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SEABIRDS FOUND DEAD IN NEW ZEALAND IN 1960

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ABSTRACT

Beach patrols in New Zealand during 1960 covered a total distance of 638 miles and yielded 1,121 dead birds (44 species). Albatrosses, petrels and shearwaters constituted 80 per cent. of the total specimens, the most abundant species being *Pachyptila turtur* (307 specimens), *Puffinus gavia* (158) and *Puffinus griseus* (129). The finding of four Sooty Terns *(Sterna fuscata)* was unusual. Highest seabird mortalities were recorded during the period August to December, and rates of mortality were higher on the west coast of the North Island than elsewhere.

INTRODUCTION

This summary of records of birds found dead on New Zealand beaches during 1960 replaces the interim report already published (Bull, 1961). The totals given below include records from a few cards that were received too late for inclusion in the interim report. A re-examination of all the cards was also undertaken, and this revealed that the number of Sooty Terns *(Sterna fuscata)* found in New Zealand during 1960 was only four and not six as reported earlier.

The total number of beach patrol cards received was 235, and these record the finding of 1,121 birds (44 species) during patrols covering a total of 638 miles; 24 members took part in the work. The geographic and seasonal distribution of patrols and of the specimens reported are presented below.

GEOGRAPHIC AND SEASONAL DISTRIBUTION OF PATROLS

The length of beach examined in each district is shown in Table 1 where the patrols have been grouped in six two-month periods running from January-February (J-F) to November-December (N-D). Districts where patrols for the year totalled less than 20 miles have been grouped together as miscellaneous. These districts are: Gisborne (3 miles), Hawke's Bay (15), Wairarapa (11), Marlborough (11), and Banks Peninsula (2 miles). The Marlborough records include several birds from Brothers Island.

Most of the patrols took place on the Auckland or Wellington West Coasts (167 and 275 miles respectively). In the Wellington area at least eight miles of beach were examined every month; on the Auckland West Coast, on the other hand, the months of January, July and August together account for 77 per cent. of the total miles patrolled, and there are no patrols at all for the months of February, March, September, November and December. The relatively low

milage reported from other districts is due to a lack of regular patrols (Auckland East and Wellington South Coasts) or to the initiation of such patrols about the middle of the year (Taranaki and Otago).

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TABLE 1: Miles patrolled and birds found on different coasts

Coastline	*2-Month Periods January to December* J-F	M-A	M-J	J-A	S-O	N-D	*Total Miles*	*Total Birds*	*Birds per Mile*
Auckland East	10	8	4	1	7	4	34	38	1.1
Auckland West	35	17	6	94	15	–	167	478	2.9
Taranaki	–	–	14	5	12	4	35	9	0.3
Wgtn. West	25	18	50	66	42	74	275	483	1.8
Wgtn. South	3	2	20	9	3	5	42	61	1.5
Otago	–	–	10	6	12	15	43	19	0.4
Miscellaneous	–	7	8	3	7	17	42	33	0.8
Total Miles	73	52	112	184	98	119	638		
Total Birds	58	33	74	524	215	217		1121	
Birds per Mile	0.8	0.6	0.7	2.8	2.2	1.8			1.8

NUMBERS OF BIRDS FOUND

Data on geographic and seasonal variations in the number of birds recorded have been expressed in terms of birds per mile of beach examined (Table 1). All the specimens have been grouped together irrespective of species, but some indication of the main species represented in each two-month period is provided in Table 2. Before giving further consideration to Table 1, it may be useful to record monthly variations in mortality on the Wellington West Coast since this is the only area which provides data for every month of the year.

The monthly averages for birds per mile on the Wellington West Coast from January to December were: 1.1, 3.9, 0.4, 0.9, 1.3, 0.6, 0.7, 2.3, 2.4, 1.8, 1.7 and 3.4. Allowing for the fact that only eight or nine miles of beach were examined in some months, the above figures are fairly uniform, although there is a suggestion that rates of mortality tended to be lower from March to July (less than one bird per mile except in May) than during the rest of the year. The highest numbers of birds found per mile on individual patrols were 12 per mile in November (one mile covered), nine in October (one mile) and 7.5 in December (three miles).

