

# Report on bird banding in New Zealand 1993/1994

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# Abstract

During the 1993/94 banding year 18,559 birds of 101 species were banded and 226 previously banded birds were re-banded, bringing the grand total of individual birds banded in New Zealand over the years since 1950 to 1,148,212. Bird banding supported a large variety of research projects and was regulated by 27 Personal permits and 38 Institutional/group permits.

## 1. Introduction

Bird banding (ringing) is recognised world-wide as an important research tool for both amateur and professional ornithologists. In New Zealand it has been recognised officially as such since 1950, when the Ornithological Society of New Zealand started the first organised scheme. The Department of Internal Affairs soon followed with its own scheme for game bird species. The New Zealand National Banding Scheme as it exists today was initiated in 1967, when the two then existing schemes (run by the Dominion Museum and the New Zealand Wildlife Service respectively) were joined together. Between 1967 and 1987 the scheme was run under the auspices of the Wildlife Service. In 1987 the New Zealand National Banding Scheme was taken over by the Department of Conservation and is now operated and maintained by their Science & Research Division.

The objective of the scheme is to accurately record information about life expectancy and movements of birds. Apart from its value in understanding bird biology, such knowledge is essential for the effective conservation of native species and for management of game birds, as well as for the control of those species that are considered a nuisance.

This report summarises the bird banding activity in New Zealand during the 1993/94 banding season and gives details of some interesting recoveries. Appendix 1 lists known research projects which were serviced by the Banding Scheme during this year.

## 2. Methods

The totals given are for the period between 1 April 1993 and 31 March 1994. They may include some records for birds banded in previous years, however, as schedules not received in time for inclusion in the 1992/93 report have been included here. Similarly, totals relating to the present report year, which were received after the cut-off date for this report, were omitted.

Previously banded birds which were re-banded during the year are not included in the totals, nor in Table 1. Details on re-banded birds can be found in Table 2.

The naming and order of species in this report is based on the Annotated Checklist of the Birds of New Zealand (1970 and subsequent amendments and additions). The Ornithological Society of New Zealand published an updated version of the Checklist of the Birds of New Zealand in 1990. The order of species in this new version differs markedly from the earlier published checklists. For the sake of continuity as well as to avoid reprogramming of existing computer programmes we have decided for the present to adhere to the previous edition.

The species code numbers are those used under the Banding Scheme.

Numbers in open brackets are provisional totals and are lower than the actual number banded. This is because actual figures for birds banded during the early years of banding under the Department of Internal Affairs are not known. Figures in square brackets indicate birds banded as an unknown species of a particular genus. These latter are included in Table 1 as they contribute to the **total number of birds** banded. They are **not** included in the **total number of species** banded.

### 3. Results

During the 1993/94 banding year 18,559 birds of 101 species were banded and 226 previously banded birds were re-banded. Non-game species contributed 17,156 (92.5%) and game species 1,403 (7.5%) to the new birds banded. There was a marked decline in the overall number of birds banded, down 5,100 birds compared with the 23,659 in 1992/93. Once again there was a decline in the number of game birds. Numbers fell from 1,813 in 1992/93 to the present 1,403, a decline of just over 22.6 % during this report year.

The total number of birds banded in New Zealand increased from 1,129,653 to 1,148,212.

The numbers banded for each species are given in Table 1. It should be noted that **re-banded birds have been omitted from this table.**

Table 2 summarises birds banded during the 1993/94 season by their ages and sexes. Also included in this table are the 226 birds that were re-banded during the year. They can be found under the heading 'RB'. These birds are included to illustrate the overall banding effort.

Species and numbers of individual birds banded under each permit are given in Table 3.

Bird banding supported a great number of research and management projects. These are listed in Appendix 1. Numbers in brackets after the project titles are the individual permit numbers.

TABLE 1. GENERAL BANDING TOTALS. (REBANDS EXCLUDED)

SPECIES NUMBER AND NAME		TOTAL PRE 1993	TOTAL 1993/94	TOTAL FOR ALL YEARS
001	NORTH ISLAND BROWN KIWI	352	5	357
002	SOUTH ISLAND BROWN KIWI	4	0	4
003	STEWART ISLAND BROWN KIWI	21	0	21
004	LITTLE SPOTTED KIWI	213	46	259
012	YELLOW-EYED PENGUIN	4624	1283	5907
026	NORTHERN BLUE PENGUIN	651	22	673
014	COOK STRAIT BLUE PENGUIN	2190	90	2280
016	WHITE-FLIPPED BLUE PENGUIN	12789	535	13324
015	SOUTHERN BLUE PENGUIN	1324	630	1954
027	CHATHAM ISLAND BLUE PENGUIN	15	20	35
017	ROCKHOPPER PENGUIN	2405	61	2466
019	FIORDLAND CRESTED PENGUIN	668	61	729
020	SNARES CRESTED PENGUIN	2179	0	2179
021	ERECT-CRESTED PENGUIN	43	0	43
041	WANDERING ALBATROSS	3415	399	3814
044	NORTHERN ROYAL ALBATROSS	2963	228	3191
043	SOUTHERN ROYAL ALBATROSS	33347	28	33375
045	BLACK-BROWED MOLLYMAWK	18	3	21
046	NEW ZEALAND BLACK-BROWED MOLLYMAWK			
		23195	42	23237
047	GREY-HEADED MOLLYMAWK	6602	42	6644
049	BULLER'S MOLLYMAWK	2675	120	2795
050	WHITE-CAPPED (SHY) MOLLYMAWK	591	2	593
052	SALVIN'S MOLLYMAWK	1296	0	1296
051	CHATHAM ISLAND MOLLYMAWK	547	877	1424
054	LIGHT-MANTLED SOOTY ALBATROSS	437	0	437
109	NORTHERN GIANT PETREL	1239	0	1239
061	SOUTHERN GIANT PETREL	7	0	7
064	ANTARCTIC FULMAR	2	0	2
063	SNARES CAPE PIGEON	873	0	873
062	CAPE PIGEON	6800	0	6800
093	GREY-FACED PETREL	20208	1770	21978
094	WHITE-HEADED PETREL	31	0	31
095	WHITE-NAPED PETREL	516	0	516
098	MOTTLED PETREL	449	0	449
110	SOFT-PLUMAGED PETREL	20	0	20
100	KERMADEC PETREL	1056	0	1056
111	CHATHAM ISLAND TAIKO	50	1	51
101	PYCROFT'S PETREL	879	101	980
102	GOULD'S PETREL	1	0	1
104	COOK'S PETREL	336	0	336
106	BLACK-WINGED PETREL	2818	0	2818
105	CHATHAM ISLAND PETREL	49	11	60
065	BLUE PETREL	1	0	1
066	BROAD-BILLED PRION	1590	34	1624
069	ANTARCTIC PRION	20	0	20
071	AUCKLAND ISLAND PRION	24	0	24
072	NARROW-BILLED PRION	1	0	1
073	FAIRY PRION	43592	74	43666

