

Whitehead (Popokatea) Translocation
Tiritiri Matangi Island to Ark in the Park (Waitakere Ranges)

May 6th - 11th 2012

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Executive Summary

A total of 97 whiteheads (*Popokatea*) *Mohoua albicilla* were transferred from Tiritiri Matangi Island Ark in the Park (Waitakere Ranges), West Auckland. Two catch operations were run on May 7th – May 8th and May 10th 2012. This translocation is the second one in a 5-10 year long term strategy agreed between Ark in the Park and the Department of Conservation for whitehead reintroductions. Previously there has been a release of 55 whiteheads in August 2004, 51 in May 2008 and 50 in May 2011 (the first translocation in the current long term strategy).

Whiteheads were selected for transfer from the source colony using wing length and weight criteria. Juvenile and adult birds, ranging from captive weight 11 to 21 grams, were housed in a temporary aviary located at the rear of the visitor centre.

All birds were fed twice a day a meal of waxmoth larvae, mealworms, orange halves and a handmade finely chopped fruit mixture blended with honey and jam. These were served in sardine tins and live insects were also thrown into the leaf litter due to an apparent preference for foraging. Water was provided by several planting trays of standing water.

Aviary clearance, hand netting and processing was conducted as quietly but efficiently as possible and begun at approximately 2.5 hours before boat departure.

Three birds were released prior to transport (in other words, not translocated). This included one bird that was showing an elevated level of stress behavior and two birds that were released immediately after hand net capture because of a weight decrease over 3 grams. In addition, one whitehead died in captivity – the reason is yet to be confirmed. The first group of 71 birds we hand netted and released on the 9th at Auckland City Walk, and the last 26 were released on the 11th at Gleasons track.

All 97 birds were transported and released successfully without any incidents and the public thoroughly enjoyed both release events.

Ngati Manuhiri representation accompanied the birds from Gulf Harbour to the release site, and Te Kawerau a Maki representation welcomed the birds on arrival.

1.0 Introduction

1.1 General Whitehead Information

Whiteheads (*Mohoua albigilla*) are a small passerine bird which is endemic to New Zealand. Its range has always been restricted to the North Island and its offshore islands, where it was found commonly and widespread amongst native forest. However, the population has contracted markedly due to human induced factors such as deforestation and the importing of mammalian predators.

Whiteheads have an average life span of 5 years. Both sexes are usual 15cm long with bluish black legs, black beaks and eyes. Males weigh on average 18.5grams, have distinctive white heads and underparts; their upperparts, wings and tail are pale brown (Figure 1). Adult females weigh on average 14.5 grams (Figure 2). Females and juveniles (Figure 3) are similar in colour, but their napes and top of heads have brown colouration.

Whiteheads are primarily insectivorous and will glean from tree trunks, leaves and branches. Their main prey are caterpillars, spiders, beetles & moths. They are often seen hanging upside down to feed. Fruit is not often consumed.

The preferred habitat is small trees and shrubs on the forest edges. Whiteheads build nests amongst the forest canopy or in lower shrubs. Breeding season for this species is between September – December. The main female will build the nest while parents and previous offspring defend their territory. Males and young birds from past clutches often help to raise new chicks during fledging period.



Figure 1: Male Whitehead



Figure 2: Female Whitehead



Figure3: Juvenile Whitehead

1.2 Ark in the Park Project & reintroduction of Whiteheads

Ark in the Park (AIP) is a partnership between Forest and Bird and the Auckland Council, supported by Te Kawerau a Maki (Figure 4). The conservation project is centred around Cascade Kauri Park in Auckland's Waitakere Ranges Regional Park. The primary aim is to control non-native pests and predators, to help restore the ecology of the area to its natural state (Bellingham *et al.* 2009). There are no physical barriers (such as a fence) between AIP and the surrounding forest, but the continuous operation of predator control within its boundaries creates a "mainland island" of sanctuary compared to the risk-laden forest around (Figure 5). The predator control is allowing the existing flora and fauna to recover: trees and plants, invertebrates, native frogs, and birds. As well as this natural recovery, a programme of species restoration has started. Already there have been past successful translocations of whitehead, North Island robin, and kokako (De Poorter 2010). Previously there has been a release of 55 whiteheads in August 2004, 51 in May 2008 and 50 in May 2011 (the first translocation in the current long term strategy). Many of these have bred (Graham *et al.* 2008; Jack, S. 2004; Jack S. 2008). For any information required on the source population refer to Parker (2003).

The Waitakere Ranges has historically been known to hold populations of Whiteheads prior to the extensive disturbance of habitat caused by a multitude of invasive. A long-term strategic plan has been developed in collaboration with DOC (De Poorter 2011) resulting in a permit for 5 - 10 years of whitehead translocations (pending review). The first one took place in 2011, and this year's translocation of 100 Popokatea is the second one in this long term approach.



Figure 4: AIP Project Sign



Figure 5: AIP boundaries and bait lines

2. Methods

2.1 Aviary setup

Prior to foliage being placed into the separate aviary banks, all three banks were checked for holes and loose shade cloth. These were fixed using a heavy-duty stapler supplied by the ranger.

All three banks in the holding aviary were furnished with fresh vegetation 500mm thick from the walls and leaf litter 300mm deep (Figure 6 & 7). Day trip volunteers collected the aviary furnishings immediately after arrival on Tiritiri Matangi and worked up until the departing afternoon ferry at 3.30pm. Vegetation lining the walls included Mahoe (*Melicytus ramiflorus*), Karamu (*Coprosma lucida*), Five finger/ Puakou (*Pseudopanax arboreus*), Karo (*Pittosporum crassifolium*), Mapou (*Myrsine australis*), Broome (*Carmichaelia spp*), and large amounts of dead Punga (*Dicksonia spp*). The only fruiting plant available was Karo. The foliage and leaf litter were collected at random from several sites, with the caution to not alter any vegetation alongside public walking tracks.

Vegetation was secured to the aviary bank walls via two methods. The first method used light and flexible wire to attach branches to the shade cloth. This was used for all three aviaries created for the first 71 birds in captivity due to be released on Wednesday. Vegetation was removed from all aviary banks prior to hand netting of the aviary birds for transportation to AIP. The 2nd method was thought of after finding wire removal during vegetation clearance on Wednesday morning difficult and time consuming. Bank 3 was replaced with new vegetation for the last 26 birds and attached to walls by green string secured by staples on battens. This was found to be a faster method of setting up aviary and also clearing it.



Figure 6: Aviary bank 1 displaying setup



Figure 7: Aviary banks 2 & 3. Bank 3 still to be completed

2.2 *Whitehead capture and aviary transfer*

Six mist nets (4 pockets, 20mm), twenty interchangeable poles, an assortment of fixing ropes, and heavy tent style pegs were utilized to set up 3 mist netting sites across Tiritiri Matangi Island (Figure 8 & 11). Mist nets were placed on the poles with one pocket below the fixing ropes and three above with the bottom pockets no less than 600mm off the ground, to avoid Takahe attacking Popokatea and by catch in the nets, and catching on vegetation. Mist nets were established 4 metres off the ground and ranged from 6 – 12 metres in length. This allowed mid and low canopy flight paths to be targeted.

