ONTARIO Bird Banding

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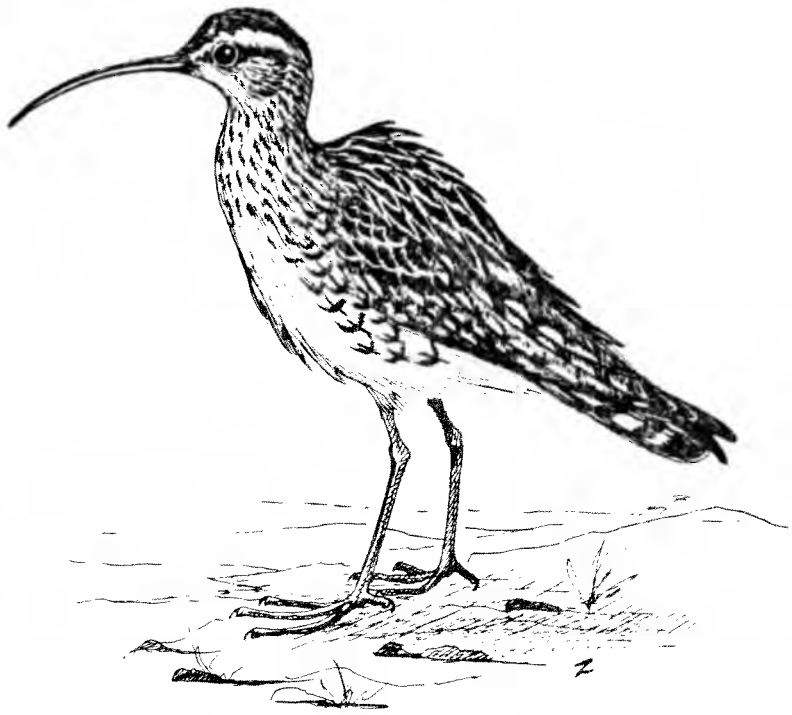

Prince Edward Point Observatory

Five Year Banding Summary

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PRINCE EDWARD POINT OBSERVATORY

FIVE - YEAR BANDING SUMMARY

Helen Quilliam[1] & Ron Weir[2]

The objective of this article is to review the progress of the first five years of operation of the Prince Edward Point Observatory (PEPt). The circumstances of its beginnings are first outlined since this article represents the first accounting of events outside Blue Bill, the quarterly publication of the Kingston Field Naturalists (KFN). Then a brief overview of the banding work is given. Annual reports of the Observatory's activities have appeared as supplements to the Blue Bill.

FORMATION

The PEPt Observatory, an integral part of the KFN existing under a by-law, was set up 1 April 1975 to continue gathering the biological data necessary for wise management of the area at PEPt. Prince Edward Point is located at the eastern tip of Long Point Peninsula, Prince Edward County, Ontario (43°57'N, 76°54'W) which juts out into Lake Ontario. The reputation of the area as a site where spectacular migration of birds can be seen had been recently established through survey and

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census studies carried out by the KFN (Quilliam & Cooke,1968; Weir,1972a,b). Threat of development with cottages, marina and airfield waned in the early 1970's only to be replaced by a county plan to zone the area as Resort and Recreational.

Experience of the KFN had shown that a case for preservation is strengthened when quantitative data can be supplied. therefore, the bird banding programme was begun to determine the birds' use of PEPt as a staging area, their food sources, length of stay and moult condition among other items. A broad spectrum approach to the catch was adopted but with some specific projects as the work proceeded, such as the Saw-whet Owl migration and the area's breeding birds.

The objective of acquisition of the Prince Edward Point area to assure its long-term protection was a clearly defined goal of the Observatory's workers, who were (and are) volunteers aided by financial grants from various sources for equipment and summer student help. The programme is a volunteer venture insofar as it is a spare time activity of our people who earn their living in other ways. In our view, this has not limited the level or competence of scientific endeavour but rather, has imposed restrictions on the quantity of work done and on the sources of financial support. Tremendous enthusiasm has been generated in pursuing our goal through which those involved believe they are making a worthwhile contribution to conservation education and the science of ornithology while simultaneously benefitting from the recreational experience.

In September, 1978, the Federal Environment Minister, Mr. Marchand, announced that Prince Edward Point National Wildlife Area had been established on over 190 hectares of grasslands, scrub and marsh acquired by his department to be managed by the Canadian Wildlife Service. To assist the CWS in their assessment of the area

prior to their decision to purchase, the KFN made available its extensive studies on botanical, herpetological and mammalian inventories as well as that on birds. The KFN also submitted to CWS a proposal for the acquisition and management of the area, in which the detailed information on the use by wildlife and the factors affecting habitat preservation were presented. PEPt is the first area acquired by the CWS where habitat is protected for non-game birds.

The achievements of the first five years of the Observatory would not have been possible without the dedication and support, both financial and personal, of the members of the KFN. Others have as well made significant contributions. Special mention must be made of the generous grants from the Canadian Wildlife Service, Wintario, Canada Manpower under its Young Canada Works and Opportunities for Youth programmes and the Canadian National Sportsmen's Show. Anyone who has read about the conservation movement of the twentieth century will be aware of the problems encountered in the cause of conservation. The acquisition of Prince Edward Point was not atypical but through the perseverance of many forward-looking residents of Prince Edward County and of Mr. Joe Carreiro of CWS the Prince Edward Point National Wildlife Area became a reality. The significance of the acquisition and the associated KFN role have been recognized by the Federation of Ontario Naturalists who have made the Kingston Field Naturalists the recipient of a 1980 Conservation Award.

BANDING TOTALS

Although the KFN had acquired use of the lighthouse at PEPt as its field station through a five-year lease from Parks Canada in April of 1975 the early summer of that year was taken up with making it habitable and, therefore, banding did not start, with few exceptions, until late summer. Even then it was not very intensive as we sought the best locations for nets. In 1976, the nets

were not manned from mid-June until early August but in the next three summers, student assistance allowed continuous netting from spring through autumn. In all years, daytime banding in October became irregular when night netting of Saw-whet Owls took precedence. The value of continuous systematic netting cannot be overemphasised as we have found this approach to yield the most meaningful information.

Shown in Table 1 are the banding totals by season for five years, 1975-1979. The division of the yearly total into two periods of January 1 - June 30 and July 1 - December 31 is arbitrary and was done to permit cursory comparison with other banding stations, since proper comparison is only possible after accounting for netting hours. From 1975 to the end of 1979, some 61,343 birds of 190 species were banded. Leading the totals is the Parulidae family (32.4%) followed by the Fringillidae family (13.0%). Table 2 shows the distribution by families.

The birds shown in Table 1 were banded at PEPt with some exceptions. Winter bandings at feeders in Kingston amount to a small percentage of the total, mainly due to the redpoll irruption in 1978. The waterfowl project on Amherst Island accounts for all our goose and duck bandings. This operation was begun after the Government of Ontario announced major agricultural reclamation on the island involving the alteration of drainage systems and the lowering of water levels in marshes. Our data helped in convincing the Provincial Government to change its plans.

