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HAWK CLIFF RAPTOR BANDING STATION

SEVENTH ANNUAL REPORT 1977

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CONTENTS

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Marshall and Dolly Field*

The fall 1977 program at the Hawk Cliff Raptor Banding Station was an active one, and more hawks were banded (3630) than in the previous year. The flight of accipiters started early, with the first Sharp-shinned Hawk banded 31 August, while Red-tailed Hawks migrated into December.

The ecological setting of Hawk Cliff (42° 41'N, 80°10'W, Elgin County, Ontario, Canada) was described by Field (1970), and certain trapping methods were discussed in Field and Rayner (1974 and 1977). Figure 1 shows the locations of individual trapping stations. There were no banders present continually, and coverage is provided by members only on weekends or vacation periods. Vacation coverage is greatest in September, when peak flights of Sharp-shinned Hawks and American Kestrels occur. September had an abundance of dull, rainy days, however, making it difficult to get full value from hawk trapping vacations.

One new station (#8) was established in 1977, on the Art Kosynski farm north of the Ontario Water Resources Commission Filtration Plant (Figures 1 and 2). The location is still too far south to intercept the main flow of accipiters, which usually pass over the woodlot to the north on days when hawks are flying inland. It is satisfactory, however, for catching the larger buteos (mainly red-tails) during

*89 Elm St., St. Thomas, Ontario, Canada N5R 1H7.

the good migration period from late October until the end of December.

Bob Hubert moved #1 station to the east about 60 metres and it is now very close to where it was originally established in 1969. Bob had felt that the view from the 1976 location was obscured on the south side by trees (Figure 3), making it difficult to see hawks passing.

There has been some interest in spring banding of raptors, so a station was established in 1977 close to the Niagara Escarpment, east of Hamilton, Ontario (Figure 4). This is the only location in southern Ontario where an appreciable spring migration of raptors is known to occur. The station was set up through the efforts of Sheila and Don Fowler of St. Thomas. Sixteen Sharp-shinned Hawks were banded, and one foreign banded bird was retrapped.

Daily observations for the fall are given in Table 1. Sightings from banding stations are very difficult to evaluate because of possible overlap and the difficulty banders encounter in trying to list hawk numbers when the trapping is heavy. I have tried to make this table as realistic as possible in considering the sightings from all stations together. Table 1 serves also to indicate which days were covered by station personnel.

Banding totals for all species in 1977 are compared to those for previous years in Table 2. The total banded, 3630, includes nestlings and birds trapped along roads with portable traps. Although higher than in 1976, the 1977 banding total fell short of that for 1975 (4276 birds), largely due to lower catches this year of sharp-shins and kestrels. New highs, however, were recorded for Red-shouldered Hawk (21),

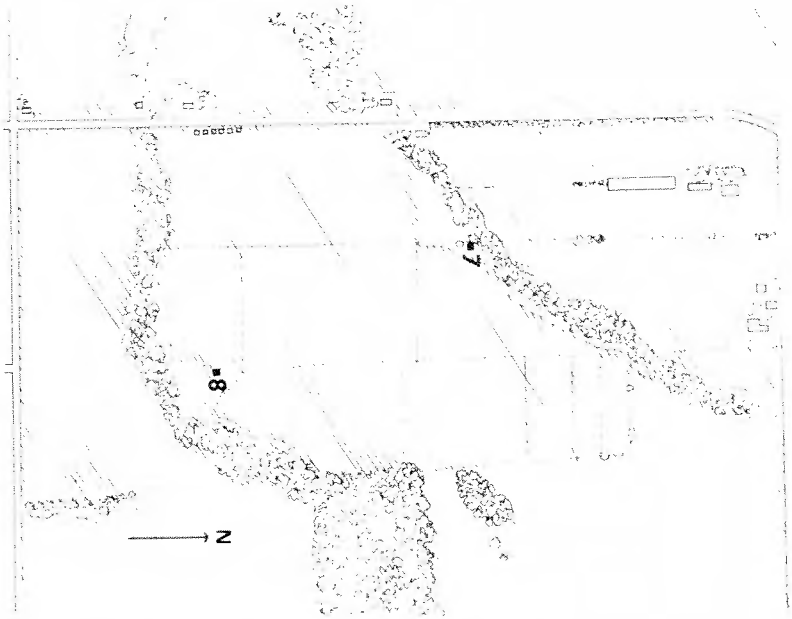
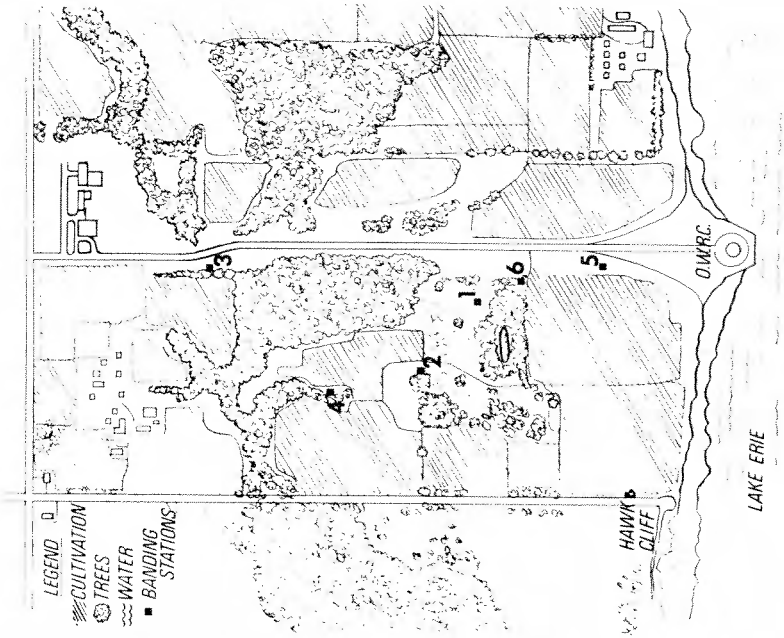


