



## *The Avicultural Society of New South Wales (ASNSW)*

*(Founding in 1940 as the Parrot & African Lovebird Society of Australia)*

*PO Box 248, Panania NSW 2213, Australia*

## **Lord Howe Island Rodent Eradication Project**

*(ASNSW meeting - October 2013)*

### **Presented by Rod Stapley**

Most of you may be aware that some of the bird keepers from Taronga Zoo are working with birds on Lord Howe Island. What you may not be aware of is that we have three keepers on the island. They have been over there working with the Woodhens and Currawongs on Lord Howe Island.

Brief history of Lord Howe Island Lord Howe is a volcanic remnant which is 600 kilometres east of Port Macquarie. It is a volcanic island that is relatively young, it was about 7,000,000 years ago that it rose out of the water. More interestingly to me is that it is no longer volcanically active and they estimate that in about 200,000 years, erosion is going to cause it to be gone.



Lord Howe Island

Lord Howe was heritage listed in 1982 in recognition of its exceptional biodiversity. Every species that is on Lord Howe Island has either flown or floated there, so you have an interesting mix of species from the islands off the east coast of Australia; some from Australia, some from New Zealand, New Caledonia, and all those islands. Almost half the Island's native plants are endemic such as the Little Mountain Palm that only grows on the top of Mount Gower.

Black rats and house mice were accidentally introduced to Lord Howe about 100 years ago and since then the rats mostly (and mice), have been implicated in the extinction of at least five bird species and 13 invertebrate species, and they are recognised as a threat to a further 13 birds, two reptiles, 51 plants, 12 vegetation communities and numerous invertebrates.



Little Mountain Palm  
(*Lepidorrhachis mooreana*)

You have probably heard a bit about the [Wild Lord Howe Island Stick Insects](#). It has been well publicised and the Melbourne Museum has been doing a lot of great work with Britain to bring this insect back from the brink of extinction. The Lord Howe Island Stick Insect was once so widespread that it was very common in the roofs of houses.

The Lord Howe islanders were telling me when I was over there that they used to hear them scratching and scratching at night in their roofs and then they all went and the scratching has now been replaced by rats and mice. So they've been classified as extinct on the main island of Lord Howe. Then they were found on the top of Mount Gower. So they've been bred and they've bred quite well in captivity in Melbourne. They are waiting to be released back onto the island when the rats and mice have been eradicated.

### **Brief history of the rodent eradication project**

The year before last Lord Howe Island was successful in gaining \$9,000,000 funding for the eradication of rats and mice on the island. Half of that was coming from the Federal Government and half was coming from State Governments.

Lord Howe will be the largest inhabited island in the world where it has ever been attempted to eradicate rodents.

Techniques for rodent eradication have been developed over the past 20 years. Since then 332 rodent eradications have been undertaken worldwide and of these 284 have been a success, 35 have failed and 20 the results have been unsure. So that is about an 85% success rate. This has been on non human inhabited islands. So Lord Howe Island is going to be a challenge.

The project is comprised of two phases:

1. The actual eradication of rats and mice in 2016; and
2. A captive husbandry trial in 2013 which is currently underway.

So you have got the Lord Howe Island Woodhen and the Lord Howe Island Currawong and these are the birds that we are going to be looking after.



Lord Howe Island Currawong (left) ([Photo courtesy of Wikipedia](#))  
Lord Howe Island Woodhen (right) ([Photo courtesy of Wikipedia](#))

What they will basically be doing is they will be mixing Rodenticide with a cereal. They will be putting this into a container that spins around underneath the helicopter as it flies by GPS backwards and forwards across the island distributing the baits.

A preliminary trial with non toxic baits has confirmed that the Lord Howe Island Woodhen will ingest the toxic baits and that the Currawongs consume rodents so obviously the toxins are going to build up in them and they will be susceptible to secondary poisoning.