Mist nets account for the largest percentage of the catch although some Potter and Mason traps were used. One Heligoland trap was employed sparingly up to 1978 when winter weather caused severe damage to the trap. Waterfowl are captured using special large wire enclosures set in the water.

Table #1.

BANDING TOTALS

	1975			1977			1978			1979			
	1/1-30/6	1/7-31/12	Total	1/1-30/6	1/7-31/12	Total	1/1-30/6	1/7-31/12	Total	1/1-30/6	1/7-31/12	Total	Total
Pied-b.Grebe							1		1				1
Green Heron								4	4				12
Cattle Egret								2	2		3	3	5
Least Bittern							1		1				1
Am. Bittern								2	2				2
Canada Goose		24	24	6		6	27	9	36		8	8	6		6	80
Mallard		50	50		862	862	25	120	145		404	404		788	788	2249
Black Duck					278	278	57	74	131		61	61		102	102	572
Mal X Blk Hybrid					6	6		1	1		2	2		5	5	14
Duck Hybrid														2	2	2
Gadwall					1	1	1		1		1	1		7	7	10
Pintail				1	58	59		28	28		16	16		39	39	142
Green-wgd.Teal					79	79		263	263		61	61		35	35	438
Blue-wgd. Teal					603	603		458	458		38	38		140	140	1239
Am. Wigeon								1	1					2	2	3
North.Shoveler					2	2		2	2							4
Wood Duck					70	70	21	18	39		40	40	21	69	90	239
Redhead					3	3		11	11							14
Greater Scaup							1		1							1
Goshawk														1	1	1
Sharp-sh.Hawk		10	10	4	51	55	16	54	70	17	33	50	2	15	17	202
Cooper's Hawk					1	1		1	1		4	4		2	2	8

Table # 1 Cont.

	1975			1976			1977			1978			1979			
	1/1-30/6	1/7-31/12	Total	1/1-30/6	1/7-31/12	Total	1/1-30/6	1/7-31/12	Total	1/1-30/6	1/7-31/12	Total	1/1-30/6	1/7-31/12	Total	Total
Broad-wgd.Hawk		1	1					2	2							3
Marsh Hawk							4		4		3	3		3	3	10
Merlin														1	1	1
Am. Kestrel				6		6		2	2				1	7	8	16
Ruffed Grouse					3	3		1	1							4
Virginia Rail							1		1							1
Semipal.Plover		1	1											19	19	20
Killdeer		6	6	4		4		2	2	2		2	3	5	8	22
Blk.bel.Plover		1	1													1
Ruddy Turnstone														1	1	1
Am.Woodcock		1	1	1	3	4	20	5	25	5	4	9	7	9	16	55
Common Snipe		1	1										1	2	3	4
Upland Sandpiper								4	4		4	4				8
Spotted Sand.		1	1	2		2		20	20	1		1	1	19	20	44
Solitary Sand.				1		1										1
L.Yellowlegs		10	10					2	2					6	6	18
Pectoral Sand.		68	68													68
White-rump.Sand.		5	5													5
Least Sandpiper		3	3					11	11					36	36	50
Dunlin		27	27													27
Sanderling								1	1					2	2	3
Sh-bil.Dowitcher														1	1	1
Semipal.Sand.		101	101		1	1		46	46					52	52	200
Hud. Godwit		20	20													20

Table #1 Contd.	1975			1976			1977			1978			1979			
	1/1-30/6	1/7-31/12	Total	1/1-30/6	1/7-31/12	Total	1/1-30/6	1/7-31/12	Total	1/1-30/6	1/7-31/12	Total	1/1-30/6	1/7-31/12	Total	Total
Gr.Blk-back.Gull								2	2							2
Herring Gull							22		22	24		24				46
Ring-bill.Gull							383	28	411	713	124	837	200	1	201	1449
Common Tern										135		135				135
Caspian Tern							271	28	299	155	39	194		80	80	573
Mourning Dove							4	4	8	4	5	9		2	2	19
Yel-bil.Cuckoo	1	1		1	1			1	1	1	1	2	3	3	6	11
Blk-bil.Cuckoo	5	5					16	12	28	9	17	26	23	9	32	91
Barn Owl				4	6	10		4*	4*							14
Screech Owl	1	1			2	2	2		2	2	2	4	10	1	11	20
Gr.Horned Owl							3	1	4		1	1	1		1	6
Snowy Owl				17		17*	5		5*	1		1				23
Barred Owl								1	1							1
Gr.Gray Owl													1		1	1
Long-eared Owl	1	1			6	6	2	25	27		13	13		13	13	60
Short-eared Owl							1		1							1
Boreal Owl											1	1				1
Saw-whet Owl	83	83		9	189	198	2	550	552		303	303	8	343	351	1487
Whip-poor-will	4	4		3	3	6	6	5	11		1	1	1	2	3	25
Com.Nighthawk							1	1	2							2
B.Kingfisher								1	1		1	1	2	3	5	7
Common Flicker	1	1		11	1	12	48	27	75	33	12	45	4	12	16	149
Red-bel.Wood.										2		2				2
Red-head.Wood.							1		1	3		3				4

* from either The Owl Rehabilitation Research Foundation or Malton Airport.

Table #1 Contd.	1975			1976			1977			1978			1979			
	1/1-30/6	1/7-31/12	Total	1/1-30/6	1/7-31/12	Total	1/1-30/6	1/7-31/12	Total	1/1-30/6	1/7-31/12	Total	1/1-30/6	1/7-31/12	Total	Total
Y-b.Sapsucker		4	4	2	14	16	14	13	27	3	8	11	4	10	14	72
Hairy Wood.		1	1	7	2	9		4	4	3	5	8	2	4	6	28
Downy Wood.		5	5	5	4	9	1	16	17	2	14	16	4	13	17	64
E.Kingbird		2	2	4	14	18	22	90	112	29	51	80	16	66	82	294
Gr.cr.Flycatch.		6	6	3	21	24	36	40	76	30	30	60	34	33	67	233
E. Phoebe		2	2	4	17	21	4	16	20	2	12	14	1	14	15	72
Yel-bellied Fly.		15	15	13	28	41	81	59	140	33	71	104	74	70	144	444
Traill's Fly.		8	8	5	13	18	33	13	46	29	37	66	41	39	80	218
Acadian Fly.										1		1	2		2	3
Least Fly.		58	58	64	125	189	121	237	358	80	388	468	214	250	464	1537
E.Wood Pewee		18	18	9	14	23	72	29	101	38	56	94	52	38	90	325
Olive-s.Fly.								3	3	1	1	2		3	3	8
Empidonax(sp.)		1	1				1		1		3	3	6	1	7	13
Tree Swallow				2		2	8	3	11	17	5	22	38	135	173	208
Bank Swallow		1	1		1	1		2	2		3	3		225	225	232
Rough-winged Sw.							4	14	18	5	4	9	17	59	76	103
Barn Swallow	9	8	17	11		11	37	85	124	63	175	238	58	499	557	945
Cliff Swallow														6	6	6
Purple Martin								70	70		77	77		4	4	151
Blue Jay		12	12	12	15	27	66	38	104	190	44	234	18	23	41	418
Common Crow				3		3	1		1					5	5	9
Blk-cap.Chickadee		348	348	78	7	85	5	152	157	50	18	68	7	45	52	710
Boreal Chickadee		2	2	1		1										3