Figure 1. Map of woodland and fields in the

Figure 2. New station #8, north of O.W.R.C. filtration plant.



vicinity of Hawk Cliff with banding stations marked.

Figure 3.
Station #1
in its 1977
location.

Figure 4. Sheila and Don Fowler at spring banding station near Hamilton, Ontario.

Rough-legged Hawk (12), Golden Eagle (2), Marsh Hawk (60) and Merlin (10).

Table 3 gives daily banding totals for the fall, and Table 4 gives monthly totals for the whole year. There were 3 big days in September when over 300 hawks were banded: September 11th (393), 14th (350) and 28th (326). October 2, 3 and 4 were the best days for that month. There were no impressive banding days for the rest of the year, due mainly to the lack of big catching days for Red-tailed Hawks. The total number of red-tails banded, however, was the second highest at Hawk Cliff (Table 2).

A comparison of 1976 and 1977 banding totals for each station is given in Table 5. Station #5, nearest the cliff edge (Figure 1), had the highest total of raptors banded (876), even though it was closed in early October. Good coverage during September was the key to success at this location. Trapping results for the new #8 station indicated good success with red-tails in December.

Age class distribution of birds caught at all Hawk Cliff stations in 1977 is shown in Table 6. About 82% of the hawks aged were hatching year birds, similar to the overall results for last year.

Details of foreign recoveries, foreign retraps, returns and repeats are given in Table 7. Definitions of these categories are as follows: Foreign Recovery: A Hawk Cliff banded bird which was found elsewhere and died at or before time of recovery. Foreign Retrap: Hawk Cliff banded birds which were caught and released in a different 10' grid than where they were banded. Return:

A return is a bird banded at Hawk Cliff and recaptured and released after at least 90 days in the same 10' grid where banded, i.e. at or near Hawk Cliff. Repeat: A bird recaptured and released within 89 days in the same grid where it was banded.

The recovery of the Sharp-shinned Hawk in Guatemala is noteworthy, as it is the farthest south recovery we have had to date. The bird was recovered 65 days after banding.

The kestrel nest box program was active again this year. From a total of 99 boxes, 136 nestling kestrels were banded and 4 banded females were recaptured. As more breeding females are banded, a pattern of nest box use by individuals can be traced.

Box 11 (approximately 5 miles north of Hawk Cliff), had a brood of four females which were banded on 30 May, and one of the young was recaptured at Hawk Cliff on 21 July. A second young female from the same box was recaptured at Pinafore Park, St. Thomas (5 miles north of the nest location), on 23 February, 1978.

Young in a few boxes had matured and escaped by the end of May when the first check was made, and it was evident that some boxes were not occupied by kestrels until after 1st June when the final complete check was made. A thorough white-washing on the inside of the box from young kestrels' excrement is an indication of recent use by them.

Another annual activity of the Hawk Cliff Raptor Banding Station is the co-sponsorship of the Hawk Viewing Weekend with the Ministry of Natural Resources and the St. Thomas Field

Naturalists' Club. This was held in 1977 on 17th and 18th September. The Saturday was quite foggy until afternoon, so few birds were caught at the banding station. One of the highlights for the day was the capture of a banded Peregrine Falcon by Craig Brown at #5 station, near the cliff edge. Craig also caught a Merlin and a kestrel, making it possible to present three species of falcon at the interpretive viewing area at Hawk Cliff. It has been determined that the Peregrine Falcon was one of a group released in the summer of 1977 near Limbour, Quebec, as part of a Canadian Wildlife Service peregrine release program in eastern Canada. These peregrines were hatched artificially at Wainright, Alberta and shipped east to be released at a specially chosen site.

ACKNOWLEDGEMENTS

We have now expanded north, operating from two additional farms--those of Art Kosynski and Bob Ward. We appreciate their cooperation, as well as that of Steve Ivan and the Ontario Water Resources Commission. All of the routine jobs relative to the operation of individual stations were looked after by the members. Appreciation is expressed to one and all who helped in any way.

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Table 1. Observations at Hawk Cliff on all days when stations were open, 1977. See Appendix 1 for key to species.

