

ONTARIO Bird Banding

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Hawk Cliff Raptor Banding Station
Fourth Annual Report

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ONTARIO BIRD BANDING

Volume 10

Number 2

HAWK CLIFF RAPTOR BANDING STATION FOURTH ANNUAL REPORT 1974

Marshall Field

and

William Rayner

This has been an extremely successful fall season for banding raptors at Hawk Cliff, Ontario. September and October were very productive while the totals for November and especially December were lower than in 1973. The initial hawk banding work in 1969 and 1970 was reported on by Field (1970). This was followed by the First Annual Report (1971), Second Annual Report (1972) and the Third in 1974. A relevant study was done on nestling Red-tailed Hawks (Field 1973). An active program was undertaken in 1974 to attract a resident Kestrel population by nest boxes. A legend relating the English names to their scientific names is in Table 10.

Methods

The location of Hawk Cliff is latitude $42^{\circ} 41' N$ longitude $81^{\circ} 10' W$ in Elgin County, Ontario, Canada. The ecological setting was described by Field, 1970.

Stations

The work undertaken to establish a new #6 station certainly paid off, see Fig. 2. During September this station produced more banded hawks than any of the other stations. It was the top Kestrel station with a total of 185 banded. Establishing Kestrel perches in the open areas adjacent to the station was a definite asset in getting the birds into a trapable position. Station #4 had a rather slow start in September as both Craig Brown and Dan Allen were working in the tobacco harvest. They redeemed their late start on October 7, with the banding of 118 hawks which constitutes a new station high for a single day's trapping. The Cliff edge #5 station is beginning to develop its potential. It is apparent that this station presents the best opportunity for

successfully trapping Marsh hawks as is evident in the totals - see table #5. Excessive wind seems to be the greatest single drawback here, limiting the effective use of mist nets. The trapper at this station has to have extreme patience and be satisfied on certain days to just view the scenery or be happy with one Marsh hawk or some other not-too-easily-trapped species.

New Trapping Devices

Howard McCarthy has perfected a foot treadle for releasing the bownet. The advantage to this system is that the trapper has both hands free at all times to manipulate the lure lines. When one gets accustomed to this method it is possible to take the hawk in the bownet a split second before it strikes the lure. Don Fowler improved his tripping mechanism by having a vertical trip handle pivoted at one end with the lure line attached to the middle of the handle. Aluminum tubing is used on all of our bownets now making them much faster acting.

Lure Birds

Again this year we were in a bit of a bind for blackbirds in early September. Repeated tries with mist nets at a big roost near St. Thomas produced few birds. In desperation we finally placed a V top 4' x 6' starling trap in the Ontario Hospital farm beef cattle feedlot. The success was almost instant, catching as many as 25 Cowbirds at a time. Our good supply of blackbirds developed near the latter part of the Sharpshin flight so there were lots of unused birds to release at the end of the season. The pigeon supply became acute when Craig Brown bagged up 25 birds and set them out on the lawn to be picked up. A roving dog spotting the moving bags made short work of every last pigeon. Bob Spicer has good relations with several farmers and our supply was replenished in one night, thanks to the barn climbing agility of our two younger members - Craig Brown and Danny Allen. Establishing a small cage for lure birds at #3 station saved the Fowler's considerable time formerly spent picking up birds from the lure pens either at #1 or #2 stations. A comparison of lure bird success is in Fig. 2 and Table 7.

Techniques of Catching Sharpshins

The Sharpshin has proved to be our big number species with 1,398 trapped this year representing 63% of the total Hawk Cliff catch. The usual setup for one person to operate

involves two bownets, one with a pigeon lure, and the second with a Cowbird. The Cowbird set is augmented with mist nets. One station can accommodate two trappers operating the lures. An ideal setup would be one pigeon and one blackbird lured bownet to the right and left of center, backed up by two mist nets on each side of the station. There have been two schools of thought with banders regarding where the mist net is most effectively placed. Some place it in front of the lure bird while others place it three to four feet behind the lure. With the net in front of the bird, the hawks seem to hit it at a faster rate of speed and tend to bounce out more readily. A system using two mist nets seems to work more effectively, as the net behind the bird is strung parallel to the lure line while a second net running continuously from the first one is placed on a 30 degree angle. This angled net seems to take a large percentage of the birds that have bounced out of the first net and try to sneak around the end. Craig Brown and Danny Allen as a team, have developed an efficient method for catching sharpshins. For far out birds the pigeon is activated to catch the hawk's attention. When the hawk is definitely fixed on the pigeon and well into a good stoop, or sneak, it is switched over to the cowbird on the second set. As the hawk comes closer, the cowbird is drawn toward the pinning position in the bownet but still activated slightly. When the hawk is 10 - 15 feet from the lure bird, it is pinned against the eye in the bownet thus reducing almost all movement. Sharpshins prefer a moving prey and usually will veer off and into the mist net at the last moment. It is not unusual to have four hawks stacked up in the nets at one time when they are coming thick and fast. The trick is to get the hands coordinated with the eyes and make the right moves at exactly the right time. On a big day it would be essential to have two people manipulating the lure birds and two others removing the hawks from nets, processing and releasing them.

