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ANALYSIS AND REVIEW OF NATIONAL KEA AND KAKA DATABASES

by

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ABSTRACT

Between August 1989 and March 1991, 278 kaka (*Nestor meridionalis*) and 173 kea (*N. notabilis*) sightings were received from various sources. The information from these sightings is analysed and discussed. There were 179 sightings of North Island kaka, which appear in moderate numbers in the central North Island (50% of the sightings came from Pureora, Tongariro, Kaweka and Kaimanawa areas) and to a lesser degree in the Urewera and northern North Island. The 99 sightings of South Island kaka were spread thinly throughout the lower altitudinal valleys of the South Island. There were 173 sightings of kea which have a widespread distribution throughout the South Island and appear to be in moderate numbers.

1. INTRODUCTION

Information on the abundance and distribution of some New Zealand's birds is vague. Without any indication of abundance and distribution it is difficult to assess whether a species is stable, expanding or in decline. With this in mind schemes have been set up by the Science and Research Division, of Department of conservation, to look at status and distribution of blue duck, falcon, scaup, kea and kaka. Their purpose was to store information on sightings, analyse any trends in the data collected, and integrate national sightings already being received by the conservancies.

Historically both kea and kaka were described as being widespread and common. It is thought that kea numbers were increasing between the first sightings in the 1850s and the 1900s (Marriner 1908, Oliver 1955). Around 1870 kea had not been recorded as being seen north of the Hurunui River (Oliver 1955), where they are often seen today. This early shift in distribution is possibly due more to an increase in human activity in remote areas than to kea movements. Their distribution has probably changed little, if anything becoming more fragmented; throughout their range they are reported as being less numerous than a hundred years ago (Wilson 1990).

Kaka were also recorded in early accounts as being in great numbers throughout New Zealand; they are nowhere near as abundant today, being restricted to the remaining large areas of native forest (Oliver 1955, Falla *et al*. 1966).

This report draws together information from sightings received over the last year and a half, including data on location, altitude, numbers seen, and date and time; it discusses the relevance of any trends seen in the data. The report also looks at the method and the value of the schemes.

2. METHODS

Experts in the fields of kea and kaka research were consulted about information needed for the database - sighting information required and how to set up and operate the database. A distribution list of relevant agencies, clubs and societies was compiled and an initial request for information was issued (August 1989 - see Appendix 1 for sample letter). The aim of the request list was to receive clear, concise information in a variety of categories: location (map reference), altitude, date, time and number of birds.

The information given in the letters was checked for accuracy and completeness. Both imperial and metric grid references were checked or converted. All letters received a letter of thanks and if extra information was required a reply paid envelope was enclosed.

A database was set up in dBASE III+ in the same format as the blue duck database, and within guidelines set by the database workshop (Adcock and McEwen 1990). Sightings were entered onto the computer and issued a code number which was also recorded on the original letter and filed.

The database was analysed and distribution maps for kea, North Island kaka and South Island kaka were produced. Comparisons were made between altitude and date, number of birds and date and between this scheme and previous kea and kaka.

3. RESULTS AND DISCUSSION

3.1 Response

Between 8 August 1989 and 7 March 1991, I received 278 kaka sightings from 78 letters, and 173 kea sightings from 45 letters.

Department of Conservation staff supplied 60% and 25% of the total sightings for kea and kaka respectively. Public response via Federated Mountain Clubs, Forest and Bird, Ornithological Society, and Deerstalkers Association made up 31% of kaka, and 68% of

kea sightings. The remainder came from FRI, acclimatisation societies, and universities (9% for kaka and 7% for kea). As to be expected from a survey that relies to a large extent on outdoor recreationalists, most response came during the summer period and after public holidays, particularly in late January early February. People in the more popular areas for recreation tended to turn in more letters, but replies were also received from many less accessible areas.

3.2 Limitations of Data

The data presented here represent 1 ½ years information on the species. It is not possible to accurately predict any trends in species distribution and status from these data alone, as there is no base line for comparison. Although some similarities are evident between this and previous schemes, it would be difficult to compare them because of differences in the approach, duration and format of the schemes.

Doubts about the success or need for such schemes for kea and kaka arose because of their variability in conspicuousness, and distance of movements. Other limitations were the bias in sightings towards more popular recreational areas, bias towards summer weather conditions and public holidays (particularly for higher altitudinal sightings), and a need for consistency in replies for any yearly comparisons. It was felt that any limitations these schemes have were outweighed by the value gained from having a low key, low cost operation receiving data that show coarse changes in the species population as well as revealing basic behavioural information.

