Pennsylvania Autumn Raptor Migration Summary 2018 Laurie Goodrich

Autumn 2018 migration season was one of the rainiest on record, challenging both southbound raptor migrants and migration watchers. Most observers lamented the frequent rain and fog and reported lower hours as a result. On the bright side, when clear skies emerged, pulses of raptors were observed setting some new one-day high counts for a few sites. Both species of eagles showed impressive counts statewide and Bald Eagle counts set a new record statewide. American Kestrel statewide counts in autumn 2018 hinted at a possible rebound with encouraging one-day counts at several sites as well (see Figure 2).

Migration Summary

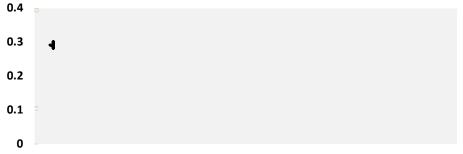
In autumn 2018, fifteen Pennsylvania watch sites counted 108,989 hawks in 7101 hours and 1065 total days, for 15.4 hawks per hour overall (Table 1). Statewide count hours were 6% below the average autumn effort of 7572 hours. Pennsylvania welcomed a new autumn site in Fayette County, the Summit Mountain watch on Chestnut Ridge. Summit Mountain was launched in spring 2018 and it is very exciting to see them join the few sites with both spring and autumn counts. We hope to learn much more about hawk movements in that region of the state.

About half the long-term sites showed increased hours despite the rain, while some had reduced hours, likely due to weather in most cases, although some may be in need of additional volunteers.

The total raptor count of 108,989 was about 12% below the 10-year average of 123,853 (Table 1, 2). Two common species were below-average: 48,652 Broad-winged Hawks were tallied, down 24% from the average of 63,768; and Red-tailed Hawk, with 9840 counted, was down 17% from 10-year average of 11,794. Eight of 16 species saw below-average counts with the largest deficits seen by Black Vulture (618 counted), 46% below the 10-year average; Northern Goshawk (109), 22% below average; and Roughlegged Hawk, of which only 6 were counted compared to an average of 9 (Table 2). Also below average were Osprey and Northern Harrier, species that have shown declines in eastern migration counts in recent years (see rpi-project.org; Table 1, 2).

Above-average counts were observed for Bald Eagle, 3156, up 31% from the 10-year average of 2416, and a new statewide record; and Turkey Vulture, 7567, up 8% from the average of 7033. Encouraging was the statewide count of 2407American

Figure 2. American Kestrels/hour for Pennsylvania sites



2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018

Kestrels, up 26% from the average of 1914 (Table 2, Figure 2). Golden Eagle was 13% above average, with 1224 tallied compared to the 10-year average of 1084.

Site Highlights

Allegheny Front (Somerset/Bedford) -Allegheny Front counters tallied 11,736 hawks in 685 hours on 103 days, recording 17.2 hawks per hour from August 15 through December 15 (Table 1, 2). Effort was slightly below average, possibly due to weather. Total raptors were 30% above the ten-year average of 8193 and the highest since 2011. Counters set a new record for Bald Eagle, 222, which was 70% above the ten-year average. The Broad-winged Hawk total was 8055, particularly notable at 46% above the ten year-average of 4356 (Table 2). Golden Eagles were slightly lower than average with 194 counted compared to the ten-year average of 205 (Table 2).

Counters tallied the season one-day peak on September 16, with 3973 Broadwings and 37 Bald Eagles among 4092 hawks recorded. October 26 brought another amazing count when 66 Golden Eagles were tallied amid intermittent showers and easterly winds. The eagle count surpassed the Red-tailed Hawk count of 55 for the day. November 4 was the best late season day with 188 Red-tails and 22 Golden Eagles tallied.

Bake Oven Knob (*Lehigh/Carbon*) – Bake Oven Knob watchers counted 12,105 hawks in 97 days and 655 hours of watching for an average of 18.5 hawks per hour. Effort and total count were slightly below the 10-year average of 781 hours and 13,410 hawks (Table 1,2); however, rainy weather thwarted many days along the ridge. Despite the weather, the Bald Eagle count of 389 was 27% above average. Other above-average species were Sharp-shinned Hawk (3479), 18% above average; Cooper's Hawk (360), 7% above average;

Table 1. Pennsylvania watchsites counting in autumn 2018

Site	Hours	Total	Raptors/Hour
Allegheny Front	684.5	11,736	17.15
Bake Oven Knob	654.8	12,105	18.49
Broadwing SEPT	4.5	34	7.56
Bucktoe Creek Preserve	8.008	8,509	10.63
Council Cup	105.0	1,801	17.24
Hawk Mountain	1031.5	18,250	17.69
Jack's Mountain	472.5	6,346	13.43
Little Gap	247.5	5.429	21.94
Militia Hill	431.9	6,212	14.38
Rocky Ridge	155.5	3,645	23.44
Rose Tree Park	394.8	3,610	9.14
Second Mountain	613.8	5,999	9.77
Stone Mountain	426.1	5,789	13.59
Summit Mountain	184.8	1,014	5.49
Waggoner's Gap	893.5	18,501	20.71
State Total	7,101	108,989	15.35

Golden Eagle (122), 22% above average; and American Kestrel (167), 12% above average. The Peregrine Falcon count of 72 was the second highest for the site.

On September 16, counters tallied the highest one-day total for Broad-winged Hawk, 1666. Northwest winds on October 12 brought the highest one-day totals for Bald Eagle, Sharp-shinned Hawk, and American Kestrels, with 34, 314, and 29, respectively (Table 3). The highest November count occurred on the 3rd with 61 Red-tailed Hawks and 8 Golden Eagles.

Broadwing SEPT (Bucks) - The Broadwing SEPT count occurred on September 19, with 4.5 hours of observation and 34 birds counted. Counters tallied 7 Bald Eagles, 13 Sharpshinned Hawks, and 13 Broad-winged Hawks along with one Cooper's Hawk.

Bucktoe Creek Preserve (Chester) -Bucktoe Creek Preserve recorded 8509 hawks in 801 hours over 90 days for aboveaverage site coverage and a rate of 10.6 hawks per hour. Overall counts were slightly below the ten-year average of 9074 hawks, but the count hours set a new site record. Broad-winged Hawk, with 3764, was 27% below-average; however, both Osprey and Bald Eagle were above average at 198 and 330, respectively. All 3 falcons were above average, with the American Kestrel count of 341 being 60% aboveaverage. The Turkey Vulture total of 1778 was also a new site record.

The highest one-day count occurred September 22 when an impressive 2547 Broad-winged Hawks flew over along with 23 kestrels and 19 Bald Eagles. An adult Mississippi Kite was recorded September 20.

Council Cup (Luzerne) - Council Cup counters tallied 1810 hawks in 105 hours over 25 days for an average of 17.3 hawks per hour. The overall count and hours were above-average compared to recent years. The Broad-winged Hawk total of 882 was more than twice the average of 345 and most other species were above average. Counts of Turkey Vultures, Sharp-shinned Hawks, and American Kestrels were higher than in the last decade (Table 2).

