

Monitoring of Forest Birdlife – 2012

Summary from a report to the Janszoon Trust by Peter Gaze¹

Introduction

The monitoring aims to establish a baseline of the distribution and abundance of birdlife in the forests of Abel Tasman National Park by sampling a range of habitats, most importantly the forests at low and high altitude where it is likely that each hosts a different suite of pests. With assistance from the Abel Tasman Birdsong Trust, the baseline will be used to measure the effectiveness of future management.

Methods

Usual methods for such baseline studies - five minute bird counts and distance sampling along a transect as well more recently of electronic recorders used to gather data for analysis - were dismissed in favour of a 10km transect broken into 100m intervals allowing recording of either the number of each species or the presence or absence of each species. The three sites chosen were:

1. A 10km transect at Canaan/Wainui/Evans Ridge is a high altitude site where rat numbers were likely to be low with a relatively high diversity of birdlife and a history of aerial pest control. From Wainui Saddle the transect followed the tramping track past Wainui Hut and up onto the Evans Ridge, along a new stoat trapping track east into Table Creek and looping back and along the Evans Ridge Track (see Fig 1).
2. The lowland Marahau transect with a large number of private properties is unlikely to adopt aerial control of pests. The Birdsong Trust has carried out some stoat trapping, primarily to reduce the risk of stoats swimming to Adele Island. This transect is relatively convenient for volunteers, with the transect following the coastal track west of Tinline Bay and north to the Torrent River (Fig 2).

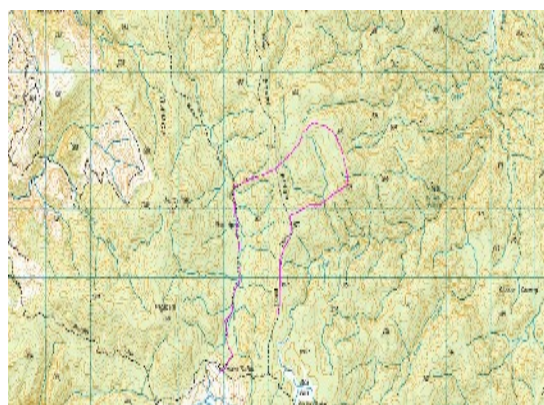


Fig 1. The Canaan transect.



Fig 2. The Marahau transect.

3. The Medlands transect is in an area of likely intensive pest control located further north along the coastal track but otherwise of similar altitude to the Marahau transect although the forest cover is more mature. It was not possible to get a 10km transect along existing tracks and still be practical for the observer in terms of transport or accommodation. It was therefore decided to use a 5km transect

¹ For further details see the report on the Janszoon Trust website www.janszoon.org/ or write to the Project Director, Project Janszoon, P O Box 1627, Nelson, New Zealand.

from Medlands to Torrent Bay (Fig 3) and then doubling back so that the number of observations would be consistent with the other transects. The paucity of species and the lack of variability in the data between days prompted conclusion after seven rather than the 10 days at other sites



Fig 3. The Medlands transect.

Along each transect, waypoints were established at 100m intervals although the distance between waypoints was sometimes reduced to accommodate track convolutions or steepness of the terrain while keeping the walking distance relatively constant. Observations were made between 0900hrs and 1500hrs in calm dryish conditions and all were completed within September, 2012.

The author did the transects at Canaan and Medlands while Tom Horn from the Abel Tasman Birdsong Trust organised volunteers for the Marahau transects. Initial instructions were to treat each 100m section as an independent observation, recording the presence or absence of each native species (excluding kingfisher and silvereye). An individual was recorded, regardless of whether it had been recorded from the earlier section and regardless of distance. The total of these 100 section counts comprise the sum of the number recorded in each 100m section - with each section counted independently. Some individuals were inevitably recorded in more than one section. Waypoints, field recording sheets and data spreadsheets have been deposited with Janszoon Trust.

Results

Bellbirds, tui, warblers and fantails were present in each of the three sites.

The Canaan site had the greatest diversity of birdlife. Robins, tits, rifleman and brown creeper were all reasonably common (Fig 4) but were not present at the lowland sites. Kakariki and kaka were also heard exclusively on the Canaan transects but were not common. Kereru were heard on only 2 of the 1000 section observations. Kaka was heard only once.

The Medlands transects recorded bellbird, tui, warbler and fantail only (Fig 5). Silvereyes were abundant and kingfisher were heard frequently but were not recorded. A solitary tit was heard on one day and a single kereru was recorded on two days.

The Marahau transect recorded the same suite of species as at Medlands; bellbird tui, warbler and fan tail were also in the same order of abundance as at Medlands. Relative abundance of the four species (bellbird, tui, warbler and fantail) were recorded from all sites. Kereru were also recorded from all four sites but infrequently. All four species were more abundant at the lowland Medlands site than at Canaan.

Of the two lowland sites, bellbird, tui and warbler were encountered more frequently at Medlands. Fantail were encountered with similar frequency at both lowland sites although the Marahau data showed a very high degree of variation for this species between the seven observers.

Discussion

The technique worked well and is readily replicated. The most stunning result is the relative paucity of species in the lowland forests. Perhaps not surprising – but certainly very evident from this data - robins, tits, rifleman, creeper, parakeet and kaka are not present in the lowland forests. The suggestion is that a greater abundance of predators, particularly rats, at the lower altitudes have caused the local extinction of these species and that these predators may have caused the extinction of these species firstly at lower altitude.

While the hole-nesting habits of rifleman, kakariki and kaka make them particularly vulnerable, the question remains of why some species have proved vulnerable while others have persisted in the presence of the same predators.

A more difficult question is why some species in the lowland habitat with more predators are actually more abundant. Perhaps a more benign habitat with honeydew for the bellbirds and tui and abundance of fruiting plant and insect life allows these species to increase. In such case the abundance of these four species in the park is simultaneously limited by both predation and the habitat. The many bellbirds on Adele Island are an example of a species response when constraints of predators and habitat are removed, but this prompts the question of the capacity of tui, warbler and fantail to respond similarly in the absence of both limitations.

Acknowledgements

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References

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