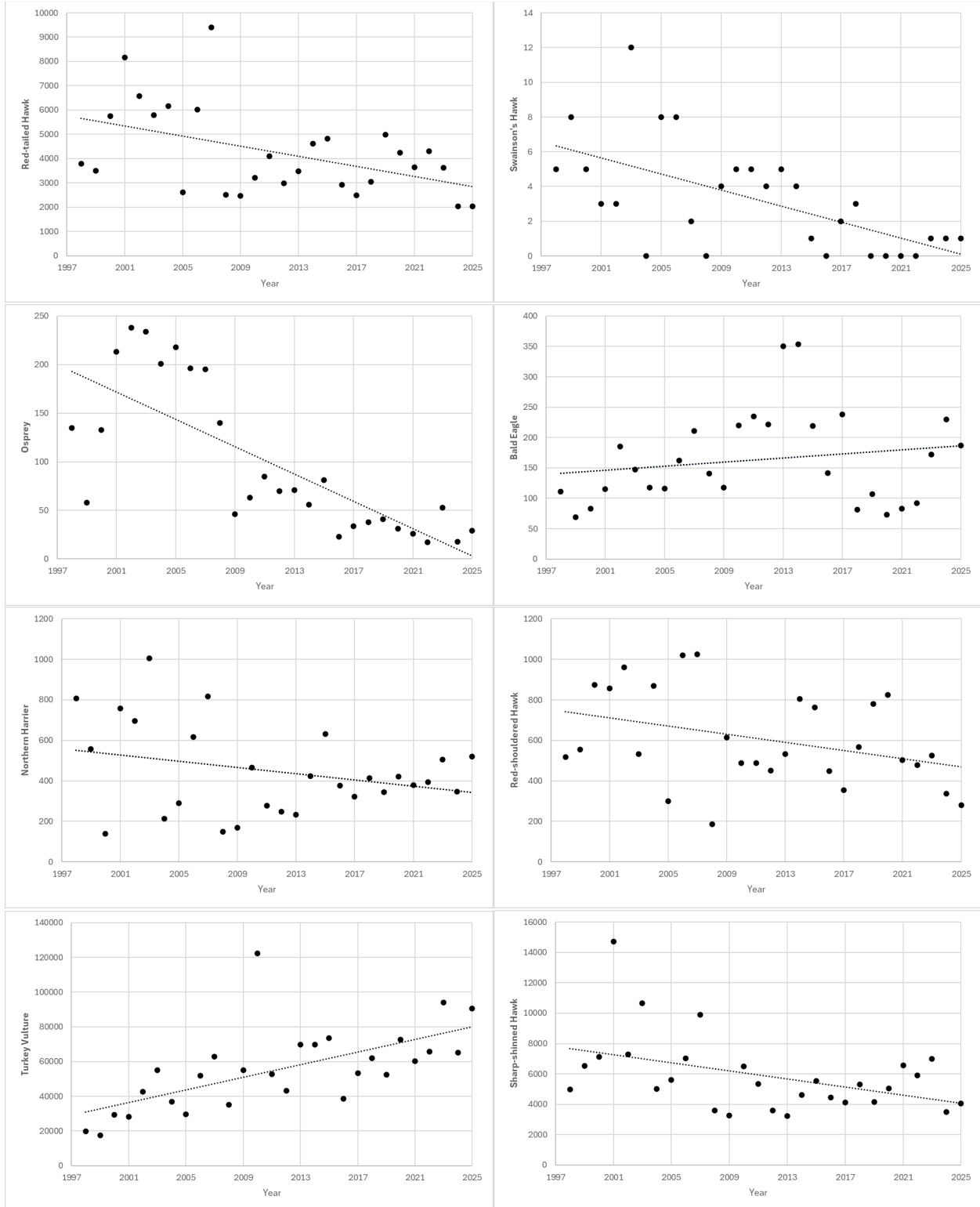
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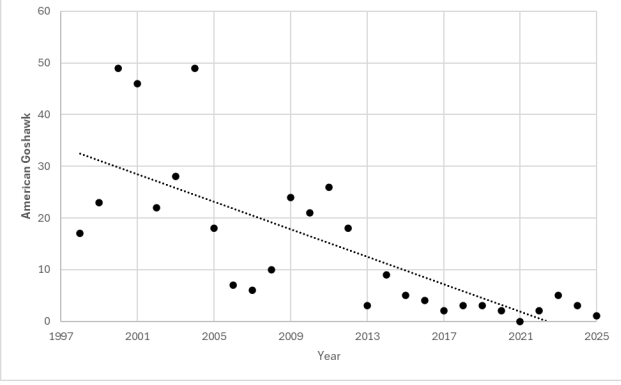
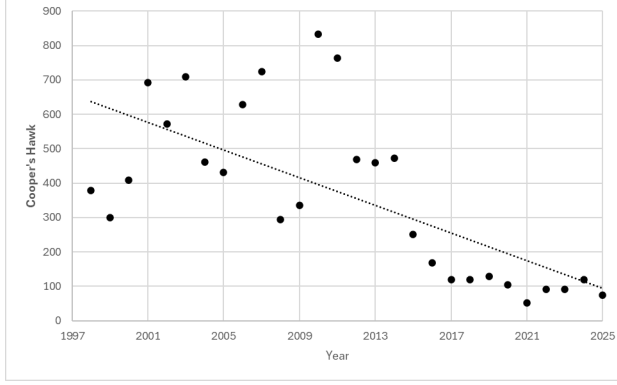
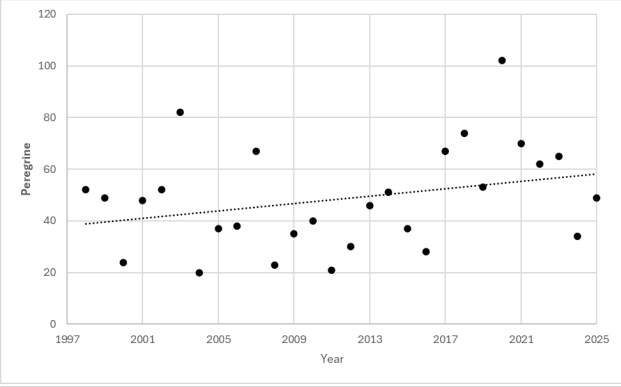
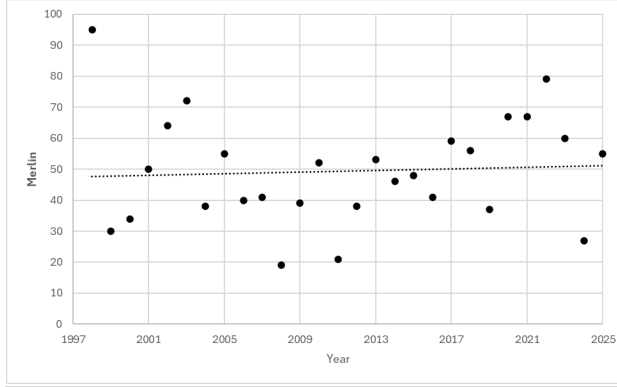
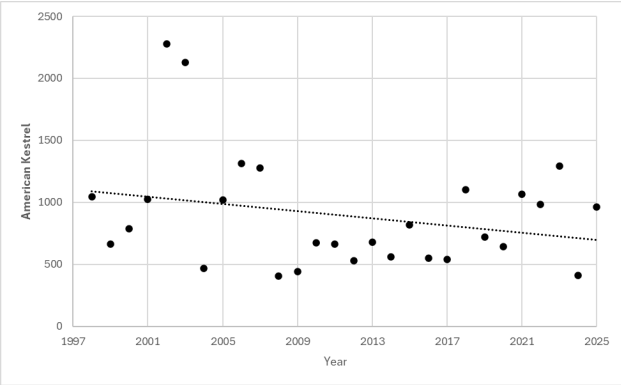
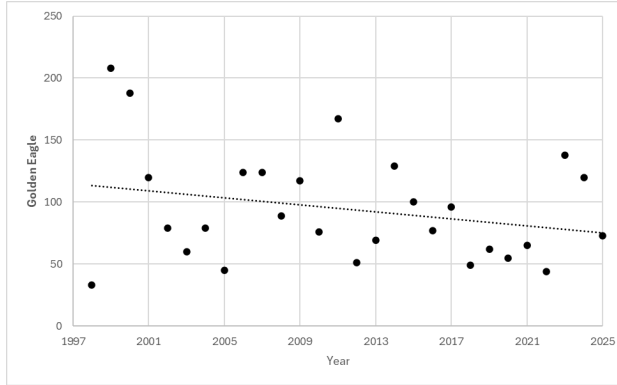
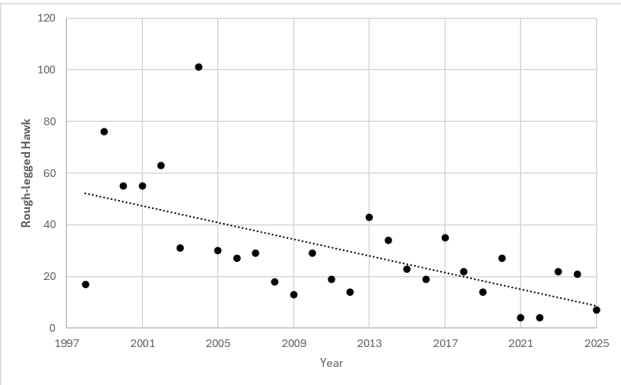
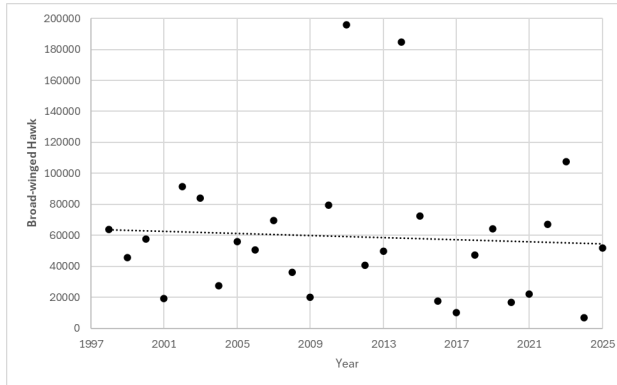
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Appendix A. Detroit River Hawk Watch species totals (1998 - 2025) and the 2025 counts' percent deviation compared to the long-term and 10-year averages.

Year	TV*	OS	BE	NH	SS	CH	AG	RS	BW	SW	RT	RL	GE	AK	ML	PG	UNK	Total
1998	19743	135	111	807	4968	378	17	517	63689	5	3782	17	33	1046	95	52	86	95481
1999	17559	58	69	556	6534	299	23	556	45711	8	3504	76	208	664	30	49	47	75951
2000	29421	133	83	138	7132	408	49	875	57585	5	5754	55	188	790	34	24	37	102711
2001	28237	213	115	757	14715	693	46	858	19386	3	8153	55	120	1026	50	48	45	74520
2002	42644	238	185	696	7307	572	22	962	91499	3	6565	63	79	2277	64	52	15	153243
2003	54975	234	147	1005	10643	709	28	533	84085	12	5789	31	60	2128	72	82	0	160533
2004	36893	201	118	214	5027	461	49	869	27381	0	6155	101	79	470	38	20	0	78076
2005	29699	218	116	291	5623	432	18	299	56229	8	2619	30	45	1018	55	37	0	96737
2006	51722	196	162	616	7013	628	7	1019	50718	8	6025	27	124	1314	40	38	0	119657
2007	62882	195	211	818	9909	724	6	1026	69574	2	9406	29	124	1275	41	67	8	156297
2008	35173	140	141	149	3593	294	10	185	36216	0	2507	18	89	404	19	23	0	78961
