Autumn Raptor Migration Summary 2001

by Kyle McCarty and Keith L. Bildstein

Fourteen hawkwatch sites reported counts for autumn 2001 (Table 1 and 2). Overall, count hours ranged from 98 to 1,189 hours, for a total of 8,899.5 hours. A total of 109,782 raptors representing 17 species was reported. Swainson's Hawks (Buteo swainsoni) were observed at two (Little Gap and Stone Mountain) of the 14 watchsites. Eleven sites posted daily results to the BirdSource Autumn Hawkwatch website

(www.birdsource.org/HawkWatch/) and many also listed counts on the HMANA Birdhawk listsery or RaptorsOnline.

Average count effort (hours of observation) per watchsite in 2001 increased 11% over 2000 (636 hours/site in 2001 versus 564 hours/site in 2000), the highest watchsite average since 1998. with more time devoted to counting in the second part of the season this year (October to December) than in any of the previous three years. Count effort fluctuated by <7% at most sites compared to 2000, with the largest increases at Allegheny Front (up 45%; 605 hours in 2000 vs. 884 hours in 2001), Tuscarora Summit (25%; 359.5 hours vs. 449.5 hours), and Stone Mountain (19%; 347 hours vs. 412 hours). Five watchsites (Allegheny Front, Bake Oven Knob, Hawk Mountain Sanctuary, Second Mountain, and Waggoner's Gap) logged more than 800 hours of effort (Table 1). Effort at Brady's Bend and Rocky Ridge dropped 13% and 26%, respectively.

Composition of the flight

Table 1. Watchsites reporting data for autumn 2001.

Watchsite	County	Hours of observation
Hawk Mountain	Berks	1189
Waggoner's Gap	Cumberland	1188
Second Mountain	Lebanon	1186
Allegheny Front	Bedford	884
Bake Oven Knob	Lehigh	801
Little Gap	Northampton	749
Rose Tree Park	Delaware	685.5
Militia Hill	Montgomery	465
Tuscarora Summit	Fulton	449.5
Jack's Mountain	Mifflin	437
Stone Mountain	Huntington	412
Brady's Bend	Clarion	210
Rocky Ridge	York	145.5
Sterrett's Gap	Perry	98

In autumn 2001, almost all Pennsylvania watchsites reported much lower than average counts of Broad-winged Hawks (Buteo platypterus), and only Little Gap and Waggoner's Gap counted >5,000 individuals of this species (Table 2). Overall count effort in September increased slightly from 2000 to 2001, but passage rate of Broad-winged Hawks fell by more than half compared to 2000 (3.4 birds/hr vs. 7.5 birds/hr). Sharp-shinned Hawks (Accipiter striatus) and Broadwinged Hawks made up a nearly equal percentage of the overall flight, at about 27% each. Broad-winged Hawks comprised the largest part of the flight at only 5 of the 14 sites, ranging from <4% of the total flight at Sterrett's Gap to 55% of the total flight at Militia Hill (Note: Sterrett's Gap had limited coverage in September, and Militia Hill counted only in September and October). Annual variation in numbers of Broad-winged Hawks is typical for the species, and weather conditions may account for the differences in 2001.

The Sharp-shinned Hawk flight ranged from 13% of the total at Sterrett's Gap to 32% at Second Mountain, and Red-tailed Hawks (Buteo jamaicensis), which made up the third largest portion of the overall flight at 21%, ranged from 4% of the total at Militia Hill to 45% at Sterrett's Gap. Of the remaining 13 regular migrants in Pennsylvania, only Turkey Vultures (Cathartes aura) made up more than 5% of the overall flight, and this was the only other species comprising more than 10% of the flight at any individual site, with 36% at Brady's Bend and 24% at Sterrett's Gap (Table 2).

The passage rates for ten of the 16 migrant species [Osprey (Pandion haliaetus), Bald Eagle (Haliaeetus leucocephalus), Sharp-shinned Hawk, Cooper's Hawk (Accipiter cooperii), Redshouldered Hawk (Buteo lineatus), Rough-legged Hawk (B. lagopus), Golden Eagle (Aguila chrysaetos), American Kestrel (Falco sparverius), Merlin (F. columbarius), and Peregrine Falcon (F. peregrinus)] varied little from 2000 to 2001. However, with the overall increase in count effort, half of the sites reported record numbers of Bald Eagles and five sites had record numbers of Merlins (see highlights below); both of these species have been well-represented throughout the state in recent years. Season records also were reported for Turkey Vultures at five sites.