SPECIES NUMBER AND NAME	TOTAL PRE 1993	TOTAL 1993/94	TOTAL FOR ALL YEARS	
075	FULMAR PRION	61	0	61
074	CHATHAM FULMAR PRION	2	0	2
089	GREY PETREL	8	0	8
090	BLACK PETREL	1007	0	1007
091	WESTLAND BLACK PETREL	3918	125	4043
092	WHITE-CHINNED PETREL	31	0	31
077	FLESH-FOOTED SHEARWATER	1803	5	1808
078	WEDGE-TAILED SHEARWATER	461	0	461
079	BULLER'S SHEARWATER	1049	0	1049
080	SOOTY SHEARWATER	6975	630	7605
115	CHRISTMAS ISLAND SHEARWATER	1	0	1
082	FLUTTERING SHEARWATER	1852	16	1868
083	HUTTON'S SHEARWATER	1134	0	1134
084	NORFOLK ISLAND LITTLE SHEARWATER	1	0	1
085	KERMADEC LITTLE SHEARWATER	354	0	354
086	NORTH ISLAND LITTLE (ALLIED) SHEARWATER	633	103	736
087	SUBANTARCTIC LITTLE SHEARWATER	5	0	5
—	PRION SPECIES	[4]	0	[4]
121	LEACH'S FORK-TAILED PETREL	1	0	1
123	GREY-BACKED STORM PETREL	776	12	788
124	WHITE-FACED STORM PETREL	6575	34	6609
125	KERMADEC STORM PETREL	1	0	1
126	BLACK-BELLIED STORM PETREL	6	0	6
127	WHITE-BELLIED STORM PETREL	25	0	25
131	NORTHERN DIVING PETREL	7166	41	7207
133	SUBANTARCTIC DIVING PETREL	19	0	19
132	SOUTHERN DIVING PETREL	105	2	107
134	SOUTH GEORGIAN DIVING PETREL	4	0	4
135	DIVING PETREL (sp.)	1	0	1
—	PETREL SPECIES	[1]	0	[1]
141	RED-TAILED TROPIC BIRD	119	0	119
142	WHITE-TAILED TROPIC BIRD	13	0	13
161	AUSTRALASIAN GANNET	17913	1414	19327
162	BROWN BOOBY	1	0	1
163	MASKED (BLUE-FACED) BOOBY	446	0	446
171	BLACK SHAG	540	19	559
172	PIED SHAG	168	0	168
173	LITTLE BLACK SHAG	955	0	955
174	LITTLE (WHITE-THROATED) SHAG	116	0	116
176	STEWART ISLAND SHAG	2	0	2
179	AUCKLAND ISLAND SHAG	154	0	154
180	CAMPBELL ISLAND SHAG	66	0	66
182	SPOTTED SHAG	491	27	518
216	WHITE-FACED HERON	14	0	14
213	WHITE HERON	2	0	2
215	REEF HERON	68	12	80
220	CATTLE EGRET	1	0	1
218	BITTERN	7	0	7
233	ROYAL SPOONBILL	43	8	51
242	MUTE SWAN	4	0	4
243	BLACK SWAN	(59980)	0	(59980)



SPECIES NUMBER AND NAME	TOTAL PRE 1993	TOTAL 1993/94	TOTAL FOR ALL YEARS	
241	CANADA GOOSE	(54473)	0	(54473)
245	PARADISE SHELDUCK	(69125)	0	(69125)
252	MALLARD	(89954)	155	(90109)
259	HYBRID MALLARD (CROSS)	(1761)	0	(1761)
251	GREY DUCK	(34225)	4	(34229)
247	GREY TEAL	(1490)	0	(1490)
248	BROWN TEAL	(1797)	0	(1797)
249	AUCKLAND ISLAND TEAL	45	0	45
250	CAMPBELL ISLAND TEAL	3	0	3
253	NEW ZEALAND SHOVELER	(4494)	0	(4494)
254	BLUE DUCK	(290)	14	(304)
256	NEW ZEALAND SCAUP	(113)	0	(113)
—	DUCK (GREY OR MALLARD)	[(13)]	0	[(13)]
272	AUSTRALASIAN HARRIER	5058	250	5308
281	NEW ZEALAND FALCON	54	2	56
296	CHUKOR	2217	0	2217
299	RED-LEGGED PARTRIDGE	21301	877	22178
300	RED-LEGGED PARTRIDGE (HYBRID)	42	0	42
298	GREY PARTRIDGE	(14215)	0	(14215)
292	BROWN QUAIL	18	1	19
295	CALIFORNIA QUAIL	(12205)	0	(12205)
293	PHEASANT	(58648)	145	(58793)
331	BANDED RAIL	32	0	32
335	NORTH ISLAND WEKA	3575	96	3671
336	WESTERN WEKA	450	235	685
337	BUFF WEKA	31	0	31
338	STEWART ISLAND WEKA	816	10	826
340	MARSH CRAKE	5	0	5
341	SPOTLESS CRAKE	23	0	23
342	PUKEKO	1899	221	2120
343	NOTORNIS	293	65	358
—	WEKA SPECIES	(1)	0	(1)
401	SOUTH ISLAND PIED OYSTERCATCHER	2109	465	2574
402	VARIABLE OYSTERCATCHER	301	30	331
404	CHATHAM ISLAND OYSTERCATCHER	93	0	93
403	(BLACK OYSTERCATCHER)	101	0	101
411	SPUR-WINGED PLOVER	630	2	632
413	LEAST GOLDEN PLOVER (PACIFIC GOLDEN PLOVER)	5	0	5
418	NEW ZEALAND DOTTEREL	591	71	662
415	BANDED DOTTEREL	4164	93	4257
422	BLACK-FRONTED DOTTEREL	108	15	123
419	NEW ZEALAND SHORE PLOVER	470	0	470
420	WRYBILL	3591	933	4524
445	EASTERN BAR-TAILED GODWIT	616	236	852
449	WANDERING TATTLER	1	0	1
448	TEREK SANDPIPER	1	0	1
451	TURNSTONE	18	0	18
453	CHATHAM ISLAND SNIPE	150	0	150
454	SNARES ISLAND SNIPE	274	0	274
458	KNOT	3910	110	4020
461	CURLEW SANDPIPER	19	0	19