Three catch sites comprising of 3 nets each were run for the first 2 days, following the first transfer on Wednesday morning; only two catch sites were managed on Thursday with three nets at each. A senior mist netter was present on each site at all times, accompanied by 1-2 trainees (Figure 10).

Call playback was used to attract whiteheads to the catch net area. Playback was used on an irregular basis to reduce the effect of desensitizing the birds.

Catching staff stood as far back from the mist nets as possible, usually out of sight of the net completely, so as not to detract birds from entering the immediate area. Mist nets were checked on a regular basis approximately every 15 minutes. Trainee bird handlers would assist or attempt an extraction if the situation allowed, this provided excellent training opportunities for people new to conservation.

Birds extracted from mist nets were placed in black cotton bags that were tied and taken to the aviary via the park rangers Toyota 4wd if it was available or by walking. Birds that arrived at the atrium for banding and weighing were placed on meat hooks, which were located on the atrium wall (Figure 9). Birds were placed along wall in order of arrival to reduced bag time. Hang points were chosen so that there was sufficient space to reduce the chance of birds colliding into each other and the walls through movement in the bags.



Figure 8: Mist net set up



Figure 9: Whiteheads on meet hooks in bags in order of arrival



Figure 10: Trainee extracting whitehead with assistance

2.3 *Whitehead processing procedures*

2.3.1 *Post capture/ pre aviary*

The aviary atrium was used as the processing centre for captured birds after mist netting and prior to placement in the aviary. Each bird was checked for general appearance and condition, had weight taken and flat chord length measured. Weight, wing measurements and morphological features were used to determine the age and sex of birds. Wing primaries were checked for wear and close attention was paid to both leg and head colourings for age determination. Any particularly light birds or birds that showed poor condition were immediately released. Morphology data was gathered and graphed onto a morphology/ sexing chart (Appendix 1).

Birds were weighed by the aviary assistant for the gross ‘bird in bag’ weight, then handed over to the senior bird handler to proceed with banding. While banding was in progress (Figure 12) the aviary assistant was able to obtain a net bag weight (no bird in bag) (Figure 13). The body weight was recorded on data sheets (Appendix 2). This was later transferred to the DOC banding return template. The banding procedure began with placing the metal B band on the bird’s tarsus first, followed by three colour bands, one of which was a cohort band (Figure 14 & 15). Bands were organized prior to bird capture by aviary assistant to increase speed of banding process based on pre-determined band combination list (appendix 5). The chord length was taken using a 150mm butt ruler, based on the method described in the NZ Bird Handlers Manual (DOC), for a total flat chord measurement (Figure 16).

Once the bird was processed it was gently released through the bank door, allowing the bird to leave the handlers hand at its own will. Each bird was observed for a while to detect stressed behavior (Figure 17).



Figure 12: Senior bird handler placing colour bands



Figure 13: Measuring bird weight



Figure 14: Crimping of metal B band



Figure 15: Bands on Popokatea



Figure 16: Chord length measuring



Figure 17: Releasing bird into aviary bank

2.3.2 *Popokatea management in captivity*

Between Monday 7th and Wednesday 9th of May 71 birds were held in the holding aviary and were released into Ark in the Park in the afternoon of Wednesday 9th. These birds were distributed into banks 1, 2 & 3 of the aviary (Figures 6 & 7). Bank 3 contained 34 birds, 31 were in bank 2 and 6 in bank 1. Captive birds were offered a hefty amount of wax moth larvae, mealworms, hand made fruit mixture (containing finely chopped oranges, apples, feijoa, sultanas, jam & honey), & fruit slices over the course of their stay. Food stocks were topped-up twice each day. Live food was divided into several sardine tins and also thrown into the leaf for natural foraging.

Sixteen thousand wax moth larvae/ galleria and seven thousand mealworms were provided from Biosuppliers, Auckland Zoo and AIP volunteers. Sorting of live food was a full-time task and required constant attention (Figure 18 & 19). Water was provided via plastic planter trays that were also used to rehydrate shrubs and trees in the aviary (Figure 20), these were also filled up twice daily.

Five individuals remained on Tiritiri Matangi in an attempt to capture the remaining 29 birds. Twenty six birds were caught and were held in the aviary between Thursday 10th and Friday 11th of May, the remaining 26 birds were released on the afternoon of the 11th. Feeding and water schedules for the 2nd bird catch were identical to procedures described above.



Figure 18: Galleria/ wax moth larvae 1



Figure 19: Galleria sorting



Figure 20: Water for birds and rehydrating vegetation

2.3.3 *Post aviary / pre transfer*

Prior to recapture the aviaries required all vegetation to be removed. This was done bank by bank, with birds hand-netted immediately after bank vegetation removal. For the de-foliating we had three people in the aviary, two in the atrium and one outside. This ensured minimum movement of people from one area to another, thereby reducing the risk of bird escape and helped keep noise to a minimum. Foliage was detached by the people in the aviary in bundles and once it was observed the birds were at the opposite end of the aviary from the door, vegetation bundles were then passed through to the people in the atrium and the aviary doors reclosed. Vegetation was passed onto the person outside to be disposed of in the surrounding bush.

Birds were herded to the far end of aviary from the door and hand-netted against the sides of the aviary by two senior handlers (Figure 21). Caught birds were placed in bird bags quietly handed to assistants who then tied them onto the horizontal hanging pole at the aviary entrance. Once the pole was full, it was passed to the atrium for pre-box processing. Using this method all birds were removed from the aviary to the atrium ready for pre-box processing. Four handlers were involved with ascertaining gross and net bag and bird weights, similar to the pre-aviary process; which determined if the birds had gained or lost weight while in captivity.

Birds that lost more than 3 grams or more were released immediately. The birds were placed into the boxes after processing via a small entry hole cut into the front which was secured top and bottom by poosie drive screws. A volunteer was in charge of counting the number of birds being placed in each transfer box, this helped reduce confusion during processing.

Transfer boxes had prior to hand netting been filled with fresh manuka and kanuka to give cover and perching space, all sides of the boxes were covered in tea tree foliage (Figure 22). Two wooden perching poles were already pre-built into the middle of each box. An orange half was placed in the centre of each box for the Whiteheads to eat during transporting. There were 12 small and 4 large transfer boxes available. The small boxes contained just one compartment and were designed for 5 birds with the following dimensions: length 535mm, height 370mm, and width 365mm.

The large boxes contained two compartments intended for 10 birds with the following proportions: length 1050mm, height 375mm, and width 370mm. All boxes had strong handles and one side panel with shade cloth and mesh to allow air flow. During transportation, it was ensured the ventilation panel was facing out. The boxes were always kept in the shade, and while in transit, it was ensured that the boxes were kept covered, but well ventilated.



