

## 2014 Autumn Raptor Migration Summary: 1.3 million and counting Laurie Goodrich

Pennsylvania birdwatchers are lucky—we do not have to travel too far to find ourselves at a raptor migration hotspot. Long-time Pennsylvania birders may take it for granted, but compared to the Midwest or southeastern United States, it is clear Pennsylvania has something special. Part of the uniqueness is the concentration of raptors we see at many sites and the wonderful close views we usually enjoy. It is the state's terrain and geographic location that work in our favor. Another special aspect comes from the opportunity to view migrant raptors amid many other migrants, including waves of warblers, streams of waterfowl, and parades of blue jays along with many diurnal migrating songbirds. To witness the spectacle of migration—whether standing in Media or on a ridgetop near State College—is a great benefit of living where we do.

In autumn 2014, 114,046 raptors were counted at the 14 watchsites across the state, 12% below the 10-year average of 129,344 hawks (Table 1). Hours of hawk-watching were slightly above-average statewide, 7638 compared to average of 7444. Hawks per hour were below last year's 16.9 per hour, at 14.93 hawks per hour, a result of lower numbers of Broad-winged Hawks at many sites. Rare sightings included a light-morph Swainson's Hawk at Second Mountain on 11 October, a Mississippi Kite at Militia Hill on 18 September, and another Mississippi Kite (adult) at Stone Mountain on 22 September.

Statewide, six species had an above-average showing across Pennsylvania, including Turkey Vulture (8382, up 32%), Bald Eagle (2432, up 32%), Sharp-shinned Hawk (31,622, up 13%), Red-shouldered Hawk (1266, up 4%), and Golden Eagle (1201, up 18%) See Table 1,

which follows at the end of the article. New statewide records were set for the two larger falcons. The Merlin count of 784 was highest in recent years and exceeded the prior high of 755 in 2007. The Peregrine Falcon tally was 480, compared to the record of 409 in 2012.

Lower than average counts were observed for nine raptors: Black Vulture (1237, down 6%), Osprey (2326, down 20%), Northern Harrier (1018, down 15%), Cooper's Hawk (2628, down 23%), Northern Goshawk (126, down 36%), Broad-winged Hawk (44,690, down 29%), Red-tailed Hawk (12,724, down 15%), Rough-legged Hawk (13, down 18%), and American Kestrel (2007, down 2%).

In the past decade, Pennsylvania autumn hawkwatches have recorded 1.3 million sightings of migrating raptors including 626,180 Broad-winged Hawks, 10,182 Golden Eagles, and 18,415 Bald Eagles. Of course, if the previous 70 years of Pennsylvania hawkwatching are added in, the number is much higher... That is a lot of hawks and eagles soaring over Pennsylvania in 10 years and a lot of hours of watching!

In the 2014 summary, we highlight a few of the less numerous but more colorful raptors that migrate through our state: American Kestrel and Red-shouldered Hawk. Notable southbound movements of both species can be observed at on-ridge and off-ridge sites. Some of the lesser known hawkwatches report exceptional numbers of these rarer species. In 2014, American Kestrels showed two pulses of migration in mid-September and again in mid-October. Female and immature kestrels migrate earlier than adult males. However in 2014 a geographic separation was also observed. The peak one-day counts in the southeastern counties occurred primarily

during mid-September. Militia Hill, recorded 34 kestrels on 19 September and Rose Tree Park and Hawk Mountain counted 13 and 49 respectively on 22 September (Table 2). In the central counties, Stone Mountain, Jack's Mountain, Tuscarora Summit, Rocky Ridge and Waggoner's Gap tallied peak numbers in October, with peak counts occurring 5, 9, 18, and 25 October (Table 2). Season totals for kestrels included high counts of 379 at Hawk Mountain, 320 at Waggoner's Gap, and 305 at Militia Hill (Table 1).

Red-shouldered Hawks hit peak migration in late October and mid-November across the state. Highest counts were seen at Kittatinny Ridge sites: Hawk Mountain, 28 on 31 October, and Waggoner's Gap, 35 on 25 October (Table 2). Militia Hill and Rose Tree Park in the southeast also tallied notable counts of Red-shouldered Hawks with peak flights of 19 at Militia Hill on 25 October, and 18 at Rose Tree on 27 and 30 October (Table 2). Top season totals for Red-shouldered Hawk occurred at Waggoner's Gap (245) and Rose Tree Park (226).

**Allegheny Front (Somerset/Bedford)** – Allegheny Front watchers recorded 7672 migrating hawks in 766.1 hours of observation over 103 days, a rate of 10 hawks per hour. A new season record of 85 Black Vultures was set and above-average counts were tallied for Bald Eagle (128), American Kestrel (87), and Peregrine Falcon (36). Migrants recorded in below-average numbers included Osprey (91), Northern Harrier (33), Cooper's Hawk (152), Red-shouldered Hawk (32), and Red-tailed Hawk (927). Only 127 Golden Eagles were tallied for the season, a 12-year low for this key Golden Eagle migration site (Table 1). Bob Stewart, compiler, reported that most Golden Eagles were recorded in two two-day flights, 10-11 November and 7-8 December. The watch 10 November saw 15 goldens followed by 30 the following day. In the December push, 13 and 15 eagles were spotted respectively. A spate of west winds in November may have kept migrants away from the Allegheny Front, which sees its highest counts on easterly winds. The highest one-day count for 2014 came 14 September when 1880 raptors were sighted including 1841 Broad-winged Hawks and 13 Bald Eagles, the season high for both species.

**Bake Oven Knob (Lehigh)** – Watchers at Bake Oven Knob tallied 12,723 hawks in 104 days and 854.3 hours at a rate of 14.9 hawks per hour. Although effort was

Table 2. Peak one-day migration counts for selected species.