To mitigate this risk a significant portion of both these species will be taken into captivity on Lord Howe Island during the 13 week baiting period. In 2016 that is going to mean that 200 Woodhens and 100 Currawongs will be taken into captivity under our care. So you can imagine the logistics that go along with that.

Taronga's role is to manage the complete captive husbandry of the 20 Lord Howe Woodhen and the 10 Currawongs during the captive trial in 2013, and the 200 Woodhen and the 100 Currawongs during the actual baiting in 2016. Responsibility involves everything from captive husbandry through to managing and construction of a whole heap of facilities. The trial component was designed to test the birds' behavioural responses to captivity so that we can be confident that our aviary design on such a large scale will hold them in 2016.

The Lord Howe Island Woodhen has been very close to extinction in the past. In the 1980's I think it was. There were pigs on the island and the Woodhens' numbers were down to 24, of which I think there were only three females. Glen Fraser went over and he bred the Woodhens very easily and very successfully. They eradicated the pigs and the goats on the island and the Woodhens numbers came back to about 200, which is where they are at the moment. So that is a good success story for them.

The Lord Howe Island Currawong is a significant subspecies of the mainland Currawong. It is larger and one thing that I find very interesting about them is that there are actually a couple of birds on the island that are flightless. The rumour is that they have bred offspring that are also flightless, is that right Michael?

**Michael Shiels:**

*The guy whose property they came off thinks they been injured, he doesn't believe it is a mutation.*

Oh okay. It's a good story. I don't really know if it is true but it is a good story.

**Graeme Phipps:**

*Is it flightless Currawongs you are referring to?*

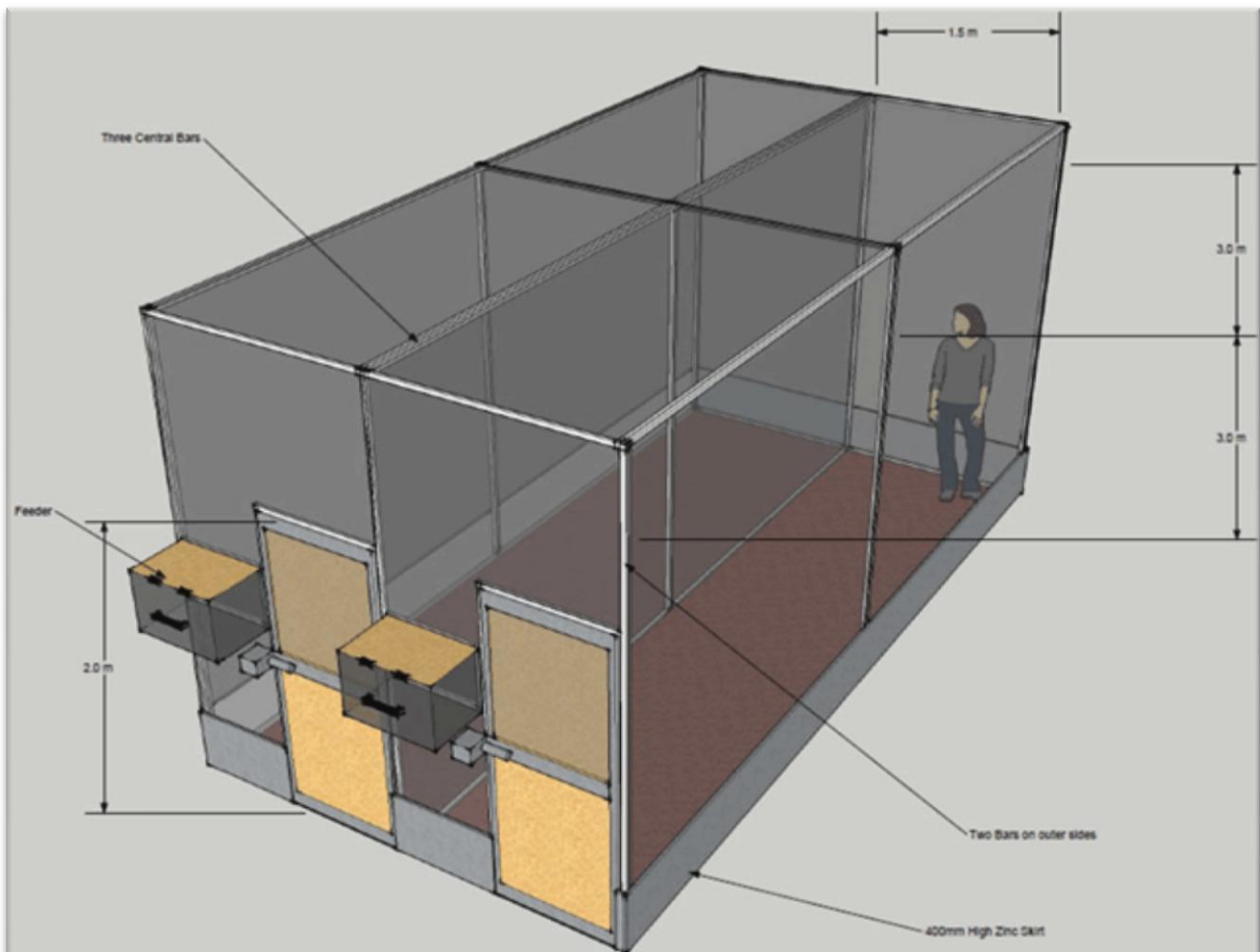
Yes.