Allegheny Front (Bedford)

A record 8,449 total hawks was recorded at this site, which also set new record season totals for Bald Eagles (41), Redshouldered Hawks (129), Red-tailed Hawks (2,814), and Golden Eagles (163). The Golden Eagle count was the secondhighest and the 7 Rough-legged Hawks were the most reported in the state in 2001. One highlight occurred on December 12, when 17 Golden Eagles were counted. Passage rates for most species were similar to last year, however count coverage was expanded from 2000 and included more days in the early and late parts of the season. A new Saw-whet Owl (Aegolius acadicus) banding station produced 48 owls in six nights.

Bake Oven Knob (Lehigh)

Observers logged 801 hours in 2001, a new record over last season's 745 hours. Record numbers of Black Vultures (Coragyps atratus) (289), Turkey Vultures (804), Bald Eagles (175), Cooper's Hawks (459), American Kestrels (318), and Merlins (102) were sighted. The Bald Eagle total was the highest count in the state in 2001. The best days were September 1, 5, and 14, with 14, 13, and 13 eagles respectively. A single-day record of 79 Turkey Vultures was seen on November 4. The 571 Ospreys and 41 Peregrine Falcons were the second highest season counts ever at the site, and the 3,972 Sharp-shinned Hawks was the highest since 1989.

Brady's Bend (Clarion)

With the low numbers of Broad-winged Hawks at most watchsites in the state and the loss of a second observer at this site, totals were the lowest since the site was established in 1999. The season total was 422, mainly made up of Turkey Vultures, which increased slightly to 152 over last year's total of 145. Count effort decreased 30 hours from 2000. Compiler Mark McConaughy also noted that fewer non-raptor migrant species were seen.

Hawk Mountain Sanctuary (Berks)

More Merlins were counted at the site than at any other in the state, and the season total of 176 topped last year's long-term record. Seventeen Merlins were seen on October 6 and 15, the site's seventh-best single day counts. The highest state counts for Osprey (573), Cooper's Hawk (902), and American Kestrel (581) also were reported. Back-to-back days of over 500 Red-tailed Hawks came on the weekend of October 27-28, a phenomenon that has occurred only 4 other times at the Sanctuary. Most species were at or above the ten-year average.

Jack's Mountain (Mifflin)

Compiler Ron Singer reported an overall average year at the site. Like many of the watchsites this year, Sharp-shinned Hawks were the most numerous migrant, and accounted for 1,105 of the total 3,628 hawks. The Red-tailed Hawk count (1,022) also made up nearly a third of the total. Broad-winged Hawk numbers were below average for the site. The peak flight of 14 Golden Eagles came on November 4.

Little Gap (Northampton)

A light-morph Swainson's Hawk (Buteo swainsoni) highlighted the count on September 15, only the fifth time this species has been seen at the site. New season records were set for Black Vulture (89), Turkey Vulture (378), and Merlin (89), and the American Kestrel total of 424 beat the previous record of 397 set in 2000. The 5,522 Broad-winged Hawks was the state high count total. Hours of effort increased by more than 30 over last year; however the number of count days remained equal.

Militia Hill (Montgomery)

The peak flight days occurred September 15-16, when 602 and 682 birds were counted. Broad-winged Hawks made up

more than half of the flight overall. The 42 Bald Eagles fell just short of the site record of 44, and Cooper's Hawks (149) were also well-represented. Northern Goshawks, Rough-legged Hawks, and Golden Eagles were all reported last year, but none were seen at the site in 2001.

Rocky Ridge (York County) – A season record of 38 Bald Eagles, with a high count of 7 on September 15, was reported at the site, which has seen numbers of this species increase steadily over the past ten years. Also of note was a total of 91 American Kestrels, well above the 16-year average of 48 per season. Although Broad-winged Hawks were nearly 70% below the annual average, totals for Sharp-shinned, Cooper's, and Red-tailed Hawks were somewhat above average. Count effort was typical for the site, with 146 hours, mainly in September and October.