Site	American Kestrel		Red-shouldered Hawk	
	Count	Date	Count	Date
Allegheny Front	12	8/25	3	10/12, 10/30
Bake Oven Knob	17	9/22	12	10/30
Pipersville (BW)*	1	9/16	-	-
Council Cup*	1	9/16, 9/18	1	several
Hawk Mountain	49	9/22	28	10/31
Jack's Mountain	21	10/9	2	several
Little Gap	10	several	13	11/1
Militia Hill	34	9/19	19	10/25
Rocky Ridge*	14	10/5	-	-
Rose Tree Park	13	9/22	18	10/27, 10/30
Second Mountain	10	10/17	10	11/10
Stone Mountain	27	10/9	5	10/19
Tuscarora Summit	14	10/25	3	11/8
Waggoner's Gap	33	10/18	35	10/25

Bold counts indicate top four totals by species

\*limited coverage

slightly higher than average, the count was 13% below the 10-year average (Table 1). Above-average counts were recorded for Black Vulture (311), Bald Eagle (312), Sharp-shinned Hawk (3935), Golden Eagle (151), Merlin (118), and Peregrine Falcon (69). October was busy for Bake Oven with more than 3000 Sharpshins for the month including a peak flight of 292 on 18 October and several days exceeding 200 individuals. The total of 3935 sharpshins was 12% above the 10-year average. Other exciting days included 22 September when northwest winds ushered 24 Bald Eagles past the watchsite along with 26 Osprey, 88 Sharp-shinned, and 74 Broad-winged Hawks, along with a one-day peak count for kestrels (17), 10 Merlin and a Peregrine Falcon. Notable non-raptors seen that day included 45 Common Ravens and a Sandhill Crane.

**Broadwing SEPT, Pipersville (Bucks)** – Broadwing SEPT is a project specifically to count Broad-winged Hawks across a transect in Bucks County. Only one site is monitored. In 2014, Diane Allison counted on two days during peak broadwing migration, 15 and 16 September, for 6.5 hours. She recorded 1338 hawks including 1323 broadwings, 5 Osprey, 2 Bald Eagles, 7 Sharp-shinned Hawks and one kestrel. The highest count was on 15 September with 1011 broadwings, 4 Osprey, one Bald Eagle, and one sharpshin. Counts were 32% above-average for this site.

**Council Cup (Luzerne)** – Council Cup is another limited coverage site with good potential that has received greater coverage in the past. Donald Kapral, the compiler and main observer, reported 9 days and 40.8 hours of observation and 1011 hawks. Because coverage used to be higher, no new records were set. However, the 373 Red-tailed Hawks was higher than recent years, and 380 Broad-winged Hawks were above-average (Table 1). Total raptors were also above average: 1011 vs. 927, despite lower hours. Gusting northwest winds on 2 November brought the highest count of redtails (137) along with close sightings of an eye-level Red-shouldered Hawk and four Bald Eagles, three adult and one immature. We encourage Wilkes-Barre birders to put this Susquehanna corridor site on their list to visit for autumn 2014 and to report sightings to the compiler.

**Hawk Mountain (Berks/Schuylkill)** – Hawk Mountain observers counted a below-average 17,423 hawks in 128 days and 1114.5 hours of coverage. Effort was slightly above-average compared to recent years. New records were set for Turkey Vulture at 936 and Peregrine Falcon at 90 (Table 1). Above-average

counts were tallied for four species, including Black Vulture (200), Bald Eagle (418), Golden Eagle (164), and Merlin (189). Low counts were recorded for Osprey (467), Northern Harrier (164), Cooper's Hawk (555), Northern Goshawk (24), Broad-winged Hawk (6369), Red-tailed Hawk (2266), and American Kestrel (379). The highest one-day count occurred on 15 September, when 888 broadwings sailed down ridge along with 32 Osprey, 9 Bald Eagles, and 27 Sharp-shinned Hawks. Daily counts of broadwings never surpassed 1000, leading to lower than average totals for this species. Northwest winds on 22 September brought a peak count of 49 American Kestrels, and 27 Bald Eagles parading past (Table 2). Other migrants included 19 Osprey, 105 Sharp-shinned and 110 Broad-winged Hawks. The following day Rudy Keller and Sue Schmoyer enjoyed one of the best songbird flights for the season including 5 species of vireo and 11 warblers with highest numbers spotted for Black-throated Green Warblers (110) and Blue-headed Vireo (64). In a historic moment, the record-breaking Peregrine Falcon, number 69, shot past the lookout on 17 October, bringing the season total above the previous high of 68 set in 2010. The season record was set at 90 (Table 1).

One of the best eagle flights occurred 26 October with 19 Bald and 22 Golden eagles flying south along with 230 sharpshins and 106 redtails. Light east winds on Halloween brought the second-highest one-day count of Red-shouldered Hawks for the state this season (28), allowing excellent views of these colorful hawks (Table 2). Late November brought two dark-morph Rough-legged Hawks, one each on the 28th and 30th.

**Jack's Mountain (Mifflin)** – Jack's Mountain recorded 4542 hawks in 86 days and 498 hours. Coverage was above-average, and possibly as a result, two new records were set and nine species showed above-average counts. New records were for Turkey Vulture (379) and Peregrine Falcon (34). Above-average or average counts were recorded for all species except Broad-winged Hawk. Counters tallied 1971 broadwings, 19% below the ten-year average (Table 1). Of particular note was the Golden Eagle total of 141, an increase over 200% above the prior ten-year average. Jack's counters recorded the fifth-highest one-day count of American Kestrels for the state 9 October: 21 kestrels along with 41 sharpshins, 2 Osprey, and 3 Cooper's Hawks. The season total of Golden Eagles was boosted substantially by an amazing "treat" of a flight on Halloween afternoon. Darrell Smith and Craig Kochel endured a slow morning at Jack's that day with raw, southeast winds and

heavy overcast. They were rewarded by an adult Golden Eagle sailing past at 12:55. Suddenly a Golden Eagle deluge began. Eleven passed before 14:00, 16 in the next hour, and by day's end 56 had flown past, many flying in pairs. The spectacle included one kettle of eight eagles and set a new one-day record for the site. The only other migrants that day were nine redtails and one harrier.

