

THE 1972 AUTUMN HAWK COUNT AT BAKE OVEN KNOB, PENNSYLVANIA

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INTRODUCTION

The 1972 autumn hawk count at Bake Oven Knob, Lehigh County, Pennsylvania, extended for 102 days between 4 August and 1 December. The season's count was 16,135 hawks—the second highest recorded for the Knob. Only the 1968 count (with 56 observation days), when exceptional flights of Broad-winged Hawks (*Buteo platypterus*) occurred, exceeded the 1972 count. As in the past, our observations were made either from the South Lookout or the North Lookout depending upon prevailing winds.

Each autumn is different and produces its own highlights. This year was notable for large Goshawk (*Accipiter gentilis*) flights, which occurred during the last half of the season, and for very good Broad-winged Hawk flights. We also recorded the highest Golden Eagle (*Aquila chrysaetos*) count yet achieved. In contrast, Rough-legged Hawks (*Buteo lagopus*) returned to more normal numbers as compared with 1971, and Bald Eagles (*Haliaeetus leucocephalus*), Marsh Hawks (*Circus cyaneus*), Ospreys (*Pandion haliaetus*) and Sparrow Hawks (*Falco sparverius*) exhibited declines in numbers observed. A very marked decrease in numbers of Peregrine Falcons (*Falco peregrinus*) occurred.

GOSHAWK INVASION

A Goshawk invasion developed as the season was about one-half completed. Although two were reported prior to 7 October, the invasion began on that date. It continued almost without interruption through 26 November. As we became aware of the passage of substantial numbers of these bold hawks, we made an effort to determine the age of each bird. We determined ages of 343 of the 357 Goshawks counted. Of these, 79.3 percent were adults and 20.7 percent were immatures.

Particularly large Goshawk flights, associated with northwesterly winds, and numbering 25 or more birds per day, occurred on 20 October and 3, 5, 18, 21 and 23 November. A Goshawk invasion of this magnitude has not occurred along the Kittatinny Ridge since the flight of 1935, according to Hawk Mountain records. However, fairly large counts also were made at Hawk Mountain in 1936 and 1968. These flights fell considerably short of the 1972 invasion.

The 1972 invasion was widespread with large numbers of hawks noted at many spots in the northeast and along the Great Lakes. Most stations, including Bake Oven Knob, reported fairly high percentages of adult Goshawks, suggesting that a poor nesting season may have occurred earlier in the year.

BROAD-WINGED HAWKS

Our 1972 count of 8,902 Broad-wings is the second highest tabulated for the Knob. Although peak Broad-wing flights often occur at the eastern Pennsylvania hawk lookouts on the 16th or 17th of September, at Hawk Mountain they have been noted as early as 11 September and as late as 24 September (Heintzelman, 1972: 11). This year the peak Bake Oven Knob flight (1,935 birds) occurred on the unusually early date of 11 September—a day with light variable to southwest winds. Another flight of 1,564 Broad-wings passed the Knob on 16 September, as calm to light northwest winds prevailed. The next day light southwest winds in the morning shifted to light northwesterly afternoon winds and we counted another 1,846 Broad-wings. Poor hawking weather occurred on 18 September, but on the 19th brisk northwest winds occurred and Herb Douglas enjoyed 1,608 Broad-wings. Thus the 1972 season produced four notable flights of Broad-winged Hawks.