Figure 21: Hand-netting birds for transfer



Figure 22: Transfer boxes being prepared

3. Results

3.1 Capture & Processing of Whiteheads (*Popokatea*)

Over the course of the six day trip 97 Whiteheads (*Popokatea*) were caught on Tiritiri Matangi Island for translocation to the Ark in the Park. On May 7th 45 individuals were caught, followed by 26 on the 8th. These 71 individuals were released on the 9th of May. A second bout of catching occurred on May 9th resulting in 26 more whiteheads captured for release on the 11th. In addition, four birds that had been caught were not transferred: two birds were released early due to a marked decrease in weight size, one was released due to a stressed appearance, and one died in the aviary.

A total of 21 hours over 3 days of mist netting occurred at 9 different sites. More female juveniles were caught than males with 15 juvenile females being caught and 5 males. Nearly double the number of adult males were processed with a total of 48 compared to females who reached 28 (Figure 23). Common weights at capture on the low end of the scale were 13 & 14 grams, at the high end 18 & 19 grams (Figure 24).

The plot of wing length vs weight gave a good visual separation of the sexes (Appendix 1). It was slightly more difficult to determine the bird ages. Adult males had distinctive white heads and adult females had whitish faces and brownish legs with dusky heads. Juveniles were assumed to be the variations in between – with brownish-black legs and white or greyish white faces and dusky napes.

During the 3 days of catching, 101 by-catch birds of 10 different species were caught and immediately released (Appendix 3). Whiteheads comprised 49 % of total catch effort (Figure 30). In descending order the most common species caught were Stitchbird, Bellbird Saddleback, Red crowned parakeet, Fantail, Tui, Robin, Blackbird, Grey Warbler and house sparrow.

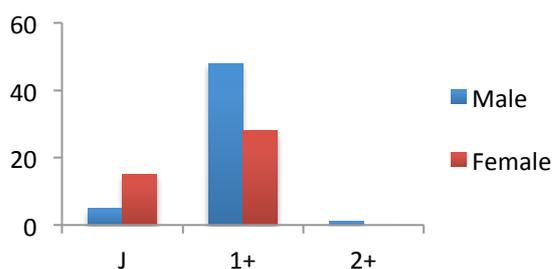


Figure 23: Popokatea male & female ages

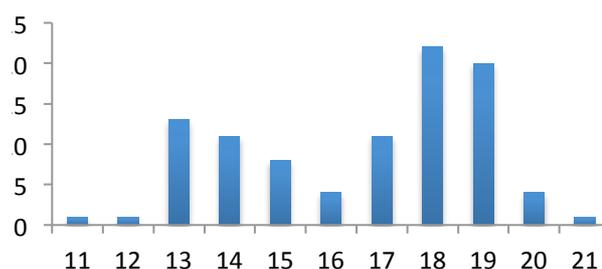


Figure 34: Capture weight of Popokatea (grams)

Trip Teams: (1) Morag Fordham, Jenny Waite, Grant Capill
(2) Simon Fordham, Amelia Farrow,
(3) Sue Sinclair, Megan Young, Dave Jacobi
(4) Andy Warneford & Katherine de Silva
Mandy – Photographer & film artist, helped out all four teams :O)
Yvonne – master chef

3.2 *Whiteheads in captivity*

The whiteheads were reasonably easy to maintain in captivity despite the one casualty. However, food choice throughout their stay seemed selective. Their favourite food was waxmoth larvae, followed by mealworms. 10,000 *Galleria* were eaten over the course of the 3 days and nights of captivity, and 8,000 mealworms plus an unknown amount provided by private collections of volunteers (approx. 1500) were also provided and assumed eaten. A large portion of the live insects were distributed amongst the leaf litter, as it was observed that the sardine tins were not a preferable way to consume food. The Popokatea from both catch efforts were constantly seen foraging in the leaf litter in and around the tins, but not directly from the tins. Only 1 bird was observed feeding from a tin of mealworms in bank 2. However, in saying this, there were a couple of sardine tins that were empty in bank 3 and 2 on the 2nd morning with the first group of birds captured. This may be due to evening feeding overnight or escaped contents. The 2nd group of Popokatea captured on the Thursday were seen to forage on ground level more regularly, and all live insects (10 tins of mealworms and 3 *Galleria*) were deposited into the leaf litter after a couple hours of tin avoidance. The handmade fruit mixture was not directly observed being eaten, and it was difficult to tell looking at tin contents whether or not it had been ‘nibbled’ at. Four orange halves were also provided per bank, and no consumption of these took place.

The percentage of Popokatea, which stayed the same weight during captivity was 36%. More individuals lost weight by 1 gram than gained with the same amount, with 25% losing 1 gram and 18% gaining 1 (Figure 26). 7% lost 2 grams, but comparatively a total of 12% of Popokatea gained a good amount of weight between 2 and 6 grams overnight. Twenty nine individuals gained weight, 32 lost and 24 popokatea stayed the same (Figure 25). The number of individuals that stayed the same weight were similar for both sexes (Figure 27 & 28).

A higher number of weight gain was shown in males with 19 out of 54 increasing and only 10 out of 43 females (Figure 27 & 28). Interestingly 3 juvenile Popokatea gained 4 grams in weight overnight. The highest weight gain for males was 6grams (2 Popokatea) and highest

for females was 4 grams (also 2 Popokatea). Total adults caught were 77 and total juveniles were 20.

One individual was found dead on the floor of bank 3 on Tuesday morning. It is thought the reason was due to 'bullying' however cause is still uncertain.

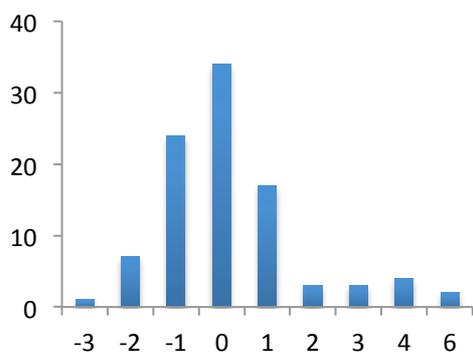


Figure 25: Weight changes of Popokatea (grams)

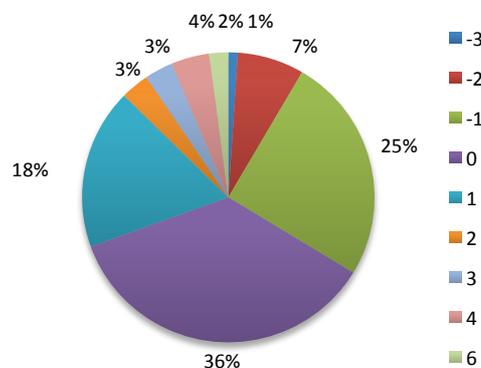


Figure 26: % Weight changes of Popokatea

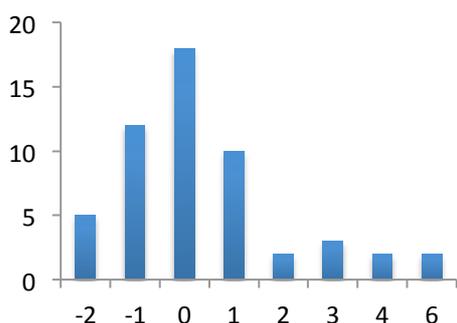


Figure 27: Males weight changes (grams)

