

THE 1975 AUTUMN HAWK COUNT AT BAKE OVEN KNOB, PENNSYLVANIA

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The 1975 count of migrating hawks at Bake Oven Knob, Lehigh County, Pennsylvania began on 23 August and ended on 7 December. We achieved 81 days of observation and counted 22,757 raptors. This is the highest count of hawks yet recorded at this site since record keeping began in 1957. The 1975 monthly species totals are summarized in Table one, and the daily totals are summarized in Tables two through five.

SHARP-SHINNED HAWK

To the delight of all of our observers this season produced outstanding flights of Sharp-shinned Hawks. Indeed the 4908 individuals observed is the highest yearly Sharp-shin count yet documented at the Knob (cf. Heintzelman, 1975: 320; Heintzelman and MacClay, 1975: 18). Particularly notable flights included 510 on 5 October, 340 on 6 October, 427 on 12 October, 442 on 14 October, and 818 on 16 October.

BROAD-WINGED HAWK

The 13,322 Broad-winged Hawks counted at the Knob this fall was almost as large as the record 1974 season's count (cf. Heintzelman and MacClay, 1975). Notable flights included 2985 on 15 September, 3060 on 17 September, 2363 on 21 September, and 2605 on 22 September. The two latter flights were quite large for the lateness of the dates.

EAGLES

This fall's Golden Eagle count increased somewhat over last fall's unusually low level. Of the 28 birds counted in 1975, 17 (60.7 percent) were adult and 11 (39.3 percent) were subadult or immature. These percentages continue to remain satisfactory and do not suggest the presence of a pesticide-induced thin eggshell syndrome for these representatives of the Appalachian population of this species.

In contrast, the 1975 Bald Eagle count from Bake Oven Knob again is alarming. Only 13 eagles were counted, 11 (84.6 percent) being adult and 2 (15.4 percent) being immature. This small number of eagles, coupled with the low percentage of immatures, continues to suggest no improvement in the breeding success of the segment of the Bald Eagle population represented by the birds migrating past the Knob.

However, it must again be stressed that many more Golden Eagles and Bald Eagles migrate across eastern Pennsylvania than are observed at any one lookout

(Frey, 1940; Heintzelman, 1975). For example, in 1975 hawk watchers at The Pulpit, on Tuscarora Mountain between Chambersburg and McConnellsburg, Pennsylvania, reported 51 Golden Eagles and 7 Bald Eagles for the fall (Carl L. Garner, letter of 25 January 1976). Yet in the past at this site, which is west of the Kittatinny Ridge and probably receives few if any raptors counted along the Kittatinny, only small numbers of Golden Eagles and Bald Eagles were reported (Heintzelman, 1975: 94, 327). More complete coverage at this site throughout the fall of 1975 perhaps is partly responsible for these unexpectedly high eagle counts.

OSPREY

The status of Ospreys migrating past the Knob continues to defy adequate explanation. The 1975 count of 201 birds is the lowest reported here since 1963 when only 32 days of observation were achieved (cf. Heintzelman, 1975: 320; Heintzelman and MacClay, 1975). Unfortunately we still have only speculation upon which to attempt to relate counts of migrating Ospreys to their status on the breeding and/or wintering grounds (see Heintzelman, 1975: 285-288). Indeed, the problems involved in attempting to use any counts of migrating hawks as direct indices to raptor population trends are complex and disputed (cf. Heintzelman, 1975: 279-289; Robbins, 1975: 29-40; Spofford, 1969: 323-332). It is particularly important that we attempt to try to follow the migratory movements of Ospreys, and other birds of prey, from their breeding grounds to their wintering grounds via marking adults and nestlings on their breedings grounds and tracking them as they migrate southward (and back again during the spring migration). Nagy (1975) suggested such a project but little has been done to augment it probably because of the amount of money and number of people required to conduct such a field study over a period of many years. In the future, however, as better techniques are developed to track the movements of animals over long distances by satellite it might be possible to follow and plot the positions of hawks during migration.

PEREGRINE FALCON

This fall's count of 7 Peregrine Falcons is unchanged from 1974. However all of the Penegrines observed in 1975 were adults birds whereas two of the six individuals for which ages could be determined in the fall of 1974 were immature (Heintzelman and MacClay, 1975: 27).