**Little Gap (Northampton)** – Little Gap recorded 13,339 hawks in 92 days and 629 hours. Counts were below the ten-year average of 14,695, primarily due to a dip in sightings of Broad-winged Hawks. The broadwing number, 5,271, was 25% below-average (Table 1). Above-average counts were tallied for Black Vulture (143), Turkey Vulture (584), Bald Eagle (279), Sharp-shinned Hawk (3742), Red-shouldered Hawk (154), Golden Eagle (104), Merlin (128), and Peregrine Falcon (46). The Golden Eagle count was two birds shy of tying the season record for the site, 106. Species showing lower than average counts were Osprey (226), Cooper's Hawk (298), Northern Goshawk (18, down 28%), and American Kestrel (153, down 20%). The Osprey count was the lowest since 1995.

Little Gap enjoyed their highest one-day count 15 on September as 957 broadwings glided past the lookout along with 10 Osprey, 11 Bald Eagles, 40 sharpshins, 4 kestrels and singleton merlin and peregrine. Strong northwest winds 25 October brought the highest eagle tally for the season including 20 Bald and 18 Golden eagles. Birds began early with the first golden at 8:08. Other migrants included 69 redtails, 124 sharpshins, 10 redshoulders, 4 Black and 5 Turkey Vulture, 4 Cooper's Hawks, and 2 harriers. Morning drizzle cleared by mid-day 1 November and counters tallied 103 redtails, 25 Turkey Vultures, and 13 Red-shouldered Hawks, the one-day peak count for this species.

**Militia Hill (Montgomery)** – Militia Hill counters historically only watch during September and October. In 2014, the site was monitored for 60 days and 456 hours. A below-average total of 8723 hawks were recorded with the largest dip seen for Broad-winged Hawks: 5211 against a ten-year average of 11,131, a 53% drop (Table 1). Counts were above-average for Turkey Vulture (1016), Bald Eagle (110), Red-shouldered Hawk (100), American Kestrel (305), Merlin (47), and Peregrine Falcon (36). The Turkey Vulture and Red-shouldered counts were the second-highest on record for the site. Other below-average counts were tallied for Osprey (248, down 14%), and Cooper's Hawk (120, down 24%).

14 September brought the highest one-day count for the site that included

1238 broadwings, 21 Osprey, 12 Bald Eagles, 4 Northern Harriers, 35 Sharpshinned and one Cooper's hawk, 2 Red-shouldered Hawks, 22 American Kestrels, and 2 Merlin. On 19 September, observers enjoyed a one-day peak flight of 34 American Kestrels, the second highest one-day count for the state (Table 2). The following day a surge of 1086 broadwings was punctuated by 12 Osprey and 3 Bald Eagles, but by far the rarest bird for the day was a Mississippi Kite. Compiler Andy Fayer reported the kite was the third record for Militia during autumn migration, although they are regularly sighted in spring.

Observers on 25 October spotted 18 Red-shouldered Hawks among 137 migrating raptors, for the third highest one-day count for this species (Table 2). The highest count for Turkey Vulture (305) soared past 29 October, with 30 sharpshins and 10 redtails among the 356 total migrants. Other migrants of note this autumn included 22 Common Raven in a kettle 22 September, a Sandhill Crane 9 October, four Greater White-fronted Geese 31 October, and regular sightings of Common Nighthawk in September.

**Rocky Ridge (York)** – This partial coverage site tallied 1500 raptors in 67 hours on 14 days in September and October. Total raptors were 28% below average, likely due to 40% fewer hours counting (Table 1). This traditional hot spot for Broad-winged Hawks did not disappoint, recording 1334 Broadwings in September with two days exceeding 300 individuals: 380 on 14 September and 365 on 16 September. The 14 September flight included 7 Bald Eagles, 2 Osprey, 2 Northern Harrier, 18 Sharp-shinned Hawks, 2 Cooper's Hawks, and one American Kestrel. October highlights included 14 kestrels on 5 October, and 56 sharpshins along with one Merlin and 2 Peregrine Falcons on 10 October.

**Rose Tree Park (Delaware)** – Rose Tree Park watchers enjoyed 4636 raptors in 545 hours across 85 days. The total count was 37% below the ten-year average, partly due to low numbers of broadwings. Black Vultures were not counted this year due to the proximity of a nearby roost. The Bald Eagle total of 163 was 7% above average and 226 Red-shouldered Hawks were 20% above the norm. Below average numbers were observed for Turkey Vulture (351), Osprey (209), Northern Harrier (46), Sharp-shinned Hawk (1021), Cooper's Hawk (141), Broad-winged Hawk (1909), Red-tailed Hawk (307), and American Kestrel (161).

On 22 September, light north winds ushered 652 broadwings past the site along with 66 sharpshins, 5 Osprey, 7 Bald Eagles, and 13 American Kestrels.

The broadwing and kestrel counts were the highest one-day counts for the site (Table 2). An impending cold front on 21 October brought Rose Tree Park a rarity, an early light morph Rough-legged Hawk. Rose Tree counters tallied 136 migrant raptors 27 October including 41 Turkey Vulture, 34 sharpshins, 25 redtails, and 18 redshoulders, a one-day peak count and third highest for the state. Another 18 redshoulders flew past 30 October, accompanied by 27 redtails. The Red-shouldered Hawk season tally of 226 was one of the highest for the state.

**Second Mountain (Lebanon)** – Second Mountain recorded 8394 hawks in 851 hours on 123 days. Effort and birds were slightly below the ten-year averages of 943 hours and 9804 hawks (Table 1). Above-average counts were observed for four species: Sharp-shinned Hawk (2736), Rough-legged Hawk (4), Merlin (47), and Peregrine Falcon (35). Species showing below-average counts included Black Vulture (236), Osprey (111), Bald Eagle (152), Northern Harrier (94), Northern Goshawk (8), Red-shouldered Hawk (113), Broad-winged Hawk (2959), and Red-tailed Hawk (701). Counters recorded a peak flight of broadwings 20 September as 900 glided past, mostly in the afternoon.