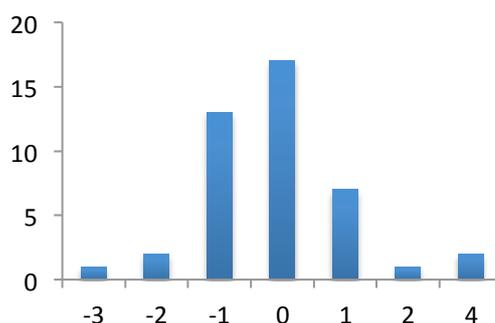


Figure 28: Female weight changes (grams)

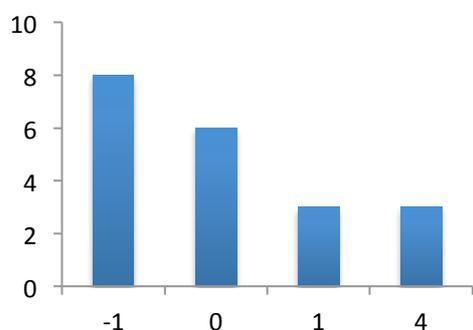


Figure 29: Juvenile weight changes (grams)

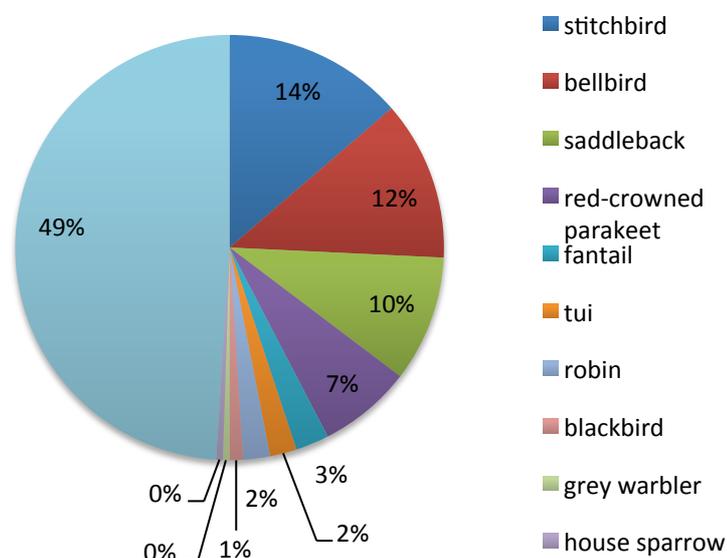


Figure 30: Bycatch percentages

3.3 *Whitehead transfer*

About three hours before the birds were due to be loaded onto the boat, the aviary banks were removed of foliage and senior handlers caught birds using hand nets. The birds were then processed for weight change and any birds that had lost more than 3 gram were released. 2 birds were released for this reason. Aviary weight of birds ranged from 12 to 23 grams (Figure 31).

This translocation successfully released 97 birds into two different areas – Auckland City Walk (71 birds) and at Gleesons Track (26 birds). The transfer ran smoothly on both release days. On Wednesday the 9th 71 birds were released with the help of several core volunteers, five vehicles were used to transport the Popokatea to Ark in the Park. Five large transport cages were used containing 10 birds per cage and four small cages with 5 birds in three cages with the fourth small cage containing 6.

The 2nd group of birds were released at Gleesons track (Figure 32), this entailed a longer trek in with the birds cages of about 1.3km which took approximately a half hour to walk. Several individuals carried the cages a distance before swapping the carrying labour with another individual when a break was required. Attendees include 5 core volunteers who assisted with the vehicle transport and several other regular AIP volunteers.

Both transport trips involved about 45mins of driving from Gulf Harbour to AIP and a 40 minute boat ride on the Kawau Kat ferry. The 2nd group of Popokatea had to deal with a rockier boat ride due to bad weather conditions and a longer time in cages due to the walk to Gleesons. However, all birds were released safely and stayed around the immediate release spots for a while after leaving the cages chirping loudly.

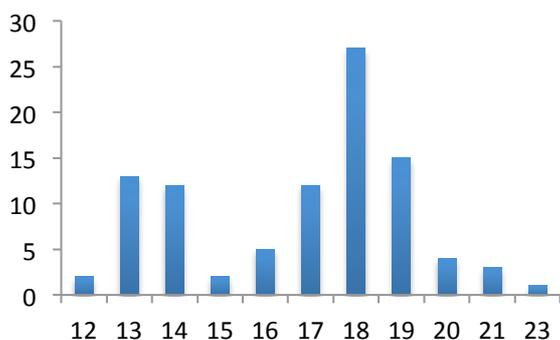


Figure 31: Aviary weight (grams)



Figure 32: Release at bottom of Gleesons Track

3.4 Stakeholders and public participation

All volunteers from *Ark in the Park* and *Supporters of Tiritiri Matangi* had been invited to the Auckland City Walk release. An invitation had also been extended to key councillors from Auckland Council as well as Auckland Council staff from Parks and from Heritage/Biodiversity and Biosecurity. Many volunteers from *Ark in the Park* attended.

Ngati Paoa, Ngati Wai, the Moko Trust, Ngati Manuhiri and the Hauraki Collective were all consulted and made aware of the translocation and offered assistance, if they wished, for their participation.

Ngati Manuhiri (Ringi Brown) expressed an interest in accompanying the birds from Gulf Harbour and doing a formal blessing upon arrival at the Cascade Kauri release site. Kawerau a Maki representatives led by Rewi Spraggon formally received the birds.

3.5 Media

A media release was prepared jointly by Forest & Bird and the Auckland Council. (Attached as Appendix 5). Radiolife covered the release, and the Western Leader published an article (also included in appendix).

4.0 Discussion

4.1 General

Tiritiri Matangi was chosen as the source population due to the high abundance of whiteheads on the island (Parker, 2003), and is of relatively low cost compared to sourcing from Little Barrier Island due to travel and accommodation costs.

Twelve core volunteers (catch team) assisted with the capture and transfer of 97 whiteheads between the 6th – 10th May, along with 16 additional volunteers (day trippers) on day 1. The catch team were delegated tasks and roles throughout the trip. The day trip volunteers provided on the 6th an invaluable and efficient head start in

setting up the aviary and food resources before Whitehead capture the next morning. The extra volunteers that came out for the day, provided a huge resource benefit to setting up the aviary but this could have been better utilised if the core catch team worked directly with the day volunteers gathering vegetation and placing in aviaries rather than doing bird reconnaissance.

Aviary banks were inspected prior to set up and several holes were found in banks 1 & 2 in the shade cloth including one joint between sheets of shade cloth that had no fixing/ fastening at all. Several other holes were repaired. Aviaries were set up to a high standard, however bank 3 was the best, with new shade cloth fastened by wooden batten along all joints. The wooden battens had light fencing staples attached to provide a fixing point for vegetation. It also had hang points at the bank entranceway installed for the purpose of hanging poles which in turn had bagged birds attached from aviary catching which assisted ease of transferring birds from bank aviary to atrium for processing. The battens ensured no gaps were present in the lining for whitehead to become trapped. The fixing points meant there was no damage to the shade cloth during vegetation placement and string was able to be used rather than light wire. Bank 1 and 2 had no fixing points so the shade cloth was becoming damaged with light wire fittings. It would be beneficial to future aviary work to have banks 1 & 2 improved to the same level as bank 3. Banks 1 & 3 had solid doors that reduced noise resulting from foot traffic and other activities in the atrium. The viewing hatch on bank 3 was particularly well set up with shade cloth on the inside and metal mesh on the outside.