Nevertheless, some conclusions can be made.

3.3 North Island Kaka (Fig. 1)

- Moderate numbers of kaka can still be found in the central North Island: Pureora, Tongariro, Kaimanawa, Urewera.
- Few remain in the Tararua, Ruahine, Raukumara, and Coromandel ranges.
- Occasional vagrants are seen around Whangarei and in the northern North Island.
- No sightings were received from Egmont, Wanganui.
- The sightings are on average of one to two kaka throughout the year except perhaps for occasional large flocks seen around February.
- Sightings received ranged between 0-1500 m. The average altitude of sightings is around 650-850 m over summer but lower (around 400-550 m) between April and September.

It appears that large areas of natural land support a moderate number of kaka, reflected by the higher number of sightings from these areas. Smaller ranges and reserves, such as the Tararua Range and Coromandel, support only a relatively small number of birds which appear to becoming increasingly isolated and diminished compared with historical reports of abundance and distribution. Wanganui and Egmont probably support only a few remnant kaka, if any.

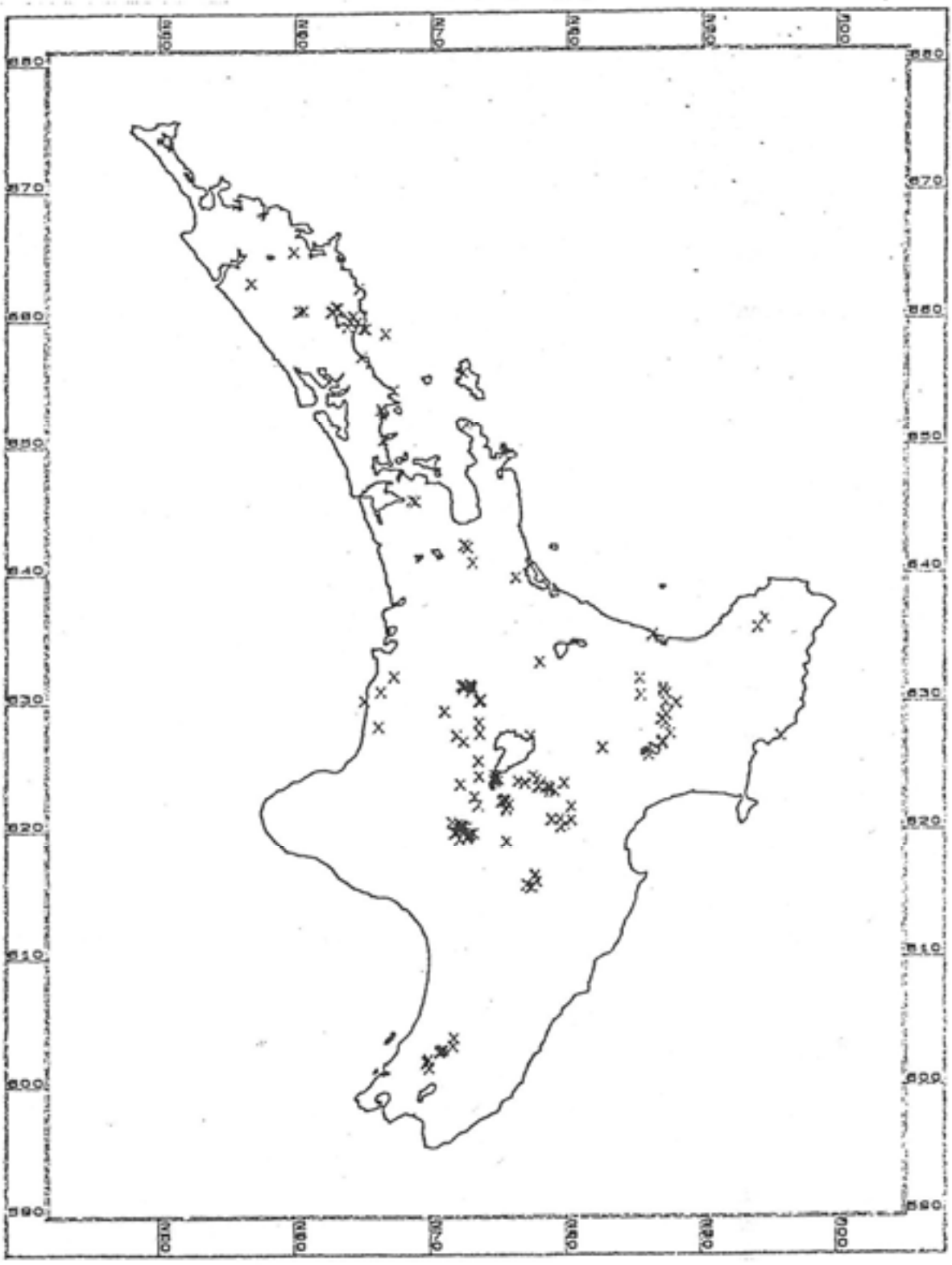

Fig.1. Map of North Island kaka distribution. (Each cross represents a sighting.)

3.4 South Island Kaka (Fig. 2)

- There were moderate numbers in Fiordland and somewhat fewer in Mount Aspiring and Westland.

- Scattered sightings were reported throughout lower altitudinal valleys of the western Main Divide: Paparoas, Nelson Lakes, Richmond Range.

- No sightings were reported from Arthur's Pass, Lake Sumner, Eastern Divide.

- The sightings are usually of low numbers of kaka throughout the year, possibly in small groups forming from February to April.