**Michael Shiels:**

*There are two female Currawongs that live on a property that is just near the airport and they can't fly; but they think it is a nutritional problem rather than a mutation. These birds have successfully bred many, many clutches.*

In my mind that is how a species becomes flightless and for whatever reason, if they pass on their genes to next generation, that's how it's done.

One of our contractors travelled to Lord Howe Island to oversee the construction of eight Currawong aviaries and one Woodhen pen. So obviously we are building these pens for the trial.



We know that the Woodhen have been kept in captivity for breeding purposes and that's pretty easy. You just take a pair and as you know, you guys are all breeding birds; but say you had to keep 200 birds – how are you going to do it?

You are going to do it completely differently.

To do it economically we need to keep them in a battery hen situation. So we have got to design a pen that we can keep large numbers in.

There has been work done on a similar species, the New Zealand Weka (*Gallirallus australis*), also a flightless bird of the same genus. During a similar rodent eradication project they kept large numbers of them and they did it successfully. This is the technique we have followed which is when you put a number of birds into an area and each bird has less than seven square metres each, you establish a pattern basically, any territorial aggression breaks down. So you don't have structures, you don't have territories, they become like a battery hen.

So that is what we are designing for the Woodhen.

For the Currawong it is different. We are going to try and keep them as pairs. They do flock in winter, but we just think we are going to have better success with them in that kind of setup.

So that is what the trial is about. It is testing our theories so that when we go to build \$500,000 worth of aviaries in 2016 we can be confident it is going to work.

So in July one of our contractors travelled over there to oversee the construction of the eight Currawong aviaries and one Woodhen pen.



Construction of Lord Howe Island Currawong pens

The construction of the Currawong aviaries was modelled on some of the holding aviaries that we have on site at Taronga.

We lined them all with shade cloth.

All the feedback that we got from WIRES and people that have had Currawongs was that when you take a wild Currawong into captivity they are a very smart bird, they will constantly try and escape.