Catching Owls

An attempt was made to catch owls on the night of October 11 with negative results. We did not try again until the night of November 9 when the results were more rewarding - catching 11 saw-whets and 1 long-eared. We tried again on November 12 and caught one great-horned owl by the toe in a thrush net. A deer wiped out one of our new hawk nets so the evening was not a profitable one. We feel that the period between October

15 and November 9 probably produces some flights of saw-whet owls along the Lake Erie shoreline. The nets were placed along the east perimeter of the sumac dominated shrubbery. All of the owls came into the east side of the nets indicating they were flying low across an open field and all flying in an east - west direction the same as the hawks.

RESULTS

Our total of raptors banded in 1974 - 2,344 almost doubled the number for 1973 - 1,260, see Table 1. Record high totals were established for Coopers, Sharpshins, Broad-winged, Merlin, Kestrel and Saw-whet Owl. Various stations are listed in Table 6. The numbers of raptors observed each day are shown in Table 9.

^{It}
Fluctuation In Numbers - It was the Sharp-shins that showed the most significant increase - 446 in 1973 to 1,399 in 1974. - see Table 1.

There are several factors to take into account when trying to explain this sudden Sharpshin increase. The numbers observed jumped from 5,323 in 1973 to 11,673 in 1974. This past season we had a more adequate supply of good mist nets, also some of the trappers worked out a more efficient technique for catching Sharpshins. The weather plays an important role in the catching success. When migration conditions are too good (i.e. strong thermals) the hawks rise very high and are not easily lured down. The sudden increase in numbers banded was not localized to Hawk Cliff, as banding stations at Cape May Point, New Jersey and Hawk Ridge at Duluth, Minnesota, also reported much higher totals in 1974.

Numbers of Red-tails banded dropped even though the sightings increased slightly. On the good days for migration in November - 22, 25, 26 the flights went up so high that it was impossible to lure many of them to the bownet. December proved to be almost a total washout due to poor migrating weather and an apparent lack of hawks that were anxious to move further South. Red-shouldered hawks continue to show a decline at Hawk Cliff and only one hatching year bird was trapped. It is very difficult to sort out the red-shouldered from red-tails especially on the days when they are mere specs at high altitude. The overall picture seems to indicate that the numbers have fallen drastically from the 1,208 figure observed by John Haugh during his study in 1967. Monthly totals are in Table 3.

Age Class Distribution

See Table 2. About 80 percent of the hawks were in hatching year. Fig. 3 shows a hatching year age Red-shouldered Hawk.

Methods

The numbers of each species caught by the various methods are in Table 4 and Fig. 1.

Wind Direction

The situation in respect to wind direction is summarized in Fig. 1. A north-west wind brought in large numbers of hawks. The north wind favoured Red-tailed Hawks and Kestrels. West winds brought Sharpshins and Kestrels. Sharpshins were also favoured by south and south-west winds.

Big Station Days

On September 21 there was a combined total of 242 hawks caught and banded as all six stations were in operation. The following day 228 were banded with five stations operating.

New Species

The first Northern Shrike, a hatching year, was banded at Hawk Cliff. This bird was making a lot of strange noises in the vicinity of #6 station but was finally trapped by Craig Brown at #2 station in a bownet as it hovered over the lure bird. It was held bare-handed for Bob Hubert to get some pictures. They are a savage little bird with that devastatingly hooked bill. The next shrike will be handled with gloves. Bob Hubert takes the honors for catching the first Snowy Owl. It was trapped at the Natural Resources Waterfowl Sanctuary, North of Aylmer about twenty miles from Hawk Cliff. Bob spent part of Friday, November 22 and all day Saturday, November 23 before finally making a successful catch in a clam-type trap. He had many frustrating moments as the owl had escaped from the trap after the first catch. This was a very aggressive owl and it actually flew straight at Bob when he was carrying the part of the trap that contains the pigeons.

Foreign Recoveries, Foreign Retraps, Returns and Repeats

These are listed with details in Table 8.

(1) Foreign Recoveries

By definition of the term, these birds died at or before time of recovery. There were 24 recoveries in 1974.

(2) Foreign Retraps

These are birds caught and released in a different 10' grid than where they were banded. Ten foreign retraps occurred in 1974, seven of them being birds banded at Hawk Cliff; the other three were banded elsewhere.

(3) Returns

A return is a bird recaptured and released after at least 90 days in the same 10' grid where it was banded, e.g. at or near Hawk Cliff. A Screech Owl was the only return.

(4) Repeats

A repeat is a bird recaptured and released within 89 days in the same grid where it was banded. There were 17 repeats.

Comments by the Banders

Some interesting comments abstracted from the daily records are in the Appendix.

Hawk Migration Association

We are pleased to be contributing to the seasonal reports of the newly formed Hawk Migration Association of North America. Sightings from the banding stations and the observing area at Hawk Cliff will be included in a report from lookouts across the North American Continent.

Acknowledgements

All of the Hawk Cliff members have contributed in some way to the success of the station during 1974. It is only through the co-operative efforts of the group that such good coverage is maintained through the season, providing the necessary material for this report. We are pleased to have continued co-operation from Mr. Steve Ivan and Ontario Water Resources who make it possible to operate on their property.