SPECIES NUMBER AND NAME	TOTAL PRE 1993	TOTAL 1993/94	TOTAL FOR ALL YEARS	
462	RED-NECKED STINT	3	0	3
481	PIED STILT	1141	32	1173
482	BLACK STILT	129	0	129
511	SOUTHERN GREAT SKUA	1578	171	1749
512	ANTARCTIC SKUA	2414	0	2414
514	ARCTIC SKUA	1	0	1
521	SOUTHERN BLACK-BACKED GULL	71477	492	71969
523	RED-BILLED GULL	90862	274	91136
524	BLACK-BILLED GULL	37518	0	37518
527	CASPIAN TERN	5520	85	5605
525	BLACK-FRONTED TERN	1387	50	1437
529	ANTARCTIC TERN	158	0	158
531	FAIRY TERN	19	3	22
532	WHITE-FRONTED TERN	23654	0	23654
533	SOOTY TERN	14654	0	14654
534	COMMON NODDY	4	0	4
535	WHITE-CAPPED NODDY	26	0	26
536	WHITE TERN	3	0	3
537	GREY TERNLET	190	0	190
551	NEW ZEALAND PIGEON	174	2	176
552	CHATHAM ISLAND PIGEON	45	28	73
553	ROCK PIGEON	60	0	60
554	MALAY SPOTTED DOVE	10	0	10
555	BARBARY DOVE	1	0	1
561	KAKAPO	84	0	84
562	NORTH ISLAND KAKA	71	17	88
563	SOUTH ISLAND KAKA	82	5	87
564	KEA	1422	178	1600
566	EASTERN ROSELLA	2	0	2
572	ANTIPODES ISLAND PARAKEET	69	0	69
567	KERMADEC PARAKEET	7	0	7
568	RED-CROWNED PARAKEET	768	0	768
569	CHATHAM ISLAND RED-CROWNED PARAKEET	1	0	1
570	REISCHECK'S PARAKEET	56	0	56
573	YELLOW-CROWNED PARAKEET	142	0	142
574	CHATHAM ISLAND YELLOW-CROWNED PARAKEET	9	0	9
583	SHINING CUCKOO	72	3	75
584	LONG-TAILED CUCKOO	4	0	4
601	MOREPORK	51	0	51
604	LITTLE OWL	16	0	16
621	NEW ZEALAND KINGFISHER	265	2	267
641	NORTH ISLAND RIFLEMAN	150	0	150
642	SOUTH ISLAND RIFLEMAN	1128	0	1128
646	ROCK WREN	9	0	9
651	SKYLARK	42	0	42
662	WELCOME SWALLOW	383	4	387
741	NEW ZEALAND PIPIT	49	1	50
731	HEDGESPARROW	2399	50	2449
701	NORTH ISLAND FERNBIRD	34	0	34
702	SOUTH ISLAND FERNBIRD	258	0	258
703	STEWART ISLAND FERNBIRD	27	0	27

SPECIES NUMBER AND NAME	TOTAL PRE 1993	TOTAL 1993/94	TOTAL FOR ALL YEARS	
706	SNARES FERNBIRD	152	0	152
711	BROWN CREEPER	297	0	297
712	WHITEHEAD	363	0	363
713	YELLOWHEAD	148	0	148
714	GREY WARBLER	1091	40	1131
715	CHATHAM ISLAND WARBLER	74	0	74
681	NORTH ISLAND FANTAIL	673	15	688
682	SOUTH ISLAND FANTAIL	877	13	890
684	PIED TIT	175	0	175
685	YELLOW-BREASTED TIT	420	0	420
686	CHATHAM ISLAND TIT	37	0	37
687	BLACK TIT	161	0	161
689	NORTH ISLAND ROBIN	118	28	146
690	SOUTH ISLAND ROBIN	2528	166	2694
691	STEWART ISLAND ROBIN	10	0	10
692	BLACK ROBIN	286	105	391
721	SONG THRUSH	3312	39	3351
722	BLACKBIRD	7561	94	7655
761	SILVEREYE	69874	1742	71616
751	STITCHBIRD	398	3	401
753	BELLBIRD	6051	31	6082
755	TUI	965	18	983
756	CHATHAM ISLAND TUI	1	0	1
775	YELLOWHAMMER	1100	20	1120
776	CIRL BUNTING	27	0	27
74	CHAFFINCH	3131	74	3205
771	GREENFINCH	8190	244	8434
772	GOLDFINCH	3451	59	3510
773	REDPOLL	8093	35	8128
781	HOUSE SPARROW	33749	1087	34836
791	STARLING	18250	59	18309
792	INDIAN MYNA	1401	0	1401
821	NORTH ISLAND SADDLEBACK	2197	257	2454
822	SOUTH ISLAND SADDLEBACK	289	26	315
824	NORTH ISLAND KOKAKO	150	40	190
811	BLACK-BACKED MAGPIE	41	0	41
812	WHITE-BACKED MAGPIE	259	4	263
813	HYBRID MAGPIE	25	0	25
—	MAGPIE SPECIES	4	0	4
802	ROOK	1070	0	1070
TOTALS	1129653	18559	1148212	

TABLE 2. BANDING TOTALS BY AGE AND SEX. (FOR COLUMN HEADINGS ABBREVIATIONS, SEE END OF TABLE)