- Birds sighted were seen between 0-1200 m. The average altitude is around 450 to 700 m over summer but becomes lower (around 50-200 m) between March and August.

- Comments from the public on their impression of South Island kaka status include 'plentiful' in Waitutu, 'prolific' in the Cascade River, and common and stable in the Gorge River.

I suspect that the low numbers of sightings received reflects a tendency for people to be less enthused with reporting kaka than reporting kea. Even so, it looks as if there are only small numbers of kaka throughout the low altitudinal valleys of the western South Island, with perhaps the only reasonable numbers being in Fiordland and South Westland.

3.5 Kea (Fig. 3)

- They are well represented in Fiordland, Westland, Mount Aspiring, North West Nelson, Landsborough, Whitcombe.

- Some are present in Richmond Range, Kaikoura, Nelson Lakes, Paparoas, Craigieburn.

- Sightings are very variable in the number of birds seen throughout the year. There are possibly larger flocks over January to February (perhaps non breeders or adolescents) and May to July (when mixed feeding flocks may occur)

- Sightings received range between 21-2400 m. The average altitude of sightings average is around 950 to 1400 m but is very variable throughout the year, as they use a wide range of feeding habitats depending on weather.

- Comments from the public on their impression of kea status include; declining in numbers in Westland and Victoria Range, increasing in numbers in a Rangitata tributary and present but less common in Waitutu than in Fiordland and the Olivine Range.

Kea have a widespread reported distribution throughout the higher parts of the South Island, which probably does not reflect their true status. Mischief makers that hang around huts and car parks are popular with the public and therefore tend to get reported more than kaka would.