Rose Tree Park (Delaware)

Ten new records were set for species totals at the site, including 84 Black Vulture (peak day of 20), 610 Turkey Vulture (79), 113 Bald Eagle (7), 93 Northern Harrier (8), 1,890 Sharpshinned Hawk (217), 235 Cooper's Hawk (16), 20 Northern Goshawk (3), 192 Redshouldered Hawk (37), 431 American Kestrel (42), and 61 Merlin (4). A year after totaling nearly 14,000 Broad-winged Hawks, observers counted only 2,094, the lowest in the three years of consistent count effort at the site. Passage rates for the remaining species were near or above those for 2000, except for the Roughlegged Hawk, which was not seen in 2001.

Second Mountain (Lebanon)

Count effort was expanded to a record 1186 hours and a state high of 149 days. Twenty-seven Bald Eagles counted in September helped set a new season record of 68, and the 2000 record of 66 Merlins was increased to 82 in 2001. Twenty-seven Merlins were seen October 9-16. A peak Northern Goshawk flight of 8 on October 16 highlighted a tied record total of 104. Observers reported more Black Vultures (300) than any other site this year.

Sterrett's Gap (Perry)

Count effort at the site was comparable to 2000. There was an overall decrease in accipiter hawks, but increases in vultures

and harrier. The peak of the Golden Eagle flight occurred November 4-7, when observers counted 12 individuals, and the peak flight overall was October 27 with 199 birds of 9 species.

Stone Mountain (Huntingdon)

The site experienced a good to excellent year in comparison to the previous ten years, according to compiler Greg Grove, who noted that several season and singleday records were established, including a total of 42 Bald Eagles (8 single-day), 255 Cooper's Hawks, 25 Northern Goshawks (5 single-day), and 39 Peregrine Falcons (11 single-day). Additionally, single-day records were set for Sharp-shinned Hawk (176) and Red-tailed Hawk (328). On November 9, a Swainson's Hawk was seen. It was the second best year on record for Ospreys, Sharp-shinned Hawks, Red-tailed Hawks, Golden Eagles, and Merlins.

Tuscarora Summit (Fulton)

The 2001 count was the best since 1993. A season record of 401 Turkey Vultures topped the previous high by nearly 100 birds, and the Golden Eagle count tied the 1999 record of 52. The Northern Harrier total reached 100 for the first time in eight years. The peak flight for this species was October 19, when 20 were seen. Passage rates for 12 species and for all species combined increased from 2000, and only the Bald Eagle and Broad-winged Hawk were seen at a lesser rate.

Waggoner's Gap (Cumberland)

The only site to report more than 200 Golden Eagles in the state, Waggoner's Gap also had state high counts of 1,243 Turkey Vultures (also a season record for the site), 313 Northern Harriers, 5,768 Sharp-shinned Hawks, 156 Northern Goshawks, 377 Red-shouldered Hawks, 4,632 Red-tailed Hawks, 52 Peregrine Falcons, and 20,098 total birds. Other site records include a season total of 149 Bald Eagles with a single-day record of 16 on September 14, and a single-day record of 105 Red-shouldered Hawks on October 29. More than 40% of the Northern Harrier flight passed during October 16-31. 7

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Table 2. PENNSYLVANIA AUTUMN HAWK MIGRATION SUMMARIES

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Social				13 600		0	22		5	1					1		1	0	007	200
Total	64	465		13 238	249	42	40	845	149	0	16	2,756	183	_	,	300	21	C	102	2,027
IOIGI						1		1	1	1	1	1		ľ		020	200	000	000	*0.04
Total nar hr			0.03	3 0.51	0.54	0.09	0.09	1.82	0.32	0.00	0.03	5.83	0.38	00.00	0.00		0.00	20.02	0.52	10.03
1000					١		0	1	000	00	000	0 73	30	0	00	7.2	PO	0	000	1000
% of flight			0.3	3 4.7	2.0	0.0	0.8	10,01	3.0	200							-	1	2	200