SPECIES NUMBER AND NAME	PU	JM	JF	JU	AM	AF	AU	UM	UF	UU	RB	TOTAL
001 NORTH ISLAND BROWN KIWI	0	0	0	0	1	4	0	0	0	0	0	5
004 LITTLE SPOTTED KIWI	0	7	3	5	17	14	0	0	0	0	0	46
012 YELLOW-EYED PENGUIN	873	1	1	62	2	2	341	0	0	1	98	1381
026 NORTHERN BLUE PENGUIN	0	0	0	0	0	0	22	0	0	0	0	22
014 COOK STRAIT BLUE PENGUIN	8	0	0	0	43	38	1	0	0	0	3	93
016 WHITE-FLIPPED BLUE PENGUIN	535	0	0	0	0	0	0	0	0	0	0	535
015 SOUTHERN BLUE PENGUIN	175	0	0	1	109	74	271	0	0	0	0	630
027 CHATHAM ISLAND BLUE PENGUIN	0	0	0	0	0	0	20	0	0	0	0	20
017 ROCKHOPPER PENGUIN	19	0	0	0	27	13	2	0	0	0	0	61
019 FIORDLAND CRESTED PENGUIN	36	0	0	5	0	0	20	0	0	0	0	61
041 WANDERING ALBATROSS	4	0	0	0	0	0	395	0	0	0	0	399
044 NORTHERN ROYAL ALBATROSS	227	0	0	0	0	0	1	0	0	0	0	228
043 SOUTHERN ROYAL ALBATROSS	0	0	0	0	0	0	28	0	0	0	0	28
045 BLACK-BROWED MOLLYMAWK	3	0	0	0	0	0	0	0	0	0	0	3
046 NEW ZEALAND BLACK-BROWED MOLLYMAWK	42	0	0	0	0	0	0	0	0	0	0	42
047 GREY-HEADED MOLLYMAWK	42	0	0	0	0	0	0	0	0	0	0	42
049 BULLER'S MOLLYMAWK	120	0	0	0	0	0	0	0	0	0	0	120
050 WHITE-CAPPED (SHY) MOLLYMAWK	0	0	0	0	1	1	0	0	0	0	0	2
051 CHATHAM ISLAND MOLLYMAWK	877	0	0	0	0	0	0	0	0	0	0	877
093 GREY-FACED PETREL	908	0	0	0	2	8	832	0	0	20	5	1775
111 CHATHAM ISLAND TAIKO	1	0	0	0	0	0	0	0	0	0	0	1
101 PYCROFT'S PETREL	24	0	0	0	0	0	77	0	0	0	0	101
105 CHATHAM ISLAND PETREL	11	0	0	0	0	0	0	0	0	0	0	11
066 BROAD-BILLED PRION	0	0	0	0	0	0	34	0	0	0	0	34
073 FAIRY PRION	0	0	0	0	0	0	74	0	0	0	0	74
091 WESTLAND BLACK PETREL	81	0	0	0	38	6	0	0	0	0	7	132
077 FLESH-FOOTED SHEARWATER	1	0	0	0	0	0	4	0	0	0	0	5
080 SOOTY SHEARWATER	302	0	0	0	0	0	328	0	0	0	1	631
082 FLUTTERING SHEARWATER	0	0	0	0	1	3	12	0	0	0	0	16
086 NORTH ISLAND LITTLE (ALLIED) SHEARWATER	22	0	0	1	0	0	80	0	0	0	1	104
123 GREY-BACKED STORM PETREL	0	0	0	0	0	0	12	0	0	0	0	12
124 WHITE-FACED STORM PETREL	0	0	0	0	0	0	34	0	0	0	0	34
131 NORTHERN DIVING PETREL	3	0	0	0	0	0	38	0	0	0	0	41
132 SOUTHERN DIVING PETREL	0	0	0	0	0	0	2	0	0	0	0	2
161 AUSTRALASIAN GANNET	0	0	0	1414	0	0	0	0	0	0	0	1414
171 BLACK SHAG	19	0	0	0	0	0	0	0	0	0	0	19
182 SPOTTED SHAG	27	0	0	0	0	0	0	0	0	0	0	27
215 REEF HERON	12	0	0	0	0	0	0	0	0	0	0	12
233 ROYAL SPOONBILL	8	0	0	0	0	0	0	0	0	0	0	8
252 MALLARD	0	20	28	0	71	36	0	0	0	0	0	155
251 GREY DUCK	0	0	2	0	2	0	0	0	0	0	0	4

SPECIES NUMBER AND NAME	PU	JM	JF	JU	AM	AF	AU	UM	UF	UU	RB	TOTAL
254 BLUE DUCK	0	4	5	0	0	4	1	0	0	0	21	35
272 AUSTRALASIAN HARRIER	0	63	43	13	65	49	17	0	0	0	0	250
281 NEW ZEALAND FALCON	0	1	1	0	0	0	0	0	0	0	0	2
299 RED-LEGGED PARTRIDGE	0	188	230	231	108	120	0	0	0	0	0	877
292 BROWN QUAIL	0	0	0	0	0	0	1	0	0	0	0	1
293 PHEASANT	0	144	0	0	1	0	0	0	0	0	0	145
335 NORTH ISLAND WEKA	3	37	33	3	12	8	0	0	0	0	0	96
336 WESTERN WEKA	0	6	7	10	102	97	4	0	0	9	7	242
338 STEWART ISLAND WEKA	0	0	0	1	5	4	0	0	0	0	0	10
342 PUKEKO	0	8	6	40	79	58	18	0	1	11	0	221
343 NOTORNIS	0	10	13	26	8	8	0	0	0	0	0	65
401 SOUTH ISLAND PIED OYSTERCATCHER	40	0	0	104	16	9	289	0	0	7	0	465
402 VARIABLE OYSTERCATCHER	11	0	0	0	7	3	9	0	0	0	0	30
411 SPUR-WINGED PLOVER	0	0	0	2	0	0	0	0	0	0	0	2
418 NEW ZEALAND DOTTEREL	34	0	0	5	11	11	10	0	0	0	0	71
415 BANDED DOTTEREL	36	0	0	0	11	46	0	0	0	0	2	95
422 BLACK-FRONTED DOTTEREL	6	0	0	0	1	1	7	0	0	0	0	15
420 WRYBILL	7	0	0	69	0	5	852	0	0	0	27	960
445 EASTERN BAR-TAILED GODWIT	0	0	0	0	0	0	123	0	0	113	1	237
458 KNOT	0	0	0	18	0	0	87	0	0	5	1	111
481 PIED STILT	25	0	0	4	0	1	2	0	0	0	0	32
511 SOUTHERN GREAT SKUA	146	0	0	0	0	0	25	0	0	0	0	171
521 SOUTHERN BLACK-BACKED GULL	492	0	0	0	0	0	0	0	0	0	0	492
523 RED-BILLED GULL	202	0	0	0	27	43	2	0	0	0	49	323
527 CASPIAN TERN	85	0	0	0	0	0	0	0	0	0	0	85
525 BLACK-FRONTED TERN	50	0	0	0	0	0	0	0	0	0	0	50
531 FAIRY TERN	3	0	0	0	0	0	0	0	0	0	0	3
551 NEW ZEALAND PIGEON	0	0	0	2	0	0	0	0	0	0	0	2
552 CHATHAM ISLAND PIGEON	9	0	0	5	0	0	14	0	0	0	0	28
562 NORTH ISLAND KAKA	0	7	4	0	2	4	0	0	0	0	0	17
563 SOUTH ISLAND KAKA	0	0	0	0	1	4	0	0	0	0	0	5
564 KEA	0	92	27	3	35	9	0	2	1	9	0	178
583 SHINING CUCKOO	0	0	0	0	0	0	1	0	0	2	0	3
621 NEW ZEALAND KINGFISHER	0	0	0	0	0	0	1	0	0	1	0	2
662 WELCOME SWALLOW	0	0	0	2	0	0	2	0	0	0	0	2
741 NEW ZEALAND PIPIT	0	0	0	1	0	0	0	0	0	0	0	1
731 HEDGESPARROW	0	0	0	10	0	0	34	0	0	6	0	50
714 GREY WARBLER	0	0	0	5	0	0	16	0	0	19	0	40
681 NORTH ISLAND FANTAIL	0	0	0	6	0	0	5	0	0	4	0	15
682 SOUTH ISLAND FANTAIL	0	0	0	4	0	0	2	0	0	7	0	13
689 NORTH ISLAND ROBIN	14	0	0	0	3	7	4	0	0	0	0	28
690 SOUTH ISLAND ROBIN	58	23	14	1	24	12	9	9	4	12	0	166
692 BLACK ROBIN	61	27	16	0	0	0	1	0	0	0	0	105
721 SONG THRUSH	0	0	0	1	0	0	37	0	0	1	0	39
722 BLACKBIRD	0	7	4	12	31	36	0	0	0	4	0	94
761 SILVEREYE	0	0	0	20	4	3 1715	0	0	0	0	1742	
751 STITCHBIRD	0	0	0	0	2	1	0	0	0	0	0	3
753 BELLBIRD	0	1	0	1	16	3	1	0	0	9	0	31
755 TUI	2	0	0	1	0	0	15	0	0	0	0	18
775 YELLOWHAMMER	0	0	0	1	1	1	16	0	0	1	0	20

