

Spring Raptor Migration Summary 2008

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Celebrating Spring

Pennsylvania birders have grown comfortable with autumn hawk-watching. Decades of counts have shown the state hosts a world-class raptor migration from August through December, and thousands of visitors flock to well-established sites across Pennsylvania to view hawks winging their way south. Less well-known—and much less appreciated—are the state's spring flights.

On 3 March, a strong southeast wind over Pennsylvania ridges stirred eagles into the air. Thirty-seven Golden Eagles soared over Allegheny Front in Bedford County, and 67 migrated north past Tussey Mountain, Centre County, with 22 passing in one hour. The Golden Eagles were accompanied by 14 Bald Eagles, which together made it an 81 eagle day for Tussey!

For some species, the northbound flight over Pennsylvania is among of the best in all of North America. The average Golden Eagle tallies at Tussey Mountain and Allegheny Front rank fourth and sixth, respectively, in North America, and are the two best for sites east of the Mississippi River. Rose Tree Park averages the fourth-highest spring count on the continent for Black Vulture, and just south of Pennsylvania at Fort Smallwood, Maryland, totals for many species place in the top five spring counts in the continent, suggesting there may be many spring migrants passing over Pennsylvania at as yet unknown sites.

In 2008, one-day site records include the 62 Golden Eagles on 3 March at Tussey, and 12 Bald Eagles flying north past Hawk Mountain on 4 May. An exciting new site, Presque Isle in Erie County, recorded thousands of Broad-winged Hawks and Turkey Vultures despite incomplete coverage, along with noteworthy one-day counts of American Kestrel (76) and Red-shouldered Hawk (42). Surely, Pennsylvania has much to offer spring hawk-watchers.

Regional Summary

During spring 2008, five watch sites tallied 12,367 raptors of 16 species across Pennsylvania. Overall, effort

was reduced this year with a total of 1056 hours in 188 days (down 27% compared to 2007; see Tables 1 and 2). Observation dates ranged from 24 February to 15 May.

Presque Isle contributed over half of the sightings: 7239 in 53 hours of counts during March and April. Reduced coverage at Rose Tree Park and Tussey Mountain was reflected in overall totals; however, Allegheny Front and Hawk Mountain showed average to above-average effort and totals in 2008, and a few new seasonal highs for some species. Tussey counters maintained good coverage during early-season eagle migration and noted record counts as well, despite reduced coverage in April.

Spring counters were challenged by cold and northerly winds during April, contributing to lower overall counts at Rose Tree Park. Cold may also have played a role in what seemed a late Bald Eagle push at Hawk Mountain in early May. Overall, the 2008 spring season brought impressive eagle flights over the entire state (Figure 1). Bald Eagles set season records at three sites: Hawk Mountain (25), Allegheny Front (35), and Tussey Mountain (51).

The 2008 count was higher than average and was more dominated by Turkey Vulture (40% of migrants) than in prior years, primarily due to the new efforts at Presque Isle (Tables 1 and 2). Numbers of Black Vulture were lower than in most prior years (Table 2), and Osprey, Northern Harrier, and Cooper's Hawk also showed lower counts than in 2007, possibly due to reduced effort at some sites. Turkey Vulture, Bald Eagle, Sharp-shinned Hawk, Northern Goshawk, Red-shouldered Hawk and Broad-winged Hawk all showed above average counts.

Peak migration dates were early beginning with the eagle push on 3 March which also included the peak Red-tailed Hawk flight at Tussey Mountain and Allegheny Front, where totals were 51 and 33 respectively. Golden Eagles continued to storm northward through late March; Tussey counted 10 to 21 eagles daily from the 11 to 16 March. In April, Broad-winged Hawks flights were staggered across the state, with peak days occurring at

Rose Tree Park on the 13 April (85 birds), at Presque Isle on 19 April (1212 in 3.5 hours), at Hawk Mountain on 26 and 27 April (98 both days), and at Allegheny Front 25 April (128 birds). Only Allegheny Front and Hawk Mountain recorded hours in May. A surprisingly late push of 12 Bald Eagles flew past Hawk Mountain 4 May, with 8 passing in a 40 minute span.