	JULY				AUGUST					SEPTEMBER													
	22	23	27	30	23	26	27	30	31	2	3	4	5	6	7	8	10	11	12	14	15	17	18	19
TV	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	2	-	-
GOS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SSH	-	-	-	-	-	-	-	-	3	-	89	102	598	550	78	200	402	1877	33	1797	75	271	26	101
CH	1	-	-	-	-	-	-	-	-	-	-	-	-	4	1	-	7	11	2	29	2	4	-	2
RT	-	-	-	1	2	1	-	6	4	-	83	2	8	28	1	5	22	44	2	8	-	4	-	2
RS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BW	-	-	-	-	-	-	-	-	-	-	58	15	200	624	-	103	25	1979	1	1446	50	5	-	-
RL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GE	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
BE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
MH	-	-	-	-	3	-	1	6	17	-	54	65	31	47	9	3	32	140	41	38	-	30	1	7
OS	-	-	-	-	-	-	1	1	1	1	2	1	4	-	1	1	9	3	1	1	-	5	-	6
PF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
M	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	1	-	2	-	-	2	-	-
AK	1	3	3	5	6	3	6	45	106	10	480	24	185	249	10	33	125	380	74	179	4	8	2	14
TOTALS	3	3	3	6	11	4	8	58	132	11	767	209	1027	1502	100	345	623	4434	156	3498	131	332	29	134

Table 1 (Continued):

	SEPTEMBER											SEPT.	OCTOBER											
	20	21	22	23	24	25	26	27	28	29	30	TOTALS	1	2	3	4	5	6	7	9	10	11	12	13
TV	-	-	2	-	-	2	2	6	15	-	-	30	-	72	405	55	6	15	23	1	189	-	10	92
GOS	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	3	-	1	-	1	-	-	-	-
SSH	572	617	1249	357	37	23	12	1044	2737	442	206	13498	76	916	1201	710	41	221	52	3	180	18	79	65
CH	6	13	17	20	5	4	-	6	41	30	4	209	31	87	292	31	4	18	5	1	8	-	2	18
RT	2	25	13	18	5	6	-	5	15	1	1	314	6	64	190	24	20	24	78	8	11	1	7	309
RS	-	-	-	-	-	-	-	-	-	-	-	0	-	18	11	-	5	5	-	-	1	-	2	5
BW	2	42	711	41	-	-	-	-	1	60	55	5418	84	965	1405	115	-	-	-	-	1	-	-	15
RL	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-
GE	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	1	1	-	-	-	-	-	-	1
BE	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
MH	8	15	63	50	8	4	1	13	43	19	3	752	19	36	85	73	6	3	12	1	25	-	1	5
OS	4	36	11	6	3	7	5	4	4	-	-	118	-	-	-	-	-	-	-	-	-	-	1	-
PF	-	-	-	1	-	-	-	1	-	1	-	4	-	-	-	-	-	-	-	1	-	-	-	-
M	2	1	1	-	-	-	-	1	1	-	-	13	-	-	-	-	-	-	1	-	-	-	-	-
AK	21	33	464	80	2	6	4	230	624	23	23	3465	11	157	600	125	41	82	24	-	10	-	-	9
TOTALS	617	782	2531	573	60	52	24	1310	3481	576	292	23824	227	2315	4189	1137	124	369	195	16	425	19	102	519

Table 1 (Continued):

	OCTOBER														OCT.	NOVEMBER								
	14	15	16	17	18	19	20	21	22	23	28	29	30	31	TOTALS	3	5	6	9	11	12	13	18	19
TV	57	-	257	30	30	-	-	5	59	2	-	2	1	-	1311	-	-	-	-	-	-	-	-	-
GOS	-	-	-	3	2	-	-	-	2	-	-	1	-	-	13	-	1	-	-	-	-	5	-	-
SSH	49	175	236	51	50	38	10	5	55	1	-	20	2	-	4254	-	-	-	-	-	-	-	-	-
CH	11	6	34	14	2	5	-	3	17	2	-	1	1	-	593	-	-	-	-	-	2	-	-	-
RT	164	7	534	57	306	17	1	5	573	390	52	250	112	1	3211	1	158	28	-	13	652	259	7	104
RS	4	4	8	-	-	-	-	-	17	2	-	-	-	-	82	-	-	1	NO HAWKS FLYING	-	3	4	-	1
BW	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2585	-	-	-		-	-	-	-	-
RL	-	-	4	-	-	-	-	-	2	-	5	-	-	-	11	-	-	-		-	44	4	-	3
GE	-	-	3	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-		-	1	-	-	-
BE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-		-	-	-	-	-
MH	2	16	37	24	20	-	-	27	18	1	-	2	-	-	413	-	3	4		-	17	2	-	4
OS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
PF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
M	-	1	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	2	-	-	-	-	-	-
AK	13	15	19	10	-	-	-	-	7	-	-	-	-	-	1123	-	1	-	-	1	2	-	1	-
TOTALS	300	224	1132	189	410	60	11	45	750	398	57	276	116	1	13606	1	163	35	0	14	721	274	8	112