ACKNOWLEDGMENTS

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TABLE I
BAKE OVEN KNOB
1975 AUTUMN HAWK COUNT

Species	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Turkey Vulture (<i>Cathartes aura</i>)	12	85	83	14	0	194
Goshawk (<i>Accipiter gentilis</i>)	0	3	80	43	2	128
Sharp-shinned Hawk (<i>Accipiter striatus</i>)	0	944	3925	39	0	4908
Cooper's Hawk (<i>Accipiter cooperii</i>)	1	33	102	2	0	138
Red-tailed Hawk (<i>Buteo jamaicensis</i>)	5	102	1961	720	14	2802
Red-shouldered Hawk (<i>Buteo lineatus</i>)	0	15	296	39	0	350
Broad-winged Hawk (<i>Buteo platypterus</i>)	34	13,115	173	0	0	13,322
Rough-legged Hawk (<i>Buteo lagopus</i>)	0	0	8	9	0	17
Golden Eagle (<i>Aquila chrysaetos</i>)	0	1	12	15	0	28
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	0	12	0	1	0	13
Marsh Hawk (<i>Circus cyaneus</i>)	0	66	144	66	1	277
Osprey (<i>Pandion haliaetus</i>)	1	145	55	0	0	201
Peregrine Falcon (<i>Falco peregrinus</i>)	0	0	7	0	0	7
Merlin (<i>Falco columbarius</i>)	0	1	11	1	0	13
American Kestrel (<i>Falco sparverius</i>)	3	128	90	0	0	221
Unidentified Hawks	0	52	75	10	1	138
Total	56	14,702	7022	959	18	22,757
No. Observation Days	4	25	28	19	5	81

TABLE 2
BAKE OVEN KNOB HAWK COUNT
AUGUST AND DECEMBER 1975

AUG.	WEATHER WIND SPEED	TURKEY VULTURE	GOS- SHAWK	SHARP- SHINNED HAWK	COOP- ER'S HAWK	RED- TAILED HAWK	RED- SHOUL- DERED HAWK	BROAD- WINGED HAWK	ROUGH- LEGGED HAWK	GOLDEN EAGLE	BALD EAGLE	MARSH HAWK	OSPREY	PERE- GRINE FALCON	MERLIN	AMER. KESTREL	UNID. HAWKS	T O T A L S
23	E 10-15	2				1		10										13
25	W 2-6	5				3		11					1					20
27	W 3-8	2			1	1		5								3		12
31	E 10-20	3						8										11
	TOTALS	12	0	0	1	5	0	34	0	0	0	0	1	0	0	3	0	15

DEC.	WEATHER WIND SPEED	TURKEY VULTURE	GOS- SHAWK	SHARP- SHINNED HAWK	COOP- ER'S HAWK	RED- TAILED HAWK	RED- SHOUL- DERED HAWK	BROAD- WINGED HAWK	ROUGH- LEGGED HAWK	GOLDEN EAGLE	BALD EAGLE	MARSH HAWK	OSPREY	PERE- GRINE FALCON	MERLIN	AMER. KESTREL	UNID. HAWKS	T O T A L S
1	Rain																	
2	S-SE 5-15					12											1	13
4	Var . 0-7											1						1
5	S-Sw 0-7																	0
7	NW-NE 0-15		2			2												4
	TOTALS	0	2	0	0	14	0	0	0	0	0	1	0	0	0	0	1	18

TABLE 3
BAKE OVEN KNOB HAWK COUNT
SEPTEMBER 1975

S E P T	WEATHER WIND SPEED	TURKEY VULTURE	GOS- HAWK	SHARP- SHINNED HAWK	COOP- ER'S HAWK	RED- TAILED HAWK	RED- SHOUL- DERED HAWK	BROAD- WINGED HAWK	ROUGH- LEGGED HAWK	GOLDEN EAGLE	BALD EAGLE	MARSH HAWK	OSPREY	PERE- GRINE FALCON	MERLIN	AMER. KESTREL	UNID. HAWKS	T
1	E 5-15					1						1	1				1	4
2	No coverage																	
3	W 5-12	7				5		21			5	1	7			5	4	55
4	WNW 0-5	2				1		8					2			1	1	15
5	W 0-2	1				1		12				1	1				1	17
6	No coverage																	
7	SE 2-20	11		4		17		50		1	1	2	6			5	4	100
8	S-SW 0-5	4		3				4					8					19
9	W 5-20	3		4		4		41		1	1		7			11	10	82
10	Var - 0-5	3		1		1		17								1		23
11	No Coverage																	
12	Var. 0-25			1				1										2
13	W-NW 0-15	6		38		6		364		1	1	4	10			2	1	432
14	W 5-20	5		18		12		324				5	8			15	7	397
15	E 5-12	8	1	69		9		2985		1	1	18	13		1	2		3109
16	SE 0-9			4														4
17	SW 0-3	8		53		4		3060				11	9			5	3	3158
18	E-SE 5-25			86		2		850				8	7				2	955
19	Rain																	
20	SE-SW 3-16	3		106				34			1	6				2	2	154
21	NW 0-12	7		132		1		2363		1	1	6	13			18	3	2548
22	W-NW 3-10	7		108		2		2605		1	1	1	23			2		2752
23	Rain																	
24	No Coverage																	
25	Rain																	
26	Rain																	
27	NW 5-20	2		99		10		352					23			26	5	524
28	NW 6-15	2		153		24		12				1	7			29	7	253
29	SE 3-10	6	2	65		4		12				1				4	1	99
30	No Coverage																	
	TOTALS	85	3	944	33	102	15	13,115	0	1	12	66	145	0	1	128	52	14,702