This meant that the resulting light gradient enabled easy viewing of the bird activity. It was noted that when boots were worn in the atrium, birds were severely disturbed by the noise. As a result we moved to bare feet or soft-soled shoes. It was felt it would be of benefit to have an information sheet on the door of aviaries to record feeding times, behavioural observations and a list of birds in aviary.

During mist netting it was noted that the playback cables only allowed the speakers to be 500 mm either side of the net. It was felt by the team leader this gave limited control of the direction of the birds. Only three various whitehead playback calls were available for use. This limitation possibly reduced its effectiveness. More Popokatea calls should be found for use. It was decided after several walking trips with the birds to the aviary from net sites that the use of the Toyota utility vehicle may be a more efficient method of ferrying birds. It significantly reduced bag time and noise

subsequently reducing stress levels. The Toyota was markedly quieter than the mule, which has been used on previous occasions. Heights of the poles taken on this trip were about half a meter too long, which caused problems for mist net operators to manage. Also, one of the nets was found to be damaged with one small hole on first use. The 12 meter nets were too long for many catch sites, the 6 and 9 meter nets were found easier to handle and were more flexible as to their location.

Several issues were found during captivity and the recapture period. It was noticed when deploying feeding tins it would cause disturbance to the whiteheads. No birds except one were observed utilizing the containers of galleria and mealworms, instead foraging behavior amongst the leaf litter was a regular occurrence. However, small quantities of mealworms did seem to be eaten from the tins measured by a decrease in quantity of tin contents overnight, but the activity was not seen. It was thought beneficial to disperse live insects into the leaf litter to increase feeding behavior and chances of food take-up. The birds it seemed did not fancy any of the fruit mixture provided. However noting this was difficult as the fruit mixture was finely chopped and bird consumption would not be noticed easily unless directly observed.

When using hand nets to recapture birds, the tree in bank 1 made it significantly harder to capture, especially the last few individuals and subsequently increased the stress levels of both birds and staff. So it may be of benefit to remove this before next aviary use. The processing area also became dark at the later part of the day approximately after 3pm, which made it hard to read band numbers, butt ruler and slightly effect handling of birds.

The heavy use of the entrance area and regular rain spells, the entrance to the aviary became a health and safety hazard with a higher risk of slipping. Steps should be built or another method could be taken to remedy this problem.

The transporting cages seem appropriate for the whiteheads. Several times throughout the transporting period the groups of birds were heard fighting within the enclosures, but each time was brief. But in general the whiteheads were quiet and adjusted well en route. The orange halves provided in each cage were not touched. There was no talking at any time throughout the walk to Gleasons track, in an attempt to reduce stress levels, also cage carriers were cautious of sudden movements and surrounding trees/ foliage that could bang against the cages and tried to detour around these at all times.

The release of birds from the boxes was done simultaneously and still with no talking amongst observers. The whiteheads were healthy and happy and stayed around the immediate release area for a while, which the crew and observers thoroughly enjoyed. Photos and film footage were taken by a Forest & Bird media staff member at the Gleasons Track site. Iwi representatives and AIP volunteers attended the 1st release at the Auckland City Walk.

4.2 Recommendations

Extra equipment:

- 2nd set of 0 - 100gram Pesola scales
- 2nd pair of scissors
- More meat hooks (approx. 50)
- 100 more cotton bird bags with pull cord design
- More planter water trays (30 at approx 300mm)
- Coreflute boards for 'quiet' signs
- String for foliage tie back.
- 1 extra 9m net
- Bag of rags
- Flagging tape
- Mist net repair kit
- Extra clipboard for bank doors

Aviary & Equipment Improvements

- Battens be added to aviary lining to help secure shade cloth
- Provide staple tie back points
- Change middle aviary/ bank 2 door to a solid door with inspection hatch with shade cloth on inside and steel mesh on the outside
- Remove live plants from bank 1
- Design a new feed platform for aviary banks
- Cut half the poles the poles down by 600mm

5. Acknowledgements

This release was a concerted effort by Forest & Bird, the Auckland Council, Supporters of Tiritiri Matangi, DOC, Te Kawerau a Maki, Ngati Manuhiri and many Ark in the Park volunteers, with 360 Discovery Cruises providing transport to and from Tiritiri Matangi.

A huge thank you to the entire volunteer crew who took time off to help out on the Popokatea Translocation Trip. A great thanks to Yvonne Vaneveld who fed a hungry crew every night and lunch time with amazing meals, to Mandy Herrick who did a great job in filming and collecting photos of the project alongside helping all groups stationed in the field, and to the volunteers working at the mist net stations and aviary: Morag and Simon Fordham, Sue Sinclair, Jenny Waite, Grant Capill, Amelia Farrow, Megan Young, Dave Jacobi, Andy Warneford & Katherine de Silva. The trip wouldn't have run as smoothly without the assistance of several volunteers who assisted on Sunday 6th with the demanding physical labour of collecting an immense amount of vegetation and setting up the aviary: Alison & Jean, Judi Simpson, Julian Hayes, Murray Sargisson, Victoria Fray, John Sumich, Nathalie Drujon, Ami Maxwell, Vicki, Lucy Quinn, Margi Luby, Keryn McCracken, Teja Appilla, Orhan Er, and Carlos Esteban. And to the individuals who did a fantastic job on Wednesday helping with transport of Popokatea to the release site and provided assistance at the release: Thomas Goodman, Vicki Sargisson, Tamas Desci, Ngatai Rudolf, Orhan Er, Victoria Fray, Sharon Osman, and Deborah Radford. And finally the last group who walked a fair distance up Gleasons Track carrying heavy bird boxes with the utmost care were: Andy Warneford, Katherine de Silva, Ruairi Flynn, Mandy Herrick and Morag Fordham.

Also our special thanks to Tim Lovegrove (Auckland City) and Kevin Parker (Massey University) for advice and assistance and Dave Jenkins (DOC).

Ark in the park gratefully acknowledges the funding for its overall work from major sponsors ASB Community Trust and The Trusts Community Foundation, and from the Birdlife International Community Fund, the Auckland Zoo Conservation Fund, and Zelda Roberts Charitable Trust.

