

## ANNUAL GENERAL MEETING, 1973

The 34th Annual General Meeting took place in Auckland on 12 May 1973 and was attended by about 100 members. Before proceeding with the main business of the meeting the President, Mr F. C. Kinsky, reminded members that two eminent ornithologists, David Lack and Robert Cushman Murphy (an Honorary Life Member of the Society) had died during the year, and asked the meeting to observe a moment's silence in respect.

Apologies for absence included Sir Robert Ralla who was attending his Knighthood investiture that week-end. The meeting unanimously asked the President to send a telegram of congratulation. Arising from the minutes of the last AGM the Secretary reported that a motion asking Council to reconsider the question of joining CoEnCo had been discussed in the November meeting, but had been rejected.

In delivering his annual report, the President said that only two new species had been added to the list of birds recorded in New Zealand during the year — a Manx Shearwater from Wellington West Coast and a White-tailed Tropic Bird recently from the Bay of Plenty. Mr Kinsky stressed the importance of careful examination of any wrecked sea bird as even seemingly common birds sometimes turned out to be extremely interesting. The Society had made a financial loss of \$584 but this was accounted for by the publication of the fifth part of Volume 19 of *Notornis* which contained the Classified Summarised Notes. This would not be a recurring event and there was seen to be no need to increase subscriptions at this stage. The reports of all schemes and sub-committees were summarised, and in the complete absence of any questions or discussion on any of the reports it is taken that the general membership is satisfied with the way in which the elected officers are carrying out the affairs of the Society. The announcement was made that two of our most well-known Regional Representatives, Mr H. R. McKenzie (South Auckland) and Mr A. T. Edgar (Far North) were retiring; they are to be replaced by Mrs Beth Brown and Mr David Crockett respectively. Mr M. J. Imber was retiring as organiser of the Beach Patrol Scheme and Council had appointed Mr C. R. Veitch as his successor. In concluding his report, the President thanked the conveners and organisers for their work during the year.

Five appointments were made to Council in the meeting, four of them new ones. The President explained that Dr J. A. Fowler had taken over the secretaryship from Mr Brian Ellis during the year and his co-option was to be confirmed during this meeting. A vote of thanks to the out-going Secretary was passed with acclamation. Four Council Members, Mr F. H. Boyce, Mr R. W. Jackson, Mrs J. Hamel and Mrs S. M. Reed, were elected as the result of the postal ballot.

One amendment to the constitution, proposed by Mr H. R. McKenzie, was passed by the meeting. Student members (who elect to receive 25% rebate of the full subscription) are now able to cast votes; they are not, however, eligible for election to positions on Council.

A vote of thanks was proposed by the Secretary to our hostess for the weekend, Mrs S. M. Reed, and the meeting closed at about 11.00 p.m.

The annual conference of Regional Representatives took place on the morning of Saturday May 12. Matters discussed included guidance for regional bird study projects, and the activities taking place during Labour Day Weekend 1973. In the North Island, members will converge on the Taranaki-King Country district to attempt to complete the Bird Mapping Scheme project there. South Island members will visit the Black Stilt area in Otago to assist the Wildlife Branch in its studies and to do Mapping Scheme work. Further details will be supplied in due course through Regional Representatives. Please contact your own Representative if you hope to participate in Labour Day Weekend activities.

During the afternoon members enjoyed illustrated talks delivered by Mr B. D. Bell on the Auckland Islands Expedition, and Dr P. C. Bull on recent research on Starlings. Finally a film depicting the lives of the Tui, Bellbird and Stitchbird was screened, following the reading of introductory notes supplied by Sir Robert Falla.

Many members took advantage of the bright Sunday morning sunshine to visit Mangere sewerage works ("Purification Plant") and the airport to see the effects of encroachment into natural habitats. A number of interesting birds were seen and Dr Bull acquired at least three more lists for the Mapping Scheme!

J. A. FOWLER, Secretary



## CARD COMMITTEE REPORT

The 1972 Christmas card depicted the Banded Dotterel by John Gould in *The Birds of Australia*. The card was very popular but the increase in sales probably reflects the increase in membership of the Royal Forest and Bird Protection Society.

24,000 cards were printed and a total of 1,887 dozen (22,644) cards were sold. Sales were made up as follows: dotterel — 1,240 dozen, mixed — 647 dozen.

Production and packaging costs rose considerably but the net profit was \$600. This is after deductions have been made of donations to the Royal Forest and Bird Protection Society and the Alexander Turnbull Library Endowment Trust. It may be necessary to increase prices next year but this will be avoided if possible. The illustration for this year has yet to be decided.