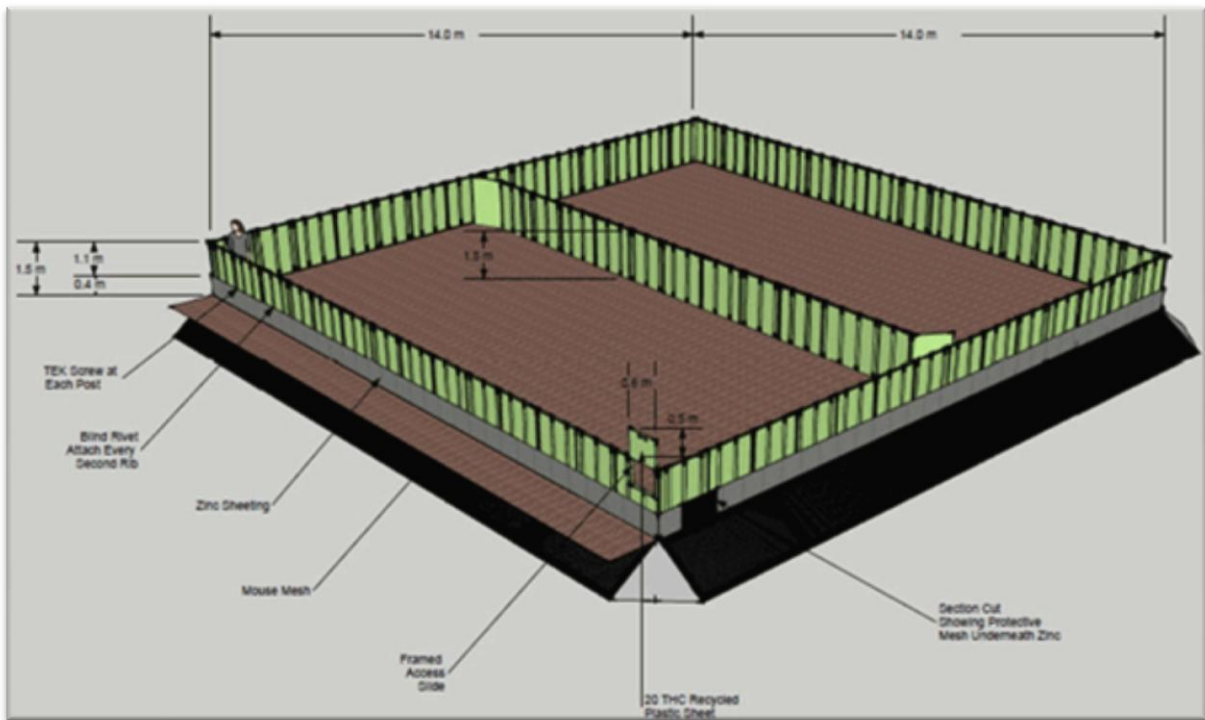
We are keeping them for three months and at the end of three months we need to release a perfectly healthy bird. If a bird is bouncing around the walls of a mesh aviary for three months it's going to damage its feathers. So that is why we lined the aviaries with shade cloth and it has worked.



Completed Currawong pen

As you can see from the image – it has a simple feed box at the front, some perches and some substrate.

Below are some images of the construction of the completed Woodhen pens.



Construction of the Lord Howe Island Woodhen pens

As I said the flightless Woodhens are held in large groups and a pen situation is to minimise territorial aggression.



Construction of the Lord Howe Island Woodhen pens

So we will actually put 20 Woodhens in one side of it which is 7 metres by 14 metres. It is just a simple Colorbond fence with mouse mesh around the skirt of it that goes 600mm into the ground.

As I said before, the design was based on the New Zealand Weka and you can see the similarity from the image on the right. The Woodhen is the same genus.

Later in July Michael Shiels, Sarina Liu and Nick Atchison travelled to Lord Howe to finish the aviaries and setup keeper facilities.



The New Zealand Weka  
File courtesy [Wikimedia Commons](#)

See our house...