GOLDEN EAGLES

Our count of 42 Golden Eagles is the highest to date for the Knob. Adult birds accounted for 20 (47.6 percent) of the total, whereas 12 (28.6 percent) were sub-adults and 10 (23.8 percent) were immatures. These figures compare favorably with previous Golden Eagle age ratios from Bake Oven Knob (Heintzelman and MacClay, 1972: 18-19). A slight shift in the age ratio moved toward more sub-adult and immature birds, however. There is nothing in these figures to suggest that the remnant Appalachian population of the Golden Eagle is suffering from the pesticide-caused thin eggshell

TABLE 1
BAKE OVEN KNOB
1972 AUTUMN HAWK COUNT

	August	September	October	November	December*	Total
Turkey Vulture (<i>Cathartes aura</i>)	65	103	81	2		251
Goshawk (<i>Accipiter gentilis</i>)		1	118	235	3	357
Sharp-shinned Hawk (<i>Accipiter striatus</i>)	2	531	1616	36		2185
Cooper's Hawk (<i>Accipiter cooperii</i>)	1	19	72	1		93
Red-tailed Hawk (<i>Buteo jamaicensis</i>)	37	110	1244	1852	7	3250
Red-shouldered Hawk (<i>Buteo lineatus</i>)		3	118	65		186
Broad-winged Hawk (<i>Buteo platypterus</i>)	91	8776	35			8902
Rough-legged Hawk (<i>Buteo lagopus</i>)			2	3		5
Golden Eagle (<i>Aquila chrysaetos</i>)			26	16		42
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	1	13		2		16
Marsh Hawk (<i>Circus cyaneus</i>)	1	51	100	39		191
Osprey (<i>Pandion haliaetus</i>)	4	239	43	1		287
Peregrine Falcon (<i>Falco peregrinus</i>)		1	2			3
Pigeon Hawk (<i>Falco columbarius</i>)			6	1		7
Sparrow Hawk (<i>Falco sparverius</i>)	11	52	98	1		162
Unidentified Hawks	2	45	96	55		198
Total	215	9944	3657	2309	10	16,135
No. Observation Days	16	24	31	30	1	102

*December 1 only; winds WNW 2-25 m.p.h.

TABLE 2
BAKE OVEN KNOB HAWK COUNT
AUGUST 1972

A D C	WEATHER Wind Speed	Turkey Vulture	Cos- hawk	Sharp- shinned Hawk	Coop- er's Hawk	Red- tailed Hawk	Red- should- ered Hawk	Broad- winged Hawk	Rough- legged Hawk	Golden Eagle	Bald Eagle	Marsh Hawk	Osprey	Pere- grine Falcon	Pigeon Hawk	Spar- row Hawk	Unid. Hawks	TOTALS
4								1										1
5	NE 0-10	6				1		1										8
6	SW 4-10	6				2		20									1	29
7	light rain																	0
8	SW 5-10	3						1								4		8
9	No coverage																	
10	NW 10-20	3						13								1		17
11	No coverage																	
12	No coverage																	
13	NW 0-7	9		1		5		9								3		27
14	No coverage																	
15	NE 10-15	3			1			1				1						6
16	SE 0-7	5				2		3		1							1	12
17	No coverage																	
18	No coverage																	
19	N 3-15	8				2		3								1		16
20	N 0-5	4				1		5					1					11
21	Var. 3-12	2		1		7		15								1		26
22	No coverage																	
23	No coverage																	
24	No coverage																	
25	No coverage																	
26	No coverage																	
27	S 5							4										4
28	SW 0-14	9						1										11
29	W 3-7	4				7		12								1		26
30	No coverage																	
31	S 0-5	3				10		2										15
TOTALS		65		2	1	37		91			1	1	4			11	2	215