2009	54989	46	118	169	3259	335	24	615	20016	4	2474	13	117	441	39	35	14	82708
2010	122325	63	220	465	6504	834	21	488	79572	5	3207	29	76	675	52	40	18	214594
2011	52745	85	235	278	5331	763	26	487	195858	5	4100	19	167	664	21	21	169	260974
2012	43285	70	222	248	3590	468	18	450	40923	4	2986	14	51	531	38	30	182	93110
2013	69723	71	350	234	3230	460	3	532	49629	5	3473	43	69	681	53	46	112	128714
2014	69768	56	354	423	4627	472	9	804	184860	4	4616	34	129	563	46	51	115	266931
2015	73601	81	219	632	5540	250	5	763	72461	1	4830	23	100	816	48	37	102	159509
2016	38528	23	142	377	4456	169	4	448	17529	0	2917	19	77	551	41	28	89	65398
2017	53393	34	238	323	4116	120	2	354	10392	2	2483	35	96	538	59	67	11	72263
2018	61967	38	81	413	5324	120	3	568	47246	3	3041	22	49	1104	56	74	14	120123
2019	52438	41	107	344	4167	128	3	779	64440	0	4983	14	62	718	37	53	3	128317
2020	72585	31	73	421	5050	105	2	825	16971	0	4241	27	55	641	67	102	4	101200
2021	60098	26	83	379	6571	52	0	502	21987	0	3643	4	65	1068	67	70	1	94616
2022	65788	17	92	393	5897	91	2	479	67349	0	4299	4	44	981	79	62	0	145577
2023	94131	53	172	506	7008	91	5	525	107751	1	3618	22	138	1294	60	65	4	215444
2024	65220	18	230	348	3496	119	3	336	6785	1	2028	21	120	410	27	34	121	79317
2025	90859	29	187	519	4053	75	1	281	51922	1	2037	7	73	964	55	49	19	151131
LT Average	54057	101	163	444	5949	377	15	617	59476	3	4341	31	95	892	49	48	44	126702
LT s	42	76	48	51	43	64	98	37	77	95	42	70	47	53	36	42	126	45
LT Min	17559	17	69	138	3230	52	0	185	6785	0	2028	4	33	404	19	20	0	65398