Counters spotted a rarity on the afternoon 11 October, a light morph Swainson's Hawk circling in a kettle with an Osprey, Peregrine Falcon, and sharpshins. This Swainson's was the only one spotted at Pennsylvania watchsites in 2014. South winds 17 October brought the highest count for October with 13 species including 210 sharpshins, 43 Turkey Vultures, 61 Black Vultures, 18 Cooper's Hawks, 10 redtails, 10 American Kestrels (the season peak count), 10 Merlin, 5 Peregrine Falcons, 2 Golden Eagles, and 2 Bald Eagles. On northeast winds 27 October, observers tallied 71 raptors including 23 Red-shouldered Hawks, the season's peak one-day count, and 5 Golden Eagles (Table 2). The season peak Golden Eagle flight occurred 3 November when 8 goldens soared past. Second Mountain counters manned the lookout through 31 December and added another 11 Golden and 18 Bald eagles along with 36 Black and 7 Turkey vultures, 32 redtails, 2 Rough-legged Hawks, 2 redshoulders, and one Northern Goshawk.

**Stone Mountain (Huntingdon)** – Stone Mountain counters tallied 4091 hawks in 428 hours over 74 days, an increase of 23% in observer effort. The site set a new record for Turkey Vulture at 420 (Table 1). Above-average counts were tallied for Bald Eagle (108), Sharp-shinned Hawk (1145), Golden Eagle (145), American Kestrel (128), Merlin (35), and Peregrine

Falcon (29). Lower than average counts were observed for Northern Harrier (39), Cooper's Hawk (130), Red-shouldered Hawk (49), Broad-winged Hawk (1093), and Red-tailed Hawk (653).

22 September was a red-letter day for this central Pennsylvania site with 461 hawks including 378 broadwings, 25 sharpshins, 14 Bald Eagles, 14 Osprey, and one of the rarest birds for the migration, an adult Mississippi Kite at 10:09. Stone recorded the fourth highest daily count for American Kestrel, 27 on 9 October, along with 5 Merlin and 7 Peregrine Falcons among 212 raptors. Stone Mountain recorded two days of 22 Golden Eagles 2 and 12 November, helping to bring the total to 145 Golden.

**Tuscarora Summit (Fulton)** – Tuscarora Summit tallied 4455 hawks in 269 hours over 55 days. The total count was 4% above-average while coverage dipped by 18%. Counters set a new record for Turkey Vulture (541) and Merlin—26 compared to a prior high of 21 in 2012. Above-average counts were recorded for most species including Black Vultures (115), Bald Eagle (76), Cooper's Hawk (101), Red-shouldered Hawk (33), American Kestrel (69), Merlin (26), and Peregrine Falcon (27). Lower than average counts were tallied for Sharp-shinned Hawk (895) and Red-tailed Hawk (244). The highest one-day count was made 21 September when 628 broadwings, 6 Osprey, 3 Northern Harriers, and 7 Sharp-shinned Hawks sailed past. A mid-October Turkey Vulture procession began 12 October with 167 counted along with 8 Black Vultures. Counts for the next week numbered up to 67 Turkey Vultures daily and by month's end counters had added 500 Turkey and 110 Black vultures to the tally. The peak count of 14 American Kestrels flew past 25 October.

**Waggoner's Gap (Cumberland)** – Waggoner's Gap maintains one of the longest seasons, this year logging 1114 hours over 140 days from 1 August to 31 December, and tallying an above-average 24,199 hawks, the highest autumn count of any site. A new record was set for Bald Eagle at 535, just one eagle higher than the 2012 count. Above-average counts were tallied for Turkey Vulture (2018), Sharp-shinned Hawk (9917), Red-tailed Hawk (2927) including two white birds, and Golden Eagle (241). The sharpshin count was the second-highest on record surpassed only by 10,121 in 2010. Below-average counts were observed for Black Vulture (30), Osprey (357), Northern Harrier (185), Cooper's Hawk (531), Northern Goshawk (41), Broad-winged Hawk (6544), Rough-legged Hawk (2), American Kestrel (320), and Peregrine Falcon (55).

The season peak of broadwings was 16 September when 1180 were counted. Also seen were 90 sharpshins, 28 Osprey, 7 Bald Eagles, 10 redtails, 5 Cooper's Hawk, 8 American Kestrel, and 3 Merlin. This count was surpassed 17 October, when an amazing 1692 Sharpshinned Hawks were recorded, along with 262 Turkey Vultures, 17 Bald Eagles and 12 other raptors, summing to 2148 hawks for the day. The following day another 828 sharpshins zipped past along with a season peak count of 33 American Kestrels (Table 2). Light winds 25 October brought 35 Red-shouldered Hawks, the highest one day count of any site (Table 1).

1-3 November were eagle days for Waggoner's Gap. Twenty Golden Eagles and 6 Bald Eagles glided past on the 1st but the highest one-day count was tallied 2 November: 26 Golden Eagles were spotted from 07:49 to 17:09, accompanied by 11 Bald Eagles. On 3 November another 3 Bald and 21 Golden were tallied, for a three-day eagle total of 20 Bald and 67 Golden. Eagle daily counts were lower but steady for the remainder of the month. November's final Golden Eagle count was 141. Another 25 Golden and 52 Bald eagles were added for the month of December (Table 1).

## Conclusion

The 2014 flight added 114,046 raptors to the ever-growing database of migrating raptors passing through Pennsylvania. Highlights included upswings in both larger falcons and continued increases in sightings of eagles. Broad-winged Hawks were below average at many sites, but counts were higher in Great Lakes so some migrants may have been moved west by the steady easterly winds during September's migration. Osprey and Northern Harrier were low at most sites and warrant close monitoring in the future.

For scientific analyses of migration trends, we can reference the Raptor Population Index (RPI) that now covers at least five Pennsylvania sites. A new analysis was completed in 2013 for any watchsite with at least ten years of hourly data in the HawkCount.org website (see <www.rpi-project.org>). RPI results show American Kestrels remained stable in Pennsylvania during the past decade; however watchsites along the Canadian border showed strong declines, suggesting issues in northern nesting populations. The lack of a rebound in kestrel numbers remains a concern. Red-shouldered Hawks declined

significantly at Hawk Mountain and Waggoner's Gap but remained stable at the other Pennsylvania sites. The RPI project webpage summarizes results by site or in an easy to read map that is viewable by species.