TABLE 3

BAKE OVEN KNOB HAWK COUNT

SEPTEMBER 1972

S E P	WEATHER Wind Speed	Turkey Vulture	Cos- hawk	Sharp- shinned Hawk	Coop- er's Hawk	Red- called Hawk	Red- should- ered Hawk	Broad- winged Hawk	Rough- legged Hawk	Golden Eagle	Bald Eagle	Merch Hawk	Osprey	Perce- pine Falcon	Pigeon Hawk	Spar- row Hawk	Unid. Hawks	TOTALS
1	E 5	6			2	7		12				1	4		1	3	36	
2	E 5	4			1	1										1	6	
3	NW 3-15	6		1	1	8		25		1			7		2	2	51	
4	NW 5-20	8		1		2		14				1	5		5	4	39	
5	W 0-5				2	2		7					1		1	5	16	
6	NW 0-8	6			1	1		67									77	
7	No coverage																	
8	No coverage																	
9	NW 5-20	7				3		30		3		2	2		4	2	54	
10	NW 5-20	3		1		10		139				2	4		5	2	166	
11	Var-SW 0-8	6		7		6		1935		3		5	13			2	1975	
12	No coverage																	
13	SE	1		1				8					1				11	
14	NW 2-28	2		21	1	5		463		2		1	25		4	1	525	
15	Var. 0-5	2		19	1	4		148				2	2		4	1	183	
16	NW 0-3	4		23	1	9		1564				9	67		1	1	1679	
17	NW 0-6	1		30	1	7		1846				4	23		3	1	1914	
18	SP-E 6-12	2		2	1								1				6	
19	NW 10-24	2		47		10		1608		3		7	51		8	8	1746	
20	SE-E 5-15	12		27		8		327				2	9		3	4	392	
21	No coverage																	
22	NW 2-25	9		17	2	4		167				4	7		15	2	227	
23	E 0-5	6		39		9		191				3	4			8	261	
24	Rain																	
25	SW 0-7	5		200	5	11		196					9			2	437	
26	SW 2-7	4		95	1	4		28		1		6	3		1	1	139	
27	No coverage																	
28	No coverage																	
29	SP 3-10																	
30	Rain																	
	TOTALS	103	1	531	19	110	3	8776			13	51	239	1		52	45	9944

TABLE 4

BAKE OVEN KNOS BAWK COUNT

OCTOBER 1972

O C T	WEATHER	Turkey Vulture	Gos- hawk	Sharp- shinned Bawk	Coop- er's Hawk	Red- tailed Hawk	Red- should- ered Bawk	Broad- winged Hawk	Booby- legged Hawk	Golden Eagle	Bald Eagle	Mareh hawk	Osprey	Pere- grine Falcon	Pigeon hawk	Spar- row hawk	Unid. Hawks	TOTALS
1	NW 0-15	6		63	6	11	1	21				1	11			18	3	141
2	E 2-10	5	1	80	5	12		7				6	2			6	119	1
3	SW 0-3	4		87	1	3	2					9	1			2	2	109
4	SE 0-10	6		71	1	3		2				3			1	2	1	42
5	E 0-10	4		17	2	2						3						28
6	E 5-20	7		3	2													14
7	NW 15-30	7	1	11	1	15						2	5	1		9	1	47
8	NW 3-15	5		183	1	16	1	1				2	1	1	1	26	1	239
9	NW 10-20	1	7	152	12	14	2					3	8			16	3	218
10	NW 2-12	5	1	10	2	3	1					1	1					24
11	S 2-12	3	1	215	1	22	1	1		1		11	2			4		262
12	RaIn																	0
13	NW 0-25	4		47	6	38	10	1		2		3	1			9	7	130
14	S-SW 0-6	5		245	1	17	3			1		10	4		7		2	291
15	NW 8-25	1		168	9	92	6	1				1	2		1	0	8	298
16	SW 3-12	5		26	1	46	1		1	1		3					1	85
17	"		3	61	2	69	7					6			1	1	4	154
18	NW-S 0-10	3	1	26	6	80	4	1					1				2	124
19	RaIn																	0
20	NW 0-12	2	30	16	1	163	30			8		2				2	10	264
21	SE 0-10	2	15	48	5	120	24		1	3		14	1				10	243
22	SE 0-5		3	4		10						1					1	20
23	SE 2-15	3		16		8	2					1					1	36
24	NW 5-10	1	18	56	1	41	7			1		2					6	127
25	NW 3-10	1	101	22	6	101	7			2		1					11	153
26	NW-S 2-10	2	3	2	2	28	2			1		1				1	2	44
27	SE 0-20	2	11	21	1	34	4					6					10	89
28	RaIn																	0
29	NW 3-15			3														1
30	NW 5-20	2	8	8		157	4			2		3				1	5	190
31	NW 1-7		3	2		137	9			4		4					6	163
	TOTALS	81	118	1616	72	1244	118	35	2	26		100	43	2	6	98	96	3657