Similar to many other sites across the state, the highest one-day count was September 16 when 491 Broad-winged Hawks were counted along with 6 Bald Eagles and 6 kestrels. The peak one-day count of 18 kestrels was tallied October 12 following a cold front (Table 3).

Hawk Mountain (Berks/Schuylkill) Hawk Mountain counters tallied an aboveaverage count of 18,250 hawks in 1031 hours and 121 days (Table 2, 3), resulting in a rate of 17.7 hawks per hour, despite the above-average number of rain days. Count totals were above average for most species

Table 3. Peak One-day counts at watchsites in Autumn 2018

Site Name	America	n Kestrel	Golden	Eagle
	Peak Count	Date	Peak Count	Date
Allegheny Front	12	9/16, 10/8	66	10/26
Bake Oven Knob	29	10/12	30	10/21
Broadwing SEPT	-	-	-	-
Bucktoe Preserve	23	9/23, 10/12	2	11/04
Council Cup	18	10/12	1	10/25
Hawk Mountain	96	10/12	25	10/21
Jack's Mountain	10	9/29	20	10/29
Little Gap	19	9/19	11	11/03
Militia Hill	48	9/22	1	several
Rocky Ridge	46	9/18	ı	•
Rose Tree Park	25	9/16	1	11/16
Second Mountain	21	9/16	13	10/30
Stone Mountain	20	10/12	61	10/29
Summit Mountain	5	10/23	1	10/23
Waggoner's Gap	39	10/12	36	10/29

excepting Black and Turkey Vultures, Osprey, Red-tailed Hawk, Northern Harrier, and Northern Goshawk (Table 1,3).

The American Kestrel count of 427 was an encouraging 12% above-average and new records were set for Bald Eagle (552) and Merlin (247). Counts of both accipiters were higher than have been recorded in

more than six years (Table 2).

September 16 brought the highest oneday count with 3308 Broad-winged Hawks and 19 Bald Eagles. However, mid-October was the time to be at the mountain. October 12 and 13 brought back-to-back exceptional flights with a one-day peak count of 96 kestrels and 88 Cooper's Hawk on the 12th and a peak one-day count of 618 Sharpshinned Hawks and 27 Merlins on the 13th (Table 3). A one-day high of 39 Bald Eagles flew past October 17. A surprisingly early push of 25 Golden Eagles flew south October 21. Counts were lower than usual in November, dampened by frequent rain storms and fog.

Jack's Mountain (Mifflin) - Jack's counters recorded an above-average 6346 hawks over 473 hours, also above average, and 77 days of counting, for a rate of 13.4 hawks per hour. Total counts were 34% above the ten-year average and most species were above average. Exceptions were Turkey Vulture, with a count of 48, 60% below average; and only 2 Black Vultures. 90% below average. A new site record was set for Bald Eagle, 197, echoing patterns observed around the state.

A notable flight occurred September 16 when 1775 Broad-winged Hawks and 14 Bald Eagles sailed south. A one-day high count of 103 Red-tailed Hawks was recorded October 26 and a one-day high of 20 Golden Eagles passed Jack's October 29 (Table 3). As observed at other sites across the state, flights dwindled in November.

Little Gap (Northampton) - Lower than average counts were recorded at Little Gap, with the total of 5429 hawks largely due to lower coverage, 248 hours in 36 days. The average of 21.9 hawks per hour was above average but total counts for species were below previous year's counts.

On September 18, a peak one-day count of 14 Bald Eagles was recorded. The following day, the daily high count for total raptors occurred with 850 Broad-winged Hawks and 19 American Kestrels (Table 3). Sharp-shinned Hawk counts peaked on October 13 with 336 Sharp-shins among 408 total hawks. Another notable flight occurred October 21 with 160 Sharp-shins, 144 Red-tails, and 9 Golden Eagles. Eleven Golden Eagles were tallied November 3 along with 71 Red-tails (Table 3).

Militia Hill (Montgomery) – Militia Hill observers recorded a below-average total raptor count of 6212 during near-average coverage of 432 hours and 58 days, resulting in a rate of 14.4 hawks per hour. The largest deficit in numbers was seen in Broad-winged Hawks with 3489 counted, compared to a ten-year average of 10,178. Peregrine Falcon also showed a large dip from an average of 29 to 12 in 2018, 58% below average. In contrast, Black Vulture (28) was 52% above average, Osprey (308) 22% above average, and American Kestrel (314) 19% above average (Table 2).

September 22 brought the highest oneday count for the season including 1677 Broad-winged Hawks, 27 Ospreys, and 48 American Kestrels (Table 3). October 21 brought one of the highest October counts with a pulse of 156 Turkey Vultures and 59 Sharp-shinned Hawks.

Rocky Ridge Park (*York*) – Rocky Ridge counters increased their hours to 156 compared to an average of 88 in recent years and recorded 3645 hawks compared to a ten-year average of 2863. In 38 days of coverage, they tallied an impressive 23.4 hawks per hour. Most species showed above-average counts compared to recent

years, likely due to increase in hours. The Rocky Ridge Broad-winged Hawk count of 2811 was 20% above the recent ten-year average and American Kestrel counts, at 126, were nearly double the ten-year average (Table 2,3). In contrast was a below-average count of Bald Eagle, 26, compared to the ten-year average of 44.

The one-day peak count of Broadwings, 988, was on September 16, along with 11 Ospreys. Peak Sharp-shinned Hawk and American Kestrel numbers passed the site October 12 with 45 and 10, respectively (Table 3). Five days were covered in November, tallying 21 raptors including 12 Red-tails. We look forward to seeing reports online from this southern Pennsylvania site in coming years.

Rose Tree Park (*Delaware*) – Rose Tree counters recorded 3610 hawks on 73 days and 395 hours of coverage between September 1 and November 18, a rate of 9.14 hawks per hour (Table 1, 2). Hours were below average, likely due to persistent rain days. Total raptors were 37% below the ten-year average of 5853 hawks. Rose Tree tallied below-average counts for all species except one, the American Kestrel, for which the total of 184 was 16% above the ten-year average of 159. The Bald Eagle count of 119 was near the average of 123 eagles per year.

September 16 brought a one-day peak count of kestrels, with 25 gliding past along with 2 Merlins and 18 Bald Eagles (Table 3). The peak one-day count for total raptors occurred September 22 when 1228 Broadwinged Hawks soared past along with 10 American Kestrels, 7 Ospreys, 7 Bald Eagles, 16 Sharp-shinned Hawks, and a lone Peregrine Falcon among the total of 1272 hawks for the day. October 18 brought the highest one-day count for mid-season with 53 Turkey Vultures and 49 Sharpshinned Hawks along with 9 kestrels. This southeastern Pennsylvania site's one Golden Eagle, an immature, was sighted November 16 (Table 2, 3). On the last day of the season. November 18, the lone Northern Goshawk of the season was recorded.