Table 1: Pennsylvania watch sites reporting for 2008

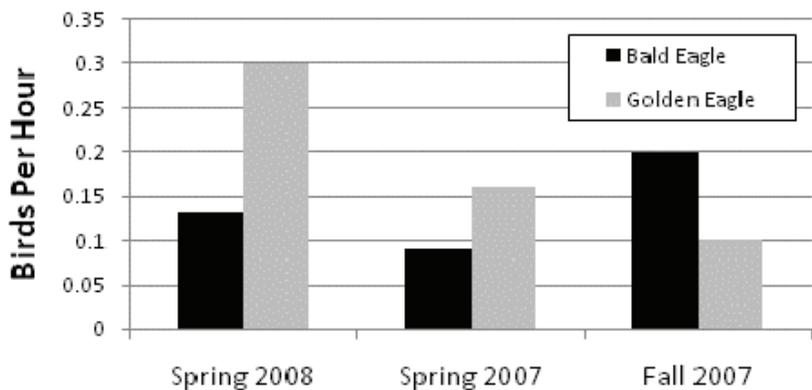
Site	Hours	Total
Allegheny Front	430	2161
Hawk Mountain	253	1062
Presque Isle	53	7329
Rose Tree Park	73	626
Tussey Mountain	248	1283
Total	1056	12367

Site Highlights

Allegheny Front (Bedford): Allegheny Front counters expended 430 hours of effort over 65 days between 23 February and 7 May. An above-average 2161 hawks were tallied, compared to the long-term average of 1851. Red-tailed Hawks led the count totals with 478, comprising 22% of the flight (Table 2). Broad-winged Hawks, Turkey Vultures, and Osprey made up 20%, 19%, and 9% of the flight respectively. New records were set for Osprey (185), Bald Eagle (35), and Red-shouldered Hawk (110). 25 April brought the highest one-day count, with 260 migrant raptors which included 128 Broad-winged Hawks and 36 Osprey. Red-shouldered Hawk numbers for this site were some of the highest recorded for spring in Pennsylvania, and the Golden Eagle tally was above average (Table 2). Rarities sighted included four Merlin and four Peregrine Falcons sighted during March and April.

Hawk Mountain Sanctuary (Berks/Schuylkill): Hawk Mountain's spring watch began on 3 March with the daily coverage from 1 April to 15 May, excluding nine days of rain. The count of 1062 raptors in 240 hours of coverage was slightly higher than last

Figure 1: Counts of migrating eagles at PA sites in 2007 (n=4, 10) and 2008 (n=5).



year's 1012 birds but lower than the nine-year average of 1128. Effort was slightly above-average. Broad-winged Hawks dominated the total with 468 migrants composing 44% of the flight. Sharp-shinned Hawk, Red-tailed Hawk, and Osprey contributed 11%, 9%, and 9% of the migrants respectively (Table 2). Above-average counts were recorded for Turkey Vulture, Cooper's Hawk, Merlin, and American Kestrel, and a new spring record was set for Bald Eagle (25). Below-average tallies of Red-tailed and Sharp-shinned Hawks were noted. Light northwest winds on 12 April brought the season's best one-day flight of 133 migrants, which included the peak one-day count for Sharp-shinned Hawk (36) and Osprey (17). Broad-winged Hawks peaked later in the season with 98 birds on both 26 and 27 April. On 4 May, 12 Bald Eagles glided past, setting a new spring one-day record for this species. Another 17 Osprey joined the northbound eagle parade, tying the best one-day peak Osprey count; the total of 103 migrants on 4 May was of the best May totals on record.

Presque Isle (Erie): A promising new site was established at the Tom Ridge Environmental Center in Erie adjacent to Presque Isle State Park, by J. McWilliams and others. Counts were conducted periodically from 3 March through 29 April, covering 17 days and 53 hours of effort. The count total for this site, 7239, was fully 59% of Pennsylvania's total flight in 2008. This Great Lakes site revealed a migration dominated by Turkey Vulture (4257, 59% of the flight) and Broad-winged Hawk (1661, 23%).

Counts of Rough-legged Hawk (13), Red-shouldered Hawk (120), and American Kestrel (188) were best among the state's spring sites. Peak dates were 1258 migrants on 25 March including 1117 Turkey Vultures and 52 Red-shouldered Hawks, and 1543 migrants on 19 April with the peak Broad-winged Hawk count of 1212.

Rose Tree Park (Delaware) - Rose Tree Park Hawkwatch counters covered 73 hours from 15 March through 30 April, a reduction from previous years. Counters tallied 626 total migrants as compared to a seven-year average of 2251, though the birds per hour were comparable to prior years (Table 2). Inclement weather on nine days and a series of stalled fronts in April may have reduced counts for this southeastern site. Broad-winged Hawks were the most abundant migrant with 192 counted representing 31% of the flight. Osprey represented 19% of the flight, and Sharp-shinned (73) and Red-tailed Hawks (75) each represented 12% of the migrants. Peak flights occurred on 12 and 13 April, when 137 and 113 total raptors were noted, respectively.