SPECIES NUMBER AND NAME	PU	JM	JF	JU	AM	AF	AU	UM	UF	UU	RB	TOTAL
774 CHAFFINCH	0	3	5	6	30	23	5	0	0	2	0	74
771 GREENFINCH	0	11	4	2	124	72	27	1	0	3	0	244
772 GOLDFINCH	0	1	1	17	16	14	9	0	0	1	0	59
773 REDPOLL	0	3	1	1	1	8	21	0	0	0	0	35
781 HOUSE SPARROW	0	40	50	37	577	377	6	0	0	0	3	1090
791 STARLING	3	1	0	5	5	4	39	0	0	2	0	59
821 NORTH ISLAND SADDLEBACK	250	0	0	1	5	1	0	0	0	0	0	257
822 SOUTH ISLAND SADDLEBACK	0	1	0	5	8	10	1	0	0	1	0	26
824 NORTH ISLAND KOKAKO	10	0	0	0	3	1	26	0	0	0	0	40
812 WHITE-BACKED MAGPIE	0	0	0	2	2	0	0	0	0	0	0	4
TOTAL	5927	706	498	2165	1657	1256	6082	12	6	250	226	18785

Abbreviations used in the column headings:

PU = Pullus of unknown sex

JM = Juvenile male

JF = Juvenile female

JU = Juvenile of unknown sex

AM = Adult male

AF = Adult female

AU = Adult of unknown sex

UM = Male of unknown age

UF = Female of unknown age

UU = Unknown age and sex

RB = Birds re-banded

TABLE 3. SUMMARY PER PERMIT. (REBANDS INCLUDED)

		BIRDS BANDED			BIRDS BANDED
PERMIT 0002	MILLS DR J A			BLACKBIRD	12
	RED-BILLED GULL	323		HOUSE SPARROW	201
	** Subtotal **	323		STARLING	26
				** Subtotal **	261
PERMIT 0005	ROBERTSON C J R		PERMIT 0093	SAGAR P M	
	NORTHERN ROYAL ALBATROSS	9		SOUTH ISLAND PIED OYSTERCATCHER	43
	SOUTHERN ROYAL ALBATROSS	28		** Subtotal **	43
	WHITE-CAPPED (SHY) MOLLYMAWK	2			
	** Subtotal **	39			
PERMIT 0032	DAVIS V T		PERMIT 0104	LANDCARE RESEARCH	
	AUSTRALASIAN GANNET	1414		SOUTHERN BLACK-BACKED GULL	90
	** Subtotal **	1414		SOUTH ISLAND KAKA	5
PERMIT 0036	BARTLE J A			SHINING CUCKOO	2
	WESTLAND BLACK PETREL	132		HEDGESPARROW	4
	** Subtotal **	132		GREY WARBLER	3
PERMIT 0040	HARPER DR P C			SOUTH ISLAND FANTAIL	7
	SOOTY SHEARWATER	43		SONG THRUSH	3
	** Subtotal **	43		BLACKBIRD	4
PERMIT 0042	CHALLIES C N			SILVEREYE	104
	WHITE-FLIPPERED BLUE PENGUIN	535		BELLBIRD	9
	SOOTY SHEARWATER	20		TUI	2
	WHITE-FACED STORM PETREL	11		YELLOWHAMMER	1
	** Subtotal **	566		CHAFFINCH	7
PERMIT 0044	COWIE J A			GREENFINCH	3
	BLACK-FRONTED TERN	40		GOLDFINCH	5
	** Subtotal **	40		HOUSE SPARROW	1
PERMIT 0053	BARLOW MRS C E			STARLING	2
	CASPIAN TERN	50		** Subtotal **	252
	** Subtotal **	50	PERMIT 0108	CAMPBELL ISLAND PARTY	
PERMIT 0065	MERTON D V			BLACK-BROWED MOLLYMAWK	3
	NORTH ISLAND KOKAKO	6		NEW ZEALAND BLACK-BROWED	
	** Subtotal **	6		MOLLYMAWK	42
PERMIT 0068	IMBER M J			GREY-HEADED MOLLYMAWK	42
	CHATHAM ISLAND TAIKO	1		** Subtotal **	87
	CHATHAM ISLAND PETREL	11	PERMIT 0167	TARANAKI FISH & GAME COUNCIL	
	BROAD-BILLED PRION	31		PHEASANT	145
	FAIRY PRION	1		** Subtotal **	145
	SOOTY SHEARWATER	22	PERMIT 0173	WELLINGTON FISH & GAME COUNCIL	
	FLUTTERING SHEARWATER	4		MALLARD	155
	NORTH ISLAND LITTLE (ALLIED)			GREY DUCK	4
	SHEARWATER	5		** Subtotal **	159
	GREY-BACKED STORM PETREL	12	PERMIT 0174	NELSON/MARLBOROUGH FISH & GAME	
	WHITE-FACED STORM PETREL	7		COUNCIL	
	SOUTHERN DIVING PETREL	2		RED-LEGGED PARTRIDGE	791
	** Subtotal **	96		** Subtotal **	79
PERMIT 0076	BELL BRIAN D		PERMIT 0179	SOUTH CANTERBURY FISH & GAME	
	SOUTHERN BLACK-BACKED GULL	22		COUNCIL	
				RED-LEGGED PARTRIDGE	86
				** Subtotal **	86
			PERMIT 0215	TORR O C	
				SONG THRUSH	1
				BLACKBIRD	1