On behalf of the Society, I would like to thank the Turnbull Library for permission to use the painting, the Royal Forest and Bird Protection Society for circulating brochures and my wife who looked after the packaging and despatch of cards during my absence overseas and on field duties.

B. D. BELL, Convener

## THE BEACH PATROL SCHEME IN 1972

In 1972 the high level of beach patrolling that had been recorded in 1971 was continued. However, patrollers were rewarded with fewer birds, mainly because of the absence of big wrecks of any of the commoner species. Teams led by Mrs S. M. Reed in Auckland, D. E. Crockett in Whangarei and D. G. Medway in New Plymouth did most of the work, and there were good efforts by individuals in Southland, Otago, Canterbury South and North, Wellington South and West, and Bay of Plenty.

The following are interim totals for those 13 (of the 15) zones for which cards have been received:—

<i>Zone</i>	<i>Sea Birds</i>
Auckland West .....	1619
Taranaki .....	58
Wellington West .....	681
Westland .....	10
Auckland East .....	269
Bay of Plenty .....	57
East Coast North Island .....	4
Canterbury North .....	125
Canterbury South .....	30
Otago .....	143
Southland .....	134
Wellington South .....	172
North Coast South Island .....	6
Total .....	<hr/> 3308 <hr/>

Unusual finds included one Antarctic Skua. From April to July 38 Yellow-eyed Penguins were found on Wellington West and South beaches together with an exceptional number of Spotted Shags.

M. J. IMBER, Organiser

Due to other commitments, Mr Imber has had to resign from his position as Organiser. His place will be taken by Mr C. R. Veitch, Wildlife Branch, Department of Internal Affairs, P.O. Box 2220, Auckland. Mr Veitch requests that all correspondence be clearly marked "Beach Patrol" so that it may be attended to if he is away from his office.



## BANDING REPORT

The Banding Committee met in May. It decided that, following the publication in *Notornis* 20 of the interim banding report, its policy for the future would be to publish annually a similar, though somewhat improved, version of that report. A full report was considered not to be necessary, but details not furnished in the report could be obtained through the Banding Officer, Wildlife Branch, on permission from the appropriate banding operator.

## RECORDING SCHEME

During the year six requests for files or information from files have been received and dealt with. Classified notes 1963-70 and 1971-72 have been published in *Notornis* 19. Regional newsletters from Wellington, Manawatu and Gisborne have been received; much useful information has come from regular correspondents and some other members. Copies of newsletters from other regions and records from individual members should reach the convener, Mr A. T. Edgar, by 31 July if they are to be included in the 1972-73 Classified Notes.

A. T. EDGAR



## REPORT OF THE NEST RECORD SCHEME For the Year Ended 30 April, 1973

503 cards representing 11 species were loaned this year to eight investigators, mainly for use in university studies. There are now 10,153 nest record cards available, almost half of which are represented by the four species Song Thrush, Blackbird, Goldfinch and House Sparrow. The remainder of the cards are distributed between an additional 132 species. Two new species appeared in the scheme this year for the first time, namely, Chatham Island Snipe and Long-tailed Cuckoo. The year was also noteworthy for the recording of colonial nesters. Messrs Stidolph, Campbell, Robertson (a junior member) and Munro deserve acknowledgement for their contributions this year.

D. E. CROCKETT, Nest Records Convener



## LIBRARY REPORT, 1972

During the year the library has benefited by two books which were presented by their authors, R. M. Lockley and Ross McKenzie, in addition to the usual journals and separates.

H. McKENZIE, Hon. Librarian

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## TREASURER'S REPORT

### For Year Ended 31 December, 1972

PRESENTED AT THE A.G.M. OF THE  
ORNITHOLOGICAL SOCIETY OF N.Z. (INC.)  
AUCKLAND — 12 MAY 1973

At the end of December membership was 1072, an increase of 44 for the year. Details are: 2 honorary life, 75 life, 22 endowment, 710 ordinary, 59 student, 86 corporate bodies, 59 husband and wife, counting as two, giving the total of 1072. New members admitted were 121, 38 left by resignation or death, and 39 were struck off for non payment of subscriptions.

The income for the year was \$5970, which is \$996 less than last year. Members' subscriptions increased by \$236. Due to increased printing costs, profit from the sale of Christmas cards dropped by \$115 to \$615. The thanks of the Society again goes to those responsible for this very valuable source of additional income. Sales of back numbers amounted to \$207, which is \$355 less than last year. Interest received increased by \$121 due to some of the Society's funds being in investments returning higher rates of interest. Royalties on *Checklist* sales \$32, \$376 less, together with the fact that the Society did not have any Booksellers Margin on direct *Checklist* sales \$459, accounts for most of the reduction in total income for the year.