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Banding 8:3:44-60
- Field, Marshall 1973 Banding nestling Red-tailed Hawks in
Elgin and Middlesex Counties. Ontario Bird Banding
9:1:13-22
- Field, Marshall and Wm. Rayner 1974 Hawk Cliff Raptor Banding
Station: Third Annual Report. Ontario Bird Banding
9:2:26-58
- Spicer, Robert and Marshall Field 1974 American Kestrel nest
box program. Ontario Bird Banding 10:1:9-15

APPENDIX

INTERESTING COMMENTS GLEANED FROM SUMMARY SHEETS

- September 15 - #3 station - A second marsh hawk came bombing
in and landed on the front starling, I noticed when I
started pulling it in that the front bownet had never been
set. Lost two marsh hawks in one afternoon.
Sheila Fowler
- September 19 - #1 station - Blankety blank! pigeon line broke
bringing in a redtail that had responded beautifully.
Ruby Leverton
- September 20 - #5 station - (A 42 day at the cliff edge) Hawks
were very plentiful. One was in sight at all times.
Dan Allen
- September 22 - #3 station - Our first 70 day, tremendous!
beautiful! Imagine if those 34 misses hadn't got out of the
mist nets - a possible hundred day.
Don Fowler
- September 27 - #6 station - My first peregrine in a mist net.
Bob Spicer
- October 1 - #1 station - Between 0710 and 0730, 27 marsh
hawks went by. One only was an adult male.
Bob Hubert

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October 5 - #6 station - Caught two cooper's hawks in one bownet at same time.

Bob Spicer

October 6 - #5 station - Observed a peregrine flying very low along the edge of the cliff but unfortunately a cooper's was on the pigeon there was a sharpshin in the net and one flying around the starling at the time.

Dan Allen

October 7 - #4 station - (Teenagers impression of 118 day). 106 sharpshins, 9 coopers, 1 goshawk, 1 broadwing, 1 kestrel. Hawks all over the place - man!

Craig Brown

October 20 - #2 station - A golden eagle flew over at tree-top height just as I had finished closing the station.

John Lemon

October 22 - #1 station - This was our best bad day.

Ruby Leverton

October 27 - #2 station - Lawrence Sanders account of pulling a redtail back under the bownet after it had been tripped. #08692, this redtail was first sighted above the poplars beyond the O.W.R.C. road near the lake. The pigeon on the North set was flipped. The hawk went out of sight but re-appeared in a stoop West of #1 station. It hit the pigeon outside the bownet. When the net was sprung the pigeon and only the claws of the hawk were beneath the net. I tried to attract the hawk to the other sets with no luck. After about ten minutes it shifted its claws to the outside of the net and began lunch. The pigeon was pulled on the string gradually back to the pole and the hawk took new grips as needed. The hawk held on so well that I managed to pull pigeon and hawk beneath the bownet.

Lawrence Sanders

November 6 - #5 station - A roughleg sat on the short post for about fifteen minutes. It finally hopped down, walked over and placed one foot on the pigeon. I was so startled I almost forgot to trip the bownet.

Bill Rayner

November 12 - Owl netting - Caught one great horned owl by the toe in a thrush net, had a wipe-out on a good hawk net as a deer went through.

Marsh Field

November 26 - #2 station - Had a redbill in all three bownets at one time before retrieving them.

Howard McCarthy

December 15 - #3 station - A white cat responded to the pigeon but got away.

Sheila Fowler



Fig. 2 The new #6 station, good kestrel location, note ash tree in foreground has been heavily pruned and girdled.