		BIRDS BANDED			BIRDS BANDED
	SILVEREYE	1	PERMIT 0285	RAPTOR ASSOCIATION OF N Z	
	HOUSE SPARROW	17		AUSTRALASIAN HARRIER	205
	STARLING	1		NEW ZEALAND FALCON	2
	** Subtotal **	21		** Subtotal **	207
PERMIT 0243	SIM D M		PERMIT 0292	ROWE L K	
	AUSTRALASIAN HARRIER	15		HEDGESPARROW	9
	SPUR-WINGED PLOVER	2		GREY WARBLER	4
	SILVEREYE	123		SOUTH ISLAND FANTAIL	2
	** Subtotal **	140		SONG THRUSH	2
PERMIT 0244	POWLESLAND DR R G			BLACKBIRD	4
	BLACK SHAG	19		SILVEREYE	209
	CHATHAM ISLAND PIGEON	28		CHAFFINCH	10
	** Subtotal **	47		GREENFINCH	31
PERMIT 0246	PIERCE R J			GOLDFINCH	6
	FAIRY TERN	3		REDPOLL	16
	** Subtotal **	3		HOUSE SPARROW	419
PERMIT 0257	ONLEY D J			STARLING	6
	HEDGESPARROW	8		WHITE-BACKED MAGPIE	1
	GREY WARBLER	4		** Subtotal **	719
	SONG THRUSH	2	PERMIT 0294	CANTERBURY PASSERINE GROUP	
	BLACKBIRD	20		HEDGESPARROW	4
	SILVEREYE	238		GREY WARBLER	1
	BELLBIRD	1		SOUTH ISLAND FANTAIL	4
	CHAFFINCH	9		SONG THRUSH	1
	GREENFINCH	32		BLACKBIRD	8
	GOLDFINCH	4		SILVEREYE	544
	REDPOLL	4		BELLBIRD	10
	HOUSE SPARROW	157		CHAFFINCH	3
	STARLING	10		GREENFINCH	7
	** Subtotal **	489		GOLDFINCH	4
PERMIT 0259	MASSEY UNIVERSITY			HOUSE SPARROW	26
	NORTH ISLAND WEKA	25		STARLING	3
	NORTH ISLAND ROBIN	28		** Subtotal **	615
	NORTH ISLAND SADDLEBACK	34	PERMIT 0295	CANTERBURY UNIVERSITY	
	WHITE-BACKED MAGPIE	3		FIORDLAND CRESTED PENGUIN	61
	** Subtotal **	90		SOUTH ISLAND ROBIN	125
PERMIT 0275	BEAUCHAMP A J			** Subtotal **	186
	NORTH ISLAND WEKA	56	PERMIT 0297	AUCKLAND UNIVERSITY	
	** Subtotal **	56		NORTHERN BLUE PENGUIN	22
PERMIT 0278	N Z WADER STUDY GROUP			PUKEKO	5
	SOUTH ISLAND PIED OYSTERCATCHER	392		NOTORNIS	1
	WRYBILL	948		SOUTHERN GREAT SKUA	171
	EASTERN BAR-TAILED GODWIT	237		SOUTH ISLAND ROBIN	21
	KNOT	111		BELLBIRD	6
	** Subtotal **	1688		TUI	16
PERMIT 0284	OTAGO UNIVERSITY			NORTH ISLAND SADDLEBACK	210
	SOOTY SHEARWATER	362		** Subtotal **	452
	PUKEKO	184	PERMIT 0301	DARBY J T	
	** Subtotal **	546		YELLOW-EYED PENGUIN	1381
				** Subtotal **	1381

Continued next page



		BIRDS BANDED			BIRDS BANDED
PERMIT 0307	COSSEE R O			SHEARWATER	88
	COOK STRAIT BLUE PENGUIN	93		WHITE-FACED STORM PETREL	16
	CHATHAM ISLAND BLUE PENGUIN	20		NORTHERN DIVING PETREL	39
	SPOTTED SHAG	27		** Subtotal **	1407
	VARIABLE OYSTERCATCHER	4			
	SOUTHERN BLACK-BACKED GULL	380	PERMIT 0332	STILT RESEARCH GROUP OSNZ	
	NEW ZEALAND PIGEON	2		PIED STILT	32
	SOUTH ISLAND ROBIN	20		** Subtotal **	32
	SILVEREYE	67			
	SOUTH ISLAND SADDLEBACK	26	PERMIT 0338	WELLINGTON CONSERVANCY D O C	
	** Subtotal **	639		SOOTY SHEARWATER	150
PERMIT 0308	MISKELLY C M			PUKEKO	32
	NORTH ISLAND WEKA	2		NOTORNIS	3
	WESTERN WEKA	137		NORTH ISLAND SADDLEBACK	4
	STEWART ISLAND WEKA	10		** Subtotal **	189
	** Subtotal **	149	PERMIT 0339	TAYLOR T J	
PERMIT 0313	LOVEGROVE T			AUSTRALASIAN HARRIER	23
	NORTH ISLAND SADDLEBACK	9		** Subtotal **	23
	** Subtotal **	9			
PERMIT 0317	BANDED DOTTEREL STUDY GROUP		PERMIT 0340	NORTHLAND PASSERINE GROUP	
	BLACK-FRONTED DOTTEREL	15		BROWN QUAIL	1
	** Subtotal **	15		HEDGESPARROW	2
PERMIT 0323	DOWDING J (N Z DOTTEREL GRP)			GREY WARBLER	19
	NEW ZEALAND DOTTEREL	71		SONG THRUSH	1
	** Subtotal **	71		BLACKBIRD	2
PERMIT 0324	PASSERINE GROUP OSNZ CENTRAL			SILVEREYE	181
	NEW ZEALAND KINGFISHER	2		YELLOWHAMMER	1
	WELCOME SWALLOW	4		CHAFFINCH	5
	NEW ZEALAND PIPIT	1		GREENFINCH	1
	HEDGESPARROW	23		GOLDFINCH	1
	GREY WARBLER	9		HOUSE SPARROW	11
	NORTH ISLAND FANTAIL	10		** Subtotal **	225
	SONG THRUSH	29	PERMIT 0342	PASSERINE GRP OSNZ WANGANUI	
	BLACKBIRD	42		SHINING CUCKOO	1
	SILVEREYE	269		HOUSE SPARROW	45
	BELLBIRD	5		** Subtotal **	46
	YELLOWHAMMER	18	PERMIT 0346	DOC AUCKLAND ISLAND PROJECTS	
	CHAFFINCH	34		WANDERING ALBATROSS	399
	GREENFINCH	166		** Subtotal **	399
	GOLDFINCH	39	PERMIT 0349	NORTHLAND SEABIRD GROUP	
	REDPOLL	15		'PYCROFT'S PETREL	60
	HOUSE SPARROW	213		NORTH ISLAND LITTLE (ALLIED)	
	STARLING	11		SHEARWATER	11
	** Subtotal **	890		** Subtotal **	71
PERMIT 0325	OSNZ AUCKLAND SEABIRD GROUP		PERMIT 0357	CASTRO I	
	GREY-FACED PETREL	1172		STITCHBIRD	3
	PYCROFT'S PETREL	41		** Subtotal **	3
	FLESH-FOOTED SHEARWATER	5			
	SOOTY SHEARWATER	34	PERMIT 0358	D O C MOLLYMAWK PROJECT	
	FLUTTERING SHEARWATER	12		BULLER'S MOLLYMAWK	120
	NORTH ISLAND LITTLE (ALLIED)			** Subtotal **	120