LT Max	122325	238	354	1005	14715	834	49	1026	195858	12	9406	101	208	2277	95	102	182	266931
2025 % dev. from LTA	68	-71	15	17	-32	-80	-93	-54	-13	-70	-53	-78	-23	8	12	1	-57	19
10-Yr Average	63775	36	144	414	5163	125	3	558	43291	1	3608	19	81	812	54	59	35	118176
10-Yr s	23	53	46	22	22	43	53	31	78	129	27	50	39	36	29	37	139	39
10-Yr Min	38528	17	73	323	3496	52	0	336	6785	0	2028	4	44	410	27	28	0	65398
10-Yr Max	94131	81	238	632	7008	250	5	825	107751	3	4983	35	138	1294	79	102	121	215444
2025 % dev. from 10-Yr Average	42	-20	30	25	-21	-40	-66	-50	20	25	-44	-63	-9	19	2	-17	-46	28

Appendix B. Scatterplots with trendlines for counts by species at DRHW from 1998 to 2025.





Appendix C. Avian species, excluding raptors, that were detected at the count site between September 1 and November 30, 2025.

1. Mallard
2. Ring-billed Gull
3. Caspian Tern
4. Pied-billed Grebe
5. Great Egret
6. Belted Kingfisher
7. Northern Flicker
8. Blue Jay
9. Tree Swallow
10. American Robin
11. Wood Duck
12. Blue-winged Teal
13. Killdeer
14. Great Blue Heron
15. Canada Goose
16. Mute Swan
17. Common Gallinule
18. American Herring Gull
19. Forester's Tern
20. Common Tern
21. Double-crested Cormorant
22. American White Pelican
23. Northern Harrier
24. Downy Woodpecker
25. Red-winged Blackbird
26. Northern Cardinal
27. Mourning Dove
28. Red-bellied Woodpecker
29. Ruby-throated Hummingbird
30. Green Heron
31. White-breasted Nuthatch
32. Carolina Wren
33. Song Sparrow
34. Common Grackle
35. Cape May Warbler
36. Northern Parula
