

SHORT NOTE

New Zealand falcon (*Falco novaeseelandiae*) distribution survey 2006-09

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The New Zealand falcon (*Falco novaeseelandiae*) is endemic to New Zealand. Although presently regarded as one extremely variable species, there are 3 forms recognised that vary in size, colour and habitats. The 'bush falcon' is found in forests of the North I and north-western South I, the 'eastern falcon' occurs in the open country of the eastern South I, whilst the 'southern falcon' is restricted to coastal Fiordland, Stewart I and the Auckland Is (Heather & Robertson 1996). All 3 forms of the New Zealand falcon are regarded as threatened, endangered and the 'bush' and 'eastern falcons' as nationally vulnerable. All 3 forms also have the

records of falcon were collated dating back to 1942, with an additional 8 records for the Auckland Is. For the present survey, a total of 1,761 records were available from a variety of sources (Table 1), including 650 reported online through the Raptor Association of New Zealand website (www.ranz.org.nz). Note that a blank 10 km square on the survey maps does not necessarily indicate that falcons were not present, only that no reports were received for the period of the survey.

New Zealand falcon has been undertaken since the 1970's (Fox 1978), though relevant data have been included in the Ornithological Society of New Zealand atlases (Bull *et al.* 1985; Robertson *et al.* 2007). Localised studies of falcons, not always (Fox 1978; Robertson *et al.* 2007), and a national breeding survey was undertaken in 1994-2000 (Robertson *et al.* 2006), and the conservation status of the New Zealand falcon, the Raptor Association of New Zealand initiated a survey to collect and collate falcon observation records. Launched on 1 Jun 2006, the New Zealand

Zealand falcon continues to be widely distributed through both islands (Figs. 1), but there were some large areas with no or few records. Areas lacking falcons in the North I include Northland, Northern Waikato and Coromandel, East Cape, inland Hawke's Bay and Wairarapa. Falcons were absent from Northwest Nelson (Kahurangi) and large areas of Fiordland in the South I. Seasonal variation in records shows a marked increase in sightings during autumn, with 31% of records during the season when juveniles are leaving their natal territories and therefore are more likely to be seen by people.

The eastern falcon was the form most frequently reported (44%, Table 3), perhaps because it inhabits more open country and is more easily observed. The least reported form of falcon was the southern falcon. However, factors other than habitat type need to be considered when comparing the percentage of records for each form, as the number

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Table 1. Sources and number of observation records of New Zealand falcon.

Source	Records
Department of Conservation	81
Ornithological Society of New Zealand	24
Department of Conservation (1990-2000)	47
Department of Conservation (2000-2010)	96
Department of Conservation (2010-2015)	58
Department of Conservation (2015-2020)	73
Department of Conservation (2020-2023)	84
Department of Conservation (2023-2024)	37
Department of Conservation (2024-2025)	65
NZ Biodiversity Recording Network	53
Department of Conservation (2020-2023) (1/4)	110
Department of Conservation (2020-2023) (3/4)	1033
TOTAL	1761

Table 2. Seasonal variation in the number of observation records of New Zealand falcon.

Month	Records	% total
January	166	9
February	149	8
March	193	11
April	184	10
May	179	10
June	124	7
July	104	6
August	123	7
September	119	7
October	141	8
November	158	9
December	121	7
TOTAL	1761	100

of observers and the land area varies from region to region.

Breeding status was determined for each observation based on either the location of a nest or breeding behaviour such as the dive-bombing of observers. Only 59 (3%) of the 1,761 records indicated breeding. Suspected breeding (2 or more falcons observed) accounted for 316 records (18%). The remaining 1386 (79%) records were

Table 3. Regional distribution in the observation records of New Zealand falcon.

Form	Region	Records	% total
Bush falcon	Northland	1	0.06
	Auckland	20	1.14
	Waikato	148	8.40
	Bay of Plenty	79	4.49
	Taranaki	48	2.73
	Manawatu	8	0.45
	Hawke's Bay	43	2.44
	Wanganui	204	11.58
	Wellington	148	8.40
	Nelson	20	1.14
Eastern falcon	Tasman	86	4.88
	West Coast	97	5.51
	Canterbury	330	18.74
Southern falcon	Otago	296	16.81
	Southland	81	4.60
TOTAL		1761	100

of single falcons, which were not indicative of breeding.

When the present distribution of falcons is compared with the 1970's survey of Fox (1978), the presence of falcons in the King Country, Wanganui and Wellington in the North I, and Christchurch, the methods of data collection for the 2 surveys were similar (media promotion, personal contact, and sourcing from relevant groups and organisations), and some of the increase in range may be due to greater public knowledge and participation in the survey.