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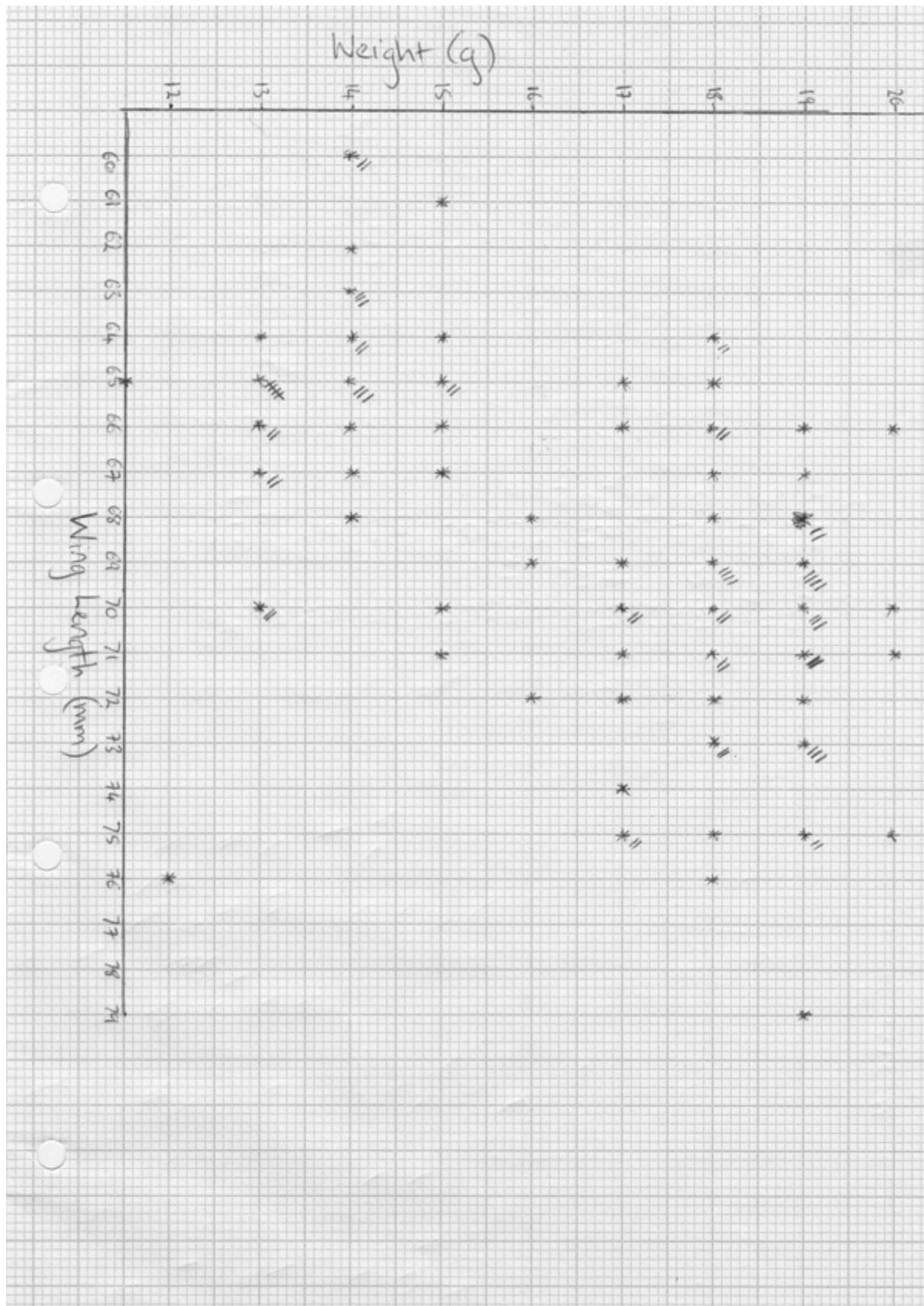
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Appendix 1

Morphology/ Sexing Chart



Appendix 2

Popokatea Data Table

Common Name: Whitehead

Permit Code: 2007071

Bander: Andy Warneford

Scientific Name: Mohoua Albicilla

Permit Holder: Mark Bellingham, Forest & Bird

Location: Tiritiri Matangi Island

Date	BandPrefix	Band Number	Left	Right	Age	Sex	Wing mm	Capture Weight	Aviary Weight	Weight Change	Capture Location
7/05/2012	B	124695	Lg m	Lg G	J	F	65	14	13	-1	ET Link
7/05/2012	B	124696	Lg m	Lb B	J	F	61	15	14	+1	ET Link
7/05/2012	B	124697	Lg m	Lg O	J	F	63	14	10	-4	ET Link (released)
7/05/2012	B	124698	Lg m	Lg Y	1+	F	69	19	15	-3	Cable (released)
7/05/2012	B	124699	Lg m	Lg R	1+	M	71	18	21	+3	Cable
7/05/2012	B	124700	Lg m	Lg W	J	M	65	18	18	0	ET Link
7/05/2012	B	113572	Lg m	G lg	1+	F	69	17	17	0	Firebreak
7/05/2012	BP	2599	Lg m	G G	J	F	60	14	13	-1	ET LINK
7/05/2012	BP	2598	Lg m	G B	J	F	68	14	14	0	Firebreak
7/05/2012	BP	2597	Lg m	G Y	1+	M	70	17	18	+1	Firebreak
7/05/2012	BP	2596	Lg m	G O	J	F	64	14	13	-1	Firebreak
7/05/2012	BP	2595	Lg m	G R	1+	M	72	18	18	0	Firebreak
7/05/2012	BP	2594	Lg m	G W	1+	M	73	18	17	-1	ET Link
7/05/2012	BP	2593	Lg m	B Lg	J	F	62	14	13	-1	ET Link
7/05/2012	BP	2592	Lg m	B G	1+	F	67	15	13	+2	ET Link
7/05/2012	BP	2591	Lg m	B B	J	F	64	14	13	-1	Wattle Valley
7/05/2012	BP	2590	Lg m	B Y	1+	M	71	18	19	+1	Wattle Track
7/05/2012	BP	2589	Lg m	B O	1+	M	72	16	16	0	Wattle Valley
7/05/2012	BP	2588	Lg m	B R	J	M	69	19	18	-1	Wattle Valley
7/05/2012	BP	2587	Lg m	B W	1+	M	73	19	17	-2	Wattle Valley
7/05/2012	BP	2586	Lg m	Y Lg	J	F	66	19	18	-1	Wattle Valley