Expenses amounted to \$6554 as against \$6270. Included in the figure of *Notornis* Printing and Distribution is \$772, the cost of the Supplement issued in September, so that the cost of the four regular issues was \$4857, which is \$736 more than in 1971. Other expenses, the cost of running the Society, totalled \$957.

Lower total income and an increase in expenses has resulted in a deficiency of \$584, as against a surplus of \$696 last year.

During the year royalties on the revised edition of the *Field Guide* \$486 were received and as was done last year were credited directly to the Projects Assistance Reserve Fund. Since balance date a further \$602 has been received. This means that the Society will now have received royalties on sales of 3880 copies.

\$200 which was on term deposit with the Bank of New Zealand together with \$1000 from a maturing Southland Harbour Board loan was reinvested with the Perpetual Trustees Co. Ltd. This is an authorised trustee investment returning 8% interest, the loan being secured by mortgage on a property situated in Victoria St, West Auckland.

The Society has \$5388 invested in shares in public companies and at 31 December the market value was \$7537. In November 68 \$1 shares in N.Z. Forest Products were taken up in their 1 for 8 issue. Local body stocks with a maturing value of \$4000, costing \$3888, are held.

H. W. M. HOGG, Hon. Treasurer

## THE ORNITHOLOGICAL SOCIETY OF N.Z. (INC.)

STATEMENT OF ACCOUNTS FOR THE YEAR  
ENDED 31 DECEMBER 1972

1971		1972	
\$	<u>INCOME WAS EARNED FROM:</u>	\$	
3657	Subscriptions	3893	
152	Transfer from Life Members	167	(Note I)
33	Donations	41	
730	Profit from Christmas Cards	615	
562	Sale of Back Numbers	207	
9	Surplus Field Study Course	-	
21	Surplus Annual General Meeting	-	
113	Biology of Birds	137	
5	Hire Kermadec Film	-	
5282	<u>TOTAL ORDINARY INCOME:</u>		5060
	<u>PLUS INVESTMENT AND OTHER INCOME:</u>		
441	Interest	562	
292	Dividends	269	
34	Premium on Maturity of Local Body Stock	47	
408	Royalties	32	(Note II)
459	Booksellers Margin on direct Checklist sales	-	
50	Legacy Estate Late V.I. Clark	-	
1684	<u>TOTAL INVESTMENT &amp; OTHER INCOME:</u>		910
6966	<u>TOTAL INCOME:</u>		5970
	<u>LESS EXPENSES:</u>		
4121	Notornis Printing & Distribution	5629	
12	Less Advertising	32	
4109		5597	
-	Annual General Meeting	18	
100	Audit Fee	100	
36	Beach Patrol Scheme	-	
3	Distribution Scheme	10	
60	Donations	-	
126	General Expenses	152	
118	Kermadec Reprints	40	
50	Library Expenses	50	
16	Nest Record Scheme	38	
153	Postages	72	
270	Printing & Stationery	175	
-	Recording Scheme	10	
20	Royal Society Affiliation	20	
235	Travelling Expenses	272	
974	Notornis Reprinting	-	
6270	<u>TOTAL EXPENSES:</u>		6554
	Nett Deficiency Transferred		\$ 584
696	Surplus for year transferred to Accumulated Fund		

## THE ORNITHOLOGICAL SOCIETY OF N.Z. (INC.)

## BALANCE SHEET AS AT 31 DECEMBER 1972

1971		1972	
\$	<u>CURRENT ASSETS:</u>	\$	
1488	Cash at Bank of NZ	687	
190	Bank of NZ Savings Account	497	
5000	Term Deposits Bank of NZ	3000	
100	Stocks of <i>Notornis</i>	100	(Note III)
100	Stocks of <i>Biology of Birds</i>	100	(Note III)
6878	<u>TOTAL CURRENT ASSETS:</u>	4384	
	<u>INVESTMENTS AT COST:</u>		
5245	Shares in Public Companies	5388	(Note IV)
4841	Local Body Stocks	3888	
-	The Perpetual Trustees Co Ltd Group Trustee Investment	3000	
10086	<u>TOTAL INVESTMENTS:</u>	12276	
1000	Library at Valuation	1000	
17964	<u>TOTAL ASSETS:</u>	17660	
	<u>LESS LIABILITIES:</u>		
1726	Amounts owed by Society	1190	
234	Subscriptions in Advance	425	
	<u>RESERVE FUNDS:</u>		
1096	Projects Assistance Reserve Fund	1582	(Note V)
1371	Life Subscriptions	1510	
1000	Publications	1000	
5427	<u>TOTAL LIABILITIES:</u>	5707	
12537	Value of Accumulated Funds as below	\$ 11953	
	<u>ACCUMULATED FUNDS:</u>		
11879	Balance at 31/12/71	12537	
-	Deficiency for year	584	
696	Surplus for year	-	
12575		11953	
38	Transfer to Projects Assistance Reserve Fund	-	
12537		\$ 11953	