Second Mountain (Lebanon) - Second Mountain tallied a below-average 5999 raptors in 614 hours and 96 days of counts, for a rate for 9.77 hawks per hour of effort (Table 1). The total count is the lowest tally on record for the site, likely affected by damp weather patterns that plagued most of Pennsylvania's sites in autumn 2018. Despite lower than average counts for some more numerous species in 2018, e.g., Broad-winged Hawk, Sharp-shinned Hawk, and Red-tailed Hawk, Second Mountain counters tallied a surprising above-average tally for late season rarities including Northern Goshawk (22), 37% higher than average and Golden Eagle (104), up 17%. The Bald Eagle count (229) also was up, 18% over average, as was Cooper's Hawk (234) up 9% (Table 1, 2). All 3 falcons were above-average, with, notably, 135 American Kestrels counted as compared to the average of 103, up 31% (Table 2, 3).

The highest one-day count for the site occurred on September 22, with 891 Broadwinged Hawks, 39 Sharp-shinned Hawks, 3 Ospreys, and 2 Peregrine Falcons counted among 941 total raptors. Counters tallied the peak flight for Sharp-shins, 311, on October 10, along with 22 Cooper's Hawks, 2 goshawks, and a total raptor tally of 370 hawks. The peak kestrel count, 21, arrived early, on September 16, along with 14 Bald Eagles and 348 Broad-wings (Table 3). The peak Golden Eagle count, 13, sailed past October 30 (Table 3).

Stone Mountain (Huntington/Mifflin) -The total raptor count at Stone Mountain, 5789, was 35% higher than average with a record high 218 Golden Eagles and nearrecord counts of 158 Bald Eagles and 3027 Broad-winged Hawks (Table 1, 3). Hours of effort, 426 in 78 days, were slightly above the ten-year average and the 13.6 birds per hour were above the recent average of 10.6 birds per hour. Other above-average counts included Black Vulture, 42; Bald Eagle, 158; Northern Harrier, 54; Sharp-shinned Hawk, 892: Red-shouldered Hawk, 70: Red-tailed Hawk, 700; American Kestrel, 102; Merlin, 36; and Peregrine Falcon, 26. The Cooper's Hawk total of 99 was 10% below the average of 114, and the tally of 4 Northern Goshawks was 33% below the average of 6 (Table 3).

Stone Mountain recorded 3 days of more than 500 Broad-winged Hawks in September with the highest one-day count. 637, on September 20 and the secondhighest, 571, on September 27. One of the best October days occurred on the 12th with 292 hawks of 14 species including the oneday high counts of 20 American Kestrels, 188 Sharp-shinned Hawks, and 4 Peregrine Falcons (Table 3). One of the most exciting days occurred in late October when, on October 29, 61 Golden Eagles soared overhead among the 119 total raptors. setting a new one-day record (Table 3). The next day another 20 Golden Eagles were sighted, making the two-day tally greater than the total seasonal count at many sites (Table 2.3). Another 25 Golden Eagles were recorded November 3 along with 101 Redtails and 9 Bald Eagles. The last four goldens for the season were sighted December 8, establishing the new season record of 218 Golden Eagles.

Summit Mountain (Fayette) – Pennsylvania's newest watch site, Summit Mountain, counted 1104 hawks in 185 hours and 34 days of coverage between September 1 and November 23, a rate of 5.5 hawks per hour. The most numerous raptors were Turkey Vulture, 308, Broad-winged

Hawk, 265, and Red-tailed Hawk, 217 (Table 1.3).

The highest one-day count for the site occurred September 22 with 98 Broadwinged Hawks dominating the 110 raptors for the day. Summit Mountain recorded its highest one-day count for October on the 23rd, with the one-day peak of American Kestrels, 5, and Golden Eagle, one, along with 27 Red-tails and 18 Sharp-shinned Hawks (Table 2, 3). The highest one-day count in November was early in the month, on the 3rd, when 53 Turkey Vultures, 5 Red-tails, one kestrel, and one Northern Harrier were tallied. Rarities included one Northern Goshawk and 4 Peregrine Falcons. We hope to see more counts from this site in the coming years.

Waggoner's Gap (Cumberland) Waggoner's Gap counters tallied 18,501 hawks in 894 hours and 129 days of coverage. Total raptors were 16% below the ten-year average of 22,257 hawks per autumn season. Hours were much reduced from the ten-year average of 1073 hours, principally due to the persistent rain and fog. Above-average counts were recorded for Bald Eagle, 571, and Golden Eagle, 251 (Table 3), despite the weather. The largest dip in counts was seen for Broad-winged Hawks, with 4653 counted compared to an average of 8053, 42% below average. The Osprey count, 260, was 30% below the average of 357 during the past ten years (Table 3).

Waggoner's Gap recorded its peak counts of Broad-wings of 897 on September 16 and 847 on September 18. October 12 and 13 brought amazing back-to-back accipiter flights including 782 Sharpshinned Hawks on the 12th along with 67 Cooper's Hawks, 32 Bald Eagles, and a season one-day peak one-day of 39 American Kestrels. The following day, 731 Sharp-shins and 44 Cooper's Hawks sailed past along with 13 more kestrels. October 29 and 30 were highlighted by a notable push of Golden Eagles, with 36 and 27, respectively (Table 3). November can be an eagle month, and November 3 brought the highest eagle counts of the month, with 28 Bald and 11 Golden Eagles sighted. However, counts at Waggoner's were less than average for November overall, similar to many sites across the state.

Conclusions

The 2018 autumn was one of the wettest on record and the weather greatly influenced counts at watch sites across the state, particularly in late season. Reduced coverage and counts were observed; however, when weather did clear, some exciting migrant pulses brought amazing days and high counts for some sites. Central Pennsylvania sites enjoyed upswings in Broad-winged Hawk counts, possibly a result of some birds moving more westerly

than usual. One encouraging highlight of the 2018 autumn was the statewide combined uptick in American Kestrel counts (Table 3, Figure 2). We hope the increase in kestrels in 2018 marks a further rebound in both nesting and migrating numbers. Golden Eagles had surprisingly high counts at mid-state sites in October, earlier than one might have predicted. Less surprising, but just as welcome, was the new statewide record for Bald Eagle, tracking the continued increase in populations. Last year's dip in Osprey and Northern Harrier numbers was not abated in 2018 and bears further attention.