## Acknowledgements

I thank Pennsylvania's hawk counters for their many hours of counting, as well as the site compilers for organizing the data and sharing their results. Data were provided by <www.hawkcount.org> with permission of site compilers, a website maintained by the Hawk Migration Association of North America and managed by Jason Sodergren, database manager. Locations of sites and site totals can be viewed at HMANA site <www.hawkcount.org>. I thank David Barber for the site map. This is Hawk Mountain Sanctuary contribution number 249.

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

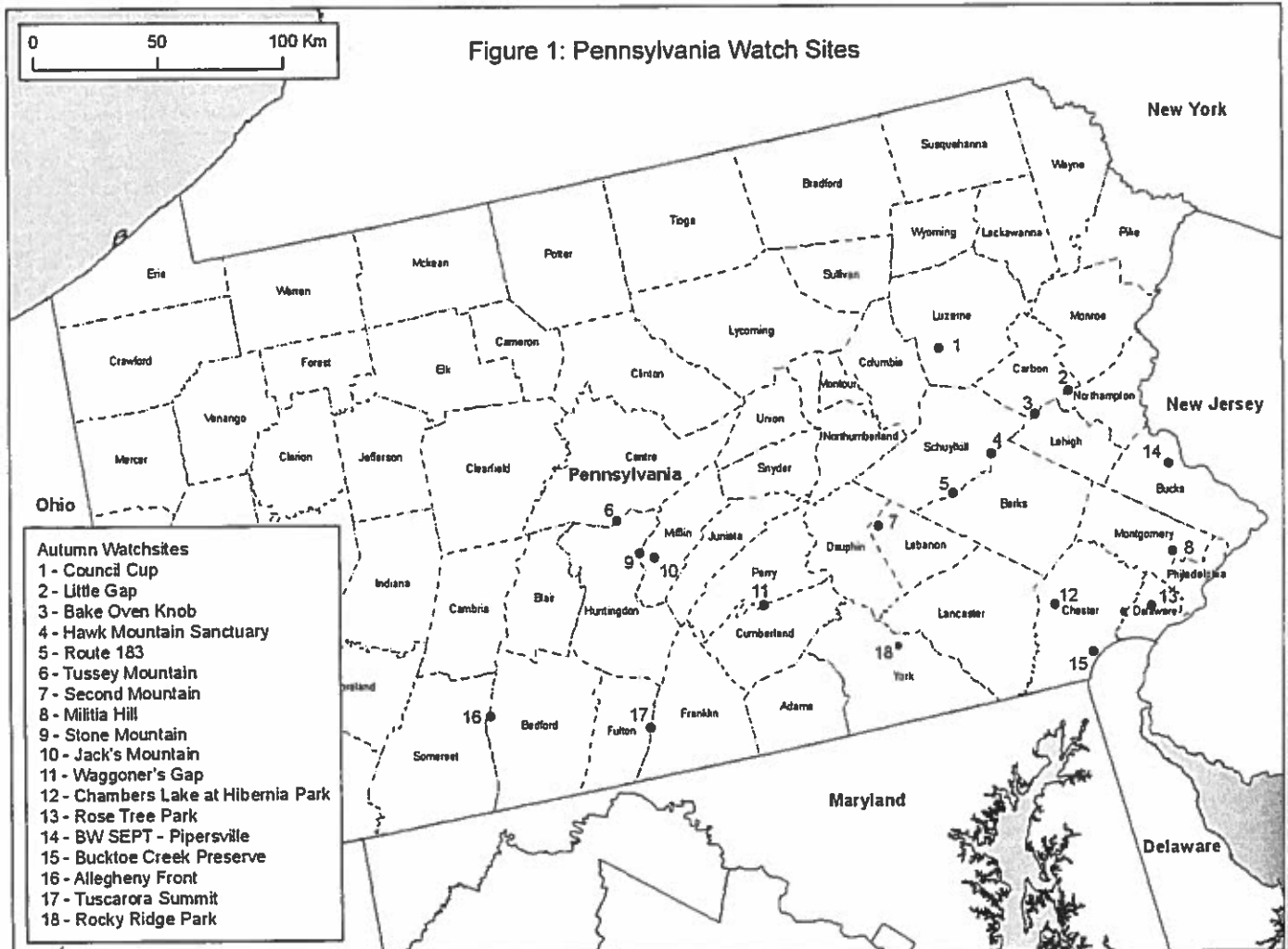


Table 2. Autumn 2014 count results for Pennsylvania watchsites.

ALLEGHENY FRONT (Bedford/Somerset) - Bob Stewart, compiler																					
Month	Days	Hours	BLVU	TUVU	OSPR	BAEA	NOHA	SSHA	COHA	NOGO	RSHA	BWHA	RTHA	RLHA	GOEA	AMKE	MERL	PEFA	SWHA	Unid	Total
August	16	119.0	8	0	15	19	2	59	13	1	4	328	114	0	0	31	0	2	0	7	603
September	29	234.5	37	0	67	75	13	188	65	0	7	4022	281	1	2	31	7	10	0	41	4847
October	28	207.5	33	327	8	21	16	891	65	2	14	0	340	0	15	25	16	23	0	31	1828
November	24	171.3	7	35	0	9	2	13	9	1	7	0	184	1	82	0	0	1	0	3	354
December	6	33.8	0	0	0	0	4	0	0	0	0	0	8	0	28	0	0	0	0	0	40
<b>Total</b>	<b>103</b>	<b>768.1</b>	<b>85</b>	<b>362</b>	<b>91</b>	<b>128</b>	<b>33</b>	<b>1161</b>	<b>162</b>	<b>4</b>	<b>32</b>	<b>4360</b>	<b>927</b>	<b>2</b>	<b>127</b>	<b>87</b>	<b>23</b>	<b>36</b>	<b>0</b>	<b>82</b>	<b>7672</b>
Total per hr			0.11	0.47	0.12	0.17	0.04	1.50	0.20	0.01	0.04	5.68	1.21	0.00	0.17	0.11	0.03	0.05	0.00	0.11	10.02
% of flight			1.1	4.7	1.2	1.7	0.4	15.0	2.0	0.1	0.4	56.7	12.1	0.0	1.7	1.1	0.3	0.5	0.0	1.1	100.0
Average last 10 yrs	109.8	802.9	28.6	390.7	101.6	91.8	52.4	1168.3	226.1	7.3	68.1	4810.1	1574.2	3.0	185.4	69.8	31.5	31.4	0.1	190.7	9031.0