We report, that in our opinion, the foregoing accounts and notes attached of THE ORNITHOLOGICAL SOCIETY OF N.Z. (INC.) for the year ended 31st December 1972 are in agreement with the books and reports of the Society and give a true and fair view of the Society's position at that date and the results of its transactions for the year. The Society has kept proper books and supplied all the information required.

THOMPSON & LANG, Chartered Accountants

Auditors  
DUNEDIN, 6 February 1973

THE ORNITHOLOGICAL SOCIETY OF N.Z. (INC.)SHARES IN PUBLIC COMPANIES  
AS AT 31 DECEMBER 1972

<u>COMPANY</u>	<u>SHARES HELD</u>	<u>PAR VALUE</u>	<u>COST OF PURCHASES</u>	<u>APPROXIMATE MARKET VALUE AT 31/12/72</u>
Andrews & Beaven Ltd	650	\$1	\$ 986.79	\$ 715.00
Farmers Trading	500	50c	1018.50	965.00
NZ Forest Products Ltd	616	\$1	1370.25	2303.20
General Foods Ltd Convertible Notes	168		84.00	137.76
Alex Harvey Ltd	210	\$1	486.41	913.50
Golden Bay Cement	500	50c	372.31	740.00
Wattie Industries Ltd	656	50c	697.23	852.80
Winstone Ltd	500	50c	372.31	910.00
			<u>\$5387.80</u>	<u>\$7537.26</u>

NOTE I Life Members Transfer : 10% of Balance at 31/12/72.

NOTE II Royalties from Sales of Checklist.

NOTE III Stocks of *Notornis* and *Biology of Birds* and Valuation of Library are at Standard Values. No attempt has been made to accurately value these assets.

NOTE IV Shares in Public Companies cost \$5388 and had an approximate market value of \$7537 at 31/12/72 as per list above.

NOTE V Movement in this Reserve Fund during the year is as follows:

Balance as at 1/1/72      \$1096.09  
 Plus Royalty on Revised Field Guide    \$486.38  
 which leaves a balance at the end of the year  
 31/12/72 of \$1582.47.

INVESTMENTS IN LOCAL BODY STOCKS  
AS AT 31 DECEMBER 1972

Auckland Hospital Board	\$965	due	17/6/73
Waitemata County Council	1533	due	17/2/74
Southland Hospital Board	990	due	1/11/74
Auckland Electric Power Board	400	due	15/10/75

## DONATIONS 1972

The following donations of \$1.00 or more were received during the year ended 31/12/72 (22 members contributed an extra dollar through their Endowment subscription) :

R.E. Satherly \$5; J.A. Fagan \$1; Dr A. Thorson \$1; W.H. Ross-Lowe \$1; G. Watola \$1; N.H. Young \$1; E. St Paul \$2; Mrs L. Collingwood \$1; J.W. St Paul \$1; Dr G. Huxley \$2; R.C. Muller \$6; Miss E.R. Lethbridge \$1; P. Warren \$1; Dr D. Cook \$6; R.N. Holdaway \$1; M.J. Criglington \$5; L.J. Paul \$1; R. Galliène \$1; M. Keillor \$2.

The Society is grateful for these sources of income.



## BIRD DISTRIBUTION MAPPING SCHEME

### Annual Report for 1972

Last year's report (*Notornis* 19: 267-270) summarised progress for the eight months ending 31 December 1971 and the present one, the fourth in the series, is the first to cover a full calendar year. The report is in three parts: the first summarises progress towards the goal of at least one good bird list from every ten thousand yard square in New Zealand; the second discusses some of the scheme's potentialities and limitations as exemplified by data on the distribution of magpies (*Gymnorhina tibicen*); and the third presents some views concerning the scheme's future.