Returning now to a consideration of the bottom line of Table 1, it is apparent that the pooled data from all districts also indicate that

seabird mortality was lower in the first half of the year than in later months. Monthly patrols on the Wellington West Coast suggested that the change to higher mortalities took place between July (0.7 birds per mile) and August (2.3). Analysis of the July-August records from the Auckland West Coast showed that mortality there rose from 0.6 birds per mile in July to 8.1 in August. The greatest number of birds found during an individual patrol on this coast was 12.8 birds per mile over a distance of 15 miles on 23rd August. It appears then that in 1960 seabird mortality was fairly low until August when it rose to a high level, particularly on the Auckland West Coast, and remained comparatively high for the rest of the year.

The right hand column of Table 1 suggests that birds were more numerous on beaches in the vicinity of Auckland and Wellington than on those in the other districts that were patrolled. The figures are influenced of course by the fact that the number of birds recorded depends on when the patrols were made as well as on where they were made, and the several districts vary with regard to the months in which most of the patrols were carried out. On a few occasions, patrols of nine miles or more were made during the same month on each of the Auckland and Wellington West Coasts, and these patrols provide the best data available to illustrate differences in the abundance of dead birds on beaches in the two areas. The numbers of birds found per mile in the two areas (Wellington figures in brackets) were: January 0.1 (1.1), April 0.7 (0.9), July 0.6 (0.7), August 8.1 (2.3), and October 5.3 (1.8). In January the Wellington figure is higher than the Auckland one, in April and July the figures are substantially the same in both areas, and in August and October they are very much higher at Auckland than at Wellington. Thus although both districts showed increased mortality after July, this increase was much more marked on Auckland west coast beaches than on Wellington ones.

KINDS OF BIRDS FOUND

Species of penguins, albatrosses, petrels and shearwaters found during 1960 are listed in Table 2 which also shows the frequency of occurrence in each two-month period. Birds found in the Auckland and Wellington areas are listed in the two right hand columns of the Table; the total number of specimens from other districts can be obtained by subtracting the sum of the Auckland and Wellington numbers (columns A and W) from the total specimens (first column of figures). Birds belonging to groups other than the above are grouped together in the table as "miscellaneous species" and are discussed further in a subsequent paragraph. Prions (Genus *Pachyptila*) constitute 52 per cent. of the records of penguins, albatrosses, petrels and shearwaters and these last groups together account for 86 per cent. of the total records. The three most abundant species were *Pachyptila turtur* (307 specimens), *Puffinus gavia* subspp. (158) and *P. griseus* (129).

The Auckland records in Table 2 include specimens from both East and West Coasts, but the former constitute only seven per cent. of the total. Except for the inclusion of *Puffinus carneipes* (3 specimens), *P. tenuirostris* (2) and *Eudyptula minor* (21) column A in the Table may be regarded as applying to the west coast. Likewise the Wellington records (column W) include specimens from both west

TABLE 2: List of Species Found

Species	Total Specimens	When Found (2-month periods) J-F	M-A	M-J	J-A	S-O	N-D	Where Found A	W
Eudyptula minor	61	2		4	20	18	17	32	28
E. albosignata	1				1			–	–
Eudyptes p. pachyrhynchus	1						1	–	1
Diomedea chrysostoma	4				3		1	3	1
D. bulleri	3			1	2			2	1
D. cauta	7		1	1		3	2	2	5
Diomedea sp.*	3		1		2			2	1
Phoebetria palpebrata	2				1	1		1	1
Macronectes giganteus	2					1	1	–	–
Daption capensis	11				7	3	1	8	2
Halobaena caerulea	2				1	1		1	1
Pachyptila vittata	16	4			8	3	1	6	9
P. salvini	34			1	32	1		29	5
P. desolata	18				16	2		13	5
P. belcheri	74				70	4		55	19
P. turtur	307	6		5	174	69	53	170	130
Pachyptila sp.*	52	5	1	3	14	15	14	9	42
Puffinus carneipes	4	2	1				1	3	–
P. bulleri	18	7	1	2	1	6	1	10	8
P. griseus	129	18	8	17	13	12	61	28	97
P. tenuirostris	8	2		4			2	2	6
P. g. gavia	145	1	7	2	87	43	5	98	41
P. g. huttoni	13						13	–	12
P. assimilis	2				1		1	1	1
Procellaria cinerea	1				1			1	–
P. westlandica	1				1			1	–
Pterodroma macroptera	2				1	1		1	1
P. lessoni	5		1			2	2	1	4
P. inexpectata	1		1					1	–
Pelecanoides urinatrix	38		1	6	15	10	6	8	28
Miscellaneous species†	156	11	10	28	53	20	34	28	95
TOTALS	1121	58	33	74	524	215	217	516	544

* Too fragmentary to allow specific identification.