Table 1 (Continued):

	NOVEMBER						NOV.	DECEMBER																	DEC.
	20	22	24	26	27	30	TOTALS	1	2	3	4	10	11	12	16	17	18	23	24	26	27	29	30	31	TOTALS
TV	-	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1
GOS	-	1	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
SSH	-	-	-	-	-	-	0	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
CH	-	1	-	-	2	-	5	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
RT	6	14	2	1	52	10	1307	NO HAWKS FLYING	NO HAWKS FLYING	58	82	34	100	1	3	112	NO HAWKS FLYING	6	3	1	-	NO HAWKS FLYING	NO HAWKS FLYING	6	406
RS	-	-	-	-	1	-	10			-	1	3	5	-	-	1		-	-	-	-			-	10
BW	-	-	-	-	-	-	0			-	-	-	-	-	-	-		-	-	-	-			-	0
RL	-	-	-	5	14	-	70			3	-	45	41	-	1	5		-	-	1	-			1	97
GE	-	-	-	-	-	-	1			-	-	1	6	-	-	-		-	-	-	-			-	7
BE	-	-	1	-	-	-	1			-	-	-	-	-	-	-		-	-	-	-			-	0
MH	-	1	-	6	15	3	55			-	-	8	3	-	-	-		3	-	-	1			-	15
OS	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
PF	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
M	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
AK	-	1	1	-	-	-	7	-	-	-	-	-	-	-	1	1	-	3	1	-	-	-	-	-	6
TOTALS	6	18	4	12	84	13	1465	0	0	62	84	91	156	1	5	119	0	12	4	2	1	0	0	8	545

Table 2. Raptors banded at Hawk Cliff Raptor Banding Station. See Appendix 1 for key to species names.

	1969	1970-71*	1971-72*	1972	1973	1974	1975	1976	1977	TOTALS
COS	–	5	3	13	41	12	33	9	8	124
SSH	40	166	223	390	446	1398	2726	1862	2457	9708
CH	9	10	50	81	49	90	147	104	125	665
RT	4	71	345	285	398	262	504	277	445	2591
RS	–	3	5	4	10	1	9	10	21	63
BW	1	–	–	2	1	6	4	1	6	21
Sw	–	–	–	–	–	–	1	–	–	1
RL	–	–	5	3	–	2	2	–	12	24
GE	–	–	–	1	–	–	–	–	2	3
MH	1	2	28	33	29	50	56	37	60	296
GYR	–	–	–	–	1	–	–	–	–	1
PF	1	1	4	–	1	1	1		1	10
M	–	–	–	1	–	3	6	2	10	22
AK	143	85	56	212	249	486	721	761	473	3186
BNO	–	–	–	–	1	–	–	–	–	1
SCO	2	–	2	12	8	1	9	6	3	43
GHO	–	1	7	18	20	15	–	4	4	69
SNO	–	–	–	–	–	1	1	–	–	2
HO	–	–	–	1	–	–	–	–	–	1
LEO	–	–	4	1	4	1	5	2	1	18
SWO	1	–	1	–	1	12	49	5	1	70
N. Shrike	–	–	–	–	–	3	2	–	1	6
L. Shrike	–	–	–	–	1	–	–	–	–	1
TOTALS	202	344	733	1057	1260	2344	4276	3080	3630	16926

*Hawks caught in January 1971 and 1972 were included in the 1970 and 1971 reports, respectively. In 1972, totals were cut off at the end of December so results from one calendar year are shown in the banding totals.

Table 3. Daily banding totals, all stations combined. Omitted are January (8 Red-tailed Hawks banded) and July (1 American Kestrel banded).

	AUGUST		SEPTEMBER																	
	30	31	2	3	4	5	6	7	8	9	10	11	12	14	15	17	18	19	20	21
GOS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SSH	-	1	-	12	8	90	55	6	10	-	121	325	8	316	15	86	1	2	135	113
CH	-	-	-	-	-	-	1	-	-	-	1	2	1	8	1	2	-	-	1	3
RT	1	-	-	5	-	1	5	-	1	-	2	7	-	1	-	1	-	1	2	-
RS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BW	-	-	-	-	-	1	-	-	-	-	-	-	-	4	-	-	-	-	-	-
RL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MH	-	1	-	3	3	5	7	2	-	-	3	6	1	4	-	1	-	-	1	-
PF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M	-	-	-	-	-	1	-	-	-	-	1	-	2	-	-	2	-	-	1	-
AK	6	23	1	44	5	19	13	-	3	-	12	53	5	17	4	1	-	1	2	5
SCO	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
GHO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LEO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SWO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N. Shrike	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTALS	7	25	1	64	16	117	81	8	14	1	140	393	17	350	20	93	1	4	142	121

Table 3. (Continued):

