

4.3 AERIAL MONITORING

Eleven flights were completed during the intensive period of monitoring radio-tagged kaka and blue duck immediately following the application of toxic baits. However, the protracted nature of the poisoning operation combined with periods of poor weather unsuitable for flying sometimes resulted in intervals of up to four days between flights. Despite these problems, plots of these positions were sufficient to record movement between consecutive flights and thereby confirm the status of individual birds. Given suitable weather conditions, radio-tagged birds could be located from the air efficiently and with considerable accuracy (to within 100 m).

4.3.1 Aerial observations — Kaka

Results from the aerial tracking of kaka were particularly useful. Not only could movements be plotted to confirm that individuals were still alive, but the scale of these movements could also be expressed. In Figures 6a-e the movement patterns of 19 of the 21 radio-tagged kaka are plotted for the period following the application of 1080. All kaka displayed significant detectable movements, although the scale of these was highly variable. Some individuals moved distances of 5-6 km while others occupied only relatively small areas throughout the monitoring period. Of the two birds for which there are no position fixes, one (YBR-M) was 'lost' prior to the poison operation and the other (M-YWR), wearing a mortality transmitter, was located only infrequently due to difficulties (such as radio interference) in receiving this signal.

All radio-tagged kaka showed sufficient significant movement (i.e., a minimum movement of around 100 metres for each consecutive fix) for us to conclude that all monitored kaka survived the poison operation.

4.3.2 Aerial observations — Blue Duck

As blue ducks were considered to be at little direct risk from the toxic carrot baits themselves, intensive monitoring of this species only began following the completion of poisoning operations within the study area. Figures 7a-c plot the positions of 18 of the 19 blue ducks carrying transmitters. Because of the highly territorial nature of blue ducks and their restricted habitat (i.e., rivers, streams, creeks) most of their movements were highly localised and often difficult to determine given the accuracy (to around 100 m) of aerial monitoring. Signal reception was often poor as well (particularly if the ducks were roosting under rocks or in hollow logs) making position fixes difficult if not impossible.

However, significant movement was detected from the air to show that some single males (e.g., YL-M and to a lesser extent OW-M and RY-M) were moving up to 4-5 km in short periods of time. Although such movements by single males seeking to secure breeding territories and mates was expected, significant movements by pairs (or elements of pairs) was not. In at least two instances males (WW-M and WR-M) disappeared from their territories on the Waihaha River without their mates during a period of high water flow and took up residence in very small tributaries, often some distance away, for several weeks before returning. Without aerial monitoring these birds would probably not have been located and these movements not detected.

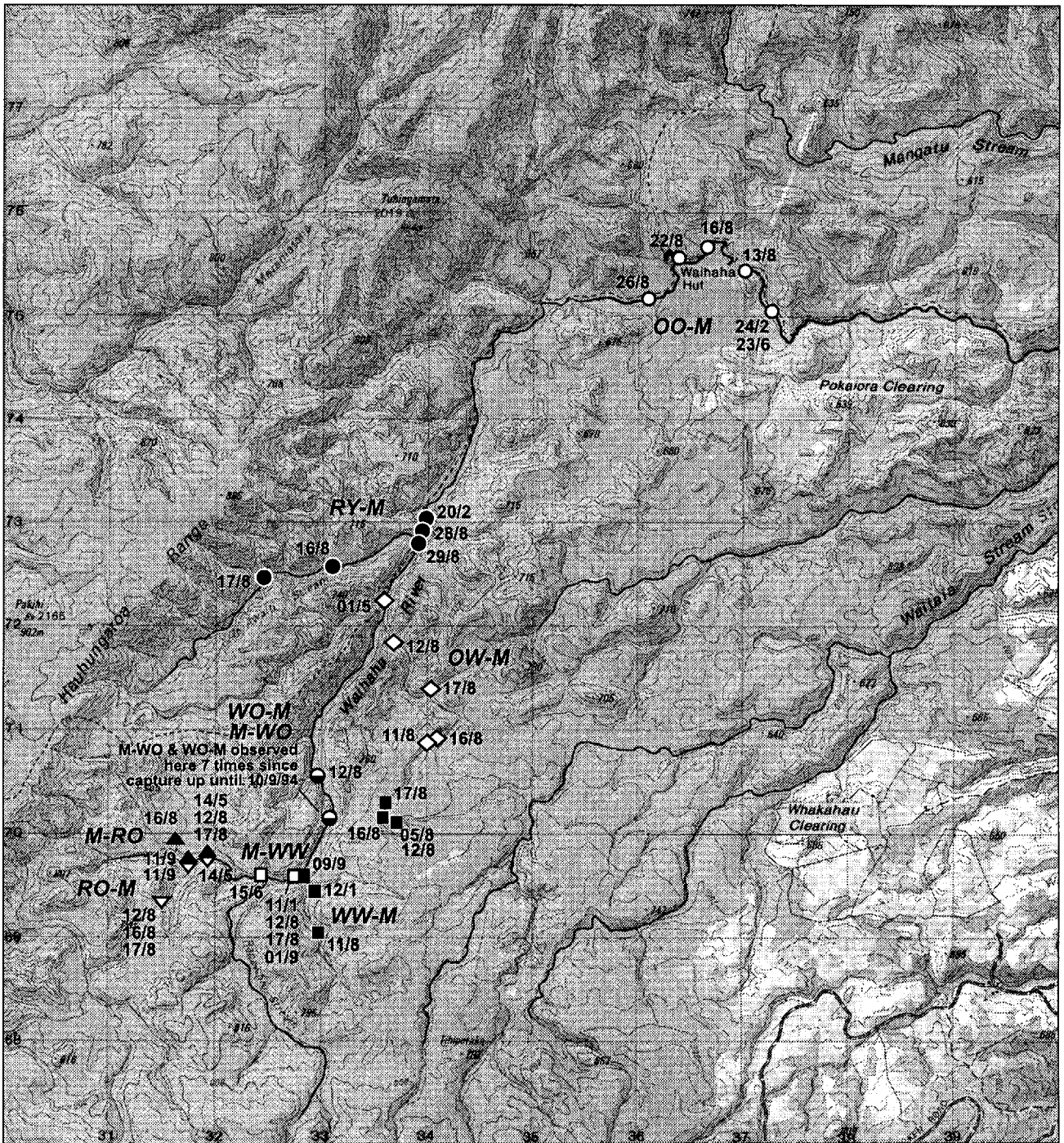


FIGURE 7a. AERIAL POSITION FOR BLUE DUCKS OO-M, M-WW, M-RO, OW-M, M-WO, RY-M, WW-M, WO-M AND RO-M.