#### *Progress*

By 31 December 1972, 6433 lists of species had been received since the scheme began late in 1969, and 2040 of these were completed during 1972. The year's cards were submitted by 134 observers, but the total number of participants was greater because some cards were the work of more than one person. The squares marked in Figs 1 and 2, whether black (magpies listed) or white with central black dot (magpies not listed), are the ones from which one or more lists had been received up to 31 December 1972; the remaining areas (in white) are those from which no lists had been received. By the end of 1972, lists were available from 70% of the 1600 North Island squares (61% in December 1971) and from 59% of the 2000 South Island ones (33% in December 1971). Figs 1 and 2 do not indicate how thoroughly each square was surveyed, and it is important to note that, in a few squares, the only list available was compiled in but one of the several habitats present in the square. Bird lists are now available from 153 (80%) of 190 squares in south-west Nelson and northern Westland, but in only 68 (36%) of these squares do the lists include more than 20 non-marine species, with forest, swamp and farmland (if present in the square) each contributing at least five characteristic species to this total. Thus, many more lists are needed even from this relatively well-surveyed area.

#### *Distribution of Magpies*

Magpies are widely distributed in the North Island (Fig. 1). They are recorded from almost every square in the southern quarter of the Island and are also widespread in Taranaki, Hawke's Bay, Poverty Bay-East Cape, western Waikato, and from Auckland north to the Bay of Islands; they are relatively uncommon in many central districts (especially Taupo and the Bay of Plenty) and in the Far North. Their distribution in the South Island is more restricted (Fig. 2); they have been reported from nearly all of Canterbury