When compared with the 1970's survey (Fox 1978: Fig. 3), for the North I, there are now new breeding records of falcons for Wellington, Wanganui, Waikato and south Auckland, but conversely no records were received for Coromandel, inland Tauranga and central East Cape that were present in the 1970's survey. In the South I, there are new breeding records for coastal areas of South

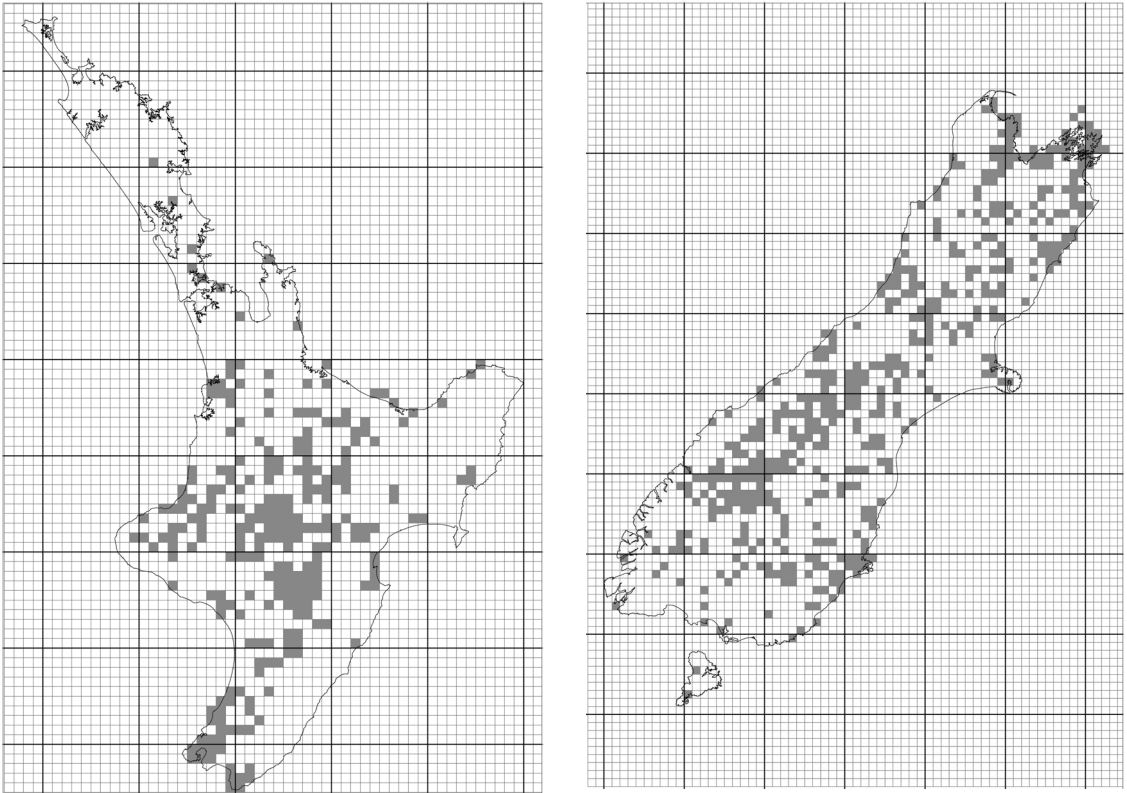


Fig. 1. Distribution of falcons in New Zealand in the 1970s (left) and currently (right). The shaded areas represent the distribution of falcons. The maps are overlaid on a grid.

Westland and Fiordland compared to the 1970's survey. There were no breeding records received for Stewart I in the latest survey but there were for the 1970's survey.

There are a number of possible reasons for the increase in the breeding range between the 2 surveys. First, although similar methods were used in the 2 surveys, due to variation in reporting and Fox (1978) also extrapolated reports to include adjacent areas of similar habitat. In contrast, the present survey used only known observations. Secondly, changes in land use, such as increased dairy conversions, increased lifestyle blocks, and increased exotic tree plantations, may have facilitated the spread of falcons between the 2 periods. The importance of exotic forest as falcon habitat has only recently been fully appreciated (Seaton 2007), with 84 nests located over 3 breeding seasons in pine plantations in Kaingaroa Forest. Finally, some of the increases in breeding range have occurred into

areas with a high level of predator control, and this may have facilitated the spread of falcons.

The New Zealand falcon can be observed in most areas of the country, with some minor exceptions. The survey also proved that with publicity and promotion a wide participation of respondents can be achieved, including urban, rural, and backcountry areas. For many participants in the survey, an encounter with a falcon was a memorable event, and most were keen to share the details. Although the survey did achieve wide coverage, future surveys could be further directed at hunters, who tend to get to some of the more remote locations, are keen observers and often record their observations.