7/05/2012	BP	2585	Lg m	Y G	2	M	72	19	19	-2	Lower Cable
7/05/2012	BP	2584	Lg m	Y B	J	F	66	13			Firebreak (released)
7/05/2012	BP	2583	Lg m	Y Y	1+	M	70	18	17	-1	Firebreak
7/05/2012	BP	2582	Lg m	Y O	J	F	64	13	13	0	Firebreak
7/05/2012	BP	2581	Lg m	Y R	1+	F	65	15	12	+1	Wattle Valley
7/05/2012	BP	2580	Lg m	Y W	1+	M	75	17	18	+1	Bottom Firebreak
7/05/2012	BP	2579	Lg m	O Lg	J	F	66	14			Bottom Firebreak (deceased)
7/05/2012	BP	2578	Lg m	O G	1+	F	67	13	13	-1	Cable
7/05/2012	BP	2577	Lg m	O B	1+	F	66	18	18	0	Cable
7/05/2012	BP	2576	Lg m	O Y	1+	M	75	19	19	0	Cable
7/05/2012	BP	2575	Lg m	O O	1+	M	75	19	19	0	Cable
7/05/2012	BP	2574	Lg m	O R	1+	M	74	17	17	0	Cable
7/05/2012	BP	2573	Lg m	O W	1+	M	69	16	19	+3	Cable
7/05/2012	BP	2572	Lg m	R Lg	1+	M	75	17	17	0	Wattle Valley
7/05/2012	BP	2571	Lg m	R G	1+	F	66	15	14	-1	Wattle Valley
7/05/2012	BP	2570	Lg m	R B	1+	M	70	19	19	0	Firebreak
7/05/2012	BP	2569	Lg m	R Y	1+	F	65	18	18	0	Firebreak
7/05/2012	BP	2568	Lg m	R O	1+	M	70	19	19	0	Bottom Firebreak
7/05/2012	BP	2567	Lg m	R R	1+	F	67	14	14	0	Shortcut
7/05/2012	BP	2566	Lg m	R W	1+	F	64	15	14	-1	Firebreak
7/05/2012	BP	2565	Lg m	W Lg	1+	F	70	13	17	+4	Shortcut
7/05/2012	BP	2564	Lg m	W G	1+	M	71	19	18	-1	Wattle Valley
7/05/2012	BP	2563	Lg m	W B	J	F	65	14	14	0	Wattle Valley
8/05/2012	BP	2562	Lg m	W Y	J	M	75	17	18	+1	Kawerau
8/05/2012	BP	2561	Lg m	W O	1+	F	65	13	13	0	Shortcut
8/05/2012	BP	2560	Lg m	W R	J	M	70	15	19	+4	Shortcut
8/05/2012	BP	2559	Lg m	W W	1+	F	65	13	14	+1	Shortcut
8/05/2012	BP	2558	Lg m	Lg Lg	1+	M	76	12	18	+6	Wattle Valley
8/05/2012	BP	2556	Lg G	Lg m	J	F	65	13	13	0	Wattle Valley
8/05/2012	BP	2555	Lg B	Lg m	1+	F	64	18	20	+2	Wattle Valley
8/05/2012	BP	2554	Lg Y	Lg m	1+	M	72	17	18	+1	Wattle Valley
8/05/2012	BP	2553	Lg O	Lg m	1+	M	79	19	19	0	Wattle Valley

8/05/2012	BP	2552	Lg R	Lg m	1+	M	69	19	19	0	Kawerau
8/05/2012	BP	2551	Lg W	Lg m	1+	M	73	19	18	-1	Shortcut W.V
8/05/2012	BP	2550	G Lg	Lg m	1+	M	70	19	20	+1	Short cut W.V
8/05/2012	BP	2549	G G	Lg m	1+	F	63	14	15	+1	Weta Box
8/05/2012	BP	2548	G B	Lg m	J	F	65	11	15	+4	Weta Box W.V
8/05/2012	BP	2547	G Y	Lg m	1+	M	73	18	18	0	Kawerau
8/05/2012	BP	2546	G O	Lg m	1+	F	65	13	14	+1	Weta Box W.V
8/05/2012	BP	2545	G R	Lg m	1+	M	69	18	19	+1	Weta Bo W.V
8/05/2012	BP	2544	G W	Lg m	1+	F	66	13	13	0	Kawerau
8/05/2012	BP	2543	B Lg	Lg m	1+	F	65	17	18	+1	Weta Box W.V
8/05/2012	BP	2542	B G	Lg m	1+	M	69	18	19	0	Wattle Valley
8/05/2012	BP	2541	B B	Lg m	J	M	70	13	17	+4	Weta Box W.V
8/05/2012	BP	2540	B O	Lg m	1+	M	69	18	18	0	Wattle Valley
8/05/2012	BP	2539	B R	Lg m	1+	M	67	19	21	+1	Wattle Valley
10/05/2012	BP	2538	B W	Lg m	1+	F	64	18	18	0	Wattle Valley
8/05/2012	BP	2537	Y Lg	Lg m	1+	M	70	18	19	+1	Weta Box W.V
10/05/2012	BP	2536	Y G	Lg m	J	F	67	13	14	+1	Generator Track
10/05/2012	BP	2535	Y B	Lg m	1+	M	68	18	18	0	Generator Track
10/05/2012	BP	2534	Y Y	Lg m	1+	F	65	14	14	0	Wattle Valley
10/05/2012	BP	2533	Y O	Lg m	1+	M	71	15	16	+1	Wattle Valley
10/05/2012	BP	2532	Y R	Lg m	1+	M	67	18	19	+1	Shortcut W.V
10/05/2012	BP	2531	Y W	Lg m	1+	M	70	17	23	+6	Shortcut W.V
10/05/2012	BP	2530	O Lg	Lg m	1+	F	68	16	16	0	Generator Track
10/05/2012	BP	2529	O G	Lg m	1+	M	70	20	18	-2	Wattle Valley
10/05/2012	BP	2528	O B	Lg m	1+	M	68	19	21	+2	Wattle Valley
10/05/2012	BP	2527	O Y	Lg m	1+	M	75	18	17	-1	Wattle Valley
10/05/2012	BP	2526	O O	Lg m	1+	M	72	19	18	-1	Shortcut W.V
10/05/2012	BP	2525	O R	Lg m	J	F	65	13	14	+1	Wattle Valley
10/05/2012	BP	2524	R G	Lg m	1+	M	69	18	17	-1	Aviary
10/05/2012	BP	2523	R B	Lg m	1+	M	70	19	18	-1	Cable
10/05/2012	BP	2522	R Y	Lg m	1+	M	70	19	18	-1	Cable
10/05/2012	BP	2521	R O	Lg m	1+	F	66	18	18	0	Cable
10/05/2012	BP	2520	RR	Lg m	1+	M	75	20	18	-2	Cable
10/05/2012	BP	2519	R W	Lg m	1+	F	66	20	19	-1	Cable

10/05/2012	BP	2518	W Lg	Lg m	1+	M	71	20	18	-2	Aviary
10/05/2012	BP	2517	W G	Lg m	J	F	65	13	13	0	Aviary
10/05/2012	BP	2516	W B	Lg m	1+	F	65	15	13	-2	Aviary
10/05/2012	BP	2515	W Y	Lg m	1+	F	63	14			Aviary
10/05/2012	BP	2514	W O	Lg m	1+	F	60	14	13	-1	Aviary
7/05/2012	B	124669	H M	W R	1+	M	78	16	16	0	ET Link
7/05/2012	B	120429			1+	M	71	18			ET Link (released)
7/05/2012	B	120436	K B	Lg m	1+	F	70	19	19	0	Wattle Valley
8/12/2012	BP	2557	Lg m	H H	1+	F	66	17	16	-1	Wattle Valley
8/05/2012	B	120440	B B	Lg m	1+	F	67	13	14	+1	Wattle Valley
8/10/2011	B	100701	W Y	B m	1+	M	74	21	20	-1	Kawerau
8/03/2011	BP	1154	R H	Lg m	1+	M	76	18	18	0	Weta Box W.V
10/05/2012	B	120433	O W	Lg m	1+	M	71	18	17	-1	Aviary
10/05/2012	BP	1196	R Lg	Lg m	1+	M	69	19	19	0	Aviary