Table #1 Contd.	1975			1976			1977			1978			1979			
	1/1-30/6	1/7-31/12	Total	1/1-30/6	1/7-31/12	Total	1/1-30/6	1/7-31/12	Total	1/1-30/6	1/7-31/12	Total	1/1-30/6	1/7-31/12	Total	Total
White-b.Nuthatch		6	6	5	3	8		3	3	6	3	9		3	3	29
Red-br.Nuthatch		26	26	37	45	82	30	59	89	55	37	92	2	1	3	292
Brown Creeper		104	104	21	295	316	260	150	410	49	260	309	18	180	198	1337
House Wren		1	1	27	19	46	12	17	29	28	23	51	21	38	59	186
Winter Wren		12	12	5	132	137	19	28	47	22	60	82	12	39	51	329
Carolina Wren					1	1		1	1							2
Long-b.Marsh Wren					1	1										1
Mockingbird				1		1	1		1		1	1				3
Gray Catbird		9	9	88	9	97	43	119	162	104	28	132	166	30	196	596
Brown Thrasher		2	2	33	13	46	26	11	37	16	20	36	17	10	27	148
American Robin		7	7	60	23	83	151	92	243	80	74	154	86	72	158	645
Wood Thrush		4	4	55	6	61	99	18	117	57	9	66	40	10	50	298
Hermit Thrush		58	58	82	229	311	78	88	166	46	265	311	28	130	158	1004
Swainson's Thr.		213	213	116	292	408	282	294	576	136	419	555	198	267	465	2217
Gray-cheeked T.		7	7	7	104	111	27	25	52	15	77	92	11	52	63	325
Veery		27	27	37	44	81	97	112	209	35	40	75	35	43	78	470
E. Bluebird								2	2							2
B-gr.Gnatcatcher				5		5	5	2	7	2	4	6	5	11	16	34
Gold.crn.Kinglet		56	56	17	789	806	29	74	103	8	269	277	15	285	300	1542
Ruby-crn.Kinglet		74	74	254	1269	1523	147	197	344	141	534	675	68	380	448	3064
Water Pipit		2	2													2
Cedar Waxwing		4	4	6	7	13	33	242	275	14	319	333	47	163	210	835
Northern Shrike								1	1							1

Table #1 Contd.

	1975			1976			1977			1978			1979			
	1/1-30/6	1/7-31/12	Total	1/1-30/6	1/7-31/12	Total	1/1-30/6	1/7-31/12	Total	1/1-30/6	1/7-31/12	Total	1/1-30/6	1/7-31/12	Total	Total
Starling				2		2	9	2	11	29	4	33	3	3	6	52
White-eyed Vireo				1		1	1	1	2				3		3	6
Yel-thrtd.Vireo				1		1	1		1	1	1	2	1	1	2	6
Solitary Vireo		13	13	5	108	113	11	40	51	5	53	58	5	47	52	287
Red-eyed Vireo		63	63	18	206	224	127	450	577	137	294	431	172	161	333	1628
Philadelphia V.		9	9	6	15	21	10	42	52	15	40	55	36	31	67	204
Warbling Vireo		1	1	3	3	6	3	5	8	2	11	13	5	6	11	39
Bl.&wh.Warbler		16	16	25	53	78	76	134	210	30	54	84	19	45	64	452
Worm-eating W.													1		1	1
Golden-winged W.							3		3	2	1	3	3	1	4	10
Blue-winged W.				1	1	2							3	1	4	6
Tennessee W.		1	1	25	61	86	19	370	389	23	296	319	70	429	499	1294
Orange-crnd. W.				1	4	5	4	3	7	1	3	4		9	9	25
Nashville W.		11	11	37	116	153	83	200	283	99	178	277	63	173	236	960
N.Parula W.				2	6	8	3	4	7	5	7	12	5	6	11	38
Yellow Warbler		12	12	59	18	77	102	311	413	105	718	823	197	996	1193	2518
Magnolia Warbler		70	70	176	320	486	368	405	773	202	404	606	449	340	789	2734
Cape May Warbler		10	10	17	28	45	14	159	173	34	108	142	23	233	256	626
Blk-thrtd.Blue W.		31	31	20	126	146	56	74	130	24	114	138	43	73	116	561
Yel-rumped W.		134	134	73	151	224	195	187	382	485	492	977	154	392	546	2263
Blk-thrtd.Green W.		8	8	29	31	60	41	73	114	56	101	157	108	55	168	502
Cerulean W.										1		1	2		2	3
Blackburnian W.		5	5	11	34	45	55	245	300	42	138	180	73	92	165	695

Table #1 Contd.

	1975			1976			1977			1978			1979			
	1/1-30/6	1/7-31/12	Total	1/1-30/6	1/7-31/12	Total	1/1-30/6	1/7-31/12	Total	1/1-30/6	1/7-31/13	Total	1/1-30/6	1/7-31/12	Total	Total
Yellow-throated W.										1		1				1
Chestnut-sided W.	13	13		20	63	83	53	152	205	35	66	101	69	42	111	513
Bay-breasted W.	49	49		47	229	276	36	479	515	40	341	381	115	320	435	1656
Blackpoll Warbler	17	17		11	46	57	14	170	184	9	258	267	17	66	83	608
Palm Warbler				1	4	5	8	15	23	10	8	18	3	29	32	78
Palm W.(Yellow race)														3	3	3
Ovenbird	41	41		33	64	97	76	96	172	32	102	134	46	77	123	567
Nor.Waterthrush	11	11		16	28	44	22	71	93	15	41	56	14	78	92	296
Louisiana Water.										1		1	1		1	2
Kentucky Warbler							2		2				2		2	4
Connecticut W.											1	1		2	2	3
Mourning Warbler	2	2		9	9	18	31	10	41	17	9	26	46	25	71	158
Com.Yellowthroat	7	7		48	24	72	118	19	137	137	50	187	190	65	255	658
Yellow-brstd.Chat				3	1	4					1	1	1		1	6
Hooded Warbler				1		1				1		1	1		1	3
Wilson's Warbler	14	14		40	50	90	45	60	105	41	51	92	88	69	157	458
Canada Warbler	22	22		39	124	163	141	150	291	42	87	129	96	122	218	823
American Redstart	22	22		57	245	302	191	216	407	92	167	259	164	172	336	1326
House Sparrow				4		4				2	1	3				7
Bobolink								17	17	2	25	27	8	12	20	64
E. Meadowlark				1		1	10	3	13	9	9	18	1	1	2	34
Red-wgd.Blackbird	3	3		37		37	170	43	213	145	42	187	70	79	149	589
Orchard Oriole				1		1										1

Table #1 Contd.