	SEPTEMBER									SEPT.	OCTOBER								
	22	23	24	25	26	27	28	29	30	TOTALS	1	2	3	4	5	6	7	9	10
GOS	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-
SSH	74	17	1	2	3	84	298	101	31	1915	6	110	96	120	6	71	1	-	54
CH	3	4	1	-	-	-	5	5	4	42	10	22	21	4	1	4	-	1	1
RT	2	2	-	-	-	-	1	-	-	32	-	4	22	3	-	-	9	-	1
RS	-	-	-	-	-	-	-	-	-	-	-	3	2	-	-	1	-	-	1
BW	-	-	-	-	-	-	1	-	-	6	-	-	-	-	-	-	-	-	-
RL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GE	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
MH	2	3	1	1	-	2	-	2	-	48	-	1	-	2	-	-	1	-	-
PF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
M	1	-	-	1	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-
AK	8	5	-	1	-	20	21	5	2	276	-	15	11	15	-	3	4	-	1
SCO	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
GHO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LEO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SWO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N. Shrike	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTALS	90	31	3	5	3	106	326	113	37	2329	16	155	153	146	7	79	15	2	58

Table 3 (Continued):

	OCTOBER															OCT.	NOVEMBER			
	11	12	13	14	15	16	17	18	19	21	22	23	28	29	30	TOTALS	5	6	12	13
GOS	-	-	-	-	-	-	1	1	-	-	1	-	-	-	-	5	-	-	-	2
SSH	3	3	-	7	24	11	4	-	3	-	6	-	-	-	-	525	-	-	-	-
CH	-	-	1	2	-	4	3	2	-	-	4	2	-	-	-	82	-	-	-	-
RT	-	1	1	4	-	55	9	6	-	1	25	45	2	13	11	212	8	2	57	34
RS	-	-	-	1	1	1	-	-	-	-	-	-	-	-	-	10	-	-	2	-
BW	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GE		-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
MH	-	-	-	-	1	-	-	-	-	1	1	-	-	-	-	7	-	-	2	-
PF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
M	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
AK	-	-	-	1	-	2	2	-	-	-	-	-	-	-	-	54	-	-	-	-
SCO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GHO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LEO	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-
SWO	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-
N. Shrike	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTALS	3	4	2	16	26	73	19	9	3	2	37	47	3	14	11	900	8	2	61	36

Table 3 (Continued):

	NOVEMBER						NOV.	DECEMBER										DEC.
	18	19	22	26	27	30	TOTALS	3	4	10	11	12	16	17	23	26	31	TOTALS
GOS	–	–	1	–	–	–	3	–	–	–	–	–	–	–	–	–	–	–
SSH	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	1
CH	–	–	–	–	–	–	–		–	–	–	–	–	–	–	–	–	–
RT	–	10	2	1	6	2	122	6	11	8	15	1	1	20	2	1	1	66
RS	–	1	–	–	–	–	3	–	1	2	4	–	–	–	–	–	–	7
BW	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
RL	–	–	–	–	1	–	1	–	–	5	6	–	–	–	–	–	–	11
GE	–	–	1	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–
MH	–	–	–	–	1	–	3	–	–	2	–	–	–	–	–	–	–	2
PF	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
M	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
AK	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	1
SCO	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
GHO	1	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–
LEO	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
SWO	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
N. Shrike	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	1
TOTALS	1	11	4	1	8	2	134	7	13	17	25	1	1	21	2	1	1	89

Table 4. Monthly banding totals, including roadtraps, nestlings and others.

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	TOTALS
GOS	-	-	-	-	-	-	-	-	-	5	3	-	8
SSH	-	-	-	16	-	-	-	1	1914	525	-	1	2457
CH	-	-	1	-	-	-	-	-	42	82	-	-	125
RT	10	3	-	-	-	-	-	1	31	212	122	66	445
RS	1	-	-	-	-	-	-	-	-	10	3	7	21
BW	-	-	-	-	-	-	-	-	6	-	-	-	6
RL	-	-	-	-	-	-	-	-	-	-	1	11	12
GE	-	-	-	-	-	-	-	-	-	1	1	-	2
MH	-	-	-	-	-	-	-	1	47	7	3	2	60
PF	-	-	-	-	-	-	-	-	-	1	-	-	1
M	-	-	-	-	-	-	-	-	9	1	-	-	10
AK	-	2	-	-	59	65	14	29	247	54	-	3	473
SCO	-	2	-	-	-	-	-	-	1	-	-	-	3
GHO	-	1	-	2	-	-	-	-	-	-	1	-	4
LEO	-	-	-	-	-	-	-	-	-	1	-	-	1
SWO	-	-	-	-	-	-	-	-	-	1	-	-	1
N. Shrike	-	-	-	-	-	-	-	-	-	-	-	1	-
TOTALS	11	8	1	18	59	65	14	32	2297	900	134	91	3630

Table 5. Comparison of station banding totals between 1976 and 1977. Totals do not include nestlings or roadtraps. See Figure 1 for locations of stations, and Appendix 1 for key to species names.