Tussey Mountain (Centre): Tussey Mountain reported an "eagle year", with the site setting new records for Bald Eagle (51) and Golden Eagle (225). Coverage began 24 February and concluded 26 April, and included 39 days and 248 hours of effort (42%, below-average). A total of 1243 raptors were tallied, below the 5-year average of 1543. Red-tailed Hawk was the most numerous species for this site, representing 29% of the flight (Table 2). Golden Eagles totaled 18% of the

migrants, Broad-winged Hawks 15%, and Turkey Vultures 11%. Reduced coverage in late March and April kept overall totals below average for most species, although Red-shouldered and Rough-legged Hawks were above-average (50 and 9 respectively), as were both eagle species (Table 2).

3 March brought Tussey's peak one-day count of 166 raptors and, amazingly, more Golden Eagles (62) than Red-tailed Hawks (51). This was a new record one-day count of Golden Eagles anywhere in Pennsylvania! Golden Eagle counts were steady from 11 to 16 March with more than 10 eagles per day for the period. On 19 April, the peak flight of Broad-winged Hawks (108) soared northward.

Conclusion

In spring 2008, Pennsylvania watchers reported an average of 12 birds per hour, and set several new site and state records. Golden Eagles per hour were higher than seen during either autumn or spring 2007 (Figure 1), and one-day counts for some species at single sites (e.g., Turkey Vulture, Red-shouldered Hawk, American Kestrel) were as high or higher than is generally expected during autumn. Despite the migrant numbers, several sites suffered from lack of counters to cover the peak migration periods.

So, dust off your binoculars a little early in 2009 and help us celebrate spring flights through Pennsylvania—there is much still to discover and enjoy. For information on Pennsylvania watch-sites, contacts, daily counts, and contacts, see <www.hawkcount.org>.

Acknowledgments

I thank site compilers David Brandes, Jim Lockyer, Jerry McWilliams, Che Mincone, Dan Ombalski, Dana Owen, and the overseer of the migration count database <www.hawkcount.org>: the Hawk Migration Association of North America. I also thank all the spring counters who collected these data. Keith L. Bildstein provided helpful comments on an earlier version of this manuscript. This is Hawk Mountain Sanctuary contribution number 170.

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Table 2. 2008 Pennsylvania Spring Raptor Migration Summary

ALLEGHENY FRONT (Bedford); Angelo Mincone, compiler

Month	Days	Hours	BLVU	TUVU	OSPR	BAEA	NOHA	SSHA	COHA	NOGO	RSHA	BWHA	RTHA	RLHA	GOEA	AKEST	MERL	PEFA	UNID	TOTAL
FEB	6	21	2	0	0	0	0	0	1	0	0	0	5	0	3	0	0	0	1	12
MAR	27	174	5	298	2	19	5	36	22	5	93	0	228	1	83	16	2	3	45	863
APR	25	183	3	105	145	12	24	116	29	4	15	411	230	0	8	10	2	1	53	1168
MAY	7	52	2	7	38	4	0	19	4	0	2	22	15	0	0	0	0	0	5	118
TOTAL	65	430	12	410	185	35	29	171	56	9	110	433	478	1	94	26	4	4	104	2161
Avg/Year		418	12	349	109	17	33	174	68	5	56	375	449	3	66	22	7	4	103	1851
Birds/Hour			0.03	0.95	0.43	0.08	0.07	0.40	0.13	0.02	0.26	1.01	1.11	0.00	0.22	0.06	0.01	0.01	0.24	5.03
% Flight			0.6	19.0	8.6	1.6	1.3	7.9	2.6	0.4	5.1	20.0	22.1	0.0	4.3	1.2	0.2	0.2	4.8	100.0

HAWK MOUNTAIN SANCTUARY (Berks and Schuy/kill); Laurie Goodrich and Dana Owen, compilers

Month	Days	Hours	BLVU	TUVU	OSPR	BAEA	NOHA	SSHA	COHA	NOGO	RSHA	BWHA	RTHA	RLHA	GOEA	AKEST	MERL	PEFA	UNID	TOTAL
FEB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MAR	2	7	0	0	0	2	0	1	1	0	1	0	7	0	0	2	0	0	0	14
APR	27	179	7	35	70	9	16	98	40	2	5	443	73	0	0	40	6	0	65	909
MAY	11	67	3	0	22	14	6	15	5	0	3	25	16	0	0	2	2	0	26	139
TOTAL	40	253	10	35	92	25	22	114	46	2	9	468	96	0	0	44	8	0	91	1062
Avg/Year		229	11	19	126	10	31	145	35	1	11	459	147	0	1	39	6	2	69	1128
Birds/Hour			0.04	0.14	0.36	0.10	0.09	0.45	0.18	0.01	0.04	1.85	0.38	0.00	0.00	0.17	0.03	0.00	0.36	4.21
% Flight			0.9	3.3	8.7	2.4	2.1	10.7	4.3	0.2	0.8	44.1	9.0	0.0	0.0	4.1	0.8	0.0	8.6	100.0