	1975			1976			1977			1978			1979			
	1/1-30/6	1/7-31/12	Total	1/1-30/6	1/7-31/12	Total	1/1-30/6	1/7-31/12	Total	1/1-30/6	1/7-31/12	Total	1/1-30/6	1/7-31/12	Total	Total
Northern Oriole		1	1	48		48	51	77	128	68	87	155	134	57	191	523
Rusty Blackbird		2	2	14		14	4		4	1		1				21
Common Grackle				28	2	30	89	31	120	37	9	46	43	24	67	263
Br-hd.Cowbird					13	13	22	5	27	43	6	49	39	13	52	141
Summer Tanager													1		1	1
Scarlet Tanager		17	17	14	32	46	31	86	117	20	21	41	14	14	28	249
Cardinal		1	1		1	1	2	1	3		1	1		1	1	7
Rose-br.Grosbeak		21	21	72	42	114	164	50	214	120	47	167	104	43	147	663
Indigo Bunting				2	4	6	5	2	7	9	3	12	14	5	19	44
Ev.Grosbeak				2		2		1	1	9		9	42		42	54
Purple Finch		6	6	5	42	47	11	50	61	10	164	174	4	29	33	321
Hoary Redpoll										3		3				3
Common Redpoll				6		6				1173		1173				1179
Pine Siskin								32	32	24	1	25				57
Am. Goldfinch		20	20	28	14	42	82	78	160	93	74	167	62	70	132	521
Rufous-s.Towhee		1	1	3	2	5	5	3	8	13		13	3		3	30
Savannah Sparrow	2	8	10	4	1	5	12	26	38	16	24	40	13	25	38	131
Grasshopper Sp.	1		1													1
Vesper Sparrow								1	1		2	2		2	2	5
Dark-eyed Junco*		12	12	16	127	143	88	64	152	103	119	222	36	114	150	679
" " J.(Oregon)							1		1							1
Tree Sparrow		7	7	12	16	28	20	6	26	22	5	27	1		1	89

*(Slate-coloured Junco)

Table #1 Contd.

	1975			1976			1977			1978			1979			
	1/1-30/6	1/7-31/12	Total	1/1-30/6	1/7-31/12	Total	1/1-30/6	1/7-31/12	Total	1/1-30/6	1/7-31/12	Total	1/1-30/6	1/7-31/12	Total	Total
Chipping Sparrow		2	2	5	3	8	24	16	40	44	16	60	14	34	48	158
Clay-colored Sp.										1		1				1
Field Sparrow				2	6	8	13	15	28	20	17	37	2	10	12	85
White-crowned Sp.				49	11	60	72	3	75	66	12	78	46	11	57	270
White-thrtd. Sp.		76	76	457	127	584	398	112	510	751	145	896	280	207	487	2553
Fox Sparrow				9	3	12	2	2	4	2	1	3	3	1	4	23
Lincoln's Sp.		7	7	69	6	75	52	5	57	98	4	102	119	11	130	371
Swamp Sparrow		1	1	36	4	40	27	3	30	56	13	69	14	13	24	167
Song Sparrow	2	57	59	20	42	62	48	76	124	32	68	100	38	173	211	556
Totals	14	2353	2367	2929	8451	11380	6108	9204	15312	7260	9762	17022	5051	10211	15262	61343
No.of Species	4	97	98	105	101	125	116	135	153	114	122	139	113	129	145	190
No.of Hybrid Sp.					1	1		1	1		1	1		2	2	2
No.of Sub-species							1		1					1	1	2

TABLE 2

DISTRIBUTION OF BIRDS BANDED BY FAMILIES FOR 1975 - 1979

FAMILY	NO. BANDED	PERCENTAGE
Parulidae (Warblers)	19851	32.4
Fringillidae (Sparrows)	7969	13.0
Anatidae (Ducks, Geese)	5007	8.2
Turdidae (Thrushes)	4961	8.1
Sylviidae (Kinglets)	4640	7.6
Tyrannidae (Flycatchers)	3147	5.1
Laridae (Gulls, Terns)	2205	3.6
Vireonidae (Vireos)	2170	3.5
Hirundinidae (Swallows)	1645	2.7
Icteridae (Blackbirds)	1636	2.7
Tytonidae, Strigidae (Owls)	1614	2.6
Certhiidae (Creepers)	1337	2.2
Mimidae (Mimic Thrushes)	747	1.2
Others	4414	7.2
	61343	100.0

PROJECTS

An education component continues to be an important feature of our work. Given in schools of eastern Ontario are presentations on the resource of PEPt as a spectacular migration location where naturalists can learn about birds. Some university ecology and migration field courses have been carried out there and field trips are regularly conducted with school science classes and naturalists (Weir & Cooke,1977).

The Saw-whet Owl program has been one of the most satisfactory projects so far undertaken. Numbers captured came as a complete surprise since no real idea of how many hundreds passed through the area had been known before. The intense interest aroused in many persons who had never before paid much attention to birds infected other projects.

Autumn netting of the Saw-whet Owl (Aegolius acadicus) at PEPt has been carried out for five consecutive years, in the last four of which coverage was nightly between late September and early November. Our cumulative total for autumns since 1975 stands at 1470. The owls were captured in mist nets, mainly 30 or 36 mm. and tethered. The nets were placed in line up to 120 m. perpendicular to the main axis of the woods or in laneways cut through brushy openings between wooded areas and natural clearings. Some were in woods but most were in the open areas at the edge of woods. Net heights varied from 2.5 to 3.5 m. from the ground but in 1979 three nets were arranged on pulleys and used up to 6 m. from the ground. Nets were usually set at dusk and closed at dawn or in inclement weather.

Net checks were carried out at one to two-hour intervals. Captured owls were placed in numbered cloth bags and the net side, net number, height and time of capture were recorded. The

birds were taken to the lighthouse field station where, under propane light, the various data were recorded. All birds were weighed, both wings measured and the plumage examined for ageing and moult condition.

Flight feathers are indicators of age. Birds showing both dark (unworn) and pale (worn) remiges simultaneously are classified as AHY, indicating partial post-breeding moult. Birds with uniform colouration of remiges without worn tips are assigned to HY. A few birds showed all pale flight feathers with worn tips and these were assigned as AHY. We know our classification is not error-free since a bird caught in 1977 as an AHY was retrapped in 1978 carrying all dark flight feathers.

Female Saw-whet owls have longer wings than males but unfortunately, there is a region of overlap where it is impossible to determine the sex. Our criteria were modified from those given in North American Bird Banding Techniques (1977) to account for variation in measuring by our banders. Males were $\leq$ 134 mm; females $\geq$ 141 mm. and those between 135 and 140 mm. were unknown. Weight or shape of the bird (head size with respect to body) was not used to assign sex since neither was found to give 95% reliability.