ROCKY RIDGE (York) 2001 Randy Phillips, compiler

Total	18	876	625	176	65	1 761	19 10	1000	100.0
Unid	-	15	12	0	0	98	0 10	0 0	1.6
PEFA	0	-	3	0	0	7	0.00	200	0.2
MERL	0	+	-	0	C	0	100	0.00	0.1
AMKE	-	57	33	0	c	010	0 0	0.05	5.2
GOEA	0	0	-	0	C	-	200	0.0	0.1
3LHA	0	0	0	0	0	0	000	0.00	0.0
THA	0	19	187	87	18	080	2007		16.4
WHA	12	554	0	0	0	200	000	3.89	32.1
RSHA	0	60	11	P	-	9	0 0	0.12	1.0
NOG	0	0	c	-	0	1	- 000	0.01	0.1
OHA	-	16	0	0	1	200	000	0.26	2.2
SSHAIC	0	138	700	100	1	1000	388	2.67	22.0
OHAIS	2	00	0	7	1	3	52	0.16	1.3
AFAIN	-	23	0	0 -	1	4 6	33	0.26	2.2
SPR	-	30	1	f	0	5	44	0.30	2.5
CIIVII.		0	100	27	2	9	163	1.12	9.3
T IIIV IS	0	0	1 0	2 5	7	4	67	0.46	3.8
Oure B	-	27.0	3 5	40.0	17	0	145.5		
Devil	700		1	4 0	0	3	46		
Aceth	VIOLEN AND	Roy	dac	5	NON	Dec	Total	Total per hr	

ROSE TREE PARK (Delaware) 2001 Jim Lockyer, compiler

Total	195	9 070	3,070	2.346	100	489	0 700	0,100	9.79	4000	100.0
Unid	13	100	40	48		15	440	21	0.16	0,	0.1
PEFA	0	1	4	6	1	2	u.	0	0.05	0	0.2
MERL	0	27	0	37	1	6	90	0	0.09	000	0.8
AMKE	14	000	280	129	-	2	101	431	0.63	1	6.4
GOEA	0	1	0	4		-	-	0	0.01		0.1
RLHA	0	1	0	C	1	0	4	0	00.00		0.0
RTHA	12		35	218	2	103	10,	465	0.68		6.9
BWHA	64		2,026	P		0	1000	2,094	3.05	2	31.2
RSHA	ç		10	418	0	49	1	187	0.27	1	2,8
NOG	İ		m	47		0	1	20	0.03	0.0	0.3
COHA	10	2	87	440	0	19		234	0.34	5.5	3.5
AHSS	-		822	000	222	129		1,885	975	51.7	28.1
NOHA	7		40	OF		6		92	9		1.4
RAFA	0	0	52	00	200	13		112	0.40	0.10	1.7
Gepp	200		231		300	0		303	1	4.0	4.5
TIVII			22		455	119		610		0.03	9.1
IIV III	DEV	4	14		48	19		84	0	0.12	13
House	1100113	120	086	100	228	105.5	2.00	685.5			
	Day	10	30	1	31	18		60			
Manth	_1	Aug	Cog	200	Ö	Mon	2	Total		lotal per hr	W. of High

SECOND MOUNTAIN (*Lebanon*) 2001 David Schwenk, compiler

100.0							10:0	1.00	1	1:0	4.0	31.7	1.0	0.9	3.2	8.6	3.8			% of flight
	1.0	0.5	1.0	2.4	0.8	0.0	16.6	201	17	-	1	2 10		1		ı				hr
_		1 000				0	3.40		9.10	60.0	0.30	2.12	0.12	0.06	0.22	0.57	0.25			Total per
_	0.07	0.03	0.07	0.16	0.05	000	1 11	1 2/	2	3	2	1,000	100	0	200	6/0	300	1186	149	Total
T	1	6	20	190	CO	-	1,311	1,594	137	104	361	2 509	139	a	220	270	1			000
	RA	age age	8	400	2		1		1	C	-	U	0	10	0	75	97	171	28	Dec
Г	2	2	0	0	6	0	50	0	o	л	4	1	, !		-	101	/0	122	67	Nov
T		0	-	c	17	c	384	C	35	35	==	42	24	מ		4	375	2	3	000
	4	0		0	2	2	2	,	000	4	202	1,500	10	7	1	473	127	299	i,	Oct
Г	00	10	42	44	30		687	4	86	5.4	282	4 020	70	5		1		200	00	dac
	30	à	5				140	1,400	10	10	80	503	38	27	222	0	0	282	3	200
2,/54	32	23	32	132	4	0	140	4 408	2	5	3	100		i	22	0	0	212	31	Aug
T	2	0	,	1	c	C	48	92	_	0	7	29	7	1	-	0	DE VO		Day	Month
1	0	2	7	MINE	COEMA	THAIL	THAIT	BWHAI	RSHALE	NOG F	COHA	SSHAK	AHONA	BAEA	OSPR	TIVII	BI WII	24110	2	

