

Kea Population Survey - Winter Survey 2009 Report

Kea Conservation Trust

(sponsored by T-GEAR Trust)

Abstract

The first winter survey of kea was undertaken in July 2008 as part of a proposed annual combined summer and winter survey of wild kea populations in the South Island of New Zealand. The project as a whole aims to clarify or improve the quality of information about the population status of this species. The winter survey portion of the project aims to 1) increase public awareness and empathy for wild kea and issues impacting on the species and; 2) provide a long-term, cost effective and easily replicable method of surveying kea populations. The raw data from both population studies will be utilized to provide improved estimations of kea populations in the wild, survivorship, establish population trends in localized areas, investigate sink/source dynamics, provide information on distribution and movement of birds between survey areas and particularly in the case of the winter surveys, provide an opportunity for advocacy of the species.

This was the second year of the winter survey. Of the 59 registration sheets received from individuals and/or groups, 29 participated over the July period (down on last years 38 participants). A total of 80 recording sheets (down from 92 in 2008) was received covering the 4 weekends throughout July. A total of 141 kea were observed (up from 108 kea in 2008) at 56 locations (29 areas) (up from 42) in the South Island. However a portion of these were most likely multiple counts of the same birds (ie repeat counts on separate weekends) although lack of accurate banding and/or reporting meant that this could not be absolutely quantified. However by accounting for double counting of resident birds across weekends, a more realistic count of kea across all sites would be 73 (down from 78 kea in 2008).

All information is to be entered onto the KCT database and eBird (OSNZ). Observations are to be compared with the 2008 winter survey results and the Atlas of Bird Distribution data (2007) to compare presence/absence of kea within the species known range.

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1.0 Introduction

The winter survey aims to record numbers of kea over a specified period of time at locations which are known to be kea strongholds or where the birds visit to forage in winter (e.g skifield and recreational areas). For logistical reasons, these locations must be easily accessible by a network of volunteers. Where individual birds are able to be identified it may also be possible to visualize movement of birds between sites.

The value of the surveys will be in the information gained across years (trends in the population), which will be directly related to the number of observations and number of locations received in subsequent years.

2.0 Methodology

2.1 Volunteers

An extensive advocacy drive was initiated in 2007 to help establish a large volunteer pool for the counts beginning July 2008.

Volunteers recorded maximum numbers of kea at a variety of sites across the South Island high country areas and in historical kea territory. These counts were conducted on 4 consecutive Saturday and Sunday afternoons throughout July between the hours of 12 noon and 4pm to avoid double counting of birds moving between localities. An afternoon count was chosen for volunteer convenience as well as kea behavioural reasons; kea are more likely to concentrate to scavenge for food in the morning and afternoons (Elliot and Kemp 2004, Diamond and Bond, 1992).

2.2 Locations

Sites were selected on the following criteria: 1) historical visitation by kea and within predicted or known range of kea. Areas visited by kea were identified utilising the Atlas distribution data (Bull et al, 1985; Robertson et al 2007) and Kea Survey information (KCT, 2007); 2) accessibility for volunteer personnel and volunteer availability at each site. As it is envisaged that a large volunteer pool must by necessity be used, accessibility to areas is extremely important. Commercial sites (ski fields, stations, guiding/ecotour companies, hut areas, DoC sites etc) are all likely to be easily accessed by the public and as such provide additional buy in from the public.

2.3 Recording Sheets

Information on the recording sheets was split into three main sections; observer, location and kea details.

Observer details included name and contact details of counter (and/or observer code number), date and time over which observation took place and type of count conducted (stationary vs travelling).

Location details included survey location (name, description and/or GPS information), weather conditions (degree of rain, snow, wind, temperature), and approximate numbers of people present in observation area (3 categories).

Kea details included the exact time when maximum numbers of kea were observed, total maximum numbers of kea and where possible identification of these into adult or sub-adult birds (using presence or absence of yellow around cere, bill and eye) and banded status (with any details of band colour, placement on the leg and numbers where possible). Behavioural comments were also recorded

describing birds behaviour at the time of recording whilst additional comments of interest to the observer were recorded at the bottom of the form.