A comparison of the five-year catch is given in Table 3 where the number of owls of unknown age can be determined by difference. In order to compare the catches from year to year and the netting sites used, we correct for netting effort using the Index - owls per 1000 m^2 of net per night. These are shown in Table 3.

A detailed analysis of their autumn migration for 1976-78 has been done and is in press (Weir, Cooke, Edwards, Stewart). The following conclusions can be drawn from our work to date:

1. Saw-whet owls are regular migrants in large

Table # 3. COMPARISON OF SAW-WHET OWL CATCH 1975-1979 AT PEPT.

	1975	1976	1977	1978	1979
HY Owls/Index*	-	95/4.7	389/7.9	123/2.4	189/3.2
AHY Owls/Index	-	94/4.7	163/3.3	180/3.6	151/2.5
Total Owls/Index	83/36.5	190/9.4	552/11.2	303/6.0	342/5.7
Average net area (m^2)	227	592	1175	1265	1534
Nights with $>100m^2$ net area	10	34	42	40	39

*Owls per $1000m^2$ of net per night.

Table # 4. REPEATS 1976-1979 INCLUSIVE

	Spring			Fall		
	Total Banded	Repeats	%	Total Banded	Repeats	%
Least Flycatcher	479	6	1.3	1000	32	3.2
Brown Creeper	348	13	3.7	885	83	9.4
Winter Wren	58	9	15.5	259	15	5.6
Hermit Thrush	234	20	8.5	712	61	8.6
Swainson's Thrush	732	17	2.3	1272	79	6.2
Golden-crnd.Kinglet	69	3	4.3	1417	77	5.4
Ruby-crnd.Kinglet	610	38	6.2	2380	73	3.1
Red-eyed Vireo	449	2	0.4	1111	111	10.0
Tennessee Warbler	137	2	1.5	1156	38	3.3
Nashville Warbler	282	12	4.3	667	34	5.1
Magnolia Warbler	1195	75	6.3	1469	177	12.1
Myrtle Warbler	907	13	1.4	1222	15	1.2
Blackburnian W.	181	7	3.9	509	13	2.6
Black-thrtd.Green W.	234	7	3.0	260	9	3.5
Bay-breasted Warbler	238	9	3.8	1369	104	7.6
Com.Yellowthroat	493	60	12.2	158	13	8.2
Canada Warbler	318	29	9.1	483	42	8.7
Rose-brst.Grosbeak	460	21	4.6	182	6	3.3
White-thrtd.Sparrow	1886	217	11.5	591	40	6.8
White-crnd.Sparrow	233	14	6.0	37	1	2.7
Lincoln's Sparrow	338	34	10.1	20	0	0.

numbers during autumn at PEPt. They are not irruptive as the Goshawk (Accipiter gentilis) or Great Gray Owl (Strix nebulosa) are.

2. Autumn passage at PEPt shows annual consistency in timing.

3. Annual variations in numbers, after correcting for netting effort, result from variations in numbers of hatching year birds. This may be a measure of reproductive success in those areas supplying migrants to PEPt. It seems likely that variations in numbers of young owls account for the so-called invasional characteristic of the species.

4. Some Saw-whets pause to feed at PEPt before leaving the area.

5. There is a strong correlation of NW winds - clear skies with large catches of owls at PEPt.

6. The details of owl movement within the peninsula are not yet clear. It is probable that most arrive at the end of the peninsula from over land to the west and escape the peninsula by backtracking west. The fraction of owls, if any, arriving at and departing from PEPt over the water is unknown.

RETURNS AND REPEATS

Birds retrapped after initial banding are giving useful information on the importance of the Point in providing food and shelter to migrating birds. Retraps are divided into Returns and Repeats. A Return is a bird recaptured and released alive in the same 10-minute block where it was originally banded more than 90 days previously. A note by Dr. Fred Cooke dealing with Returns at PEPt appears in this number of Ontario Bird Banding.

A Repeat is a bird recaptured and released alive in the same 10-minute block where original

banding occurred within 90 days. After two years of recording and trying to interpret the significance of repeats, we were hopeful that certain trends were emerging (Quilliam 1977, 1978). At the end of five years' work, there are interesting results. It is generally believed that a passerine as a species uses less time to complete spring migration through eastern Ontario than in autumn. Our records at PEPt support this. For practically all migrant passerine species, the period of time elapsed between their average arrival and average departure in spring is less than that period in autumn. What, however, is expected if we consider individuals of the species? Data on retraps helps to answer this question.

For 21 species of passerines with significant numbers of repeats, we have analyzed for each year from 1976 to 1979 the number banded in spring and autumn, the numbers repeating during those seasons and their percentages. These data were then lumped for the four years and are presented in Table 4 from which three groupings become evident. (Five of the 21 species considered breed at PEPt but in numbers so low that they do not affect our results.)-

The three groupings are shown in Table 5. Group I contains six species showing a higher retrap percent in spring compared with autumn, group II has seven species showing a high retrap percent in fall rather than in spring and group III has eight species showing more or less identical retrap percents between the seasons. In groups I and II, there is annual consistency between the overall retrap percent and the percent in each of the years. It is in group III where annual variations occur resulting in a cancelling effect when the four years' data are lumped. Also shown in Table 5 for each species is the time elapsed for the migrants between average arrival

Table #5. COMPARISON OF SEASON STOPOVER - individuals versus species.

	Overall Repeat %		Days elapsed between average arr.& dep.	
Group I	Spring	Fall	Spring	Fall
Winter Wren	15.5	5.6	38	48
Ruby-crnd.Kinglet	6.2	3.1	38	51
Common Yellowthroat	12.2	8.2	25	62
White-throated Sparrow	11.5	6.8	35	54
White-crowned Sparrow	6.0	2.7	18	33
Lincoln's Sparrow	10.1	0.	17	26
Group II				
Least Flycatcher	1.3	3.2	30	74
Brown Creeper	3.7	9.4	40	57
Swainson's Thrush	2.3	6.2	24	64
Red-eyed Vireo	0.4	10.0	25	51
Tennessee Warbler	1.5	3.3	18	84
Magnolia Warbler	6.3	12.1	21	46
Bay-breasted Warbler	3.8	7.6	17	56
Group III				
Hermit Thrush	8.5	8.6	34	79
Golden-crowned Kinglet	4.3	5.4	46	46
Nashville Warbler	4.3	5.1	24	75
Myrtle Warbler	1.4	1.2	43	81
Blackburnian Warbler	3.9	2.6	24	41
Black-thrtd.Green W.	3.0	3.5	25	41
Canada Warbler	9.1	8.7	22	36
Rose-breasted Grosbeak	4.6	3.3	24	40

and departure dates in spring and fall using both sight records and banding data. The averages are based on periods up to 17 years.