BAKE OVEN KNOB (Lehigh) - Bob Hoopes, Dan Kunkle, co-compilers																					
Month	Days	Hours	BLVU	TUVU	OSPR	BAEA	NOHA	SSHA	COHA	NOGO	RSHA	BWHA	RTHA	RLHA	GOEA	AMKE	MERL	PEFA	SWHA	Unid	Total
August	17	113.8	46	130	48	47	1	16	8	0	3	159	25	0	0	11	5	0	0	27	528
September	29	263.3	101	266	232	112	20	663	45	0	4	3883	101	0	1	55	40	21	0	87	5631
October	30	267.3	112	376	83	91	72	3171	132	8	54	9	753	0	58	82	64	43	0	91	5199
November	28	210.0	52	155	1	62	17	85	11	8	40	0	771	0	92	1	8	5	0	55	1365
<b>Total</b>	<b>104</b>	<b>854.3</b>	<b>311</b>	<b>927</b>	<b>366</b>	<b>312</b>	<b>110</b>	<b>3836</b>	<b>197</b>	<b>17</b>	<b>101</b>	<b>4061</b>	<b>1660</b>	<b>0</b>	<b>161</b>	<b>149</b>	<b>118</b>	<b>69</b>	<b>0</b>	<b>260</b>	<b>12723</b>
Total per hr			0.36	1.08	0.43	0.37	0.13	4.61	0.23	0.02	0.12	4.74	1.93	0.00	0.18	0.17	0.14	0.08	0.00	0.30	14.89
% of flight			2.4	7.3	2.9	2.5	0.9	30.9	1.5	0.1	0.8	31.8	13.0	0.0	1.2	1.2	0.9	0.5	0.0	2.0	100.0
Average last 10 yrs	101.8	783.4	275.5	956.2	519.3	211.3	132.4	3280.2	350.9	32.4	135.1	5903.4	2158.5	1.5	98.5	175.9	96.2	52.2	0.2	278.7	14688.0

BW SEPT - Pipersville (Bucks) - Diane Allison, Kirk Moulton, co-compilers																					
Month	Days	Hours	BLVU	TUVU	OSPR	BAEA	NOHA	SSHA	COHA	NOGO	RSHA	BWHA	RTHA	RLHA	GOEA	AMKE	MERL	PEFA	SWHA	Unid	Total
September	2	6.5	0	0	6	2	0	7	0	0	0	1323	0	0	0	1	0	0	0	0	1338
<b>Total</b>	<b>2</b>	<b>6.5</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>2</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1323</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1338</b>
Total per hr			0.00	0.00	0.71	0.29	0.00	1.00	0.00	0.00	0.00	189.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	191.14
% of flight			0.0	0.0	0.4	0.1	0.0	0.5	0.0	0.0	0.0	98.9	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	100.0
Average for 10 yrs		18.5	5.4	5.5	6.9	4.0	1.5	38.9	1.5	0.0	0.0	1065.9	1.8	0.0	0.0	3.6	0.5	0.1	0.0	0.3	1009.6

COUNCIL CUP (Luzerne) - Donald Kapral, compiler																					
Month	Days	Hours	BLVU	TUVU	OSPR	BAEA	NOHA	SSHA	COHA	NOGO	RSHA	BWHA	RTHA	RLHA	GOEA	AMKE	MERL	PEFA	SWHA	Unid	Total
September	3	12.8	0	0	2	6	0	21	0	0	0	360	0	0	0	2	0	0	0	3	414
October	2	8.0	2	122	0	2	1	0	4	0	0	0	107	0	0	0	0	0	0	0	249
November	4	20.0	0	44	0	10	2	7	5	0	2	0	266	0	0	0	0	2	0	9	348
<b>Total</b>	<b>9</b>	<b>40.8</b>	<b>2</b>	<b>166</b>	<b>2</b>	<b>18</b>	<b>3</b>	<b>28</b>	<b>9</b>	<b>0</b>	<b>2</b>	<b>360</b>	<b>373</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>12</b>	<b>1,011</b>
Total per hr			0.05	4.05	0.05	0.44	0.07	0.68	0.22	0.00	0.05	9.27	9.10	0.00	0.00	0.05	0.00	0.05	0.00	0.28	24.66
% of flight			0.2	16.4	0.2	1.8	0.3	2.8	0.8	0.0	0.2	37.6	36.9	0.0	0.0	0.2	0.0	0.2	0.0	1.2	100.0
Average for 10 yrs	22.0	101.1	1.6	168.0	19.9	42.6	6.1	110.7	10.6	0.0	0.9	273.7	235.4	0.0	0.3	24.9	0.1	1.1	0.0	29.4	926.9