		BIRDS BANDED			BIRDS BANDED
PERMIT 0361	LOVEI G		PERMIT 0381	AUSTRALIAN BANDING SCHEME	
	NORTH ISLAND FANTAIL	5		ROCKHOPPER PENGUIN	61
	BLACKBIRD	1		** Subtotal **	61
	SILVEREYE	6	PERMIT 1125	NORTHERN CONSERVANCIES DOC	
	CHAFFINCH	6		REEF HERON	12
	GREENFINCH	4		** Subtotal **	12
	** Subtotal **	22	PERMIT 4125	WANGANUI CONSERVANCY DOC	
PERMIT 0363	STAPLES G C			BLUE DUCK	35
	NORTH ISLAND WEKA	13		** Subtotal **	35
	** Subtotal **	13	PERMIT 5125	NELSON/MARLBOROUGH REG DOC	
PERMIT 0364	KOKAKO RECOVERY GROUP			FAIRY PRION	73
	NORTH ISLAND KOKAKO	12		NORTHERN DIVING PETREL	2
	** Subtotal **	12		WESTERN WEKA	105
PERMIT 0365	MILLS R, LANDCARE			** Subtotal **	180
	AUSTRALASIAN HARRIER	6	PERMIT 7125	CANTERBURY CONSERVANCY DOC	
	** Subtotal **	6		NORTHERN ROYAL ALBATROSS	219
PERMIT 0366	O S N Z HAWKES BAY			CHATHAM ISLAND MOLLYMAWK	877
	SOUTH ISLAND PIED OYSTERCATCHER	4		BROAD-BILLED PRION	3
	** Subtotal **	4		AUSTRALASIAN HARRIER	1
PERMIT 0367	SCHWEIGMAN P			SOUTH ISLAND PIED OYSTERCATCHER	26
	ROYAL SPOONBILL	8		BANDED DOTTEREL	95
	VARIABLE OYSTERCATCHER	11		WRYBILL	12
	** Subtotal **	19		BLACK-FRONTED TERN	10
PERMIT 0368	DOWDING J E			KEA	178
	VARIABLE OYSTERCATCHER	15		BLACK ROBIN	105
	** Subtotal **	15		** Subtotal **	1526
PERMIT 0369	COOK W A		PERMIT 8125	SOUTHERN CONSERVANCIES DOC	
	CASPIAN TERN	35		SOUTHERN BLUE PENGUIN	630
	** Subtotal **	35		** Subtotal **	630
PERMIT 0376	TAKAHE RECOVERY GROUP DOC		PERMIT 9125	SCIENCE & RESEARCH DOC	
	NOTORNIS	61		NORTH ISLAND BROWN KIWI	5
	** Subtotal **	61		LITTLE SPOTTED KIWI	46
				GREY-FACED PETREL	603
				NORTH ISLAND KAKA	17
				NORTH ISLAND KOKAKO	22
				** Subtotal **	693
			*** TOTAL ***		18785

## 4. Recoveries

A large number of recoveries was reported by the general public. The growing awareness of the importance to report sightings of individually colour banded birds has meant a remarkable increase in the numbers of these reports, and about half of the recoveries related to colour banded birds.

The handling of 'public' recoveries has precedence over those reported by the banders. Where possible, they are dealt with on the day of receipt. All finders are informed of the relevant banding details and receive some additional information on the New Zealand National Banding Scheme. Maximum required turnover time for public recoveries is ten days, but even during the hunting season staff managed to process recoveries within a week of receipt.

The Banding Scheme plays a major role as an interface between the Department of Conservation, the public and many national and international organisations and institutions. A quick and efficient response enhances the chance of members of the public sending in bands, as well as maintaining the standing of the Department. As mentioned in a previous report, the New Zealand National Banding Scheme continues to have one of the fastest response times for public recoveries in the world, as well as the highest recovery rate!

### Some notable recoveries

Fiordland Crested Penguin (*Eudyptes pachyrhynchus*) J-12130, banded as a breeding adult on 17/11/93 on Taumaka (Open Bay Islands), West Coast, was recovered beach-washed in Tasmania. The bird was found at Shelly Point, near Scamander (41° 20' S, 148° 16' E).

R-19485, a Wandering Albatross (*Diomedea exulans*) banded as an adult male on 10/3/69 on Antipodes Island was caught at sea (42° 30' S, 114° 24' W) on a Japanese tuna longline on 8/11/93, nearly 25 years after banding.

Northern Royal Albatross (*Diomedea epomophora sanfordi*) R-33985 was banded as an adult male on 30/1/74 on East Sisters Island, Chatham Islands. The bird was found ill on a beach near Melimoyu, South Chile (44° 05' S, 73° 08' W) during the winter of 1989.

O-26601, Chatham Island Mollymawk (*Diomedea cauta eremita*) was banded on 11/2/94 as a chick of unknown sex on Pyramid Rock, Chatham Islands. On 4/5/94 it was found ill on Tahaa Island, Iles sous le Vent, Society Islands, French Polynesia (16° 30' S, 151° 30' W). The bird died the same day.

Southern Giant Petrel (*Macronectes giganteus*) 0810-06454, banded near King George Island, Antarctica (62° 00' S, 58° 10' W) by the Americans on 25/2/94 as a chick, was found dead near Himatangi Beach on 9/7/94.

Two oystercatchers of over 20 years of age were recovered. K-3476, a South Island Pied Oystercatcher (*Haematopus ostralegus finschi*) was banded as a two year old female at the Heathcote-Avon Estuary, Christchurch on 24/7/70. The bird was found dead on 17/10/94 at the mouth of the Moke Lake Stream, Queenstown, over 26 years of age.

K-4760, a Variable Oystercatcher (*Haematopus unicolor*) was banded as a sub-adult male on 15/5/71 at the Waipu Estuary. It was recovered alive in the same area on 23/3/95 and rebanded K-5298 before release.