Individuals of the species in group I are spending more time at PEPt in spring than in fall, yet the converse is true for the species as a whole. In group II, the individuals and the species spend less time there in spring than in autumn. We are unable to explain the differences between any of these groups. To argue for group I that the breeding grounds to the north are not ready for the birds and that they are held up at PEPt should result in consistency between time spent there for the individuals and for the species, a consistency that is not there. It is worth noting that of the repeats in group II, the Swainson's Thrush show 23% in remex moult, Tennessee Warbler show 11% remex moult yet Magnolia Warbler is without moult which is also the case for Least Flycatcher, the adults of which have passed through completely in July leaving young of the year. There is insufficient data so far to correlate repeat percentages with moult.

Turning to the relative magnitude of the repeat percents, we see that Winter Wren, Common Yellowthroat, White-throated Sparrow and Lincoln's Sparrow exceed 10% in spring. However, in fall, this is true for none of these and only Magnolia Warbler and Red-eyed Vireo are 10% or more. The location of our nets with respect to the feeding areas and weather may be the critical factors in the number of repeats. The low rate for Yellow-rumped (Myrtle) Warbler in both seasons is noteworthy. This species is the most common warbler to pass through PEPt peaking in the first two weeks of May and again in the last two weeks of September and the first week of October.

One thing that does seem to be common to all our retrapped birds is their faithfulness to

the same locality in which they were first netted. The two principal banding places, Cedar Woods and Traverse, are less than a mile apart but there is little exchange here of trapped birds. Apparently their food requirements are being met without their having to move very far.This must be a plus for the conservation of energy and in building up reserves for the onward journey.

Whether repeat data can be used to assess accurately the length of stay of birds at PEPt during migration is uncertain. Weather complicates the situation as it moves the food supply. There are days when the birds remain feeding high in the trees. Weather also determines whether the birds will move on or linger. We do not even know if more experienced birds quickly learn to avoid being caught having once been through that experience. The one thing that is certain though, is that banding coverage must be continuous and systematic, even for only a three or four hour period each morning.

CONCLUSION

The main thrust of our banding program for the 1980's will be on sampling the migration through PEPt. We hope this scientific program will provide meaningful information related to any long term changes in the numbers of birds passing through there and when our data are combined with similar programs from other locations perhaps to changes in populations as a whole. Such baseline data will prove invaluable in the future. Often we have wished for such monitoring data from the 18th and 19th centuries but unfortunately, they are not there.

ACKNOWLEDGEMENTS

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RETURNS 1976 - 1979

Some Thoughts on Birds Banded at Prince Edward Point and Recaptured One to Four Years Later [1]

Fred Cooke [2]

Last year (Blue Bill Supplement. 26:10-14) I pointed out that birds captured at the Point in subsequent years are almost certainly birds which are breeding species, the only exceptions being the migrant Saw-whet Owls. We know that most species of birds will tend to return to an area where they bred in former years and that young birds will often return to the area in which they hatched. I presented some evidence for this in Robins and Yellow Warblers. This year I'd like to look at all the species recaptured at PEPt to see what conclusions we can draw. We have no Waxwing returns despite the fact that it is a common nester at the Point. This is in keeping with the nomadic habits of this species.

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1. Reprinted from Blue Bill Supplement. 1980. Volume 27, pages 19 - 23.
2. 9 Grenville Rd; Kingston, Ontario. K7M 2C7

Table 1 lists the species recaptured 1-4 years after and the numbers of these species banded. It can be seen that there is great variability in the rate of recapture. Apart from the small sampled Kingfisher, the highest return rate is the Robin with 9.4% returning one year after banding, 3.9% two years after banding and 3.3% three years later. The return rate is, however, dependent upon many factors:- the proportion of local breeders amongst our banded sample, the catchability of the birds, the mortality, the proportion of adults in the banded sample and so on. Let us consider each species in turn.

Kingfisher. The sample size is too small to say much. The recaptured bird was an adult female caught at Traverse in July 1978 and recaptured there in May 1979. This suggests a breeding bird perhaps with a nest along the cliff near Point Traverse.

Common Flicker. Three flickers were recaptured out of 133 banded (2.2%). All were adults. Flickers were banded from April till September, 37 in April, 47 in May, 8 in June, 12 in July, 22 in August, and 7 in September. Two recaptured birds were banded in June. This pattern indicates that the recaptured birds are local breeders and that these breeders arrive at least as early as 9th May. Perhaps the April, August and September banded birds are migrants nesting further north.

Downy Woodpecker. One bird recaptured out of 47 birds banded (2.1%). This bird was a male, banded as a hatch year male on 12th July, 1978 in the Cedar Woods. It was recaptured twice in 1979 in the Cedar Woods, first on 13th May and later on 13th June. Perhaps this was a locally hatched bird that returned to its natal area in the following summer.

Eastern Kingbird. A common nesting species at the Point with 9 returns out of 212 banded one year

TABLE 1: RETURNS: 1976 - 1979

SPECIES	BANDED 1975	1976	1977	1978	% ONE YEAR LATER	RECAPTURED YEARS LATER 1	2	3	4
Kingfisher	-	-	1	1	50.0	1	-	-	-
Common flicker	1	12	75	45	2.2	3	-	-	-
Downy Woodpecker	5	9	17	16	2.1	1	-	-	-
Eastern Kingbird	2	18	112	80	4.2	9	1	-	-
Great crested Flycatcher	6	24	76	60	1.8	3	5	-	-
Eastern Wood Pewee	18	23	100	94	1.7	4	-	-	-
Rough-winged Swallow	-	-	18	9	7.4	2	-	-	-
Barn Swallow	17	11	123	239	4.6	18	5	1	1
Black-capped Chickadee	348	85	157	68	0.5	3	-	-	-
Gray Catbird	9	97	162	130	0.5	2	1	-	-
Brown Thrasher	2	46	37	36	1.6	2	-	1	-
American Robin	7	83	243	154	9.4	46	13	3	-
Red-eyed Vireo	63	224	577	431	0.6	8	2	1	-
Warbling Vireo	1	6	8	13	3.5	1	-	1	-
Yellow Warbler	12	77	413	813	3.6	49	6	1	1
American Redstart	22	303	405	259	0.2	2	-	-	-
Eastern Meadowlark	-	1	13	18	6.2	2	-	-	-
Red-winged Blackbird	3	37	213	188	2.0	9	2	2	-
Northern Oriole	1	48	128	155	3.3	11	3	1	-
Common Grackle	-	30	120	46	4.1	8	2	1	-
Brown-headed Cowbird	-	13	27	49	8.9	8	1	-	-
American Goldfinch	20	42	160	104	6.1	20	7	1	-
Savannah Sparrow	10	5	38	40	3.2	3	1	-	-
Song Sparrow	59	62	134	90	1.2	4	3	1	-

later (4.2%), and 1 recaptured again two years later (0.7%). 83 of the banded birds were adults, 92 were hatch years and 36 were banded as nestlings. All but one of the recaptured birds were banded as adults (9.6%). The seasonal distribution of recaptured birds is similar to that of the adult banded sample as a whole, suggesting no obvious influx of migrant kingbirds at the Point. Four of the returns were male, 2 were female, one apparently changed sex (!) and the others were unsexed.