PRESQUE ISLE (Erie); Jerry McWilliams, compiler

Month	Days	Hours	BLVU	TUVU	OSPR	BAEA	NOHA	SSHA	COHA	NOGO	RSHA	BWHA	RTHA	RLHA	GOEA	AKEST	MERL	PEFA	UNID	TOTAL
FEB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MAR	4	11	0	1897	0	4	4	38	26	0	97	0	135	2	0	29	0	1	28	2261
APR	14	42	0	2360	53	10	39	337	31	0	23	1661	270	11	0	159	8	1	15	4978
MAY		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	18	53	0	4257	53	14	43	375	57	0	120	1661	405	13	0	188	8	2	43	7239
Avg/Year		na																		
Birds/Hour			0.00	80.32	1.00	0.26	0.81	7.08	1.08	0.00	2.26	31.34	7.64	0.25	0.00	3.55	0.15	0.04	0.81	136.58
% Flight			0.0	58.8	0.7	0.2	0.6	5.2	0.8	0.0	1.7	22.9	5.6	0.2	0.0	2.6	0.1	0.0	0.6	100.0

ROSE TREE PARK (Delaware); Jim Lockyer, compiler

Month	Days	Hours	BLVU	TUVU	OSPR	BAEA	NOHA	SSHA	COHA	NOGO	RSHA	BWHA	RTHA	RLHA	GOEA	AKEST	MERL	PEFA	UNID	TOTAL
FEB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MAR	8	19	3	72	2	4	0	10	1	1	4	0	24	0	0	3	0	0	2	126
APR	18	54	21	47	32	7	7	63	24	1	2	192	51	0	0	43	6	0	4	500
MAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	26	73	24	119	34	11	7	73	25	2	6	192	75	0	0	46	6	0	6	626
Avg/Year		292	45	239	124	47	53	203	68	2	20	1191	107	0	1	170	8	4	32	2251
Birds/Hour			0.33	1.64	0.47	0.15	0.10	1.01	0.34	0.03	0.08	2.65	1.03	0.00	0.00	0.63	0.08	0.00	0.08	8.63
% Flight			3.8	19.0	5.4	1.8	1.1	11.7	4.0	0.3	1.0	30.7	12.0	0.0	0.0	7.3	1.0	0.0	1.0	100.0

TUSSEY MOUNTAIN (Centre); David Brandes and Dan Ombalski, compilers

Month	Days	Hours	BLVU	TUVU	OSPR	BAEA	NOHA	SSHA	COHA	NOGO	RSHA	BWHA	RTHA	RLHA	GOEA	AKEST	MERL	PEFA	UNID	TOTAL
FEB	5	34	1	10	0	0	0	0	0	0	0	0	8	2	6	0	0	0	0	27
MAR	24	171	11	112	2	45	19	29	14	0	48	0	266	7	218	18	0	0	25	814
APR	10	43	0	22	31	6	10	51	12	0	2	193	92	0	1	7	2	0	13	442
MAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	39	248	12	144	33	51	29	80	26	0	50	193	366	9	225	25	2	0	38	1283
Avg/Year		430	29	325	70	19	40	135	86	3	53	349	531	7	168	41	3	0	64	1545
Birds/Hour			0.05	0.58	0.13	0.21	0.12	0.32	0.10	0.00	0.20	0.78	1.47	0.04	0.91	0.10	0.01	0.00	0.15	5.17
% Flight			0.9	11.2	2.6	4.0	2.3	6.2	2.0	0.0	3.9	15.0	28.5	0.7	17.5	1.9	0.2	0.0	3.0	100.0