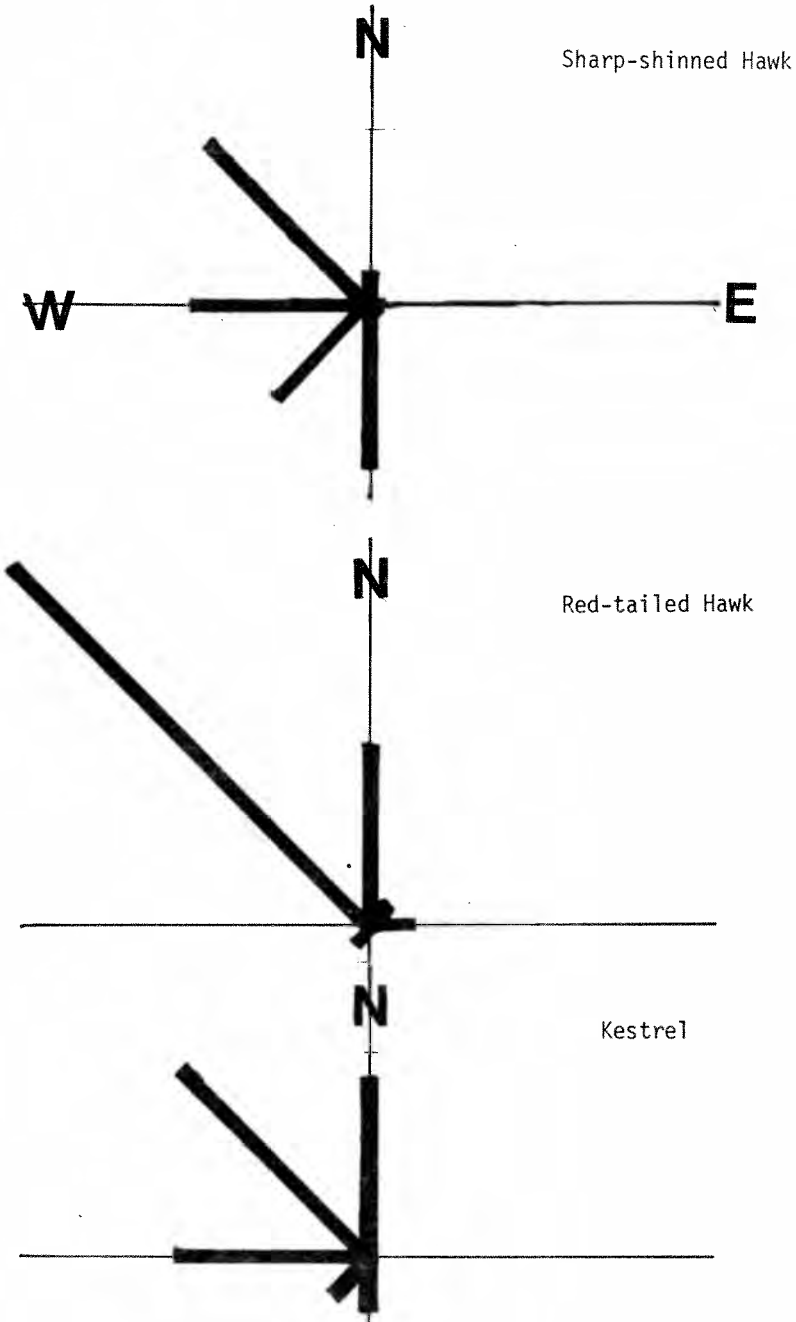


Fig. 1. Hawk sightings versus the day's prevailing wind direction

TABLE 1
 RAPTORS BANDED FROM HAWK CLIFF STATION

	1969	1970-71	1971-72	1972	1973	1974	TOTALS
G**	-	5	3	13	41	12	74
SS	40	166	223	390	446	1398	2663
C	9	10	50	81	49	90	289
RT	4	71	345	285	398	262	1365
RS	-	3	5	4	10	1	23
BW	1	-	-	2	1	6	10
RL	-	-	5	3	-	2	10
GE	-	-	-	1*	-	-	1
MH	1	2	28	33	29	50	143
GYR	-	-	-	-	1*	-	1
PF	1	1	4	-	1	1	8
M	-	-	-	1*	-	3	4
K	143	85	56	212	249	486	1231
BNO	-	-	-	-	1*	-	1
SCO	2	-	2	12	8	1	25
GHO	-	1	7	18	20	15	61
SNO	-	-	-	-	-	1*	1
HO	-	-	-	1*	-	-	1
LEO	-	-	4	1	4	1	10

Cont.									
SWO	1	-	1	-	1	12	15		
N-SHRIKE	-	-	-	-	-	3*	3		
L-SHRIKE	-	-	-	-	1*	-	1		
22 species	202	344	733	1057	1260	2344	5940		

* denotes first of species banded

** See Table 10 for legend to English and scientific names

TABLE #2
A COMPARISON OF SPECIES BY AGE

	HATCHING YEAR		AFTER HATCHING YEAR		NOT AGED		TOTALS	
	1973	1974	1973	1974	1973	1974	1973	1974
G	19	11	22	1	-	-	41	12
SS	354	1179	92	219	-	-	446	1398
C	35	76	14	14	-	-	49	90
RT	209	217	77	44	1	1	287	262
RS	9	1	1	-	-	-	10	1
BW	1	6	-	-	-	-	1	6
RL	-	1	-	1	-	-	-	2
MH	20	49	4	-	-	1	24	50
GYR	1	-	-	-	-	-	1	-
P	1	1	-	-	-	-	1	1
M	-	3	-	-	-	-	-	3
K	197	361	18	90	-	35	215	486
TOTALS	846	1905	228	369	1	37	1075	2311
TOTALS IN PERCENTAGE	78.70%	82.43%	21.21%	15.97%	0.09%	1.60%		

TABLE 3

MONTHLY TOTALS BANDED INCLUDING ROADTRAPS & NESTLINGS

1976

Field and Rayner: Hawk Cliff

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	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	TOTAL
G									1	9	1	1	12
SS									734	664			1398
C									23	67			90
RT	6	1			4	4			24	162	56	5	262
RS										1			1
BW									5	1			6
RL											1	1	2
MH									33	16	1		50
P									1				1
M									2	1			3
K	12	7	14	1	2	22	5	5	332	60	5	21	486
SCO	1												1
GHO													15
SNO				10	2						3	1	1
LEO											1		1
SWO											12		12
NSR	1										1	1	3
	20	8	14	11	8	26	5	5	1155	981	81	30	2344