TABLE 4
BAKE OVEN KNOB HAWK COUNT
OCTOBER 1975

OCT	WEATHER	TURKEY VULTURE	GOS-HAWK	SHARP-SHINNED HAWK	COOPER'S HAWK	RED-TAILED HAWK	RED-SHOULDERED HAWK	BROAD-WINGED HAWK	ROUGH-LEGGED HAWK	GOLDEN EAGLE	BALD EAGLE	MARSH HAWK	OSPREY	PEREGRINE FALCON	MERLIN	AMER. KESTREL	UNID. HAWKS	TOTALS
1	S-SE 3-10	8		191	1	6		145				3	9			2		365
2	No coverage																	
3	NW 0-7	4	3	158	3	14	3					2	4			11	8	210
4	N-NW 5-15	8		124	4	11	1	6				5			2	6	5	172
5	E-S 5-15	5	3	510	13	39	10	18				43	16	1		4	8	670
6	NW 3-30	2	2	340	15	20		2				3	3	3		10	2	402
7	No coverage																	
8	-- --		1	73	8	16		2				2	2			1	7	112
9	Rain																	
10	Rain																	
11	-- --			8		1						1						10
12	NW 10-20	2	1	427	11	156	24		2	3		5	15			20	8	674
13	NW 3-15	4	2	156	11	148	26					3		1		3	5	359
14		4	7	442	7	107	8					15	2		3	13	5	613
15	Var. 5-18	5		183		12						1				1		202
16	W-NW 3-15	3	14	818	17	97	15			1		4	2	1	5	17	5	999
17	Rain																	
18	Rain																	
19	NE 20-25	2		7	1	8						3					2	23
20	NW 4-15	2	3	57		14	4											80
21	W 0-15	11		35		22	1					3					3	75
22	SW 8-15	1		263		184	11			1		6	2	1		1	3	473
23	E 10-25	7		35	1	175	22					16				1	3	260
24	E 0-10		1	10		17	1					4					1	34
25	No coverage																	
26	NW 3-12	2	2	20		306	28		1	1		7						368
27	E-SE 3-20	3	9	20	1	179	79		4	3		10			1		2	310
28	Var. 0-10	2	8	34	6	167	28					8					2	255
29	NW 3-8	4	1	7		11	12		1	1							1	38
30	NW 20-30	3	6	3	2	194	11			2								221
31	NW 0-10	1	17	4	1	57	12										5	97
	TOTALS	83	80	3925	102	1961	296	173	8	12	0	144	55	7	11	90	75	7022

TABLE 5
BAKE OVEN KNOB HAWK COUNT
NOVEMBER 1975

NOV	WEATHER WIND SPEED	TURKEY VULTURE	GOS- HAWK	SHARP- SHINNED HAWK	COOP- ER'S HAWK	RED- TAILED HAWK	RED- SHOUL- DERED HAWK	BROAD- WINGED HAWK	ROUGH- LEGGED HAWK	GOLDEN EAGLE	BALD EAGLE	MARSH HAWK	OSPREY	PERE- GRINE FALCON	MERLIN	AMER. KESTREL	UNID. HAWKS	TOTALS
																		14
1	SW 4-12	1	3	1		86	3		1	1		8						104
2	Var. 0-3		3	4		29	9			1		5					2	53
3	W-SW 2-8		2	3		13	1					1					1	21
4	W-NW 5-20	1	4	10		84	1		1	2		3			1		1	108
5	NW 0-25	2	11	11	2	248	11		4	6		8				1	304	
6	No coverage																	
7	S-SE 0-15	1	1	3		18	4					32						59
8	Var. 0-2	3				3											2	8
9	SE 2-8	5		5		53	4					3						70
10-11	No coverage																	
12	SE 10-15					1	1					2						4
13	Rain																	
14	NW 5-30				2	59				2		2					1	66
15	No coverage																	
16	NW 8-20		8	2		82	2		2									96
17	NW 0-7	1	1			17												19
18-20	No coverage																	
21	Rain																	
22	NW 5-15		1			9	1			1								12
23	NW 2-7		6			3	1					1					2	13
24	No coverage																	
25	Var. 0-10						1											1
26-27	No coverage																	
28	NW 0-15		1			11				2	1	1						16
29	No coverage																	
30	S-SE 12-20					4			1									5
	TOTALS	14	43	39	2	720	39	0	9	15	1	66	0	0	1	0	10	959