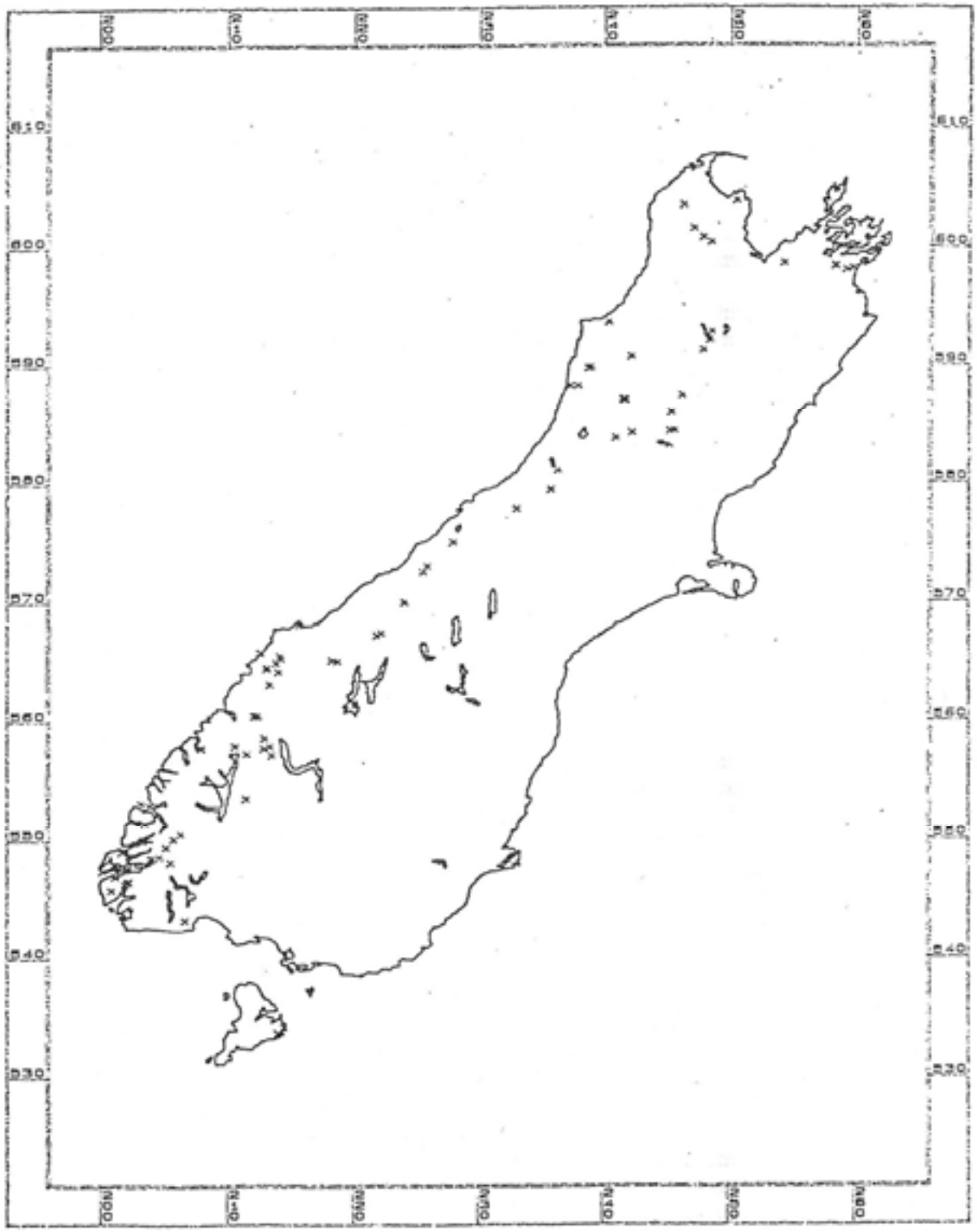

Fig. 2. Map of South Island kaka distribution. (Each cross represents a sighting.)