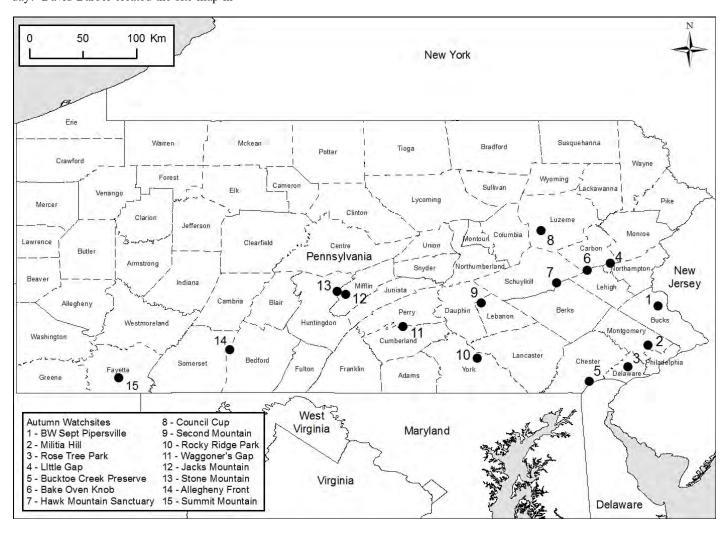
Acknowledgements

Thank you to the watch site compilers for providing insight and access to data, Bob Stewart, Greg Grove, Bob Hoopes, Dan Kunkle, Kirk Moulton, Larry Lewis, Donald Kapral, Darrell Smith, Michael Schall, Andy Fayer, Lynn Jackson, Rich Conroy, Randy Phillips, Holly Merker, Janet Crawford, David Schwenk, Peter Levengood, and Dave Grove. Thank you also to the many autumn hawkwatchers statewide who volunteer and ensure an impressive 15 sites are covered day after day. David Barber created the site map in

2018 and autumn data were accessed from www.hawkcount.org (accessed January 2019), a site managed by Jason Sodergren, HMANA database manager and Hawk Migration Association of North America. Assistance with table preparation provided by Katerina Ramos, Hawk Mountain volunteer. This article is Hawk Mountain Conservation Science Contribution 311.

Acopian Ctr for Conservation Learning Hawk Mountain Sanctuary Association 410 Summer Valley Road Orwigsburg, Pennsylvania 17961

Goodrich@Hawkmountain.org



compiler
) - Bob Stewart,
(Bedford/Somerset)
EGHENY FRONT (

Month	Days	Hours	BLVU	TUVU	OSPR	BAEA	NOHA	SSHA	COHA	NOGO	RSHA	BWHA	RTHA	RLHA	GOEA	AMKE	MERL	PEFA	SWHA	Onid	Total
August	16	126.3	2	1	10	14	1	2	2	0	0	118	40	0	0	4	1	0	0	2	200
September	25	175.5	14	11	69	168	13	230	27	0	2	7917	230	0	1	33	17	17	0	20	8792
October	29	206.5	8	414	8	32	16	006	82	1	10	20	201	0	122	34	6	10	0	48	2227
November	22	133.3	0	40	0	8	9	48	18	3	10	0	296	0	71	4	1	3	0	2	513
December	11	43.0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	1	0	0	0	4
Total	103	684.5	24	466	11	222	37	1181	144	4	22	8022	1068	0	194	22	53	30	0	105	11736
Total per hr			0.04	0.68	0.11	0.32	0.05	1.73	0.21	0.01	0.04	11.77	1.56	0.00	0.28	0.11	0.04	0.04	0.00	0.15	17.15
% of flight			0.2	4.0	0.7	1.9	0.3	10.1	1.2	0.0	0.2	9.89	9.1	0.0	1.7	9.0	0.2	0.3	0.0	6.0	100.0
Average last 10 yrs	116.0	0.687	35.1	431.0	88.1	130.6	42.6	1098.4	162.0	8.9	46.4	4355.7	1361.0	1.5	205.4	28.7	28.8	28.6	0.1	112.2	8193.2

BAKE OVEN KNOB (<i>Lehigh</i>) - Bob Hoopes, Dan Kunkle, co-compilers	(Lehigh)	- Bob F	loopes,	Dan Kun	kle, co-	compile	s														
Month	Days	Hours	BLVU	TUVU	OSPR	BAEA	NOHA	SSHA	СОНА	OSON	RSHA	BWHA	RTHA	RLHA	GOEA /	AMKE	MERL	PEFA (SWHA	Unid	Total
August	17	119.8	51	173	33	40	3	2	2	0	2	151	64	0	0	11	1	1	0	89	809
September	27	195.3	22	264	253	135	15	289	28	0	10	4058	28	0	1	64	27	38	0	111	5833
October	28	206.3	09	332	48	165	49	2734	248	13	80	72	288	0	94	6	43	53	0	22	4903
November	25	133.5	34	06	1	49	15	103	20	2	45	0	351	0	27	0	7	4	0	13	761
Total	26	654.8	200	829	335	389	82	3479	360	15	137	4281	1282	0	122	167	28	72	0	247	12105
Total per hr			0.31	1.31	0.51	0.59	0.13	5.31	0.55	0.02	0.21	6.54	1.96	0.00	0.19	0.26	0.12	0.11	0.00	0.38	18.49
% of flight			1.7	7.1	2.8	3.2	0.7	28.7	3.0	0.1	1.1	35.4	10.6	0.0	1.0	1.4	9.0	9.0	0.0	2.0	100.0
Average last 10 yrs	103.0	781.5	285.5	956.2	350.8	284.8	87.3	2948.0	255.1	23.0	120.0	5847.0	1570.8	0.1	8.66	148.5	88.7	53.9	0.0	270.0	13409.5

Broadwing SEPT- Pipersville

DI GAUWIIIIG OEL I- L'IDEI SVIIIE	i bei svii	פ																			
Month	Days	Hours	BLVU	TUVU	OSPR	BAEA	NOHA	SSHA	COHA	NOGO	RSHA	BWHA	RTHA	RLHA	GOEA	AMKE	MERL	PEFA	SWHA	Unid	Total
September	1	4.5	0	0	0	7	0	13	1	0	0	13	0	0	0	0	0	0	0	0	8
Total	1	4.5	0	0	0	7	0	13	1	0	0	13	0	0	0	0	0	0	0	0	32
Total per hr			00:00	0.00	0.00	1.56	0.00	2.89	0.22	0.00	0.00	2.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.56
% of flight			0.0	0.0	0.0	20.6	0.0	38.2	2.9	0.0	0.0	38.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
																					Ī