TABLE 4
SPECIES CAPTURE BY ALL METHODS

	MIST	BOW	BC	PT	CLAM	NESTLING	NEST BOX	TOTAL TRAPPED	(RECOVERIES/ REPEATS)	TOTAL BANDED
G	1	12						13	-1	12
SS	1183	221	3					1407	-9	1398
C	31	60						91	-1	90
RT	8	239	10			8		265	-3	262
RS		1						1		1
BW	4	2						6		6
RL		2						2		2
MH	14	36						50		50
P	1							1		1
M	2	1						3		3
K	294	57	112				29	492	-6	486
SCO							1	1		1
GHO	1		1		1	12		15		15
SNO					1			1		1
LEO	1							1		1
SWO	12							12		12
NSR		1	2					3		3
	1552	632	128		2	20	30	2364	-20	2344

TABLE #5
INTER-STATION BANDING TOTALS BY SPECIES

	#1		#2		#3		#4		#5		#6		TOTALS	
	1973	1974	1973	1974	1973	1974	1973	1974	1973	1974	1973	1974	1973	1974
G	3	-	4	5	3	1	30	4	1	1	-	1	41	12
SS	20	296	24	304	43	268	352	426	2	21	5	83	446	1398
C	7	19	2	26	7	13	33	22	-	4	-	6	49	90
RT	23	45	45	111	86	42	127	21	6	11	-	14	287	244
RS	2	-	2	1	2	-	4	-	-	-	-	-	10	1
BW	-	-	-	1	1	2	-	3	-	-	-	-	1	6
RL	-	-	-	1	-	-	-	-	-	1	-	-	-	2
GE	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MH	4	7	1	5	2	3	14	6	2	27	1	2	24	50
GYR	-	-	-	-	-	-	1	-	-	-	-	-	1	-
P	1	-	-	-	-	-	-	-	-	-	-	1	1	1
MER	-	-	-	-	-	-	-	2	-	1	-	-	-	3
K	9	32	7	14	43	12	79	12	31	124	46	185	215	379
BNO	1	-	-	-	-	-	-	-	-	-	-	-	1	-
SCO	1	-	1	-	-	-	-	-	-	-	-	-	2	-
GHO	-	1	1	1	-	-	-	-	-	-	1	1	2	3
LEO	-	-	-	-	-	-	-	-	-	-	-	1	-	1
SWO	-	-	-	1	-	-	1	-	-	-	-	11	1	12
N-SH	-	-	-	1	-	-	-	-	-	-	-	-	-	1
L-Sh	-	-	-	-	1	-	-	-	-	-	-	-	1	-
TOTALS	71	400	87	471	188	341	641	496	42	190	53	305	1082	2203

TABLE #6
STATION COMPARISONS FOR TRAPPING RESULTS

Station #	TOTAL NEW BANDING		TOTAL DAYS OPERATING		AVERAGE BIRDS BANNED PER DAY		TOTAL HOURS OPERATING	
	1973	1974	1973	1974	1973	1974	1973	1974
#1	71	400	54	50	1.3	8.0	159	176½
#2	87	471	39	57	2.2	8.3	171¼	281½
#3	188	341	49	37	3.8	9.2	210¼	160 3/4
#4	641	496	82	28	7.8	17.7	422 3/4	115
#5	42	190	28	27	1.5	7.0	136½	120
#6	53	305	22	40	2.4	7.6	72	156½
TOTALS	1082	2203	274	239	3.2	9.6	1171 3/4	1010¼

TABLE #7
 A COMPARISON OF LURE BIRDS PER SPECIES
 (does not include roadtraps)

	STARLING	SPARROW	COWBIRD	RED-WING	PIGEON	MOUSE	OTHER
G	-	-	1	-	11	-	-
SS	200	172	1005	-	21	-	-
C	6	3	40	-	41	-	-
RT	9	2	25	2	206	-	-
BW	3	-	3	-	-	-	-
MH	7	14	17	-	12	-	-
K	19	276	72	1	-	10	1
Total	244	467	1163	3	291	10	1
%	11	21	53	0.1	13	0.4	0.04
1973 Total	62	72	536	29	344	15	14
%	5	6	50	2	32	1	1

Table #8 Recoveries, Retraps, Returns and Repeats

Numbers used under the heading "Key" signify - 01 - shot: 89 - retrap and released: 00 - found dead: 14 - caught due to striking or being struck by motor vehicle: 03 - injured: 45 - found dead or injured on highway: 04 - caught by devices to trap animals not birds: 21 - sick or exhausted, released upon recovery.