3.0 Analysis

All information from the returned recording sheets was entered into Excel Microsoft Word Kea Database and is to be loaded onto the eBird (OSNZ bird recording database). Recorded locations are to be entered into the Atlas programme to compare presence/absence of kea at these sites with the winter 2008 data.

4.0 Results

Of the 59 registration sheets received from individuals and/or groups, 29 participated over the July period (down on last years 38 participants). A total of 76 recording sheets (down from 92 in 2008) was received covering the 4 weekends throughout July. A total of 123 kea were observed (up from 108 kea in 2008) at 51 locations (up from 42) in the South Island (average of 2.4 kea/site versus 2.6 kea/site in 2008).

Date	Max kea 2009	Max kea 2008	Locations 2009	Locations 2008
Sat 4 th	16	10	8	8
Sun 5 th	3	9	6	9
Sat 11 th	14	2	11	8
Sun 12 th	3	38	7	18
Sat 18 th	11	19	7	8
Sun 19 th	24	7	8	8
Sat 25 th	32	15	11	12
Sun 26 th	20	8	14	12
Totals	123	108	72	83

However a portion of these were most likely multiple counts of the same birds (ie repeat counts of resident birds on separate days). This is very likely in areas where resident pairs have been recorded (eg Rainbw Ski area) although lack of banding meant that this cannot be confirmed.

Multiple counts in individual areas across weekends are as follows:

- Porters ski area – 8,10,8 (maximum area count:10)
- Temple Basin area – 2,2 (maximum area count: 2)
- Treble Cone – 3,3,1,2,2 (maximum area count: 3)
- Rainbow Ski area – 2,1,2,2,2 (maximum area count: 2)
- Lake Moeraki – 5,?,3 (maximum area count: 5)
- Hawdon Valley – 15, 3, 4 (maximum area count:15)
- Fox Glacier – 1,2,3,10,2 (maximum area count: 10)
- Cass Valley – 1,1 (maximum area count: 1)
- Arthurs Pass village – 4, 2 (maximum area count: 4)

If maximum numbers in a specific area are taken across all weekends, a total of 73 kea were sighted over the 51 sub locations (or 29 area locations).

Of the 108 kea sighted a total of 8 kea (4 adults; 4 unknown) from 5 separate sightings, was observed to be banded. Of these 8 birds, 4 were observed at Rainbow ski-field and were identified potentially as 2 birds (although listed as both adult and sub-adult birds) or 2 adults and 2 sub-adults with similar band combinations. Another 4 birds were observed at Treble Cone ski-field identified most probably as 2 individual adults and 2 individual sub-adults.

The maximum number of kea observed in any one area at any one time was 15 in the Hawdon Valley Area (Arthur's Pass) followed by 10 each at Porters ski field (Arthur's Pass) and Fox Glacier. 7 kea were sighted at the Viaduct also in Arthur's Pass.

Numbers of returned sheets from each region were as follows: Canterbury – 39 (up from 32); Nelson/Marlborough – 6 sheets (down from 19); Otago – 6 (down from 30); Southland – 0 (down from 9); West Coast – 15 (up on 2 last year).

5.0 Discussion

5.1 Survey Value

In 2008 a pre survey visit to the South Island included visits/talks at Christchurch, Wanaka, Queenstown, Te Anau, Milford Sound and the majority of skifields. This years pre survey visit included Christchurch, Mt Cook, Queenstown, Wanaka (school visits), Haast and the West Coast (talks) through to Arthur's Pass. Also put in place this year were two personnel who helped increase exposure in the Canterbury area (Christchurch through to Arthur's Pass).

These factors may have impacted on numbers of people taking part in different areas (ie a decrease in Southland, Otago and ski field participation and an increase in Westland and Canterbury areas).