BUCKTOE CREEK PRESERVE(Chester) - Larry Lewis, compiler	PRESER	VE(Chest	ter) - La	rry Lew	is, comp	iler															
Month	Days	Hours	BLVU	TUV	OSPR	BAEA	NOHA	SSHA	COHA	NOGO	RSHA	BWHA	RTHA	RLHA	GOEA	AMKE	MERL	PEFA (SWHA	Unid	Total
August	6	0.48	0	0	1	2	0	0	1	0	0	0	0	0	0	1	0	0	0	0	2
September	30	267.5	0	0	169	110	4	203	63	0	17	3659	2	0	0	133	12	9	0	1	4409
October	31	266.8	0	975	28	154	19	909	261	0	99	105	165	0	2	196	22	2	0	2	2603
November	29	182.5	0	803	0	64	10	168	25	_	126	0	248	0	2	11	7	0	0	0	1492
Total	06	8008	0.0	1778.0	198.0	330.0	33.0	0.776	407.0	1.0	209.0	3764.0	415.0	0.0	4.0	341.0	41.0	8.0	0.0	3.0	8509.0
Total per hr			0.00	2.22	0.25	0.41	0.04	1.22	0.51	0.00	0.26	4.70	0.52	0.00	0.00	0.43	0.05	0.01	0.00	0.00	10.63
% of flight			0.0	20.9	2.3	3.9	0.4	11.5	4.8	0.0	2.5	44.2	4.9	0.0	0.0	4.0	0.5	0.1	0.0	0.0	100.0
Average of last 3 yrs	90.7	717.8	0.0	1033.7	149.7	317.7	41.7	7.766	351.0	0.7	232.7	5197.0	489.0	0.0	6.3	212.3	9.7	7.3	0.0	6.3	9073.7
* NOO/OC/O as still indicated the property of the second states of the s	inni Vito or	0/00/00/0																			

*Including adult Mississippi Kite on 9/20/2018

COUNCIL CUP (Luzerne) - Donald Kapral, compiler

	, chi	2	בי	2	ב כ	1		100	5	2	<u>כ</u>	200			200		MERL		Z	2	0.0
September	6	41.0	4	0	7	12	0	40	1	0	0	882	0	0	0	16	0	0	0	7	696
October	10	40.0	1	286	2	98	4	110	12	0	4	0	193	0	1	31	3	0	0	8	694
ovember	9	24.0	0	42	0	8	9	14	0	0	1	0	74	0	0	0	0	0	0	2	147
otal	25	105.0	5	328	12	26	10	164	13	0	2	882	267	0	1	47	3	0	0	17	1,810
otal per hr			0.05	3.12	0.11	0.53	0.10	1.56	0.12	0.00	0.05	8.40	2.54	0.00	0.01	0.45	0.03	0.00	0.00	0.16	17.24
of flight			0.3	18.1	0.7	3.1	9.0	9.1	0.7	0.0	0.3	48.7	14.8	0.0	0.1	2.6	0.2	0.0	0.0	6.0	100.0
werage for 10 yrs	17.3	81.3	1.3	122.6	12.6	32.1	6.4	92.8	8.4	0.0	1.0	345.5	177.2	0.0	0.7	23.5	0.4	0.8	0.0	10.1	836.5

¥
ł۵W
₹
×
ᅃ
Ž
ГА
₽ N
IK MOUNTAIN (Berks and Schuylkii
ŀеr
rks
a
nd
S
chi
uy.
lki
_
•
La
ur
) - Laurie Go
G
oodrich,
dri
ch
١, ٥
, com
ηp
ıpiler
Ŧ

HAWK MOUNTAIN (Berks and Schuylkill) - Laurie Goodrich, compiler	(Berks ar	nd Schuj	/kill) -	Laurie 0	300drich	, compi	er														
Month	Days	Hours	BLVU	UVUT	OSPR	BAEA	Ă	SSHA	COHA NOGO	NOGO	RSHA BWHA	BWHA	RTHA	RLHA	GOEA	AMKE N	MERL	PEFA SWHA	AHWS	Unid	Total
August	17	158.1	0	0	37	55	10	15	7	0	0	235	36	0	0	21	6	0	0	6	428
September	27	265.2	0	41	240	124	32	645	71	0	12	7687	43	0	0	143	67	21	0	32	9158
October	31	282.3	17	453	60	208	22	4298	469	5	106	44	892	0	97	263	157	36	0	70	7239
November	30	222.6	40	53	1	142	23	164	46	13	83	0	662	2	43	0	17	4	0	5	1298
December/January	16	103.3	15	3	0	23	1	3	5	1	6	0	64	0	5	0	0	0	0	1	127
Total	121	1031.5	72	550	338	552	130	5125	598	19	207	7966	1697	2	145	427	247	61	0	114	18250
Total per hr			0.07	0.53	0.33	0.54	0.13	4.97	0.58	0.02	0.20	7.72	1.65	0.00	0.14	0.41	0.24	0.06	0.00	0.11	17.69
% of flight			0.4	3.0	1.9	3.0	0.7	28.1	3.3	0.1	1.1	43.6	9.3	0.0	0.8	2.3	1.4	0.3	0.0	0.6	100.0
Average last 10 yrs	124.5	1029.8	128.7	583.7	439.1	367.3	150.2	4314.0	537.9	30.8	167.0	7789.7	2030.9	1.4	131.8	379.8	170.4	59.7	0.3	173.2	17717.6

JACK'S MOUNTAIN (Mifflin) - Darrell Smith, compiler

Average last 10 yrs	% of flight	Total per hr	Total	December	November	October	September	Month	
67.2			77	2	17	28	30	Days	
385.0			472.5	10.0	109.8	198.5	154.3	Hours	
27.1	0.0	0.00	2	2	0	0	0	BLVU	
122.8	0.8	0.10	48	0	0	48	0	UVU	
59.9	1.6	0.21	100	0	0	10	90	OSPR	
93.0	3.1	0.42	197	6	27	61	103	BAEA	
35.2	0.9	0.12	59	0	15	37	7	NOHA	
627.2	15.5	2.09	986	0	41	809	136	SSHA	
73.8	2.2	0.29	139	0	4	91	44	COHA	
2.6	0.1	0.01	7	0	2	3	2	NOGO	
15.8	0.2	0.03	14	0	6	7	1	RSHA	
3039.0	58.3	7.83	3702	0	0	26	3676	BWHA	
469.8	13.0	1.74	823	6	248	494	75	RTHA	
0.3	0.0	0.00	0	0	0	0	0	RLHA	
76.3	2.2	0.29	137	3	44	87	3	GOEA	
50.7	1.3	0.17	82	0	1	50	31	AMKE	
13.2	0.3	0.04	21	0	0	16	5	MERL	
13.1	0.3	0.04	17	0	0	12	5	PEFA	
0.0	0.0	0.00	0	0	0	0	0	SWHA	
13.8	0.2	0.03	12	0	1	7	4	Unid	
4732.0	100.0	13.43	6346	17	389	1758	4182	Total	