(1) Foreign Recoveries, 1974

SPECIES	BAND NO.	AGE KEY	SEX	DATE BANNED DATE RECOVERED	WHERE BANNED LOCATION RECOVERED
Goshawk	617-21791	HY 01	M	11-02-73 11-17-73	Hawk Cliff, Ontario Findlay, Ohio (410-0833)
Cooper's Hawk	695-01074	AHY 00	F	10-17-72 05-?-74	Hawk Cliff, Ontario Palmer Rapids, Ont. (451-0773)
Sharp-shinned Hawk	833-14117	HY 14	F	09-23-74 10-23-74	Hawk Cliff, Ontario SW Milton, Florida(303-0870)
	833-14005	HY 01	F	09-22-74 10-16-74	Hawk Cliff, Ontario 3W Blakely, Georgia(312-0850)
Sharp-shinned Hawk	653-22649	HY 00	F	10-03-72 12-?-73	Hawk Cliff, Ontario 4 SE Ashville, Alabama(334-0861)
	1013-48521	HY 14	M	10-02-72 Spring '74	Hawk Cliff, Ontario 15 S Sudbury, Ontario(461-0805)
Sharp-shinned Hawk	653-24089	HY 00	F	10-13-74 11-21-74	Hawk Cliff, Ontario Moncure, North Carolina(424-0810)
Red-tailed Hawk	877-02194	HY 04	U	10-13-72 01-16-75	Hawk Cliff, Ontario Tiffin, Ohio(410-0831)

Red-tailed Hawk	877-08260	HY 03	U	11-20-72 01-17-74	Hawk Cliff, Ontario Nr. Orangeville, Pennsylvania (418-0762)
	877-08107	Nest 01	U	05-06-73 12-05-73	Nr. St. Thomas, Ontario Nr. Moorfield, Kentucky (381-0835)
	877-08208	HY 00	U	11-09-72 03-15-74	Hawk Cliff, Ontario New Baltimore, Michigan (424-0824)
	877-08412	HY 45	U	10-05-73 04-26-74	Hawk Cliff, Ontario Highgate, Ontario (423-0814)
	877-08170	HY 03	U	10-30-72 10-15-74	Hawk Cliff, Ontario Nr. Wilno, Ontario (453-0773)
	877-08239	Nest 00	U	05-20-73 12-?-74	Nr. St. Thomas, Ontario 3 NW Lowesville, North Carolina (352-0810)
	877-25012	HY 45	U	10-20-74 11-07-74	Hawk Cliff, Ontario Southfield, Michigan (422-0831)
	877-02194	HY 04	U	10-13-72 01-16-75	Hawk Cliff, Ontario Clinton Township, Ohio (410-0830)

Foreign Recoveries cont'd							
Marsh Hawk	614-00444	HY	M	11-03-73	Hawk Cliff, Ontario		
		01		10-29-74	3W Applegate, Michigan	(432-0824)	
Am. Kestrel	1013-53295	HY	M	10-06-74	Nr. St. Thomas, Ontario		
		00		10-20-74	5 W Rosehill, Mississippi	(320-0890)	
American Kestrel	653-23378	HY	F	09-02-74	Hawk Cliff, Ontario		
		00		12-28-74	Churubusco, Indiana(411-0851)		
American Kestrel	653-24074	HY	F	10-01-74	Hawk Cliff, Ontario		
		04		12-06-74	2 N Leesburg, Georgia(314-0841)		
Great Horned Owl	599-06088	Nest	U	05-07-72	St. Thomas, Ontario		
		00		01-04-74	2m E St. Thomas, Ontario	(424-0811)	
	599-06094	Nest	U	04-27-74	St. Thomas, Ontario		
		14		07-?-74	3N St. Thomas, Ontario	(424-0811)	
	608-04001	Nest	U	04-12-72	Nr. St. Thomas, Ontario		
		00		03-?-74	3 M. E of banding site	(424-0811)	
	599-06100	Nest	U	05-09-73	Nr. St. Thomas, Ontario		
		01		12-?-73	10 W Long Point, Ontario	(423-0803)	

(2) Foreign Retraps, 1974

Goshawk	816-00642	89	M	10-27-72 12-03-73	Near Ashfield, Pennsylvania Hawk Cliff, Ontario (424-0810)
Cooper's Hawk	695-01032	89	F	10-01-72 10-04-73	Hawk Cliff, Ontario Merlin, Ontario (421-0821)
Cooper's Hawk	545-13270	89	F	10-27-71 10-05-73	Hawk Cliff, Ontario Hawk Cliff, Ont. (424-0810)
Sharp-shinned Hawk	833-14326	89	F	09-27-74 09-28-74	Hawk Cliff, Ontario Near Wheatley, Ont. (420-0822)
Sharp-shinned Hawk	833-14135	89	F	09-26-74 09-28-74	Hawk Cliff, Ontario Nr. Wheatley, Ont. (420-0822)
Sharp-shinned Hawk	653-20354	89	F	09-27-73 09-26-74	Nr. Pelee Point, Ontario Hawk Cliff, Ont. (424-0810)
Sharp-shinned Hawk	653-24117	89	F	09-21-74 09-22-74	Hawk Cliff, Ontario Merlin, Ont. (421-0821)
Sharp-shinned Hawk	643-67505	89	M	05-15-73 10-18-73	8 E Tawa City, Michigan Hawk Cliff, Ont. (424-0810)
Red-tailed Hawk	617-19663	03	U	11-01-71 12-29-74	Hawk Cliff, Ontario Nr. St. Thomas, Ont. (424-0811)
American Kestrel	653-24021	21	F	09-20-74 12-28-74	Hawk Cliff, Ontario Mth Atchafalaya River, Louisiana (292-0911)
<u>(3) Returns, 1974</u>					
Screech Owl	535-81090	89	U	09-09-69 11-11-73	Hawk Cliff, Ontario Hawk Cliff, Ont. (424-0810)

(4) Repeats, 1974Station 1

American Kestrel 1013-53090 HY M 09-21-74
banded 09-21-74 at Station 5.