TOTAL FOR ALL PENNSYLVANIA WATCHSITES

Month	Days	Hours	BLVU	TUVU	OSPR	BAEA	NOHA	SSHA	COHA	NOGO	RSHA	BWHA	RTHA	RLHA	GOEA	AKEST	MERL	PEFA	UNID	TOTAL
FEB	11	55	3	10	0	0	0	0	1	0	0	0	13	2	9	0	0	0	1	39
MAR	65	382	19	2379	6	74	28	114	64	6	243	0	660	10	301	68	2	4	100	4078
APR	94	501	3	2569	331	44	96	665	136	7	47	2900	716	11	9	259	24	2	150	7969
MAY	18	119	5	7	60	18	6	34	9	0	5	47	31	0	0	2	2	0	31	257
TOTAL	188	1056	58	4965	397	136	130	813	210	9	295	2947	1420	13	319	329	28	6	282	12357
Birds/Hour			0.05	4.70	0.38	0.13	0.12	0.77	0.20	0.01	0.28	2.79	1.34	0.01	0.30	0.31	0.03	0.01	0.27	11.70
% Flight			0.5	40.2	3.2	1.1	1.1	6.6	1.7	0.1	2.4	23.8	11.5	0.1	2.6	2.7	0.2	0.0	2.3	100.0
% Chg			-24.3	-26.8	-4.6	3.8	-9.1	8.0	-21.1	28.6	95.4	111.4	34.0	62.5	37.5	67.9	75.0	-33.3	33.6	115.6

Key for Summary Tables

Code	Species Name
BLVU	Black Vulture
TUVU	Turkey Vulture
OSPR	Osprey
BAEA	Bald Eagle
NOHA	Northern Harrier
SSHA	Sharp-shinned Hawk
COHA	Cooper's Hawk
NOGO	Northern Goshawk
RSHA	Red-shouldered Hawk
BWHA	Broad-winged Hawk
RTHA	Red-tailed Hawk
RLHA	Rough-legged Hawk
GOEA	Golden Eagle
AKEST	American Kestrel
MERL	Merlin
PEFA	Peregrine Falcon
UNID	Unidentified hawks
TOTAL	Total hawks

**United States Postal Service
Statement of Ownership, Management, and Circulation**

1. Publication Title: **Pennsylvania Birds**
2. Publication Number **0898-8501**
3. Filing Date **9/10/2008**
4. Issue Frequency **Quarterly**
5. Number of Issues Published Annually **4**
6. Annual Subscription Price **\$28.50**
7. Complete Mailing Address of Known Office of Publication: **2469 Hammertown Rd, Narvon, Lancaster, Pa 17555-9730; Contact Person Franklin Haas; Telephone 717-445-9609**
8. Complete Mailing Address of Headquarters or General Business Office of Publisher: **2469 Hammertown Rd, Narvon, Lancaster, Pa 17555-9730**
9. Full Names and Complete Mailing Addresses of Publisher, Editor, and Managing Editor
 Publisher: **Pennsylvania Society for Ornithology, 2469 Hammertown Rd, Narvon, Lancaster, Pa 17555-9730**
 Editor: **Pennsylvania Society for Ornithology, 2469 Hammertown Rd, Narvon, Lancaster, Pa 17555-9730**
 Managing Editor: **Pennsylvania Society for Ornithology, 2469 Hammertown Rd, Narvon, Lancaster, Pa 17555-9730**
10. Owner: **Pennsylvania Society for Ornithology, 2469 Hammertown Rd, Narvon, Lancaster, Pa 17555-9730**
11. Known Bondholders, Mortgagees, and Other Security Holders Owning or Holding 1 Percent or More of Total Amount of Bonds, Mortgages, or Other Securities. If none, check box: **X None**
14. Issue Date for Circulation Data Below **07/21/08**

15. Extent and Nature of Circulation		Average No. Copies During Preceding 12 Months	No. Copies Published Nearest to Filing Date
a. Total Number of Copies (Net press run)	(1) Paid/Requested Outside-County Mail Subscriptions Stated on Form 3541.	428	417
	(2) Paid In-County Subscriptions Stated on Form 3541	409	400
	(3) Sales Through Dealers, etc.	19	17
	(4) Other Classes	0	0
Total Paid and/or Requested Circulation		429	417
d. Free Distribution by Mail	(1) Outside-County	0	0
	(2) In-County	0	0
	(3) Other	2	2
e. Free Distribution Outside the Mail		2	2
f. Total Free Distribution (Sum of 15d. and 15e.)		4	4
Total Distribution (Sum of 15c. and 15f) g.		433	421
Copies not Distributed		43	36
Total (Sum of 15g. and h.) i.		476	457
Percent Paid and/or Requested Circulation j.		99	99

16. Publication of Statement of Ownership
 Publication required. Will be printed in the Vol 22 No.2 issue of this publication.
 17. Signature and Title of Editor, Publisher, Business Manager, or Owner Date
 Franklin C. Haas, Membership Manager, 09/10/08
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