LITTLE GAP (Northampton) - Michael Schall, compiler

Average last 10 yrs	% of flight	Total per hr	Total	November	October	September	August	Month	ELLIE ON (No diamport) - Michael Ochail, compiler
84.2			3					Days	or crampto
			36 2	5	17 1	13	1		//) - IVI
551.7			247.5	36.5	121.8	83.8	5.5	Hours	Cliaci
81.0	0.0	0.00	0	0	0	0	0	BLVU	Oction
427.2	1.6	0.35	87	6	81	0	0	TUVU	ו, כטווטו
290.0	1.7	0.37	91	0	13	77	1	OSPR	101
229.9	3.0	0.65	161	39	67	50	5	OSPR BAEA NOHA	
86.8	0.8	0.18	44	6	32	6	0	NOHA	
2859.0	37.6	8.24	2039	73	1646	319	1	SSHA	
309.1	3.8	0.83	205	14	145	46	0	COHA	
17.7	0.1	0.03	8	1	7	0	0	SSHA COHA NOGO RSHA BWHA	
88.5	0.8	0.18	44	10	31	3	0	RSHA	
6800.0	33.7	7.39	1829	0	1	1827	1	BWHA	
1427.8	12.3	2.69	666	151	495	20	0	RTHA	
0.7	0.0	0.00	0	0	0	0	0	RLHA	
75.9	0.8	0.17	41	13	28	0	0	GOEA	
167.0	1.8	0.40	98	0	33	65	0	AMKE	
93.2	1.0	0.21	52	6	32	14	0	MERL	
40.0	0.3	0.07	18	1	10	7	0	PEFA	
0.0	0.0	0.00	0	0	0	0	0	SWHA	
89.9	0.8	0.19	46	4	20	20	2	Unid	
13084.1	100.0	21.94	5429	324	2641	2454	10	Total	

MILITIA HILL (Montgomery) - Andy Fayer, Lynne Jackson, Rich Conroy, co-compilers

																		/2018	n 09/01,	lississippi Kite on 09/01/2018	*Including Mississip
130	62.6	0.4	28.8	37.7	263.4	3.5	0.3	99.3	10178.2	63.2	1.4	133.9	998.8	67.0	113.0	251.0	719.6	18.8	447.3	60.1	Average last 10 yrs
10	1.0	0.0	0.2	0.8	5.1	0.1	0.0	1.4	56.2	1.0	0.0	2.1	13.9	0.7	2.0	5.0	10.3	0.5			% of flight
14	0.15	0.00	0.03	0.11	0.73	0.01	0.00	0.20	8.08	0.14	0.00	0.30	2.00	0.10	0.29	0.71	1.47	0.06			Total per hr
6	ස	0	12	47	314	5	0	86	3489	60	1	129	865	42	125	308	637	28	431.9	58	Total
1756	39	0	7	26	115	5	0	85	47	56	1	63	551	22	42	32	637	28	234.7	31	October
4	24	0	5	21	199	0	0	1	. 3442	4	0	66	314	20	83	276	0	0	197.3	27	September
*Тс	Unid	SWHA	PEFA SWHA	MERL	AMKE	GOEA	RLHA	RTHA	RSHA BWHA	RSHA	NOGO	COHA	SSHA	NOHA	BAEA	OSPR	TUVU	BLVU	Hours	Days	Month

ROCKY RIDGE (York) - Randy Phillips, compiler

Month	Days	Hours	BLVU	UVU	OSPR	BAEA	NOHA	SSHA	COHA NOGO	NOGO	RSHA	BWHA	RTHA	RLHA	GOEA	AMKE	MERL	PEFA SWHA	SWHA	Unid	Total
August	3	4.8	0	0	2	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	4
September	13	74.8	0	0	45	17	12	217	6	0	3	2797	2	0	0	100	0	2	0	6	3208
October	17	68.3	8	59	5	7	9	211	17	0	9	14	30	0	0	26	7	3	0	7	412
November	5	7.8	0	3	0	1	1	2	1	0	0	0	12	0	0	0	0	0	0	1	21
Total	38	155.5	8	62	52	26	22	430	25	0	12	2811	44	0	0	126	7	5	0	14	3645
Total per hr			0.05	0.40	0.33	0.17	0.14	2.77	0.16	0.00	0.08	18.08	0.28	0.00	0.00	0.81	0.05	0.03	0.00	0.09	23.44
% of flight			0.2	1.7	1.4	0.7	0.6	11.8	0.7	0.0	0.3	77.1	1.2	0.0	0.0	3.5	0.2	0.1	0.0	0.4	100.0
Average last 10 yrs	13.7	88.1	2.0	24.2	33.0	44.2	10.2	291.4	10.0	0.0	3.0	2347.2	15.2	0.0	0.3	64.8	3.0	2.0	0.0	4.8	2863.4