STERRETT'S GAP (Perry) 2001 Burle Scholfield, compiler

% of night		Total per n	•	Total		No.		00		Sec	F	Month		
		_		27		11		11		5	1	Dav		
		0.00		88		34	1	42	5	22	т			
0.7	27	0.01	0 54	50	2	12	2	67	3	0	2			
54.0	24.3	0.06	200	323	200	124		201	3	-	2		1	
1	10	9.10	0 13	-	4	9	2	0	٥	10	10	STREE	CDD D	
	0.1	0.00	0.02	,	o		2		4	-		N T N	AEA N	
	12		0.16	1	n		-		13		v	2	OHA O	
	12.8	,	1.74		171		2		153		16	20011	CHAIC	
	4.4	-	0.60		59	1	<u></u>		5		5	1	DHA	
	0.0	0	0.08		œ	1	<u>a</u>	-	N	-	0	1	OGER	
	0.7		0.08	1	α	-	_		a	0	c		SHAIBV	
	Γ			0 54			0		0	2	200	n o	HAIR	
	100	44.5	I	6.07	000	ROR.	100	170	040	CVC	00	02	HAHL	
	1	0.0	T	200		2		0	,	2	0	0	HAIGO	3
		1.6	T	0 22 0	1	200		14	1	B		2	TH AIV	NA A
			Ī	0.06	T	ch		0		O		-	VE WILL	C ME
		0.0	1	0.00	Ī	0	1	0	1	0	1	0	1-	2200
		0.0	2	0.00		0	1	C	5	C	0	9	1	A IIn
		100.00	0 000	13.04	100	1,00/	4007	3	224	010	010	(00)	100	d Total

STONE MOUNTAIN (Huntingdon) 2001 Greg Grove, compiler

0,00	1000	Total						Non					I	Month			
t thinks		per hr	1	Total	000	Dad	1000	25	1	000		Sep					
				66		w.	1	5		26		22	2	Days	7		
								90					. 1				
0.0		0.0	١		ı			0		C	2	2	2	DEVE	BIVE		
	1		1		١	0		0		9	2	5	2		TIVI	_	
		-	-1		1		-1	4	>	10	4.0	100	200	1	OSPR		
		l	1	ı	1		1	1	Ч	ı	7		27		BAEA		
ľ		ı	'n	ľ	1	r	н	-		1	200		10		NOHA		
								0								- 1	
п		1		1		1		1		1		1		-1		-1	
ı		ı		ı		ı				١		١	_		NOGG	200	
	1.0		0.19		6/		_		22		44	1	2	7	20112	DOLLA	
	13.3	100	1./5	- 75	1,00	200	0		-	2		-	000	202		PWI	
	00.0	220	4.40	4 40	1,040	2 2 2	38	200	550	207	1,077	1 044		124		H	
	0.1	0 1	0.0	0.01	6	2	4	2	1	0		_		9		HILL	
	21.2	0 4	0.0	0 31	100	100	4		000	B3	1	2		_			2
	-	27	0.00	25.0	1001	100	S	2		_		5/		04	2	AMAZE	2000
								2									
		0.8		0.11		39		2	-	0		22	2	1.7	4.4		
	- 1				н		ъ.	0			-1		. 1				
	- 1		- 1					50			- 1						