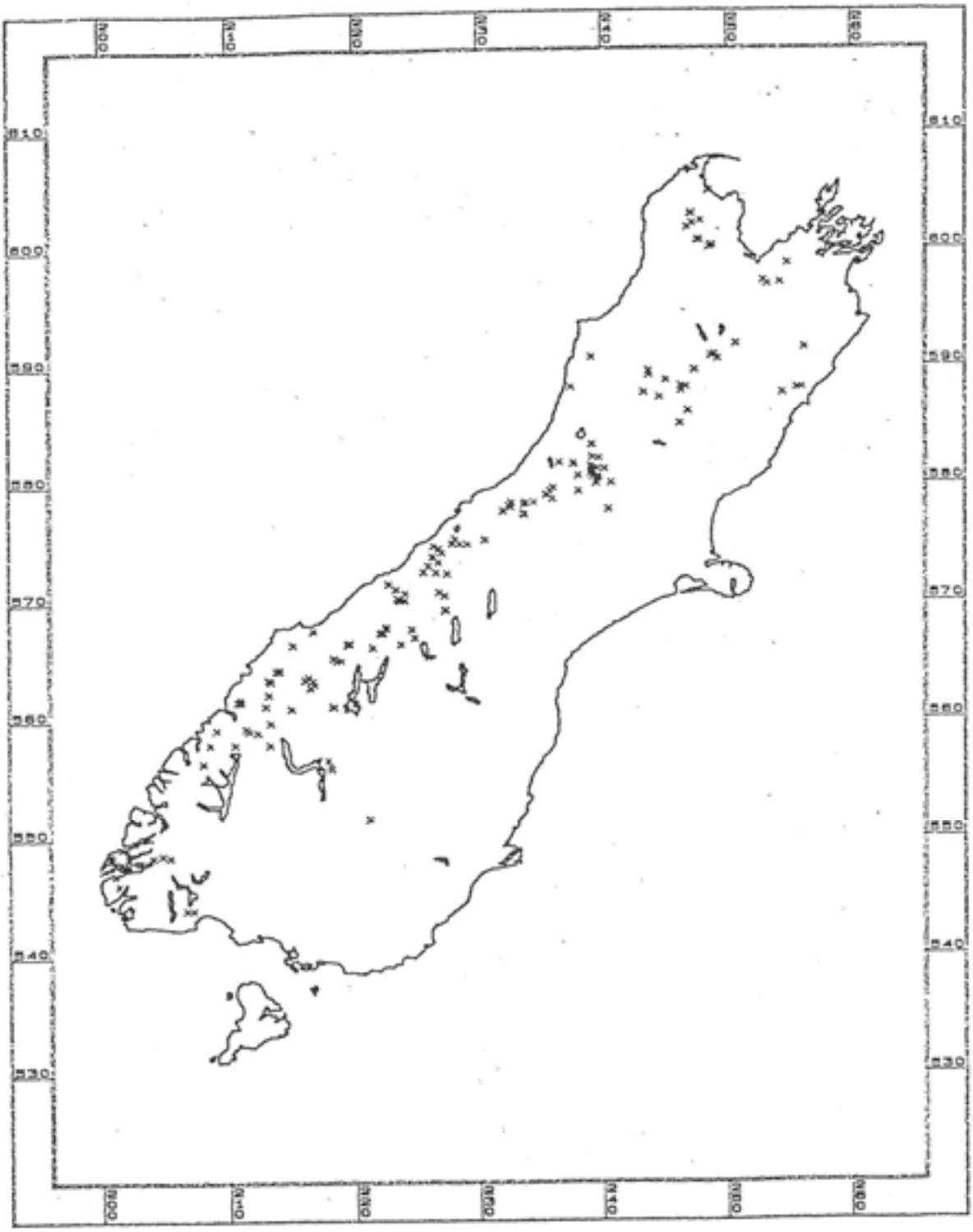

Fig.3. Map of kea distribution. (Each cross represents a sighting.)

This tends to conform to existing knowledge on the species distribution and status. The OSNZ bird mapping scheme (Bull *et al.* 1985), in general obtained a greater distribution than these schemes due to the amount of time put into it. However, the pattern of distribution is similar and would become clearer if observations continued over several years.

4. CONCLUSIONS

While there were some limitations inherent in the schemes, as discussed above, they were considered an overall success, as they achieved their purpose of storing information on sightings, analysis of any trends in the data, and integration of conservancy sightings. They cost very little to operate and gave information on coarse populations changes as well as some basic information about behaviour.

In the long term, the schemes will show gross changes in species number and distribution. They will gather data on seasonal variance in altitudinal range and numbers. The database will help conservancies manage species sightings, and it will also offer a national perspective.

The scheme offers public participation in protected species research. And as it is set up already, the schemes only require a minimum of time to run.

It is recommended that the schemes are retained in their present format, with a yearly report on progress and a five-yearly review.

5. ACKNOWLEDGEMENTS

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APPENDIX : **Sample of letter sent out**

Information on the distribution and status of some of New Zealands native birds can be fairly vague. Without an indication of abundance and distribution it is difficult to assess whether a species is stable, expanding, or in decline. With this in mind the Department of Conservation's Science and Research Directorate is beginning a number of long-term schemes aimed at determining the status and distribution of several bird species. I am organising two of the schemes, one on kaka and one on kea.

It would be helpfull if members of your organisation could now and over future years, send me any information on sightings of kaka and or kea. Information should include:

- a detailed and accurate desciption of the area, (a map reference is preferable but not necessary),
- altitude,
- date and time,
- number of birds,

Note: Some birds may be banded with either a metal band and or a colour combination of bands. Any accurate observation of the arrangements of these bands and on which legs, would be most useful.

Repeat sightings will of course be the most important element of the scheme, as they will build up the annual data base.

The information I receive from this and other organisations around New Zealand will be collated and used in a yearly report which will be distributed to all contributors parent organisations. In the long term, trends in population size and distribution should become evident.

For any questions or information write to;

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