^{*}Including Mississippi Kite on 9/16/2018

19 10 10 10 10 10 10 10	132 22 31 24 456	0 0 117 70 11 173 39 0 132 22 31 24 456 68	117 70 11 173 39 22 31 24 456 68	70 11 173 39 31 24 456 68	70 11 173 39 31 24 456 68	11 173 39 24 456 68	S 8 8	S 8 8	0	00	6 52	1822 50	28 2 82		S O O	AWK E 106	MEKL 6 15	PEFA 4 t	0 0 0	15 26 26	2371 992
Section Sect	15			69	0	18	3	27		1	71	0	31	0	1	1	1	0	0	10	247
United Complete United Com	~			201	139	119		929		- 00	129	1872	61	0	-	184	22	15	0	51	3610
12 12 12 12 12 12 13 14 12 13 14 12 13 14 12 14 12 14 12 14 14	- 1		00:00	0.0	30	0.30		18.0	٦	0.00	0.33 3.6	4./4	0.15	0.00	00:00	7 4.7	0.00	4 5	0.00	0.12	1000
Copper BACA NOTA SSHA COLA NOCO RSHA BWHA RTHA RTHA	31.		37.8	487.3		122.8	90	915.7		0.9	162.0	3250.4	255.0	0.2	2.8	158.8	28.0	17.3	0.2	47.8	5853.7
OSPR BAEA I NO-NA SSPIA CO-NA NOCO SSPIA PARIA RTHA RIPA RIPA GOEA AMKE MERL PEFA SWIAD Uniq 0	pa	non) - Da	ivid Sch	wenk, c	ompiler																
Column C	Jays	s Hours	BLVU	TUVU	OSPR		NOH	SSHA	сона	NOGO		ВМНА					MERL		SWHA	Unid	Total
Column C	ĺ			0	7	4	0	1	1	0	1	28	9	0		0	0	0	0	0	4
Columbia Columbia	2.			0	69	69	14	231	32	0	6	1990	26	0	0	62	14	6	0	6	2567
Columbia Columbia	8			245	22	35	37	1686	185	12	43	25	230	0	22	20	56	24	0	13	285
Columbia Columbia	ζĺ			53	0	45	10	55	13	0 4	27	0	133	က	43	က	7	7 0	0	e 4	447
Digital Color Colo	- o			306	8	220	7	1974	234	- 66	2	2043	0 443	0 6	104	135	43	%) c	- %	2000
1.6 3.8 1.1 32.9 3.9 0.4 1.3 34.1 7.4 0.1 1.7 2.3 0.7 0.6 0.0 0.4 194.7 194.4 83.2 1994.5 215.0 16.1 10.2 4503.4 771 2.9 8.9 103.4 25.1 0.7 0.6 0.0 0.4 194.7 194.4 83.2 1994.5 215.0 16.1 10.2 8.9 10.3 4.9 4.9 4.9 4.9 4.9 4.9 4.9 194.8 1.1 2.2 1.9 1.9 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 194.8 2.3 2.9 2.9 4.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 195.8 2.3	9			0.50	0.16	0.37		3.22	0.38	0.04	0 13	3 33	0.72	000	0.17	0.22	0.07	900	000	20.0	7 6
Tay Tay	I		2.7	5.1	16	38		32.9	3.9	0.4	13	24.1	7.4	0	17	2.3	0.7	90	00	0.4	100.0
OSPRIA BARIA INTEGRALIA INTEGR	26.5	5 841.1	340.1	664.4	12	194.4	83.2	1994.5	215.0	16.1	102.8	4503.4	791	2	88.9	103.4	35.4	25.1	0.1	49.7	9334.5
OSPRI BAEA NOHA SSHA COHA NOGO RSHA BWHA RTHA RTHA FILM GOEA AMKE MERL PEFA SWHA Unid FOR SHA COHA NOGO RSHA BWA RTHA RTHA FILM GOEA AMKE MERL PEFA SWHA Unid FOR SHA RST 1	ntin) - (Jagon)	rea Gro	we. con	noiler												*Total inc	Indes one A	Aississippi K	ite on Septe	mber 2
152.3 1.0 1.	Days	Hours	BLVU	TUVU	1		NOHA	SSHA	СОНА	NOGO		ВМНА	RTHA				MERL	PEFA 8	SWHA	Unid	*Total
150-3 37 218 11 21 22 34 45 52 48 47 47 52 48 47 47 47 47 47 47 47	``[− 5	0	1	0 8	0	0	1	0 8	0	0	0	0 1	0 (0	0	7
1950 37 218 11 324 37 513 513 513 514 515	7 6					28	Σ [194 194	53 53	- 0	∞	3020	52	0	10,	49	2	12	0	9 8	346
310 4	Ϋ́					8 8	3/	6/3	<u>δ</u> «	7 +	48	9 0	420 246	0 +	727	52	87 87	<u>4</u> C	0 0	Q (*)	1824
10 10 10 10 10 10 10 10	1			5 -		α		i	C	· C	C	C	1 1		15		C	0 0	0	0 0	4
Color Colo	~	4	42	258	29	158	22	892	66	4	202	3027	200	-	218	102	36	36	0	32	5789
10 4.5 1.2 2.7 0.9 15.4 1.7 0.1 1.2 52.3 12.1 0.0 3.8 1.8 0.6 0.4 0.0 0.6 0.4 414.3 19.2 284 67.7 12.18 47.1 824.6 11.36 5.8 49.2 1827.5 639.1 0.9 129.0 87.4 32.9 20.2 0.0 0.0 0.0 414.3 19.2 284 67.7 12.18 47.1 824.6 11.36 5.8 49.2 1827.5 639.1 0.9 129.0 87.4 32.9 20.2 0.0 0.0 0.0 424.8 EALM TUM OSPR BAEA NOHA SSHA NOHA SSHA BWH RTHA RLHA COEA AMKE MELL PEFA SWHA Unid 1.4 1			0.10	0.61	0.16	0.37	`	2.09	0.23	0.01	0.16	7.10	1.64	0.00	0.51	0.24	0.08	90.0	0.00	90.0	13.5
				4.5	1.2	2.7	0	15.4	1.7	0.1	1.2	52.3	12.1	0.0	3.8	1.8	9.0	0.4	0.0	9.0	100.0
- Peter Levengood, compiler 10.01 SBHA COHA NOGO RSHA RTHA RTHA RLHA GOEA AMKE MERL PEFA SWHA Unid Volume 0.0 0	.888			264	67.7	121.8	47	824.6	113.6	5.8	49.2	1827.5	639.1	6.0	129.0	87.4	32.9	20.2	0	26.5	4276.5
Name	vet	te) - Pete	ır Leven	good, c	ompiler																
Columbia Columbia	Jays	Hours	BLVU	TUVU	OSPR	BAEA	NOHA	SSHA	СОНА	NOGO		ВМНА	RTHA				MERL		SWHA	Unid	*Total
2 30 10 1 202 43 0 1 2 0 1 2 0 1 2 0 1 2 0 1 2 0 1 2 0 1 2 0 1 2 0 1 2 1 0 0 1 2 0 1 1 2 0 0 1 2 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 <td></td> <td>ľ</td> <td>0</td> <td>0</td> <td></td> <td>0</td> <td>0 8</td> <td>0</td>		ľ	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 8	0
Column C	-			237		D A	- 10	28	16	0 0		202	133	0 0) (12	O 67) (0 0	14 6	513
201 167 0.05 10 14 9 89 26 143 1.17 0.00 0.01 0.08 0.02] ⁼			89		0	М	2	<u> -</u>	o ←	- ო	0	41	0	- 0	1	0	- 0	0	0	123
O.01 0.05 0.06 0.08 0.04 0.01 0.03 1.17 0.00 0.01 0.02 0.02 0.02 0.02 0.04 0.04 David Grove, compiler ELVU 1.0 1.4 0.0 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.02 0.02 0.02 0.04 0.04 Pavid Grove, compiler 8.2 0.04 NGG RSHA NGG RSHA RTHA RTHA RCHA GOEA AMKE MER MER MER PFA SWHA Unid PA AMKE MER MER MER MID A A A A A A A A A A A A A A A B	3			308	10	14	6	88	26	1	2	265	217	0	1	15	3	4	0	45	1014
- David Grove, compiler BLVU TUVU OSPR BAEA NOHA SSHA COHA NOGO RSHA RTHA RLHA GOEA AMKE MEL PEFA SWHA Unid BLVU TUVU OSPR BAEA NOHA SSHA COHA NOGO RSHA RTHA RTHA RCHA GOEA AMKE MEL PEFA SWHA Unid 0 0 33 62 4 13 16 7 162 0 1 2 8 4 0 4 15 28 16 0 2 1 1 15 18 0 4 1			0.01	1.67	0.05	0.08	0.05	0.48	0.14	0.01	0.03	1.43	1.17	0.00	0.01	0.08	0.02	0.02	0.00	0.24 4.4	5.49 100.0
Hours BLVU TUVU OSPR BAEA NOHA SSHA COHA NOGO RSHA BWHA RTHA RLHA GOEA AMKE MERL PEFA SWHA Unid 141.5 0 0 3 52 4 13 8 0 1 162 102 0 1 15 3 4 0 4 4 1 15 28 1 4 1 1 15 28 1 4 1 1 15 28 1 4 1 1 1 15 28 1 1 1 15 28 1	umk	verland) .	. David		compiler	_		•													
141.5 0 0 33 52 4 13 8 0 1 162 102 0 12 3 4 0 4 174.3 0 0 1 16 13 8 999 105 0 6 4439 101 0 1 159 28 16 28 16 28 16 28 109 105 10 1 159 28 16 28 10 28 10 2 10 11 150 28 16 28 10 2 10 10 12 14 2 14 10 2 10 10 12 14 10 2 14 14 14 14 14 14 14 14 15 14 15 14 14 14 14 14 14 14 16 14 14 16 14 14 16 14	Days			TUVU	OSPR		NOHA	SSHA	COHA	NOGO							MERL		SWHA	Unid	Total
174.3 0 174 132 38 999 105 0 6 4439 101 0 1 159 28 16 0 28 260.8 59 147 150 214 86 6286 423 99 160 17 152 84 34 16 28 189.3 186 2 160 51 16 57 0 70 61 1 150 41 3 3 0 41 127.8 6 16 16 57 0 70 61 1 3 3 0 41 189.3 74 167 26 163 26 153 4653 207 0 251 294 118 59 0 4 189.3 1.8 0.29 0.64 0.17 8.35 0.05 0.25 0.00 0.28 0.33 0.13 0.00 0.01 <t< td=""><td>ĭ</td><td></td><td></td><td>0</td><td>33</td><td></td><td>4</td><td>13</td><td>8</td><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td>3</td><td></td><td>0</td><td>4</td><td>e e e</td></t<>	ĭ			0	33		4	13	8	0							3		0	4	e e e
260.8 59 1477 51 274 86 6286 423 9 87 52 1094 0 187 122 84 34 0 41 189.3 9 186 25 109 70 0 61 1 3 3 0 41 127.8 6 16 16 57 0 74 0 6 1 1 3 3 0 14 883.5 74 1679 26 571 153 4653 2071 0 251 294 118 59 0 89 893.5 1.88 0.29 0.64 0.17 8.35 0.67 20 0.07 0.07 0.07 0.07 0.07 0.07 0.00 0.10 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01	7			0	174	132	8	666	105	0	9 [0			78		0	28	6226
183.3 9 186 2 109 22 16 5/7 0 700 0 61 1 3 3 0 14 127.8 6 16 16 5/7 16 5/7 16 2 0 61 1 3 3 0 14 883.5 74 1679 260 571 150 26 153 4653 2071 0 251 294 118 59 0 89 893.5 74 167 167 167 5.21 2.32 0.00 0.28 0.33 0.1 0.0 0.10 893.6 1.88 0.29 0.64 0.17 8.35 0.67 2.32 0.00 0.28 0.33 0.1 0.00 0.10 90.4 1.18 0.29 0.66 0.05 0.06 0.28 0.33 0.13 0.0 0.10 90.4 1.14 3.1 0.8<	ಕ್ಷ (1477	51	214	8	9239	423	တ (87			0	_		\$ 0		0	41	1030
127.8 6 16 0 54 0 5 3 1 2 0 74 0 25 0 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 0 2 0 0 2 0	Ž			186	2	109	77	160	51	16	57			0	61	_	က		0	14	1394
893.5 74 1679 260 571 150 7463 590 26 153 4653 2071 0 251 254 118 59 0 60 89 0 60 0 60 0 60 0 60 0 60 0 <td>Ň</td> <td>1</td> <td>١</td> <td>16</td> <td>0</td> <td>2</td> <td>0</td> <td>2</td> <td>က</td> <td>-</td> <td>2</td> <td>0</td> <td></td> <td>0</td> <td>2</td> <td></td> <td>0</td> <td></td> <td>0</td> <td>2</td> <td> 4</td>	Ň	1	١	16	0	2	0	2	က	-	2	0		0	2		0		0	2	4
0.08 1.88 0.29 0.64 0.17 8.35 0.66 0.03 0.17 5.21 2.32 0.00 0.28 0.33 0.13 0.07 0.00 0.10 0.10 0.14 0.1 1.4 3.1 0.8 40.3 3.2 0.1 0.8 25.1 11.2 0.0 1.4 1.6 0.6 0.3 0.0 0.5	125			1679	260	571	150	7463	290	56	153	4653	2071	0	251	294	118		0	88	18501
0.4 9.1 1.4 3.1 0.8 40.3 3.2 0.1 0.8 25.1 11.2 0.0 1.4 1.6 0.6 0.3 0.0 0.5			0.08	1.88	0.29	0.64	0.17	8.35	0.66	0.03	0.17	5.21	2.32	0.00	0.28	0.33	0.13	0.07	0.00		20.7
				9.1	4.	3.1	0.8	40.3	3.2	0.1	0.8	25.1	11.2	0.0	4.	1.6	9.0	0.3	0.0		100.0