HAWK MOUNTAIN (Berks and Schuylkill) - Laurie Goodrich, compiler																					
Month	Days	Hours	BLVU	TUVU	OSPR	BAEA	NOHA	SSHA	COHA	NOGO	RSHA	BWHA	RTHA	RLHA	GOEA	AMKE	MERL	PEFA	SWHA	Unid	Total
August	18	163.8	5	1	55	28	3	26	14	2	1	188	30	0	0	32	2	6	0	17	410
September	30	318.0	58	56	271	137	32	661	90	0	6	6157	82	0	0	173	57	34	0	61	7875
October	31	293.8	73	750	139	115	85	3987	402	1	82	23	864	0	58	170	121	40	0	130	7030
November	30	231.5	62	129	1	103	40	115	41	15	92	1	1163	2	95	3	9	8	0	19	1888
December/January	19	107.5	2	0	1	35	4	3	8	6	3	0	127	0	21	1	0	2	0	7	220
<b>Total</b>	<b>128</b>	<b>1114.5</b>	<b>200</b>	<b>936</b>	<b>467</b>	<b>418</b>	<b>164</b>	<b>4772</b>	<b>565</b>	<b>24</b>	<b>194</b>	<b>6368</b>	<b>2266</b>	<b>2</b>	<b>164</b>	<b>379</b>	<b>189</b>	<b>90</b>	<b>0</b>	<b>234</b>	<b>17423</b>
Total per hr			0.18	0.84	0.42	0.38	0.15	4.28	0.50	0.02	0.17	5.71	2.03	0.00	0.15	0.34	0.17	0.08	0.00	0.21	15.63
% of flight			1.1	5.4	2.7	2.4	0.8	27.4	3.2	0.1	1.1	36.6	13.0	0.0	0.9	2.2	1.1	0.5	0.0	1.3	100.0
Average last 10 yrs	123.5	1089.0	139.9	563.4	512.7	298.9	181.1	4743.1	678.9	37.3	196.8	7665.0	2650.2	1.9	136.7	432.2	178.3	59.9	0.3	197.0	18969.7

JACK'S MOUNTAIN (Mifflin) - Ron Singer, compiler

Table with 18 columns: Month, Days, Hours, BLVU, TUVU, OSPR, BAEA, NOHA, SSHA, COHA, NOGO, RSHA, BWHA, RTHA, RLHA, GOEA, AMKE, MERL, PEFA, SWHA, Unid, Total. Includes monthly and total data for Jack's Mountain.

LITTLE GAP (Northampton) - Michael Schall, compiler

Table with 18 columns: Month, Days, Hours, BLVU, TUVU, OSPR, BAEA, NOHA, SSHA, COHA, NOGO, RSHA, BWHA, RTHA, RLHA, GOEA, AMKE, MERL, PEFA, SWHA, Unid, Total. Includes monthly and total data for Little Gap.

ROCKY RIDGE (York) - Randy Phillips, compiler

Table with 18 columns: Month, Days, Hours, BLVU, TUVU, OSPR, BAEA, NOHA, SSHA, COHA, NOGO, RSHA, BWHA, RTHA, RLHA, GOEA, AMKE, MERL, PEFA, SWHA, Unid, Total. Includes monthly and total data for Rocky Ridge.

ROSE TREE PARK (Delaware) - Holly Merker and Janet Crawford, co-compilers

Table with 18 columns: Month, Days, Hours, BLVU, TUVU, OSPR, BAEA, NOHA, SSHA, COHA, NOGO, RSHA, BWHA, RTHA, RLHA, GOEA, AMKE, MERL, PEFA, SWHA, Unid, Total. Includes monthly and total data for Rose Tree Park.

SECOND MOUNTAIN (Lebanon) - David Schwenk, compiler

Table with 18 columns: Month, Days, Hours, BLVU, TUVU, OSPR, BAEA, NOHA, SSHA, COHA, NOGO, RSHA, BWHA, RTHA, RLHA, GOEA, AMKE, MERL, PEFA, SWHA, Unid, Total. Includes monthly and total data for Second Mountain.

Total per hr		0.28	0.80	0.13	0.19	0.11	3.22	0.32	0.51	0.13	0.4	1.3	0.6	0.4	0.0	0.5	100.0
% of flight		2.8	8.1	1.3	1.8	1.1	32.6	3.3	0.1	1.3	35.3	8.4	0.0	1.1	94.0	111.5	40.6
Average last 10 yrs		133.3	843.3	335.1	689.3	174.6	183.1	118.6	2402.1	289.2	29.4	127.6	4012.3	1131	2.7	94.0	111.5

\*Total Includes one Mississippi Kite on September 22

Month	Days	Hours	BLVU	TUVU	OSPR	BAEA	NOHA	SSHA	COHA	NOGO	RSHA	BWHA	RTHA	RLHA	GOEA	AMKE	MERL	PEFA	SWHA	Unid	Total	
August	1	2.0	0	0	1	0	0	0	0	0	0	6	1	0	0	0	0	0	0	0	0	8
September	24	134.0	0	21	43	45	6	153	21	1	6	1084	23	0	0	31	7	2	0	0	8	1453
October	27	165.0	8	334	28	37	25	978	104	3	28	3	402	0	31	85	28	26	0	18	2148	
November	20	120.0	0	65	1	26	8	14	5	3	15	0	224	0	111	2	0	1	0	1	476	
December	2	7.0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	6	
<b>Total</b>	<b>74</b>	<b>428.0</b>	<b>8</b>	<b>420</b>	<b>73</b>	<b>108</b>	<b>39</b>	<b>1146</b>	<b>130</b>	<b>7</b>	<b>49</b>	<b>1093</b>	<b>653</b>	<b>0</b>	<b>145</b>	<b>128</b>	<b>35</b>	<b>29</b>	<b>0</b>	<b>28</b>	<b>4091</b>	
Total per hr	0.02	0.98	0.17	0.25	0.08	2.68	0.30	0.02	0.11	2.55	1.53	0.00	0.34	0.00	0.30	0.08	0.07	0.00	0.00	0.07	9.56	
% of flight	0.2	10.3	1.8	2.6	1.0	28.0	3.2	0.2	1.2	26.7	18.0	0.0	3.5	0.0	3.1	0.9	0.7	0.0	0.7	0.0	100.0	
Average last 10 yrs	63.0	346.8	18.8	191.9	76.8	76.3	58.0	883.8	168.5	8.5	57.0	1442.9	867.7	0.9	115.2	85.0	31.5	18.8	0.2	45.6	4280.3	