37. Yellow-rumped Warbler
38. Green-winged Teal
39. Lesser Yellowlegs
40. Greater Yellowlegs
41. Black-crowned Night Heron
42. Hairy Woodpecker
43. Eastern Wood-peewee
44. Grey Catbird
45. Brown Thrasher
46. Gray-cheeked Thrush
47. Cedar Waxwing
48. House Finch
49. American Black Duck
50. Eastern Phoebe

51. Philadelphia Vireo
52. Red-eyed Vireo
53. Black-capped Chickadee
54. European Starling
55. Swainson's Thrush
56. Magnolia Warbler
57. Blackpoll Warbler
58. Black-throated Green Warbler
59. American Goldfinch
60. American Crow
61. Northern House Wren
62. Chimney Swift
63. Brown-headed Cowbird
64. Bay-breasted Warbler
65. Pileated Woodpecker
66. American Coot
67. Eastern Bluebird
68. House Sparrow
69. Great Crested Flycatcher
70. Least Flycatcher
71. Barn Swallow
72. Blackburnian Warbler
73. Eastern Warbling Vireo
74. Gadwall
75. Black and White Warbler
76. Common Yellowthroat
77. Trumpeter Swan
78. Rock Pigeon
79. Marsh Wren
80. Sandhill Crane
81. Red-headed Woodpecker
82. Northern Rough-winged Swallow
83. Purple Martin
84. Cliff Swallow
85. Common Nighthawk
86. American Wigeon
87. Golden Crowned Kinglet
88. Winter Wren
89. Common Loon
90. Bonaparte's Gull
91. White-throated Sparrow
92. Hermit Thrush
93. Swamp Sparrow
94. Rusty Blackbird
95. Ruby-crowned Kinglet
96. White-crowned Sparrow
97. Red-breasted Nuthatch
98. Blue headed Vireo
99. Dark-eyed Junco
100. Horned Lark
101. Black-throated Blue Warbler
102. Brown Creeper
103. American Tree Sparrow
104. Tundra Swan
105. Hooded Merganser