Great Crested Flycatcher. Probably nests at the Point, although no definite nesting record exists. Of 166 birds banded, 6 have been recaptured (3.6%). Surprisingly, only three of these were seen one year later, while 5 were seen two years later (2 of these in both years). All the recaptures were banded as adults (6 out of 99 - 6.1%)and were banded between 29th May and 30th June, despite the fact that only 44% of all the banded adults were banded within this time period. Recapture dates extended from 20th May to 6th July, again a small proportion of the season when Great Crested Flycatchers are being caught at the Point. No information is available on the sexes.

Eastern Wood Pewee. Another probable breeding species at the Point. Four out of 235 banded birds (1.7%) have been recaptured one year later, 3 were banded as adults in June, out of a total of 138 adults banded altogether (2.2%) and one was banded as a hatch year bird on August 23rd, 1978 in Traverse and recovered on 7th June 1979, also in Traverse.

Rough-winged Swallow. Only 27 Rough-winged Swallows were banded up to the end of 1978 and 2 of these have been recaptured in a following year (7.4%). This relatively high value suggests that the population sampled (mostly in the beach net at the lighthouse) are local breeders. There are nesting Rough-wings in the cliffs near Point Traverse. One of the recaptures was banded as an

adult, the other as a hatch year bird. Twelve of the 27 banded birds were adults, the remainder hatch year birds.

Barn Swallow. Most of the information on recaptured Barn Swallows comes from the adult birds banded in the little shed near the lighthouse. In fact, the very first bird we banded there, on 10th June 1975, has been recaptured in every successive year. In addition, 18 birds have been recaptured one year later out of 390 birds (4.6%), 5 two years later (3.3%), one three years later and one four years later. Eighty-three adults, 189 hatch year birds and 111 locals have been banded, and 17 recaptures were banded as adults (20.5%), a very high proportion. None of the hatch year birds has been caught again but one of the nestlings banded in the shed in 1978 was caught on 20th May 1979 at the Cedar Woods. It was a male. Although approximately equal numbers of the two sexes have been banded as adults (30♀♀, 33♂♂), considerably more males have been recaptured (4♀♀, 11♂♂). Data should be checked in future years to see if this pattern persists. If so, it may reflect higher mortality in females or a greater tendency of males to return to their nests of a previous year.

Black-caopped Chickadee. Most of the Chickadees banded at the Point were in 1975, the year of the irruption. In that year 348 were caught but none was ever recaptured. One of the birds banded in October 1977 was recovered in March 1978, the first bird caught in the 1978 season. This might have been an over-wintering bird at the Point. Another recapture was first banded in July 1978, recaptured October 1978 and May 1979. This suggests a resident status for at least some of the Chickadees.

Gray Catbird. Only two of the 398 Catbirds (0.5%) banded have been recaptured, suggesting that most of the Catbirds caught at the Point are passing through. One of the recaptures was recaught in

two successive years.

Brown Thrasher. Two of the 121 Brown Thrashers (1.6%) banded at the Point have been recaptured; one banded as a hatch year bird in July 1977 was recaptured in June 1978; the other bird banded as an adult in May 1976 was recaptured twice in 1977 and twice in 1979. Presumably, this was a local breeder. Why was it not caught in 1978?

American Robin. Since I did a more complete analysis of Robins in last year's report, this analysis will be less detailed. Of all the 487 Robins banded up until 1978, 46 (9.4%) were recovered one year later, 13 out of 333 banded up until 1977 (3.9%) were recovered two years later and 3 out of 90 banded up until 1976 (3.3%) were recovered three years later. This suggests that a high proportion of birds banded at the Point are local breeders or their offspring. Of the recaptures, 28 were banded as adults (11.5%), 22 as hatch year birds (13.8%) and 2 as nestlings (3.9%). The high return of hatch year birds is a surprise and suggests a much higher tenacity of birds to their natal area than is usual in other species. It also suggests that once young birds have fledged, their survival is not noticeably less than that of adult birds.

As with Barn Swallows, there is a higher return of males. Of those which could be sexed, 24 were males, 15 females. In all, 111 known males were banded and 132 females. Thus, 21.6% of the males were recaptured but only 11.4% of the females. Both the recaptured birds banded as nestlings were males.

Red-eyed Vireo. Only 8 recaptures out of 1295 Red-eyed Vireos were recorded. This ratio (0.6%) suggests that the vast majority of Red-eyes passing through the Point are migrants. Apart from one unknown bird, the remainder were originally banded as adults between 27th June and 14th August

and recaptured between 1st June and 24th August. The breakdown of banding among the months is: May - 242 (19%), June - 40 (3%), July - 15 (1%), August - 737 (57%), September - 249 (19%), October - 12 (1%).

Warbling Vireo. Considering that we think of the Warbling Vireo as a common bird, it is surprising that only 28 have been banded up to the end of 1978. This fact alone would make one suspect that migrant Warbling Vireos are infrequent at the Point but it could be that the low numbers reflect the fact that Warbling Vireos are usually found high in the treetops well above net level. There are two recaptures (7.0%). Both were originally banded in August and recaptured in May. One was recaptured three years after original capture. Although Warbling Vireos can be heard through the summer, no nest has been found and none has been banded in June or July.

Yellow Warbler. This species was also analysed in some detail in last year's report. Of the 1325 birds banded, 46 were recaught one year later (3.7%), 6 were captured two years later (1.2%), one was caught three years later and one four years later. In last year's analysis, I reported that no hatch year birds had been recaptured but in 1978 very large numbers of hatch year birds were banded, many more than in earlier years. Not surprisingly, several of these were recaptured in 1979. Twenty recaptures were found out of 356 adults banded (5.6%). Twenty-six of 847 hatch year birds were recaptured (3.1%) and one nestling was recaptured a year later. Of recaptured birds which were sexed, 30 were males and 15 females. This is a significant departure from a 1:1 ratio (X^2 = 5.0, p 0.05) and is consistent with the findings in the case of Barn Swallows and Robins. This species would repay a much more detailed study, perhaps using coloured leg bands.

American Redstart. No Redstart nest has been found at the Point but summering birds are caught and singing males can be heard during the summer. Only 2 recaptures are recorded out of 989 birds banded (0.2%). Clearly, most Redstarts at the Point are migrants. One of the recaptures was banded as an adult male in June and recaptured three times during June and July 1979. The other bird was banded as a hatch year male in August 1978 and recaptured in second year male plumage in July 1979. Only 59 of the 989 banded Redstarts (6.0%) were banded in June or July.

