

DOUBLE VISION

Although currently possessing excellent vision, **Andy Warneford** was wondering about his acuity when in the single visual field of his binoculars one early December morning he saw four kokako. Rubbing his eyes he looked again and saw yet another two all in the same tree. Six kokako all in one tree is certainly a record in the Waitakere Ranges [perhaps elsewhere also these days?] but is an indication of how the new area that we have strived to gain approval for predator control is such a favoured habitat for our translocated birds. Not only translocated birds though, but now also homegrown ones. Possibly two unbanded birds are there as well as one chick that was banded last year. These chicks, born and bred in the Waitakeres in this favoured area that we have named “Kokakoville” have made it through a whole year proving that their food requirements have been met and that they have been able to avoid predation. Indications are that from 26 birds in total released at the ARK, at least 15 have been identified in Kokakoville and two or possibly three of our home-bred birds. Four pairs seem to have established with last year’s first-known breeders *Maurice* and *Kowhai* having produced this year yet another chick [*Matai*]. In addition, in a well-defined territory there is a seemingly well-established pair that unfortunately consists of two females, so we are hoping this is just a temporary experimental fling and one of the handsome, unattached males will charm one or other of the pair. It could even be *Nikau*, one of our earliest translocated birds, who some 18 months ago, just before his radio transmitter failed, was tracked heading east way beyond the ARK.



Locally produced
[photo courtesy of G. Capill]

His sudden reappearance in very robust condition was a wonderful pre-Christmas surprise. Kokakoville has currently about 50% of its bait lines cut by our intrepid group of line navigators with the usual amount of savage-edged *Gahnia* grass, ankle-twisting kiekie, and looping supplejack hanging down to make one wish one had stayed home instead. In compensation though, the gentle contours, even something almost like a plateau makes travel through these completed lines a pleasure. Perimeter protection with stoat traps is almost complete with a small trial taking place to see which of two trap types seems more effective.

Bounded to the south by the Remus Roe stream, this forest is botanically very diverse with many large specimens of trees

uncommon in other parts of the ARK. A recent Auckland Council region-wide biodiversity study showed that the ARK area was more complex with more plant species than anywhere else in the region—even the jewel of the Hauraki Gulf, Little Barrier Island. Kokakoville, however, was not one of the tested sites and **John Staniland**, whose own study some years back which showed a greater botanical biodiversity in the ARK, states there is a distinct step up again botanically in the area we call Kokakoville, perhaps a reason why the kokako are flocking here. On the other hand, after the first few birds ranged here, perhaps others were drawn to the site by the mere presence—especially the vocal presence—of the founders. After all this sound anchoring is what we tried to achieve with the calls transmitted through tree-mounted speakers after the initial releases of the birds.

ACTIVITY BOARD

Three breeding seasons ago, our translocated hihi in their second year at the ARK produced a minimum of 26 chicks, yet now no hihi have been heard for over a year. Did the hihi adults and chicks disperse or were they predated? If dispersal occurred to unsafe areas, we could never combat this, but what if it were predation within our area? Predator levels have been shown to be very low in the ARK, allowing existing native bird species to increase and the introduced robins to make substantial gains. Hihi are obviously more readily predated by the introduced mammalian predators, evidenced by the fact that they died out in mainland forests in the 1880s. The hihi habit of roosting and nesting in tree hollows made them very vulnerable, particularly to rats as they could climb trees and seek prey using their sense of smell.

Adrien Martineau, a Master of Science student from France, spent 9 months at the ARK in 2010 plotting all our bait stations with GPS and analysing data accumulated up to 6 years from the bait uptake cards our volunteers record when renewing bait at the bait stations. Lots of bait taken indicates the previous presence of rats; no or minimal bait uptake can indicate no rats since the previous baiting. The complex computer analysis showed that within the ARK were certain hot spots of activity where rat numbers would drop only to rise again later in the year in a repeated pattern. From this came the idea that there might be embedded populations of rats that never were eliminated because not all members had access to bait. Lizzie McDonald, in her final year at Auckland University of Technology, studied this by measuring the actual spacings of the bait stations in some of these hot spots, confirming that because of the hilly topography, our nominal 100-m spacing of lines was often much more than we had assumed. This meant that the distance could have been greater than that of the typical home territory of forest-dwelling rats. Arrays of monitoring tunnels between these divergent lines indicated indeed that rats dispersed from the hot spots further and further away until presumably they came to bait stations when the numbers would go down again. With this information, we can try to place additional bait stations in hot spots to ensure that more rats, perhaps all, will have access to bait allowing the core parts of the ARK to have a minimal rat presence. Meanwhile, we realise that spread into the ARK at the perimeter will always occur. But how far can the predator control effect extend beyond a perimeter? To answer that, Eru Nathan will be analysing lines of monitoring tunnels, which will start within the ARK and extend beyond the perimeter, as part of his MSc.

