

Post-fledging dispersal of juvenile red-crowned parakeets (*Cyanoramphus novaezelandiae*) from a fenced mainland sanctuary

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Under the supervision of Associate Professor Nicola Nelson and Dr Heidy Kikillus from Victoria University of Wellington, as well as Richard Gray from ZEALANDIA Ecosanctuary, I conducted a study examining the post-fledging movements of juvenile red-crowned parakeets, or kākāriki, from ZEALANDIA, a fenced sanctuary located in suburban Wellington. My aim was to investigate kākāriki dispersal patterns in an urban setting, potential drivers of dispersal, and assess the birds' survival outside the valley. To do this, I caught and attached radio transmitters to a total of twenty-two birds that had recently fledged from their nests, and tracked them daily for 3-5 months, until the transmitter battery went flat or the bird removed it and/or was killed.

Of the twenty-two birds, ten appeared to disperse permanently outside the sanctuary, while several others left occasionally to forage during the day. Many birds made exploratory movements in and out of the sanctuary several weeks before departing ZEALANDIA for the remainder of the study. These birds primarily travelled to other areas of native forest, e.g. nearby reserves, many of the same ones frequented by juveniles in 2015. Totara (*Podocarpus totara*), which produce fruit around February-April in Wellington, did appear to be an important food resource for kākāriki, as several of the birds targeted these trees outside the sanctuary for a few weeks while the trees were producing fruit. However, kākāriki are generalist feeders, and were observed feeding on a wide variety of plants, primarily natives like mapou (*Myrsine australis*) and five-finger (*Pseudopanax arboreus*) but also several non-native rhododendrons, throughout autumn and winter. When seen foraging, birds were often found in small flocks of other kākāriki, particularly other juveniles.



Red-crowned parakeet (by Jo Hawthorne)

None of the radio-tracked birds inside the sanctuary died during the course of this study; however, at least three birds that dispersed outside ZEALANDIA were killed. Of those birds determined dead, the likely killers were a cat, rat, and some type of avian predator. In 2015, two of the six birds that left the sanctuary were killed, one likely by a domestic cat, the other by an unknown predator. Therefore, while some birds are certainly surviving outside the sanctuary, without a greater amount of predator control Wellington could continue to lose a large proportion of its kākāriki population. Additional predator control concentrated in the areas frequented by kākāriki could help the successful establishment of these birds in Wellington. Furthermore, given that kākāriki appear to primarily target areas of native forest, creating corridors of native bush may be important to aid population expansion throughout and beyond Wellington.

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Radio transmitter (by Ellen Irwin)