2018 - VOLUME 31 NO. 4

2018 TOTALS FOR ALL WATCHSITES

Month Days Hours 1 August 98 674 September 315 2,163	ALL WAT Days 98 315	CHSITE Hours 674 2,163	1 1 12	TUVU 174 319	OSPR 126 1,637	BAEA 174 1,146	NOHA 181				R _Z	8W		RLHA 0	GOEA 0 7	AMKE 49 1,162	MERL 11 216	PEF A 145	*Total includes two Mississippi Kites SWHA	bs two Missi. Unid 82 341	1,706 58,499
October	351	2,479	306	5,594	318	1,172	441	21,044	2,158	53	600) 465	5,549	0	806	1,173	471	193	0	376	
November	230	1,404	130	1,452	4	544	128	881	242	50	453	3 C	3,193	6	380	23	47	17	0	22	1
December	71	382	56	28	0	120	5	10	8	3		8 C	174	0	31	0	2	2	0	4	
Total	1,065	7,101	618	7,567	2,085	3,156	773	26,333	3,091	109	1,150	0 48,652	9,840	6	1,224	2,407	747	362	0	867	
Total per hr			0.09	1.07	0.29	0.44	0.11	3.71	0.44	0.02	0.16	6.85	1.39	0.00	0.17	0.34	0.11	0.05	0.00	0.12	
% of flight			0.6	6.9	1.9	2.9	0.7	24.2	2.8	0.1	1.	1 44.6	9.0	0.0	1.1	2.2	0.7	0.3	0.0	0.8	
Average of last 10 yrs	1162.3	7584.4	1149.9	7033	2349.7	2416.9	885.3	25238.5	2784.9	140.3	1105	5 63768.1	11794	9.5	1084	1914.2	662.5	377.5	2	1047.5	١,
% compared to average	-8.4	-6.4	-46.3	7.6	-11.3	30.6	-12.7	4.3	11.0	-22.3	4.	1 -23.7	-16.6	-36.8	12.9	25.7	12.8	-4.1	-100.0	-17.2	

¹Includes three Mississippi Kites

KEY TO TABLE HEADERS	HEADERS		
BLVU	Black Vulture	RSHA	Broad-winged Hawk
TUVU	Turkey Vulture	BWHA	Red-tailed Hawk
OSPR	Osprey	RTHA	Rough-legged hawk
BAEA	Bald Eagle	RLHA	Golden Eagle
NOHA	Northern Harrier	GOEA	American Kestrel
SSHA	Sharp-shinned Hawk	AMKE	Merlin
COHA	Cooper's Hawk	PEFA	Peregrine Falcon
NOGO	Northern Goshawk	SWHA	Swainson's Hawk
RSHA	Red-shouldered Hawk	Unid	Unidentified