Month	Days	Hours	BLVU	TUVU	OSPR	BAEA	NOHA	SSHA	COHA	NOGO	RSHA	BWHA	RTHA	RLHA	GOEA	AMKE	MERL	PEFA	SWHA	Unid	Total	
August	19	99.5	0	51	33	16	145	16	16	1	6	2074	6	0	1	18	2	3	0	0	2	2374
September	24	127.4	110	500	34	40	43	748	84	0	19	0	187	1	27	51	23	24	0	0	62	1963
October	12	41.8	5	41	0	3	4	2	1	0	8	0	41	0	5	0	1	0	0	0	7	118
<b>Total</b>	<b>55</b>	<b>268.6</b>	<b>115</b>	<b>541</b>	<b>65</b>	<b>78</b>	<b>63</b>	<b>895</b>	<b>101</b>	<b>1</b>	<b>33</b>	<b>2074</b>	<b>244</b>	<b>1</b>	<b>33</b>	<b>69</b>	<b>26</b>	<b>27</b>	<b>0</b>	<b>71</b>	<b>4488</b>	
Total per hr	0.40	1.89	0.30	0.26	0.22	3.12	0.35	0.00	0.11	7.23	0.85	0.00	0.11	0.00	0.11	0.24	0.09	0.09	0.00	0.25	15.82	
% of flight	1.8	7.6	1.2	1.1	0.9	12.6	1.4	0.0	0.5	28.3	3.4	0.0	0.5	1.0	0.4	7.8	0.0	1.0	0.0	1.0	62.8	
Average last 10 yrs	62.3	330.1	34.8	375.0	84.5	56.5	61.2	816.9	85.8	2.0	25.8	2080.5	414.9	1.1	34.1	42.6	11.7	15.8	0	74.6	4317.8	

Month	Days	Hours	BLVU	TUVU	OSPR	BAEA	NOHA	SSHA	COHA	NOGO	RSHA	BWHA	RTHA	RLHA	GOEA	AMKE	MERL	PEFA	SWHA	Unid	Total
August	29	174.8	0	0	41	83	6	20	15	0	4	261	86	0	1	27	3	1	0	11	581
September	30	272.5	0	0	238	178	31	1478	114	0	6	6271	165	0	0	131	25	12	0	44	8693
October	30	284.8	18	1735	77	145	109	8297	374	15	154	12	1294	0	74	158	84	41	0	54	12641
November	27	237.3	0	278	1	77	33	112	26	21	80	0	1237	2	141	4	8	1	0	16	2038
December	24	144.3	12	4	0	52	4	10	2	5	1	0	145	0	25	0	0	0	0	6	286
<b>Total</b>	<b>140</b>	<b>1113.5</b>	<b>30</b>	<b>2018</b>	<b>367</b>	<b>535</b>	<b>185</b>	<b>9917</b>	<b>531</b>	<b>41</b>	<b>246</b>	<b>6544</b>	<b>2927</b>	<b>2</b>	<b>241</b>	<b>320</b>	<b>120</b>	<b>65</b>	<b>0</b>	<b>131</b>	<b>24199</b>
Total per hr	0.03	1.81	0.32	0.48	0.17	8.91	0.48	0.04	0.22	5.88	2.63	0.00	0.22	0.00	0.22	0.29	0.11	0.05	0.00	0.12	21.73
% of flight	0.1	8.3	1.5	2.2	0.8	41.0	2.2	0.2	1.0	27.0	12.1	0.0	1.0	0.0	1.3	0.5	0.2	0.0	0.0	0.5	100.0
Average last 10 yrs	140.8	1132.0	92.4	1619.7	458.1	419.7	255.2	8148.0	811.3	56.8	245.3	7488.6	3385.9	4.7	238.4	335.4	117.0	62.2	0.0	182.7	23901.4

\*Total Includes two Mississippi Kites

2014 TOTALS FOR ALL WATCHSITES																					
Month	Days	Hours	BLVU	TUVU	OSPR	BAEA	NOHA	SSHA	COHA	NOGO	RSHA	BWHA	RTHA	RLHA	GOEA	AMKE	MERL	PEFA	SWHA	Unid	Total
August	114	751	80	160	190	189	17	129	60	3	13	1,050	280	0	2	118	12	8	0	66	2,369
September	318	2,411	249	410	1,477	948	223	5,207	575	2	92	43,381	844	1	7	908	215	124	0	357	55,022
October	324	2,421	677	6,704	653	754	608	25,699	1,798	42	676	257	5,497	4	425	981	511	319	1	508	46,076
November	237	1,606	177	1,097	5	413	162	604	184	65	477	2	5,730	6	676	19	46	26	0	150	9,840
December	81	448	54	11	1	118	8	13	10	14	6	0	373	2	91	1	0	2	0	14	720
<b>Total</b>	<b>1076</b>	<b>7638</b>	<b>1237</b>	<b>8382</b>	<b>2326</b>	<b>2432</b>	<b>1018</b>	<b>31622</b>	<b>2628</b>	<b>126</b>	<b>1266</b>	<b>44,690</b>	<b>12,724</b>	<b>13</b>	<b>1,201</b>	<b>2,007</b>	<b>784</b>	<b>480</b>	<b>1</b>	<b>1,095</b>	<b>114,046</b>
Total per hr	0.16	1.10	0.30	0.32	0.13	4.14	0.34	0.02	0.17	5.85	1.67	0.00	0.16	0.00	0.16	0.26	0.10	0.06	0.00	0.14	14.93
% of flight	1.1	7.3	2.0	2.1	0.9	27.7	2.3	0.1	1.1	38.2	11.2	0.0	1.1	0.0	1.8	0.7	0.4	0.0	0.0	1.0	100.0
Average of last 10 yrs	1090.0	7444.0	1321.6	5334.2	2918.9	1839.9	1182.0	28116.7	3417.2	197.4	1220.2	62499.5	14840.9	15.9	1018.2	2037.4	681.6	375.2	2.0	1223.5	129344.0
% compared to average	-1.4	2.6	-6.4	32.3	-20.3	32.2	-14.6	12.5	-23.1	-38.2	3.8	-28.5	-14.8	-18.2	18.0	-1.5	15.0	27.9	-50.0	-10.5	-11.8