Station 2

Sharp-shin 833-14114 HY F 09-23-74
banded 09-23-74 at Station 1.

Sharp-shin 833-14350 HY F 10-06-74
banded 10-06-74 at Station 3.

Sharp-shin 833-14357 AHY F 10-06-74
banded 10-06-74 at Station 3.

Red-tail 877-09674 HY U 10-08-74
banded 06-13-74 at Nest 6 (Bond's Farm).

Red-tail 617-21794 HY U 11-22-74
banded 11-22-74 at Station 3.

Goshawk 576-90767 HY M 11-22-74
banded 11-22-74 at Station 4.

Station 3

Sharp-shin 1013-53088 HY F 09-21-74
banded 09-21-74 at Station 5.

Red-tail 608-04047 HY U 10-13-74
banded 10-12-74 at Station 1.

Table 9

	Sept 1974.												Daily Totals of Birds Observed																				
	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Subtotals											
Aug																																	
TV	1																																
G																																	
SS	4	3	-	16	10	9	-	4	1	1	3	299	5	80	1014	475	1259	575	1195	1663	168	69	219	175	483	14	17	238	7999				
C																																	
RT	1	1	7	3		1	1																										
RS																																	
BW	2	19																															
RL																																	
GE																																	
BE																																	
MH	4	3	1	1	2																												
O																																	
P																																	
M																																	
K	5	11	5	4	29	73	15	26	53	19	1	-	3	-	25	312	63	180	303	1280	310	1366	645	249	32	7	8	7	10	-	1	220	5262
	5	11	7	5	46	104	15	43	78	31	1	5	4	1	29	782	76	346	1365	14749	1599	2115	3444	4588	325	97	253	193	509	16	22	524	31388

Daily Totals of Birds Observed

October 1974

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Subtotals																
TV	17	400	70	1			49	5	5			4	91	39	3	3	10	4	14													710																
G	1	2			1	1	1					1			1		1			1	1					1						12																
SS	710	415	128	76	146	486	261	108	75	300	620	220	75	4	1	6	6	11	10	2	-	1	1	1	4	3	2				3671																	
C	7	40	19	4	14	11	28	25	2	10	15	10	23	2		1	2			5						2					220																	
RT	7	150	133		5	4	26	10	4	9	11	208	481	150	4	302	62	879	10	-	96	3	35	55	8	1					2653																	
RS																				2												7																
BW	40	150	7		3		5													2												208																
RL																					2	4																										
GE																					1	1											8															
BE																																																
MH	79	40	7	3	6	4	5	65	7	2	3	10	35	1	2	2	6	8	9	1	1	1	1	1	9	9	2	1				318																
O			2											2																			4															
P																																		1														
M																																		2														
K	324	80	25	19	4	16	-	-	6	8	5	22	26	-	2	4	3	2	4	3	1	4	4	3	2	2	2					565																
																	1188	1277	390	106	179	524	375	208	90	329	652	278	460	1	531	158	20	328	94	928	14	2	103	6	52	70	16	3				8382

Hawk Cliff	November Observations																														Subtotals	Season's Totals	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30			
TV																																1	807
GOS							1																									9	22
S.S.				2						1																						3	11673
COOP																																0	306'
R.TAIL				78		8	21	16	1		4	1		7	1										112	367				30	1096		
R. SHLD				4																											4	14	
B. WING																																0	19282
R. LEG				1		2	1																								3	32	
G.E.							2																								7	10	
B.E.																																0	5
MARSH																																19	822
OS																																0	29
PER																																0	5
MER																																0	7
KES																																13	5840
SHRIKE																																3	3
																																1179	42831

Note: Sightings for December were negligible

Table 10. Legend of English and scientific names and abbreviations

G	Goshawk	<i>Accipiter gentilis</i>
SS	Sharp-shinned Hawk	<i>Accipiter striatus</i>
C	Cooper's Hawk	<i>Accipiter cooperi</i>
RT	Red-tailed Hawk	<i>Buteo jamaicensis</i>
RS	Red-shouldered Hawk	<i>Buteo lineatus</i>
BW	Broad-winged Hawk	<i>Buteo platypterus</i>
RL	Amer. Rough-legged H.	<i>Buteo lagopus</i>
GE	Golden Eagle	<i>Aquila chrysaetos</i>
BE	Bald Eagle	<i>Haliaeetus leucocephalus</i>
MH	Marsh Hawk or Harrier	<i>Circus cyaneus</i>
O	Osprey	<i>Pandion haliaetus</i>
GYR	Gyr Falcon	<i>Falco rusticolus</i>
PF	Peregrine Falcon	<i>Falco peregrinus</i>
M	Merlin	<i>Falco columbarius</i>
K	Kestrel	<i>Falco sparverius</i>
BNO	Barn Owl	<i>Tyto alba</i>
SCO	Screech Owl	<i>Otus asio</i>
GHO	Great Horned Owl	<i>Bubo virginianus</i>
SNO	Snowy Owl	<i>Nyctea scandiaca</i>
HO	Hawk Owl	<i>Surnia ulula</i>
LEO	Long-eared Owl	<i>Asio otus</i>
SWO	Saw-whet Owl	<i>Aegolius acadica</i>
N-Shrike	Northern Shrike	<i>Lanius excubitor</i>
L-Shrike	Loggerhead Shrike	<i>Lanius ludovicianus</i>