† Other than petrels or penguins.

A—Auckland East & West Coasts.
W—Wellington West & South Coasts

and south coasts, but the latter constitute only 11 per cent. of the total. *Diomedea bulleri* was found on the south coast only, but the other species from this coast were recorded in larger numbers from the west coast. The distribution of species in districts other than Auckland and Wellington was as follows: *Eudyptula minor* Marlborough (1); *E. albosignata,* Banks Peninsula (1); *Macronectes giganteus,* Wairarapa (1), Dunedin (1); *Daption capensis,* Marlborough (1); *Pachyptila vittata,* Marlborough (1); *P. turtur,* Taranaki (1), Marlborough (4), Dunedin (2); *Puffinus carneipes,* Hawke's Bay (1); *P. griseus,* Taranaki (1), Marlborough (1), Otago (2); *P. g. gavia,* Taranaki (1), Marlborough (4), Dunedin (1); *P. g. huttoni,* Taranaki (1); and *Pelecanoides urinatrix,* Taranaki (1), Marlborough (1).

The "miscellaneous species" in Table 2 consist of the following (total numbers of specimens in brackets): *Sula bassana* (20), *Phalacrocorax* spp. (8), *Larus dominicanus* (97), *L. novaehollandiae* (14), *L. bulleri* (1), *Hydroprogne caspia* (1), *Sterna striata* (2), *S. fuscata* (4) and six other species not regarded as seabirds (9). The occurrence of four Sooty Terns *(Sterna fuscata)* is of particular interest since there were only seven previous records of this tropical species in New Zealand. The 1960 specimens all came ashore in August and were found at Muriwai, Bethells, Foxton and Waitarere (Levin).

DISCUSSION

With the exception of birds collected at Muriwai in August, seabird mortality was not particularly high in 1960 in comparison with some of the wrecks that have occurred in earlier years. The impressive total of 1,121 specimens recorded during 1960 reflects increased patrolling activity rather than heavy mortality. For instance, until 1960, the Ornithological Society held 266 beach patrol cards that recorded the length of beach examined (647 miles in all), but the past year has added a further 230 cards covering 638 miles of beach. Records of the Blue Petrel *(Halobaena caerulea)* also illustrate the magnitude of the increase in patrolling activity during recent years. Dell (1952) was able to find only 21 records of this species from New Zealand, but the total now stands at 60.

While this increase in the patrolling of beaches is providing a great deal of useful information, it is also involving a formidable amount of clerical work. It is important that this work be as productive as possible. It takes as long or longer to register an inadequately completed card as it does for a good one. The records of Black-backed Gulls *(Larus dominicanus)* will serve to illustrate the point. The distribution of this common species can be studied better by observing living birds than by collecting dead specimens, but the latter can give valuable information on seasonal variations in mortality provided the cards show clearly whether or not this species is included. Some observers record gulls while others appear to ignore them. In general *all* specimens, even fragmentary ones, should be included on the beach patrol cards, but if this is not done the fact should be noted because otherwise all the cards become suspect with regard to this particular species.

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NOTES ON THE BIRDS OF THE UPPER HOLLYFORD VALLEY, FIORDLAND

By J. W. WINTER

A party of about thirty-five science students of the University of Otago spent seven days, from May 14th to 21st, 1960, at Murray Gunn's Camp in the Hollyford Valley. The following are mainly the results of my personal observations during the trip, but also include relevant information obtained by other members of the party.

The valley in the region of the camp is up to a mile wide on its floor, and averages about 500 ft. above sea level. The vegetation of a mixed Beech and Podocarp type, in which Silver Beech *(Nothofagus menziesii)* is dominant, densely covers the valley and extends up to about 3,000 ft. The only clearings consist of extensive shingle banks and small tussock flats along the river.

Methods and Results

Five bird counts were made in the following way. All birds either seen or heard were recorded over a period of one hour, while walking at a moderate pace. The distance covered varied according to the terrain but would be in the region of one and a-half to three miles. In the case of birds not seen, only one individual was recorded, except for White-eyes which were recorded two to four at a time according to the amount of noise. In some cases this was obviously inadequate, as flocks of up to dozen birds were seen.

The main drawback of the method is that while Song Thrushes and Bellbirds can be heard form a considerable distance Riflemen and Tits can only be heard when fairly close. Thus a distorted picture of relative abundance is inevitable. However, the method is useful for obtaining a general picture of the bird population and for comparing it between different areas.