794-34919 (US band), Bar-tailed Godwit (*Limosa*, spp. not specified) was banded as a breeding female with young on 16/6/90 on the Seward Peninsula, Alaska (65° 27' N, 164° 42' W). The bird was sighted by its colour combination (red - yellow/metal) at Miranda, Firth of Thames on 31/12/94.

Two Silvereyes (*Zosterops lateralis*) of respectable age were recovered. A-74795 was first captured and banded as an adult on 13/6/85 in Lower Hutt. It has been recaptured many times since and was recovered again on 8/7/94 at the place of banding, at least 9½ years old. A-67050 was banded as an adult on 17/6/83, also in Lower Hutt, where it was again recovered on 28/6/94, over 11 years of age.

### **Leg flags**

The use of leg flags (rather than colour bands) in conjunction with standard metal bands on waders has increased markedly, internationally, and is providing interesting results. As mentioned in earlier reports different coloured flags are used in different areas along the East Asian-Australasian Flyway. The colour allocated to birds banded in New Zealand is white, although some South Island Pied Oystercatchers (*Haematopus ostralegus finschi*), not known to leave New Zealand, have also been marked with yellow flags.

Birds banded in Australia have either green (Queensland), orange (Victoria) or yellow flags (N.W. Australia). Australian flagged Knot (*Calidris c. canutus*) have so far been sighted in the Manukau Harbour, Firth of Thames, Manawatu Estuary, Farewell Spit and Lake Ellesmere; Godwits (*Limosa lapponica*) at Manukau Harbour and the Firth of Thames. One orange flagged Red-necked Stint (*Calidris ruficollis*) was sighted at Lake Ellesmere.

One white-flagged Knot was seen at Altona Beach, Victoria on 30/9/93.

The co-operation between the banding schemes along the flyways is very important and the above mentioned results show that the flagging schemes are successful and will provide us with increased knowledge and understanding of the migration of many of our birds.

## 5. Acknowledgements

I am indebted to Mrs G.D. Tofield for her valued contribution to the administration of the New Zealand National Banding Scheme, to M.J. Wakelin for technical and field support, and to C.J.R. Robertson for valuable advice during the year.

## 6. References

Kinsky, F.C. 1970. Annotated checklist of the birds of New Zealand. Ornithological Society of New Zealand and A H & A W Reed, Wellington.

Turbott, E.G. 1990. Checklist of the birds of New Zealand. Ornithological Society of New Zealand and Random Century, Auckland.

# Appendix 1

## RESEARCH SUPPORTED BY BIRD BANDING DURING 1993/94

(Numbers in brackets indicate permit numbers)

Lifetime reproduction and the role of inheritance in the breeding of Red-billed Gulls at Kaikoura. (0002)

General ecological study of Royal Albatross, population dynamics, life span and dispersal patterns. (0005, 7125)

Life expectancy, breeding success, dispersal and census of Australasian Gannet on White Island. (0032)

Breeding biology and movements of Westland Black Petrel. (0036)

Distribution, life expectancy and migration of native and introduced Passerines. (0076, 0104, 0215, 0243, 0257, 0259, 0292, 0294, 0297, 0307, 0324, 0340, 0342, 0361, 9125)

A long-term study of population dynamics, behaviour and dispersal of White-flipped Penguins. (0042)

Distribution patterns of Black-fronted Tern. (0044)

Ecology, dispersal and habitat requirements of White-fronted Terns and Black-billed Gulls. (0044)

Distribution, movements and longevity of Caspian Terns. (0053, 0369)

Population dynamics, longevity, age of first breeding, migration dispersal and movements of Procelariiformes. (0068, 0325, 0338, 0346, 0349, 0358, 7125)

Mate & nest site retention, annual mortality and breeding success of the South Island Pied Oystercatcher. (0093)

Ecology and movements of South Island Kaka. (0104)

Black-backed Gull dispersal and population dynamics. (0076, 0104, 0291, 0307)

Population dynamics of the seabirds of Campbell Island. (0108)

Establishment of populations of game farm bred Red-legged Partridge, Chukor and Pheasants in the wild. (0167, 0174, 0179)

Population dynamics and dispersal of Black Shag in the lower North Island. (0244)

Breeding biology and reproduction of the Chatham Island Pigeon. (0244)

Population dynamics and distribution of Fairy Terns in Northland. (0246)

Breeding success of the Black-backed Gull in Nelson. (0104)

Population dynamics of North Island Weka in the wild and those of aviary bred stock released into the wild. (0259, 0275, 0363)

Population dynamics of Little Blue Penguins. (0042, 0307)

Migration patterns in waders. (0278, 7125)

Productivity of Sooty Shearwaters. (0284)

Biology and distribution of New Zealand Raptors. (0243, 0285, 0339, 0365, 7125)

Population dynamics of Black-backed Gull in Northland. (0291)

Ecology and dispersal of Fiordland Crested Penguins from Open Bay Island. (0295)

Population dynamics of Southern Great Skua in the Chatham Islands. (0297)

Population biology and vocalisation of North Island Saddleback on Tiritiri Matangi Island. (0297)

Behaviour and population dynamics of Kea. (7125)

Population dynamics and ecology of the Yellow-eyed Penguin. (0301)

Productivity of seabirds in and around Wellington Harbour. (0307)

Dispersal of Black-fronted Dotterel outside the breeding season. (0317)

Genetic specification in Weka. (0308)

Breeding biology, predation, habitat requirements and movements of New Zealand Dotterel. (0323)

Population dynamics of Grey-faced Petrel (0325, 9125)

Movement patterns of the Pied Stilt. (0332)

Dispersal of Royal Spoonbills. (0337, 0367)

Population structure and dynamics of the Wandering Albatross on the Auckland Islands. (0346)

Population dynamics of Rockhopper penguins. (0381)

Breeding biology, productivity and predation of Kokako. (0065, 0364, 9125)

Long term monitoring of New Zealand Shore Plover and Chatham Island Oystercatcher in the Chatham Islands. (7125)

Dispersal of Blue Duck. (4125, 9125)

Population dynamics of the Southern Blue Penguin. (8125)

Chick production estimates of Grey-faced Petrel on Whale Island. (9125)

Productivity and predation of Yellow-crowned Parakeet, Yellowhead and South Island Robin. (9125)

Ecology, productivity and distribution of Kiwis. (9125)

Distribution and ecology of the North Island Kaka. ( 9125)

Release of captive reared Takahe into the wild. (9125)

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**Note:** Although some permit numbers in the above list do not appear in Table 3, these permits were active, but banding data arrived too late to be included in this report.