	#1		#2		#3		#4		#5		#6		#7		#8		TOTALS	
	1976	1977	1976	1977	1976	1977	1976	1977	1976	1977	1976	1977	1976	1977	1976	1977	1976	1977
GOS	-	1	1	3	1	2	4	-	1	1	1	-	1	1	-	-	9	8
SSH	182	280	300	249	411	476	184	537	373	580	298	178	114	68	-	73	1862	2441
CH	11	17	34	15	19	35	13	19	15	17	6	12	6	4	-	5	104	124
RT	49	81	48	18	22	117	25	27	16	12	30	15	77	59	-	111	267	440
RS	2	-	-	-	1	7	-	2	1	2	2	1	4	2	-	6	10	20
BW	1	-	-	1	-	1	-	-	-	2	-	2	-	-	-	-	1	6
RL	-	7	-	-	-	3	-	-	-	-	-	-	-	1	-	1	-	12
GE	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	2
MH	4	7	1	1	1	8	4	5	17	31	7	3	3	2	-	3	37	60
PF	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1
M	-	1	-	-	-	1	-	-	1	7	-	-	1	1	-	-	2	10
AK	49	40	17	2	16	16	13	12	359	224	128	23	8	3	-	12	590	332
SCO	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
GHO	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
LEO	-	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1
SWO	-	1	5	-	-	-	-	-	-	-	-	-	-	-	-	-	5	1
N. Shrike	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
TOTALS	298	438	408	291	471	667	243	602	783	876	472	234	214	142	0	211	2889	3461

Table 6. A comparison of ages of birds caught in 1976 and 1977. Roadtraps and nestlings not included.

	HATCH YEAR		AFTER HATCH YR		SECOND YEAR		AFTER SECOND YR		NOT AGED		TOTALS	
	1976	1977	1976	1977	1976	1977	1976	1977	1976	1977	1976	1977
GOS	9	8	-	-	-	-	-	-	-	-	9	8
SSH	1622	1981	240	166	-	275	-	19	-	-	1862	2441
CH	76	102	28	11	-	11	-	-	-	-	104	124
RT	206	371	61	65	-	3	-	1	-	-	267	440
RS	8	17	2	3	-	-	-	-	-	-	10	20
BW	1	6	-	-	-	-	-	-	-	-	1	6
RL	-	8	-	3	-	-	-	-	-	1	-	12
GE	-	1	-	-	-	1	-	-	-	-	-	2
MH	36	58	1	2	-	-	-	-	-	-	37	60
PF	-	1	-	-	-	-	-	-	-	-	-	1
M	2	9	-	1	-	-	-	-	-	-	2	10
AK	492	288	46	18	-	-	-	-	52	26	590	332
SCO	-	-	-	-	-	-	-	-	-	1	-	1
GHO	-	-	-	-	-	-	-	-	-	1	-	1
LEO	-	1	-	-	-	-	-	-	2	-	2	1
SWO	4	-	1	1	-	-	-	-	-	-	5	1
N. Shrike	-	-	-	1	-	-	-	-	-	-	-	1
TOTALS	2456	2851	379	271	0	290	0	20	54	29	2889	3461

Table 7. Foreign recoveries, foreign retraps, returns and repeats.

Numbers used under the heading "KEY" signify: 00-found dead; 01-shot; 02-caught due to starvation; 04-caught by devices to trap animals not birds; 09-caught by other raptors; 12-caught by cat; 13-caught due to striking stationary object; 14-caught due to striking motor vehicle; 21-caught or found dead in building; 27-caught due to striking train; 28-caught by hand; 45-found dead or injured on highway; 89-previously banded bird trapped and released during banding operations in different 10' block than where originally banded. Coordinates follow location of recovery. Dates given as month-day-year.

(1) Foreign Recoveries

SPECIES	BAND NO.	AGE KEY	SEX	DATE BANDED DATE RECOVERED	WHERE BANDED WHERE RECOVERED
Goshawk	576-90709	HY 28	F	10-29-75 06-26-77	Hawk Cliff, Ont. 424-0810 Gowen, Mich. 431-0851
	617-21853	HY 00	F	10-30-75 06-06-77	Hawk Cliff, Ont. Gooderham, Ont. 445-0781
Sharp-shinned Hawk	833-18367	HY 28	F	09-25-76 04-14-77	Hawk Cliff, Ont. Paris, Ohio 404-0810
	833-19750	HY 13	F	09-30-76 04-15-77	Hawk Cliff, Ont. Durant Eastman Pk., N.Y. 431-0773
	833-14742	HY 09	F	09-15-75 05-05-77	Hawk Cliff, Ont. Whitefish Point, Mich. 464-0845
	782-21937	HY 12	M	10-14-76 05-01-77	Hawk Cliff, Ont. Atlanta, Ga. 341-0842
	833-17019	HY 13	F	09-20-75 05-09-77	Hawk Cliff, Ont. Rouyn, Que. 481-0790
	653-23948	AHY 14	F	09-19-74 08-15-77	Hawk Cliff, Ont. Herschel Twp., Ont. 450-0775
	782-21040	HY 00	M	09-14-76 02-18-77	Hawk Cliff, Ont. Nr. Miami Beach, Fla. 255-0800
	1013-43420	HY 00	M	09-29-71 04-15-77	Hawk Cliff, Ont. Nr. Gladwin, Mich.