The increase in the breeding range of the New Zealand falcon is a result of the enthusiasm and interest created by the survey is still prevalent as is the understanding by the public of the importance of the falcon. The rapid change in land use in many parts of the country has facilitated the spread of falcons. A further falcon distribution survey is needed to determine the current range, a further falcon distribution survey is needed to determine the current range, a further falcon distribution survey is needed to determine the current range.

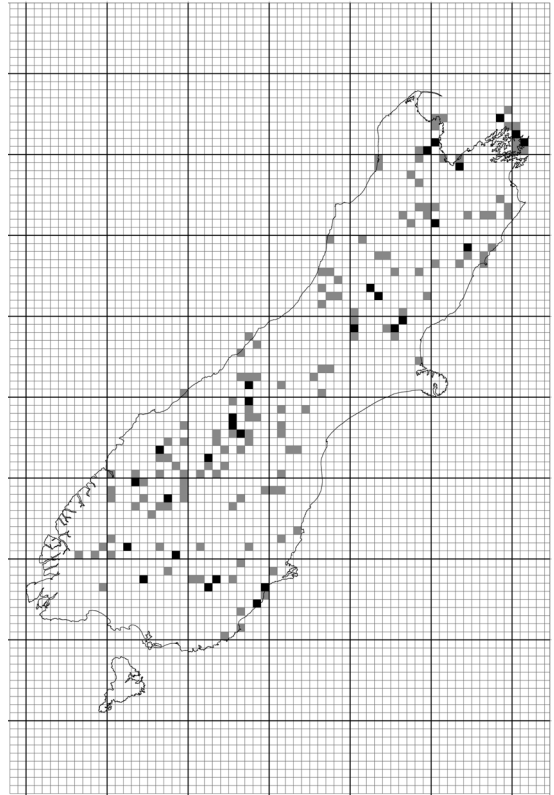
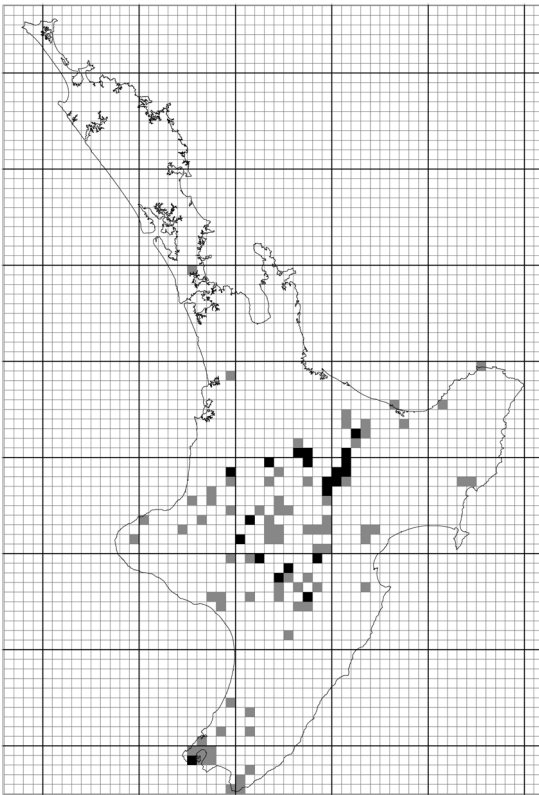


Fig. 2. Breeding distribution of New Zealand falcon on the North I (left) and South and Stewart Is (right). Lightly shaded squares enclose an area of 10 km x 10 km.

10 to 15 years. Areas in need of closer investigation of the possible presence and breeding of the falcon include Coromandel, Kaweka Range and central East Cape in the North I and coastal areas of the West Coast, south Westland and Fiordland in the South I, and Stewart I.

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LITERATURE CITED

... *Falco novaeseelandiae* in ...

... *The atlas of bird distribution in New Zealand.* Wellington, Ornithological Society of New Zealand.

Fox, N.C.1978. The distribution and numbers of New Zealand falcons (*Falco novaeseelandiae*). *Notornis* 25(4): 317-331.

... of the New Zealand falcon (*Falco novaeseelandiae*) in *Notornis* 51: 117-119.

... *birds of New Zealand* ... breeding survey 1994-98. *DOC Science Internal Series* 84.

... the distribution of raptors using remote sensing ... a case study with the Eastern New Zealand falcon (*Falco novaeseelandiae*). *New Zealand Journal of*

... of New Zealand birds. *Notornis* 55(3): 117-135.

... *Atlas of bird distribution in New Zealand 1999-2004.* Wellington, The Ornithological Society of New