PENNSYLVANIA BIRDS

224

TUSCARORA SUMMIT (Fulton) 2001 John Taylor, compiler

Month	Days	Hours	BLVU	TUVU	OSPR	BAEA	NOHA	SSHA	COHA	NOGO	RSHA	BWHA	RTHA	BLHA	GOEA	AMKE	MERL	PEFA	Unid	Total
Sep	26	161	2	16	104	10	22	259	28	0	e	2,055	43	0	6	27	2	7	32	2,616
Oct	30	182.5	35	289	18	0	99	1,134	94	CA	23	2	501	0	22	18	10	11	45	2,273
Nov	20	106	0	96	0	5	12	24	13	9	5	0	166	0	27	0	-	0	6	361
Total	76	449.5	37	401	122	15	100	1,417	135	8	31	2,057	710	0	52	45	16	18	86	5,250
Total per hr			0.08	0.89	0.27	0.03	0.22	3.15	0.30	0.02	0.07	4.58	1.58	00.0	0.12	0.10	0.04	0.04	0.19	11.68
% of flight			0.7	7.6	2.3	0.3	1.9	27.0	2.6	0.2	9.0	39.2	13.5	0.0	1.0	0.9	0.3	0.3	1.6	100.0

WAGGONERS GAP (Cumberland) 2001 David Grove, compiler

Total*	413	7,452	9,883	1.946	404	20,098	16.92	000+
Unid	11	20	105	22	60	191	0.16	4.0
PEFA	-	12	38	-	0	52	0.04	0
MERL	0	27	62	e	0	92	90.0	0
AMKE	71	219	77	0	-	368	0.31	a +
GOEA	0	2	70	114	18	204	0.17	-
RLHA	0	0	-	CI	2	5	00'0	C
RTHA	24	303	2,811	1,282	212	4,632	3.90	23.0
BWHA	124	5,024	9	0	0	5,151	4.34	25.6
RSHA	2	21	283	63	8	377	0.32	10
NOGO	0	4	58	82	12	156	0.13	80
COHA	12	174	643	51	11	891	0.75	4.4
SSHA	74	1,138	4,417	127	12	5,768	4.86	28.7
NOHA	20	20	176	64	3	313	0.26	1.6
BAEA	24	71	27	10	17	149	0.13	0.7
OSPR	50	357	23	2	0	432	0.36	2.1
TUVUT	0	0	1,053	114	26	1,243	1.05	6.2
BLVU	0	0	36	8	29	74	90.0	0.4
Hours	199	273.5	299	222	194.5	1188		
Days	31	28	31	28	58	147		
Month	Aug	Sep	Oct	Nov	Dec	Total	Total per hr	% of flight

TOTAL FOR ALL WATCHSITES 2001

Nonth	Days	Hours*	BLVU	TUVU	OSPR	BAEA	NOHA	SSHA	COHA	NOGO	RSHA	BWHA	RTHA	RLHA	GOEA	AMKE	MERL	PEFA	Unid	Total*
Aug	159	1054	69	136	271	116	58	261	58	0	16	779	193	0	-	229	17	e	78	2,285
Sep	343	2742	145	453	2,720	493	348	6,356	1,018	56	96	29,595	1,750	0	12	1,988	219	127	648	45,995
Oct	1 367	2816	462	4,522	293	223	905	22,527	3,052	246	1,044	29	13,948	9	316	911	480	178	689	49.83
Nov	7 245	1602	248	966	5	83	281	730	276	289	364	0	6,470	4	483	6	27	7	194	10,483
Dec	106	626	174	173	0	72	7	46	23	41	17	0	506	4	70	-	-	3	11	1,15
Jan	12	61	0	0	0	15	0	-	N	6	0	0	13	es	0	0	0	0	0	3
Total	1232	8900	1,098	6,280	3,289	1,008	1,599	29,921	4,429	909	1,537	30,403	22,880	27	882	3,138	744	320	1,620	109.782
Total per hr			0.12	0.71	0.37	0.11	0.18	3.36	0.50	0.07	0.17	3.42	2.57	00.0	0.10	0.35	0.08	0.04	0.18	12.34
% of flight	-		1.0	5.7	3.0	6.0	1.5	27.3	4.0	9.0	1.4	27.7	20.8	0.0	0.8	2.9	0.7	0.3	1.5	100.0
% change from 2000**	-		20	27	0	0	38	0	Ø	133	13	46,	22	٥	0	9	0	0	-a	16.

"Total per hr 2001 vs total per hr 2000