This may reflect the importance of having personal exposure in key areas prior to the counts to ensure maximum buy in.

5.1.1 Advocacy

Recruitment of volunteers for this project continued to be a major focus. This involved extensive distribution of advertising material on a national level outlining reasons for the project, numerous seminars and conference presentations detailing species issues and knowledge gaps, radio and newspaper interviews and visits to key stakeholders. The survey resulted in a major influx of information to the Trust with positive dialogue and relationships being initiated between conservation and education organisations, recreational businesses and users (skiing, hunting and tramping groups in particular), local community groups, captive facilities and tertiary institutions. As such this objective was considered to be adequately realised however a more efficient way to do this in the future will be required.

5.2 Changes to future surveys

5.2.1 Banding

The importance of colour banding to provide detail on observed kea was again highlighted during this project to allow easy and reliable identification of individual birds from a distance. This will prevent double counting of birds and may well provide information on kea range in the future. As such continued banding of wild kea is considered important for any future surveys. This years survey will provide a platform with further discussions with DoC on this subject (as there is some reticence to band birds even when the opportunity arises).

5.2.2 Recording methods

The initial recording sheets were trialed in April of 2008 and several changes made as a result. This was considered necessary to increase the effectiveness of the data collected. During this years counts it was realised that additional changes would be required to ensure continued buy in from the public. Several people did not complete sheets but instead sent in brief emails with very basic information on kea sightings. This may indicate that the complexity of the recording sheets may be discouraging public participation. To encourage more public involvement, another method/s may be required and this should be researched prior to any subsequent counts taking place. Ideas may include text messaging, completion of a simple form loaded accessed directly from the front page of the website and/or simplified recording forms downloadable from the website We are presently looking into sponsorship opportunities for this.

5.3 Volunteer personnel

Development of an initial volunteer database which may be expanded on in subsequent years is considered integral to the success of this project. The benefits of using volunteers has been investigated by Newman et al (2002) who found that volunteers not only provided considerable time savings (and cost effectiveness) to enable large scale projects to be developed but also increased environmental awareness and understanding of scientific issues by the wider public.

It is recognised that a key factor impacting on the success of the survey in different areas is the appointing of key individuals with local community knowledge. As such one of the most important factors for subsequent surveys will be to build up a network of key groups/individuals from those identified in the last two years. Ideally at least 1 person in each major town or key organisation (eg ski fields) within kea habitat and one key coordinator overseeing each major conservancy should be sourced and supported in subsequent years as follows:

6.0 Conclusion

The 2 main objectives of the winter survey 1) to increase public awareness and empathy for wild kea and issues impacting on the species and; 2) to provide a long-term, cost effective and easily replicable method of surveying kea populations, have been met for the second year, however to ensure that this method continues to be supported by the public and increased buy in is achieved over subsequent years, a more direct approach and simpler recording method must be designed.

7.0 References

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8.0 Appendix

Appendix 1: Simplified winter recording sheet draft (2010)

Kea Recording Sheet – for one day’s observation only between 12noon – 4pm Weekends during July

(please copy this sheet for any additional observation days or download extra recording sheets and information on filling out the sheet from www.keaconservation.co.nz).

Email: n.notabilis@xtra.co.nz

Postal Address: 83 Tanekaha Rd, Titirangi, Waitakere City 0604. Ph. 09 817 3002; Fax 09 817 2655

Observer: Name: _____ **Contact ph:** _____
Address or email _____

Date: (eg. Sat 4th July 2009) _____ **Time of maximum kea sighting:** _____

Location Name, description or GPS: _____

Kea Details: (zero is a valid count) Tick box if kea are heard but not seen

Age Category	Max number of kea (seen at one time)	Are kea banded? (Yes, No, Can't see)	Band Information (number and/or colour) and behavioural comments (what are the birds doing?)
Sub-Adults (any yellow around the beak and eyes)			
Adults (no yellow anywhere around the beak or eyes)			
Unknown age (not able to tell either of the above)			
Total kea observed during study period			