Table 7 (Continued):

(1) Foreign Recoveries

Sharp-shinned Hawk	833-19818	HY 00	F	09-15-77 10-31-77	Hawk Cliff, Ont. Pontiac, Mich. 423-0831
	782-22480	HY 00	M	09-20-77 12-02-77	Hawk Cliff, Ont. Greensburg, La. 305-0904
	832-80710	HY 01	M	09-28-77 12-28-77	Hawk Cliff, Ont. Saufley Field, Fla. 302-0872
	833-23837	HY 02	F	10-04-77 12----77	Hawk Cliff, Ont. Port Barre, La. 303-0920
	833-23166	HY 13	F	09-15-77 11-29-77	Hawk Cliff, Ont. Indian Hill, Ohio 391-0842
	833-19867	HY 01	F	09-28-77 09----77	Hawk Cliff, Ont. Cleveland, Tenn. 350-0845
	833-23187	HY 01	F	09-20-77 11-24-77	Hawk Cliff, Ont. S.J. Compalapa, Guat. 144-0905
Cooper's Hawk	745-01114	HY 13	F	10-22-77 02-16-77	Hawk Cliff, Ont. Farmersville, Ohio 394-0842
	745-01426	HY 04	F	09-22-76 02-04-77	Hawk Cliff, Ont. Athens, Tenn. 352-0843
Red-tailed Hawk	877-25326	HY 00	U	10-04-76 01-07-77	Hawk Cliff, Ont. Windsor, Ont. 421-0830
	877-27107	HY 14	U	10-16-76 01-14-77	Hawk Cliff, Ont. Alexandria, Pa. 403-0781
	877-27352	HY 27	U	11-08-76 01-23-77	Hawk Cliff, Ont. Atlanta, Ga. 340-0842
	877-25188	AHY 00	U	10-30-75 02-16-77	Hawk Cliff, Ont. Dutton, Ont. 423-0813

Table 7 (Continued):

(1) Foreign Recoveries

SPECIES	BAND NO.	AGE KEY	SEX	DATE BANDED DATE RECOVERED	WHERE BANDED WHERE RECOVERED
Red-tailed Hawk	877-25234	HY 00	U	12-07-76 05-27-77	Hawk Cliff, Ont. Rondeau Pk., Ont. 421-0815
	987-26034	HY 00	U	12-05-76 04-24-77	Hawk Cliff, Ont. Eagle, Ont. 423-0813
	877-25185	HY 00	U	10-30-75 03-31-77	Hawk Cliff, Ont. Peterborough, Ont. 441-0781
	877-05273	AHY 00	U	02-27-72 03-15-77	Hawk Cliff, Ont. Nr. St. Thomas, Ont. 424-0811
	877-08236	L 01	U	05-20-73 10-25-77	Hawk Cliff, Ont. Rainbow Twp., Ont. 425-0795
	987-26407	HY 01	U	11-12-77 12-30-77	Hawk Cliff, Ont. Windsor, Ont. 421-0830
Marsh Hawk	614-02212	HY 00	M	10-04-77 11-04-77	Hawk Cliff, Ont. Tunica, Miss. 344-0902
American Kestrel	653-24268	L 00	F	06-25-75 04-08-77	Hawk Cliff, Ont. Shiawassee Gma. Mich. 431-0840
	1143-52248	HY 21	F	09-13-75 03-16-77	Hawk Cliff, Ont. Ethridge, Tenn. 351-0871
	1143-52530	HY 45	F	09-19-76 02-28-77	Hawk Cliff, Ont. Goliad, Texas 283-0972
	1143-53228	L 21	F	05-29-76 01-14-77	Nr. Lanworth, Ont. 425-0811 Nr. Springfield, Ont. 424-0815
	1143-52809	HY 45	M	09-11-77 09-24-77	Hawk Cliff, Ont. Archbold, Ohio 413-0841

Table 7 (Continued):

(2) Foreign Retraps

Sharp-shinned Hawk	1173-67573	HY 89	M	09-20-76 10-06-77	Nr. Wheatley, Ont. 420-0822 Hawk Cliff, Ont.
	1273-98300	HY 89	F	09-21-76 10-03-77	Nr. Wheatley, Ont. 420-0822 Hawk Cliff, Ont.
	883-16895	AHY 89	F	04-25-76 10-04-77	Whitefish Pt., Mich. 464-0845 Hawk Cliff, Ont.
	833-16430	ASY 89	F	09-13-75 04-10-77	Nr. Merlin, Ont. 424-0821 Nr. Vinemount, Ont. 431-0794
	832-87139	SY 89	M	10-06-77 10-10-77	Long Point, Ont. 423-0801 Hawk Cliff, Ont.
	833-23175	HY 89	F	09-19-77 09-20-77	Hawk Cliff, Ont. Nr. Wheatley, Ont. 420-0822
	833-23092	HY 89	F	09-17-77 09-18-77	Hawk Cliff, Ont. Nr. Wheatley, Ont. 420-0822
	833-23048	HY 89	F	09-11-77 09-15-77	Hawk Cliff, Ont. Rockwood, Mich. 424-0831
	782-22278	HY 89	M	09-20-77 09-21-77	Hawk Cliff, Ont. Nr. Wheatley, Ont. 420-0822
	833-18843	HY 89	F	09-17-77 09-20-77	Hawk Cliff, Ont. Nr. Wheatley, Ont. 420-0822
	833-19264	HY 89	F	09-11-77 09-18-77	Hawk Cliff, Ont. Nr. Wheatley, Ont. 420-0822
	1143-52033	HY 89	F	09-12-75 04-18-76	Hawk Cliff, Ont. Whitefish Pt., Mich. 464-0845
Cooper's Hawk	614-02143	HY 89	M	09-23-77 09-24-77	Hawk Cliff, Ont. Nr. Wheatley, Ont. 420-0822
	745-00806	HY 13	F	10-03-77 11-16-77	Hawk Cliff, Ont. New Orleans Univ., La. 295-0900