Eastern Meadowlark. Usually we do not catch many Meadowlarks unless nets are put out into the field. Of the 32 birds (19 adults, 4 hatch year, 6 local and 3 unknown) banded, 2 were recaptured (6.2%). Both were adults banded in June. This relatively high recapture rate suggests that most of the Meadowlarks banded at the Point are summer residents. One of the recaptures was moulting its primaries in August of the recapture year, suggesting that breeding birds moult before leaving their breeding areas.

Red-winged Blackbird. The male Redwing has in many cases a distinctive second year plumage which is often characteristic of non-breeding status. Redwing males often delay first breeding until their third summer. Breakdown of the banded smaple of Redwings is - locals 29, hatch year birds 34, adult females 196, second year males 75, after second year males 71, adult (not separated in terms of SY or ASY) 39 - total adult males 185. There are 13 returns, 9 caught one year after banding (2.0%), 2 caught two years after banding and 2 three years after banding. No locals were recaptured but two hatch year birds were. Among the adults, 4 were female and 7 male and among the males, 4 were banded as ASY, 2 as AHY and one as SY. The sample size is too small to draw conclusions though it looks as though old males

have a higher return than younger males. This species deserves further study.

Northern Oriole. It is clear that we have some trouble classifying this species both into age and sex classes. One bird was banded as a hatch year male in 1978 and recaptured three times one year later and classified in turn as a second year male, an adult female and an after second year male! Because of this I am unwilling to discuss the pattern of return of the different classes. We need better field marks for classifying the ages and sexes of this species. A series of photos of museum specimens would help. The return rate of Orioles one year later is 3.3% (11 birds), two years later 1.7% (3 birds) and three years later 2.0% (1 bird).

Common Grackle. Of 196 Grackles banded, 8 were recaptured one year later (4.1%), 2 two years later (1.3%) and one three years later. Most were banded as adults but two were banded as hatch year birds and one was banded as a nestling out of 39 nestlings banded. The most interesting finding is that the earliest Grackles of the year to be banded have been recaptured with the greatest frequency. Only 9 Grackles were banded in April but 4 have been recaptured (44%). In contrast, there are 2 recaptures out of 71 May banded birds (3%), and 5 recaptures out of 72 June banded birds (7%); none of the 42 birds banded later in the season has been recaptured.

Brown-headed Cowbird. The return rate of Cowbirds is high, almost as high as the Robin. Eight out of 89 banded birds were recaptured one year later (9.0%) and one of these was caught in the second year. Additionally, one of the returns, a female, was banded as a nestling. These findings indicate that although the Cowbird is a parasitic bird, it has a pattern of return similar to that of birds with more orthodox nesting habits. Even though the Cowbird has no nest of its own, it tends to

choose an area near its own birthplace to parasitize returning in successive years.

American Goldfinch. This is another species with a high return rate as 20 birds out of 326 banded at the Point (6.1%) were recaptured one year later, 7 two years later (3.2%) and 1 three years later (1.6%). Twelve of the 108 birds originally banded in summer (June, July and August) returned (8.9%) but only 1 of the 93 birds (1.2%) banded in fall (September and October). Sixteen of the returns were male, 10 female.

Savannah Sparrow. Three returns out of 93 birds banded (3.2%). One of the returns originally banded in 1977 was recaptured in both 1978 and 1979.

Song Sparrow. This sparrow has a lower return rate than the Savannah Sparrow, probably reflecting higher numbers of migrant birds in the banding sample. There are 6 returns out of 345 banded birds, 4 returning one year after capture (1.2%), 3 two years later and one three years later.

In summary, there are considerable differences in return rates among birds banded at Prince Edward Point. Males seem to return more frequently than females. Birds banded as adults return more than birds banded as hatch year birds or nestlings. Birds banded in the summer months return more than birds banded in the spring and fall periods. Species with a higher proportion of local breeders to migrants return more frequently.

Requests for Information

C.W.S. SHOREBIRD COLOUR-MARKING

In 1980, the Canadian Wildlife Service will be continuing a large-scale shorebird banding and colour-marking project in James Bay. Since 1974, over 45,700 shorebirds of 27 species have been captured and much information on migration and dispersal routes is being obtained. Observers are asked to look out for and report any colour-dyed or colour-banded shorebirds that they may see. Reports should include details of species, age (if possible), place, date, time, colour-marks and a note of the number of that species present. For colour-dyed birds please record the colour and the area of the bird that was dyed. For colour-bands and standard metal leg bands, please record which leg the bands were on, whether they were above or below the 'knee', the colours involved, and the relative position of the bands if more than one was on a leg (e.g. lower right leg, blue over metal, etc.). All reports will be acknowledged and should be sent to Dr. R.I.G.Morrison, Canadian Wildlife Service, 1725 Woodward Drive, Ottawa, Ontario K1G 3Z7.

INTERNATIONAL SHOREBIRD SURVEYS, 1980-81

The International Shorebird Survey scheme is organized by the Canadian Wildlife Service and Manomet Bird Observatory to obtain information on shorebird migration and distribution for conservational and research purposes. The scheme was started in 1974 and is providing a continental picture of shorebird distribution through surveys carried out by volunteers in eastern Canada and the U.S.A., the Caribbean Islands and Central and South America. In 1980, we plan to continue and

extend the scheme in as many areas as possible. Any observer who may be able to participate in regular survey counts of shorebirds during spring, autumn and winter periods is asked to contact one of the undersigned. Occasional counts from observers visiting shorebird areas on an irregular basis would also be most welcome.

For areas in Canada: Dr. R.I.G.Morrison, Canadian Wildlife Service, 1725 Woodward Drive, Ottawa, Ontario K1G 3Z7.

For areas in the U.S.A., Caribbean Islands, Central and South America: Brian A.Harrington, Manomet Bird Observatory, Manomet, Massachusetts, U.S.A. 02345.

COLOUR-MARKED GULLS

Great Lakes Herring Gulls have been marked with numbered and lettered green, orange, blue or pink leg ribbons---one on each leg. If you see any Herring Gulls so marked, please note number, letter and colour of each ribbon and date and place of sighting. Contact Dr. D.V.Weseloh or Mr. Pierre Mineau, Canadian Wildlife Service, Box 5050, Burlington, Ontario L7R 4A6.

Correction

On page 13 of Volume 13(1), 1980 of Ontario Bird Banding, the caption under the photograph should read:"FIGURE 2. A female American Kestrel was a surprise catch as the starling lure bird was nearly as large as the captured attacker." The first line of the caption was inadvertently omitted.

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. Manuscripts should be typewritten and double-spaced. Write with precision, clarity and economy using the active voice. 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. Identify figures, tables, and photos on the back in pencil and by the same number in the space in the typescript where the item should be placed. Type the titles on separate papers. Refer to the list of literature cited by author's name and year adding page only if necessary from a large paper or book.

Contributors receive 25 reprints of their articles free. Additional reprints are to be paid for by the author and these must be ordered at the time the manuscript is returned for proofreading. Information on the cost of reprints is available from the editor.

Authorized as Second Class Mail by the Post Office Department, Ottawa and for payment of postage in cash.