TABLE 5

BAKE OVEN KNOB HAWK COUNT

NOVEMBER 1972

N O V	WEATHER		Turkey Vulture	Goshawk	Sharp- shinned Hawk	Coop- er's Hawk	Red- tailed Hawk	Red should- ered Hawk	Broad- winged Hawk	Rough- legged Hawk	Golden Eagle	Bald Eagle	Marsh Hawk	Osprey	Pere- grine Falcon	Pigeon Hawk	Spar- row Hawk	Unid. Hawks	TOTALS
	Wind	Speed																	
1	Rain																		0
2	Rain																		0
3	M	2-25	1	15	15		236			1	7		8				1	1	305
4	F-SE	0-15		5	5		37	8			2		19					1	75
5	M	3-15		25	9		211	16			1		1					1	264
6	F	2-10		1			8												0
7	SE	0-10		1	1		13	1					2					3	21
8	Rain																		0
9	M	15-25		5	1		251	6					1	1					265
10	M-SE	0-15	1	5	1		21	5										34	68
11	Rain																		0
12	M	0-5		8			39	3					2						58
13		1-5		1	2		1												6
14	Rain																		0
15	M	5-20		14			413	6			1		1					7	438
16	M	0-20		14			112	5					2					1	134
17	Var.	0-10		3			32	4		1			2					1	43
18	NE	3-25		26			128	1			1								156
19	F	0-3		8			4												12
20	M	10-25		8	1		130	4			3					1			147
21	M	15-20		26			100	1											127
22	M	0-3		7			48	1										1	57
23	M	3-20		28			31	4				1						1	65
24	F	0-20		13			27			1			1						63
25	F	0-10		1			1												2
26	F	5-20		1			2												4
27	M-SE	3-15					5												5
28	Rain											1							0
29	M	3-15		2			2												5
30	F-NE	8-20																	0
	TOTALS		2	235	36	1	1852	65		5	16	2	39	1		1	1	55	2309

syndrome which has brought the Bald Eagle and Peregrine Falcon nearly to extinction. Spofford (1971) suggested that the Appalachian population of Golden Eagles might be exhibiting a thinning of their eggshells which, in turn, might account for lowered productivity and fewer birds being observed at Hawk Mountain, Pennsylvania, during recent years.

PEREGRINE FALCONS

It is now common knowledge that the North American races of the Peregrine Falcon are endangered. Despite the severe reduction in the numbers of our Peregrines, an average of 16 have been counted at Bake Oven Knob during the past three years. Yet in 1972, despite the greatest number of observation days achieved at this station, only three Peregrine Falcons were seen. All were adults. Of course Peregrines are essentially coastal migrants, relatively few appearing along the mountain flyway. Still, this magnitude of reduction is alarming. Is this the beginning of the bitter end for these magnificent falcons?

ACKNOWLEDGMENTS

The success of the 1972 autumn hawk count at Bake Oven Knob directly reflects the excellent cooperation provided by a number of volunteer observers. Particularly noteworthy are the contributions of count leaders Alan Brady, Herbert E. Douglas, Francis T. Fitzpatrick, Edward W. Graham, Robert L. Haines, Anne MacClay, Fred K. Mears, Ivan R. Morrin, Richard Moser, David Phalen, Robert W. Smart, Robert W. Smith, Doris and Gerald Steffey, and Charles and Betty Wonderly. A sincere note of appreciation is extended to each of these volunteers for their valuable assistance.

We would again like to make a plea for more assistance on future Bake Oven Knob hawk counts. Only if many more volunteers help in making the counts can we hope to continue maintaining daily coverage at the Knob from September through November.

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