Rats obviously fascinate us as another of our students from Belgium will look at the actual monitoring tunnels we use. The original rodent monitoring done throughout New Zealand used white plastic tunnels, as we have used also from 2003. Because we had insufficient of these in 2010 for the new forest blocks that our kokako led us into, we deployed the currently more commonly used black cardboard tunnels. An observation from sites where one of each was placed in proximity seemed to show a preference for one type [or was that an avoidance of the other?]. A preference [or avoidance] needs to be tested, as rodent monitoring is a vital part of gauging how successful our control is and will allow us to consider what other translocations might be considered in the future.

Rats again feature in Ami Maxwell's summer studentship where a study of rats in the canopy is being done.

Ami went through our climbing course and with our other trained climbers is placing monitoring tunnels in a series of trees. Both canopy tunnels and ground-based tunnels at each tree will have the same peanut butter lure that is traditionally used for rodent monitoring.

Although only small numbers of trees can be studied because of the practical difficulties in climbing, this type of comparison has rarely been reported elsewhere and may give interesting clues to wildlife managers anywhere who have to contend with introduced rodents.



Canopist and crew
[photos courtesy of G. Capill]

TOP OF THE TABLE

The Auckland Council Terrestrial Biodiversity monitoring is planned as a long-term study with multiple sites throughout the Auckland region being surveyed at least five yearly and some more frequently. Forest complexity and the ratio of exotic to native birds are two measures to be observed over time and as stated earlier, the forest complexity at the ARK is greater than anywhere else in the region. Another study is on the presence of one native bird that, as it is found in many sites, is a particularly good indicator. *Miromiro*, the tomtit, is that bird and for those of you who think it is a common bird at the ARK, you are right. It is in fact more common here than at any other site in the Auckland region, including Little Barrier Island. The high numbers at the ARK are a direct result of the years of predator control by our dedicated volunteers.



Tomtit (with mp3 sound file of contact calls to chicks)
[photo and sound file courtesy of G. Capill]

MAYAN ORNITHOLOGICAL SURVEY METHOD A WINNER!

Over millennia, Mayan ornithologists were faced with marauding army ants, scorpions, snakes, and the little fish that swim up sensitive areas if you urinate in streams. Of necessity, they



Grant monitoring kokako
[photo courtesy of G. Capill]

had to develop ways of removing themselves from such scourges as they lay motionless, silently observing courtship or territorial displays of quetzals, motmots, or yellow-winged caciques. Unfortunately, they had to suffer until the 13th century when a device developed by the Taino culture of Haiti which was a modification of a fish net named “hamaca” was introduced to the Yucatan Peninsula. Inspired by photos in a 1952 *National Geographic* magazine in his doctor’s waiting room, Grant Capill thought toucan play at this and set up his kokako-watching system as pictured.

OLD STOREHOUSE TRANSFORMED

Condemned by the Auckland Regional Council and subsequently donated to the ARK, the old green shed that we resurrected and which served as our first storage space had long become insufficient to house all the paraphernalia needed for our expanding project. Traps, bait, transmitters, saws, hammers, rat monitoring equipment, volunteer safety sheets, etc., etc., all were jammed into the small dark shed with its partly rotten floor. Each new study and project added more equipment for current use or was left over so it was with relief we greeted the news that another advance in providing for the ARK was to take place. The dirt floor of the old tractor shed had been concreted 18 months ago as a preliminary step, but then there was a lack of progress until near Christmas. A flurry of building saw large donated ranch slider doors and windows erected, a dividing wall made, shelving, lockable cupboards, electric power points all installed and a working bee of volunteers sorted and shifted our equipment into the new store. Improving the roof will, we hope, be another step that will allow the greater part of the new enclosed space to be used as office space and for meetings.



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Evolution of our new storehouse
[photos courtesy of J. Fergusson and J. Sumich]

Until next time . . .

John Sumich