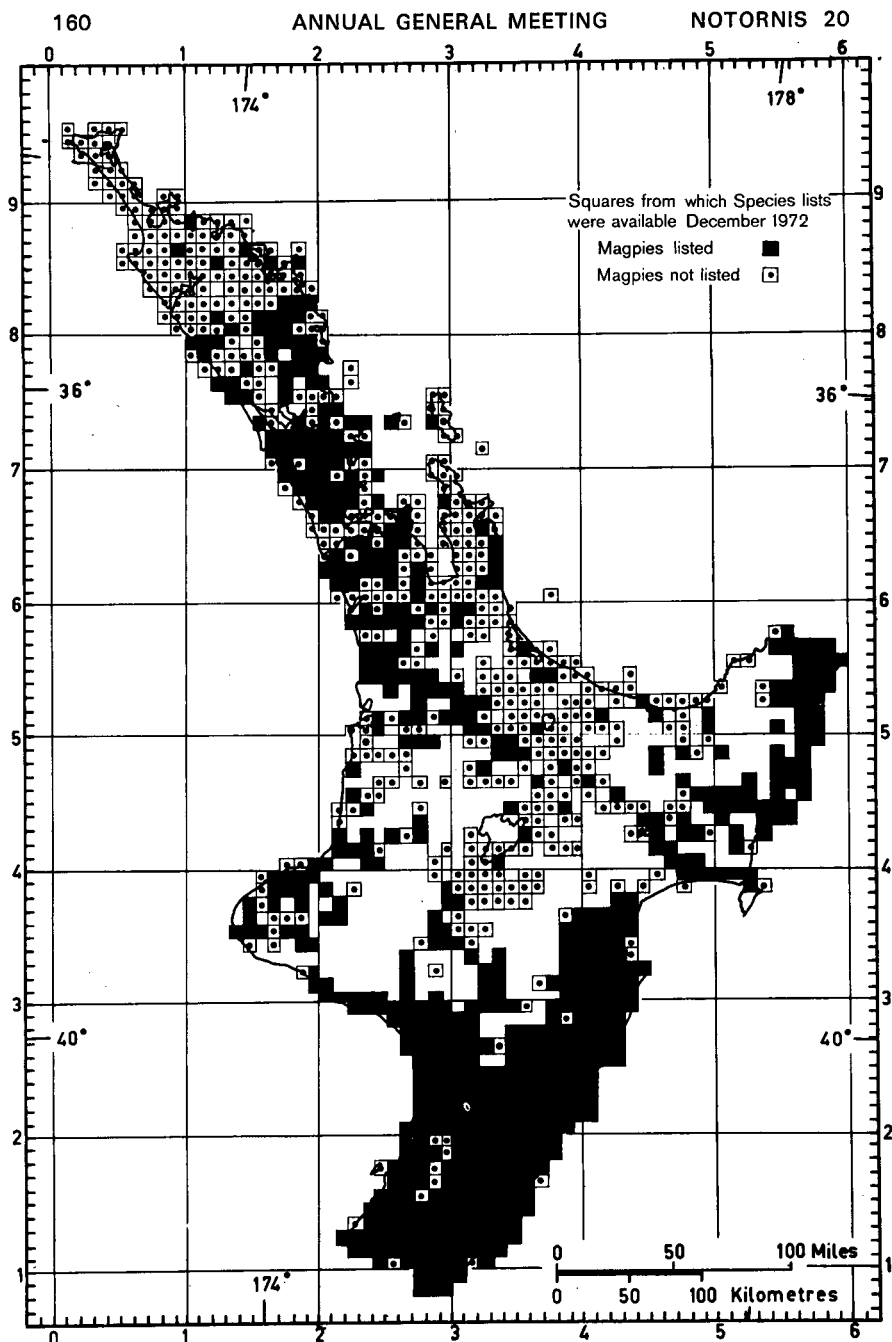


FIGURE 1 — Distribution of Magpies in the North Island. Squares from which species lists are available are either shaded black (Magpies recorded) or have a central black dot (Magpies not listed); the remaining areas (white) are those from which species lists are not yet available.

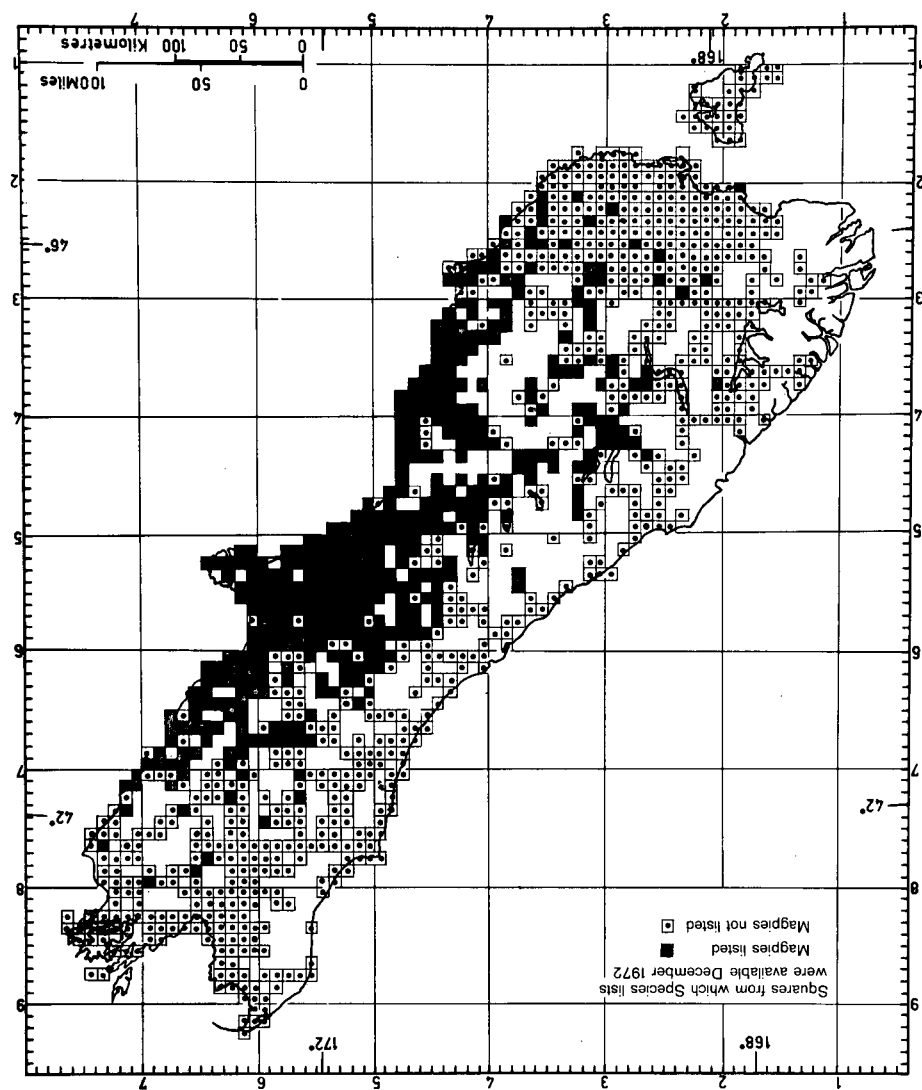


FIGURE 2 — Distribution of Magpies in the South Island. Presence, seeming absence and 'no data' are indicated as in Fig. 1.

(except some mountain lands), but are much less common in Otago, and absent from much of Marlborough, Nelson, Westland and Southland.

The pattern of distribution shown in Figs 1 and 2 is substantially the same as that reported by McCaskill in 1945 (*N.Z. Bird Notes* 1: 86-104), except that there is no longer an extensive area of magpie-free country separating the magpies of Northland from those of Taranaki and Poverty Bay; the birds seem also to have extended their range a little in Northland and, more markedly, in Otago. The extent of this spread between 1945 and 1972 could be somewhat exaggerated if some of the magpies reported by the present mapping scheme were from localities not covered by McCaskill's informants (mainly student teachers).