Fig. 3 Hatching year. Red-shouldered Hawk. Sometimes confusing to identify. Note the light patch at the base of the primaries in the outstretched wing.



Fig. 4 Red-tail (617-19663). Banded Hawk Cliff 11-01-71 H.Y. Found injured 5 miles north St. Thomas 12-29-74. Has since been treated and returned to wild by Fred Hunt of Welland. (very dark specimen)

BOOK REVIEW

Migration and Survival of Birds of Asia
by McClure, H. Elliott. 1974. pages vi + 476, 249 figures,
13 tables. U.S. Army Component, SEATO Medical Research Lab-
oratory, Bangkok, Thailand.

"An opportunity for research in a vast problem of inter-
national interest rarely strikes more than once in a lifetime
of a scientist and for many not at all". The opportunity for
the bird migration study reported here arose because of United
States military interest in Asia and was justified by the need
to know about diseases and parasites that might be carried to
humans by birds. It was called the Migratory Animal Pathologica
Survey. The book under review here deals with the bird banding
and migration aspects only.

The organization of the Migratory Animal Pathological
Survey consisted of a Director, 13 regional centres in such
places as Korea, Japan, Okinawa, Phillippines, Malaya, Indo-
nesia, India, etc.; at the Headquarters in Bangkok were an
ornithologist, Dr. H. Elliott McClure the author, an entomo-
logist and a microscopist. Field teams, nearly all Asians,
comprised 20 leaders, 81 employees and 70 volunteers. Nine
consultants were accessible by mail to identify specimens,
for instance, N. Wilson at Honolulu for parasitic mites, K.C.
Emerson in Washington, D.C. for Mallophaga, T.C. Maa in Taiwan
for Hippoboscid flies and Marshall Laird in Newfoundland for
haematophagous parasites.

Of the field teams, six ringed (=banded in North American
terms) more than 100,000 birds each and a further five ringed
between 20,000 and 100,000 birds each. The grand total of
birds banded was 1,165,288 of 1218 species, caught at more
than 500 locations. About 20 stations were manned regularly
for a number of years. The project had a life of eight years,
although some data accrued from established bird stations
from other years.

Recoveries, from dead birds, totalled 5920 representing 257 species. Repeats, i.e. birds recaptured and released, totalled 26,308 of 442 species. Among non-passerine birds the average number ringed per recovery was 290. Among the passerine birds the average was 647 birds ringed per recovery, which is considerably more productive than the rate in North America.

Problems of getting recoveries are discussed. The ring should have nothing written on the inside. The numbers should be large enough to read. The destination should be a place everyone knows, internationally, within the likely range of the birds. Considerations of politics, religion and cultural customs were analyzed for each major region. Very few returns came from the people of Korea, Taiwan, Thailand or Malaya, while a good rate of return came from Japan, the Phillipines and Indonesia. In Thailand the last three numbers on the ring were used to choose a lottery ticket and then the ring was discarded!

A strong feature of the book is a discussion relating migration routes to, firstly, geological history from the Paleocene to the pliocene times while India was moving north and colliding with the continent, and, secondly, to the glaciations during Pleistocene time. The flyways of the world are delineated, including the Eastern Asia Flyway and the Indo-Asian Flyway. Birds using the latter cross the western part of the Himalayan high country.

An annotated list occupying 244 pages contains number banded, recoveries and repeats, a map, evidence of survival and longevity and distance travelled for each species.

Part III contains a list of every recovery by family and species giving detailed locations and dates of banding and recovery. References Cited and an Index complete the book.

While the magnitude of the total field work is impressive, the fact of analyzing it all and consolidating the report is equally impressive. A similar investigation and report is lacking for North American bird banding.

Duncan A. Mac Lulich

Ontario Bird Banding

Instructions to Authors

Although emphasis is placed on material of interest to banders, manuscripts of articles or short notes dealing with any aspect of ornithology are welcomed. Write with precision clarity and economy; use the active voice. Refer to the list of Literature cited by author's name and year, adding page only if necessary from a large paper or book. Manuscripts should be typewritten and double spaced. Tables and figures should be prepared on separate sheets. Do not rule tables. Never repeat the same material in figures and tables; when either is equally clear a figure or graph is preferable. Photographs should have good contrast for successful reproduction.

Contributors receive 25 reprints of their article gratis. Additional reprints are to be paid for by the author, and these must be ordered at the time the manuscript is returned for proof-reading. Information on the cost of reprints is available from the editor.

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