Table 7 (Continued):

(2) Foreign Retraps

SPECIES	BAND NO.	AGE KEY	SEX	DATE BANDED DATE RECOVERED	WHERE BANDED WHERE RECOVERED
Red-tailed Hawk	877-38326	ASY 89	U	04-10-77 10-16-77	Nr. Swanville, Pa. Hawk Cliff, Ont.
	877-08432	HY 89	U	11-03-73 12-08-77	Hawk Cliff, Ont. Mountsberg Wldf. Cent., Ont.
Peregrine Falcon	686-03409	HY 89	M	07-25-77 09-17-77	Nr. Limbour, Que. Hawk Cliff, Ont.
American Kestrel	1143-52308	HY 21	M	09-17-75 01-16-77	Hawk Cliff, Ont. Morgan City, La. 294-0911
	1143-52652	L 89	F	06-07-76 02-05-77	Hawk Cliff, Ont. Duck Key, Fla. 244-0805

(3) Returns

Sharp-shinned Hawk	833-14060	AHY	F	10-07-74 10-03-77	Hawk Cliff, Ont. Hawk Cliff, Ont.
	762-39418	HY	M	10-04-75 10-10-77	Hawk Cliff, Ont. Hawk Cliff, Ont.
	833-19005	HY	F	09-22-76 09-14-77	Hawk Cliff, Ont. Hawk Cliff, Ont.
	833-18761	HY	F	10-01-76 10-12-77	Hawk Cliff, Ont. Hawk Cliff, Ont.
	1143-52432	HY	F	09-18-75 10-03-77	Hawk Cliff, Ont. Hawk Cliff, Ont.
Red-tailed Hawk	737-02820	L	U	12-12-70 09-17-77	Hawk Cliff, Ont. Hawk Cliff, Ont.
	877-27212	AHY	U	11-11-76 11-19-77	Hawk Cliff, Ont. Hawk Cliff, Ont.

Table 7 (Continued):

(3) Returns

American Kestrel	1013-44986	L	M	06-18-75	Hawk Cliff, Ont.
				10-30-77	Hawk Cliff, Ont.
	653-22043	AHY	F	03-17-72	Hawk Cliff, Ont.
				02-05-77	Hawk Cliff, Ont.

(4) Repeats

There were 36 station repeats, as follows: Sharp-shinned Hawk 29; Cooper's Hawk 1, Red-tailed Hawk 4; and American Kestrel 2.

Appendix 1. Key to abbreviations in tables, and scientific names.

TV	Turkey Vulture	*Cathartes aura*
GOS	Goshawk	*Accipiter gentilis*
SSH	Sharp-shinned Hawk	*Accipiter striatus*
CH	Cooper's Hawk	*Accipiter cooperii*
RT	Red-tailed Hawk	*Buteo jamaicensis*
RS	Red-shouldered Hawk	*Buteo lineatus*
BW	Broad-winged Hawk	*Buteo platypterus*
Sw	Swainson's Hawk	*Buteo swainsoni*
RL	Rough-legged Hawk	*Buteo lagopus*
GE	Golden Eagle	*Aquila chrysaetos*
BE	Bald Eagle	*Haliaetus leucocephalus*
MH	Marsh Hawk	*Circus cyaneus*
OS	Osprey	*Pandion haliaetus*
GYR	Gyrfalcon	*Falco rusticolus*
PF	Peregrine Falcon	*Falco peregrinus*
M	Merlin	*Falco columbarius*
AK	American Kestrel	*Falco sparverius*
BNO	Barn Owl	*Tyto alba*
SCO	Screech Owl	*Otus asio*
GHO	Great Horned Owl	*Bubo virginianus*
SNO	Snowy Owl	*Nyctea scandiaca*
HO	Hawk Owl	*Surnia ulula*
LEO	Long-eared Owl	*Asio otus*
SWO	Saw-whet Owl	*Aegolius acadica*
N. Shrike	Northern Shrike	*Lanius excubitor*
L. Shrike	Loggerhead Shrike	*Lanius ludovicianus*

ONTARIO BIRD BANDING

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