A disadvantage of the mapping technique used in Figs 1 and 2 is that a square in which a single magpie was seen once is marked in the same way (in black) as a square in which magpies were recorded often and in large numbers. Repeated visits to a square increase the probability of recording rare species, so a substantial though quite spurious increase in magpies could be recorded merely by compiling more lists or by spending a longer time in areas where the birds are scarce or local (e.g. Otago in Fig. 2).

Fig. 3 attempts to overcome this problem by mapping frequency of occurrence (number of lists with magpies, expressed as a percentage of all farmland lists for the area) rather than mere presence or seeming absence. The analyses were confined to lists from farmland which is the usual habitat of magpies in New Zealand and, to obtain sufficient lists for meaningful percentages, the survey units had to be squares with sides of 100,000 yards instead of the usual 10,000 yards. The general pattern of distribution shown in Fig. 3 is broadly similar to that indicated by Figs 1 and 2, but the figures for frequency of occurrence (Table 1) provide a more useful basis for detecting future changes in the distribution of magpies. At present the main problem in mapping distribution in terms of frequency of occurrence is the lack of sufficient bird lists. The 100,000 yard squares are so big that they produce an over-generalised and highly unnatural pattern of distribution. The picture would be greatly improved by using smaller squares (perhaps with sides of 50,000 yards) and, hopefully, field observers will soon provide sufficient lists to permit this.

### *The Future*

The districts now most in need of further surveys are central parts of the North Island (especially Taranaki and, in the east, the main axial ranges from the northern Ruahines to the Raukumaras), and some western and southern parts of the South Island (but Southland is relatively well covered). Some of these areas have very limited road access and few resident observers, so complete coverage