Appendix 3

By-catch data

Species	Quantity
stitchbird	27
bellbird	24
saddleback	19
red-crowned	
parakeet	14
fantail	5
tui	4
robin	4
blackbird	2
grey warbler	1
house sparrow	1
Whiteheads	97

Appendix 4

Gear List

Item	Provided by...	Check
Poles	Ark	
Rope	Ark	
Nets	Ark	
Speakers	Simon	
2 way switches	Simon	
Pegs	Ark	
Playback equipment, recorded calls, spare batteries	Andy (Sound bites Simon)	
Hooks for bird bags		
Bird bags	Ark	
Metal bands	Ark	
Colour bands	Ark	
Banding pliers, circlip pliers and colour band applicator	Ark	
Wing rule	Ark	
Vernier callipers	Ark	
Pesola scale	Ark	
Data sheets and banding combinations	Andy	
Bird boxes	Tim Lovegrove	
Hand catch nets	Tim Lovegrove	
Radios	Ark	
Radio chargers	Ark	
Energiser AA and AAA batteries	Ark	
Energiser chargers X 2	Ark	
Mobile phone charger	Ark	
Invertebrates	Bio suppliers	
Fruit (fresh and dried)	Ark	
Fruit cake	Ark	
Jam	Ark	
100 Food dishes (fish tins plus extras...)	Ark	
8 Large water dishes/trays (planter trays) for sorting invertebrates	Ark	
Sieve	Ark	
3 Jugs for mixing jam and fruit mix	Ark	
4 Water bottles	Ark	
4 Buckets for cleaning	Ark or Tiri	
Dish brush	Tiri	
Soft wire for perches etc	Ark	
Camping pads to sit boxes on in transit	??? not so much cars	
Scissors	Ark	
Knife	Ark	
Bread board	Ark	
Tool kit – hammer, saw, pliers, screw drivers, nails, screws	Ark	
First Aid kits X 2	Andy	
Plastic storage bags	Ark	
Flagging tape	Ark	
Large rubbish bags for leaf litter (30cm deep)	Ark	
Handsaws for aviary branches	Ark	
Fine tie wire for tying	Ark	
Stapler	Andy	
Coffee Plunger	Andy	

1) Media Release: Songbirds released into the Waitakere Ranges – 9 May 2012

One hundred whiteheads (popokatea) were released today into the Ark in the Park in the Waitakere Ranges.

The tiny native birds became extinct in Auckland and Northland in the early 1900s, but several re-introductions from Tiritiri Matangi Island in the Hauraki Gulf have allowed the Auckland mainland population to flourish.

A total of 155 whiteheads have been released in the Ark in the Park, in 2005, 2008 and 2011, and many of these birds have bred.

“These sparrow-sized birds occupy the middle of canopy, so they’re hard to see with the naked eye however they’re bold, clear singers, so you can sometimes hear them in the Ark,” says Ark in the Park Manager, Maj de Poorter.

Around 30 volunteers working for both Ark in the Park and Supporters of Tiritiri Matangi (SOTM) caught the birds on Tiritiri Matangi Island in the Hauraki Gulf.

The birds were caught using mist net techniques and were then released into two sites in the Ark in the Park area to maximise the chances of the birds finding a suitable habitat.

“We’ve developed a long-term strategic plan in collaboration of DOC, so there will be whitehead top-ups into the Ark for 5 -10 years,” says Ark in the Park Manager, Maj de Poorter.

This release is a concerted effort by Forest & Bird, the Auckland Council, Supporters of Tiritiri Matangi, DOC, Te Kawerau a Maki, Ngati Manuhiri and many Ark in the Park volunteers, with 360 Discovery Cruises providing transport to and from Tiritiri Matangi.

Ark in the park gratefully acknowledges the funding for its overall work from major sponsors ASB Community Trust and The Trusts Community Foundation , and from the Birdlife International Community Fund, the Auckland Zoo Conservation Fund, and Zelda Roberts Charitable Trust.

Facts

- Whitehead are found in native forest and older exotic forest in the North Island mainland and on a few offshore islands.
- They are often seen hanging upside down to feed on insects.
- They form large flocks in the upper canopy of trees – this is a tactic used by insect feeders to disrupt the insects and create a bountiful feeding ground.

- Maori folklore believed the whitehead to be a messenger between man and the gods. It is a very tapu (sacred) bird
- Young birds are raised by a group of adults. They are able to breed at one year old, but when population densities are high, most young birds delay breeding and act as helpers instead.
- Males have a white head, pale brown body and black legs, bill and eyes. Females and juveniles have a brownish white head. They are slightly smaller than a sparrow.
- Whitehead play host to the threatened long-tailed cuckoo. The cuckoo lays its eggs in the whitehead's nest, and when it hatches, the young bird evicts the host's eggs and chicks and is then raised alone. The whiteheads continue to feed the cuckoo even though it is about three times as long as them and about nine times their weight.
- The Ark in the Park is a community driven open sanctuary at Cascade Kauri in the Waitakere Ranges Regional Park, close to Auckland city. This community based project is a partnership between Forest and Bird (Waitakere Branch) and the Auckland Council, supported by Te Kawerau a Maki and made possible by the large volunteer input (close to 8000 hours per year)
- The project started in January 2003 and the aim is to allow the restoration of a functioning native ecosystem through intensive pestcontrol. With regards to native species management, there are two complimentary aspects to recovery: reintroduction of native species that were lost, and adaptive management of native species that survived.

For more information and photos contact:

Forest & Bird's Communication Officer, Mandy Herrick on 027 617 8355.

2) Article in Western Leader 25 May 2012

www.westernleader.co.nz

NEWS

25 May 2012

Whiteheads settle into ranges haven

Around 70 whitehead birds released in the Waitakere Ranges Ark in the Park open sanctuary are thriving in their new home.

The birds were released two weeks ago and are adapting well, having been caught and transported from Tiritiri Matangi Island.

Ark in the Park is a volunteer-driven sanctuary at Cascade Kauri in the Waitakere Ranges Regional Park.

Ecologist field officer Andy Warneford says there have been a few sightings of the sparrow-like birds on the park's walking tracks.

Whiteheads disappeared from Auckland and Northland in the early 1900s but



Sacred bird: Ark in the Park's Andy Warneford with one of the whitehead birds released into the Waitakere Ranges.

for both Ark in the Park and Supporters of Tiritiri Matangi caught the birds using mist nets and released them into two sites to maximise the chances of the birds finding a suitable habitat.

A total of 156 whiteheads have been released into Ark in the Park in 2005, 2006 and 2011 and many of these birds have bred.

Ark in the Park is a partnership between Forest & Bird and Auckland Council and is supported by Te Kowhiri a Maki iwi.

several reintroductions from mainland population of the Tiritiri Matangi have seen the return of an Auckland Thirty volunteers working