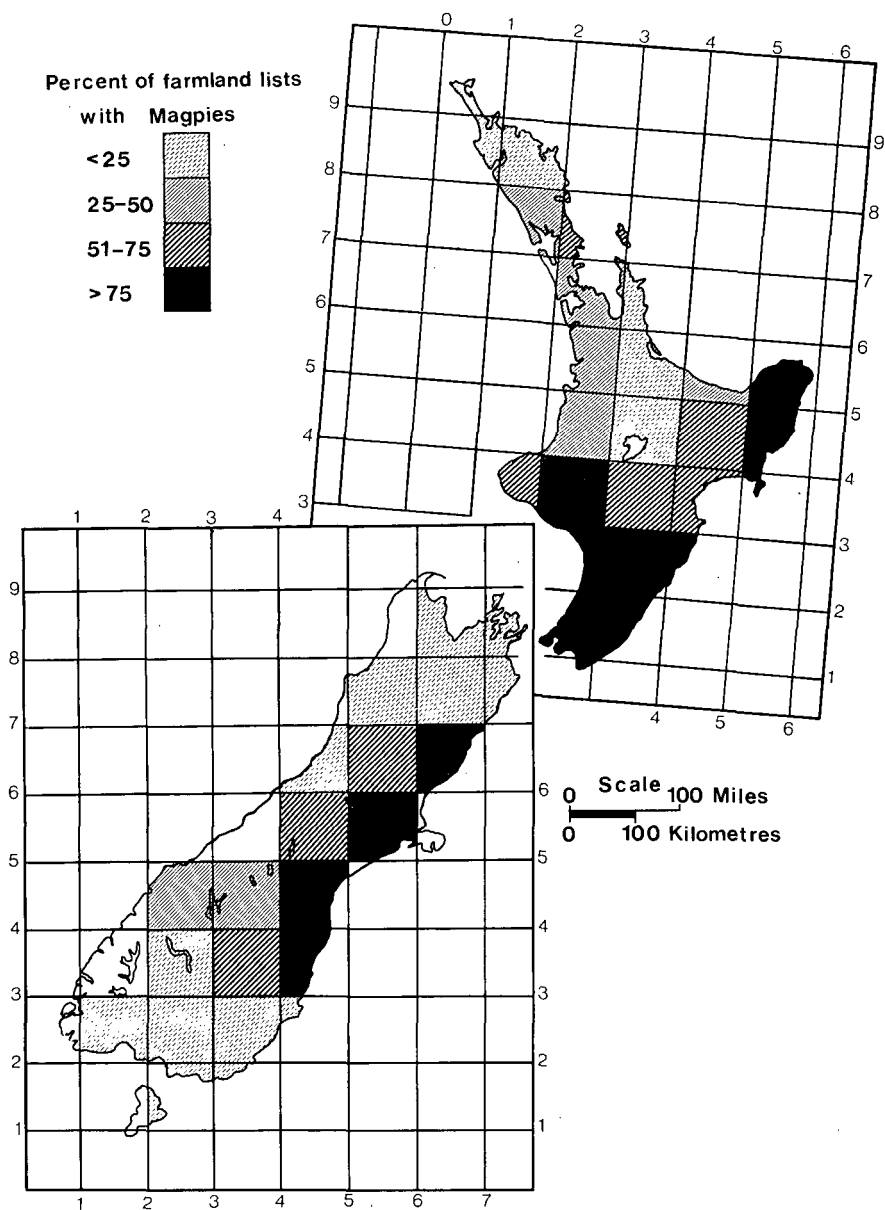


FIGURE 3 — Frequency of occurrence of Magpies (see Table 1 for sample sizes and percentages). Squares with less than ten lists from farmland are left unshaded.

can be expected only if ornithologists are prepared to make field trips of at least two or three days' duration. The value of such expeditions was clearly demonstrated last January when three parties (led by Frank Boyce, Dick Jackson and Roger Sutton) entered Westland by three different routes; these trips yielded many bird lists from new squares but, because they refer to 1973, the results are not shown in Fig. 2.

Those unable to participate in expeditions to other districts can, nevertheless, still make important contributions by compiling additional lists from squares already "covered." Return visits to the same square usually produce a few species missed in the first visit, and the number of additional species may be quite large if different habitats are surveyed; in any event, more lists, even of common species, will provide useful information on frequency of occurrence (Fig. 3). On the other hand, the number of "new" species will decline as more and more visits are made to the one square, and obviously there comes a time when it is more profitable to go to another square than to continue seeking additional species in a square already well surveyed. In compiling lists to show frequency of occurrence of different species, it is usually more useful to have a few lists from each of several squares than many lists from a single square.

TABLE 1 Occurrence of Magpies in lists compiled in farmland, 1969-72

NORTH ISLAND			SOUTH ISLAND		
100,000 yd Square Ref. No.	No. Cards from Farmland.	% Cards with Magpies*	100,000 yd Square Ref. No.	No. Cards from Farmland.	% Cards with Magpies*
21	274	78	21	27	0
31	116	85	31	36	0
22	106	83	12	30	3
32	187	88	22	171	4
42	76	92	32	131	21
13	40	62	42	23	22
23	57	77	13	9	#
33	70	61	23	36	16
43	187	74	33	54	59
24	49	37	43	64	84
34	78	10	24	24	46
44	35	63	34	32	44
54	55	76	44	64	91
25	124	37	35	7	#
35	110	16	45	34	68
45	24	25	55	153	90
55	72	92	65	34	74
26	159	27	46	23	0
36	67	10	56	22	41
17	81	49	66	120	76
27	44	55	57	112	5
08	40	2	67	89	8
18	122	20	77	35	17
09	17	0	58	3	#
			68	48	0
			78	31	0

\* Frequency of occurrence

# No Magpies recorded, but less than ten cards received

Negotiations with government agencies for help in providing electronic data processing facilities, mentioned in last year's report, are now reaching a satisfactory conclusion; hopefully, the work of transferring data from record cards to computer tape will begin within the next few months. Once these computing facilities are fully operational, a wide range of data from the mapping scheme should become readily available.

In 1970, Council agreed to sponsor the Bird Mapping Scheme for three years as one of the Society's official activities, but now considers the work must continue on this basis for at least another one or two years. The Scheme's future will then be reconsidered; it might continue at a reduced tempo (but with special attention to squares with important habitats, such as native forest, not yet sampled for birds) for some five to ten years until another intensive survey, probably involving metric squares, was needed to reveal changes in distribution during the intervening years.

In conclusion, the authors wish to acknowledge the help of the numerous people who have made this scheme such a successful team effort. Many field naturalists have devoted their skill, time and money to compiling the bird lists, and Regional Representatives have also undertaken the onerous work of dispatching and checking cards and of arranging field trips. We are grateful to the Cartographic Section of DSIR for redrafting Figs 1 and 2, to Dr J. A. Gibb (Director, Ecology Division, DSIR) for permission to use official time and facilities for servicing the scheme, and to Dr J. E. C. Flux for helpfully commenting upon the typescript. Mr C. J. R. Robertson of the Wildlife Service (Department of Internal Affairs) has successfully persevered with his efforts to expedite the provision of computing services.

*Dr P. C. Bull,*

*Mr P. D. Gaze,*

*Ecology Division, DSIR,*

*P.O. Box 30-466,*

*Lower Hutt*