Keepers' House on Lord Howe Island

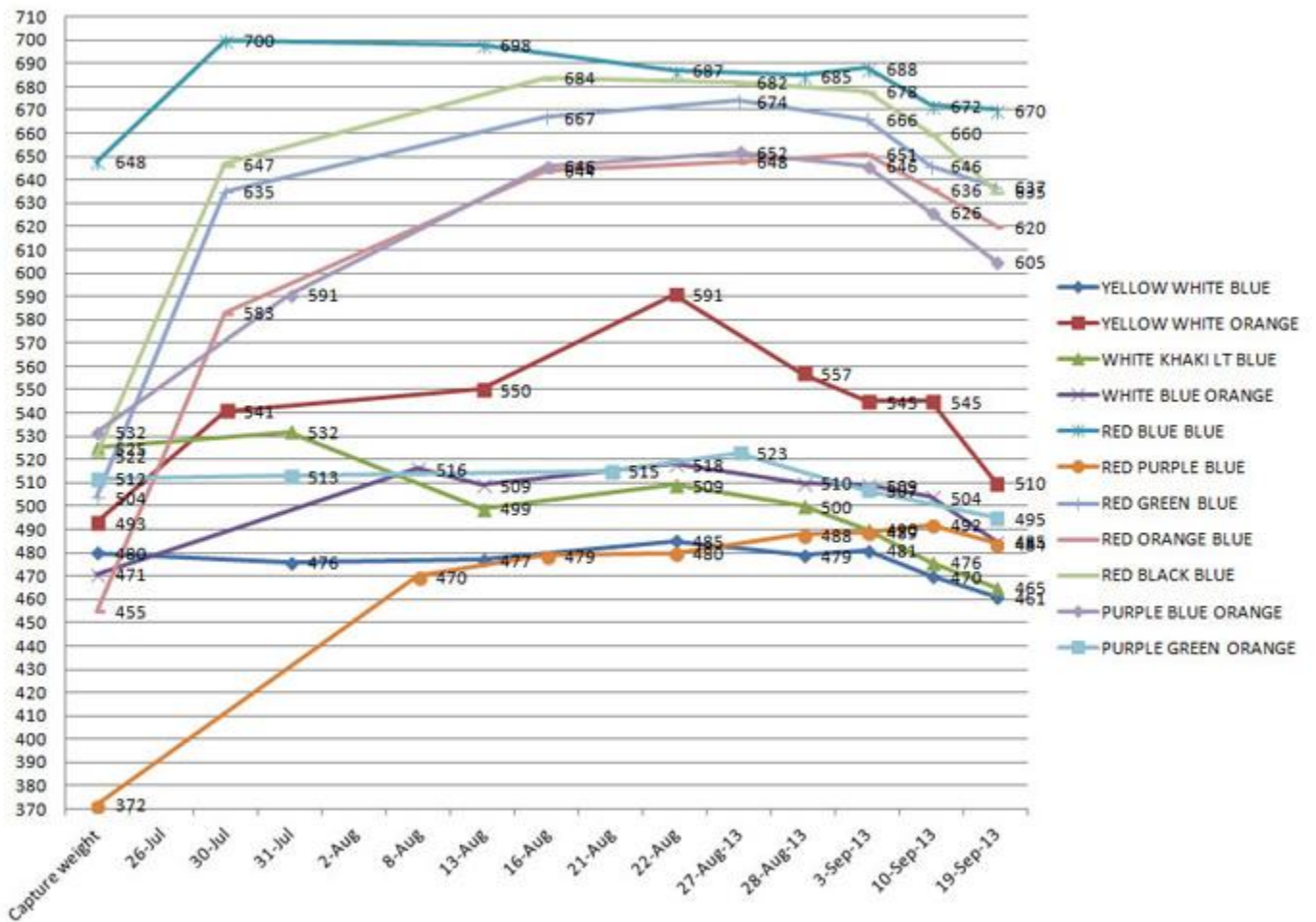
The following image is a finished Woodhen pen.



To the untrained eye it looks like a tornado has gone through there but it hasn't. A lot of thought has gone into the placement of those palms. It has created lots of little habitats for each bird to get away and the idea is that we mix it up, we change it around, so that each bird doesn't get the opportunity to establish its territory because it is currently changing. There are 20 birds in there believe it or not.

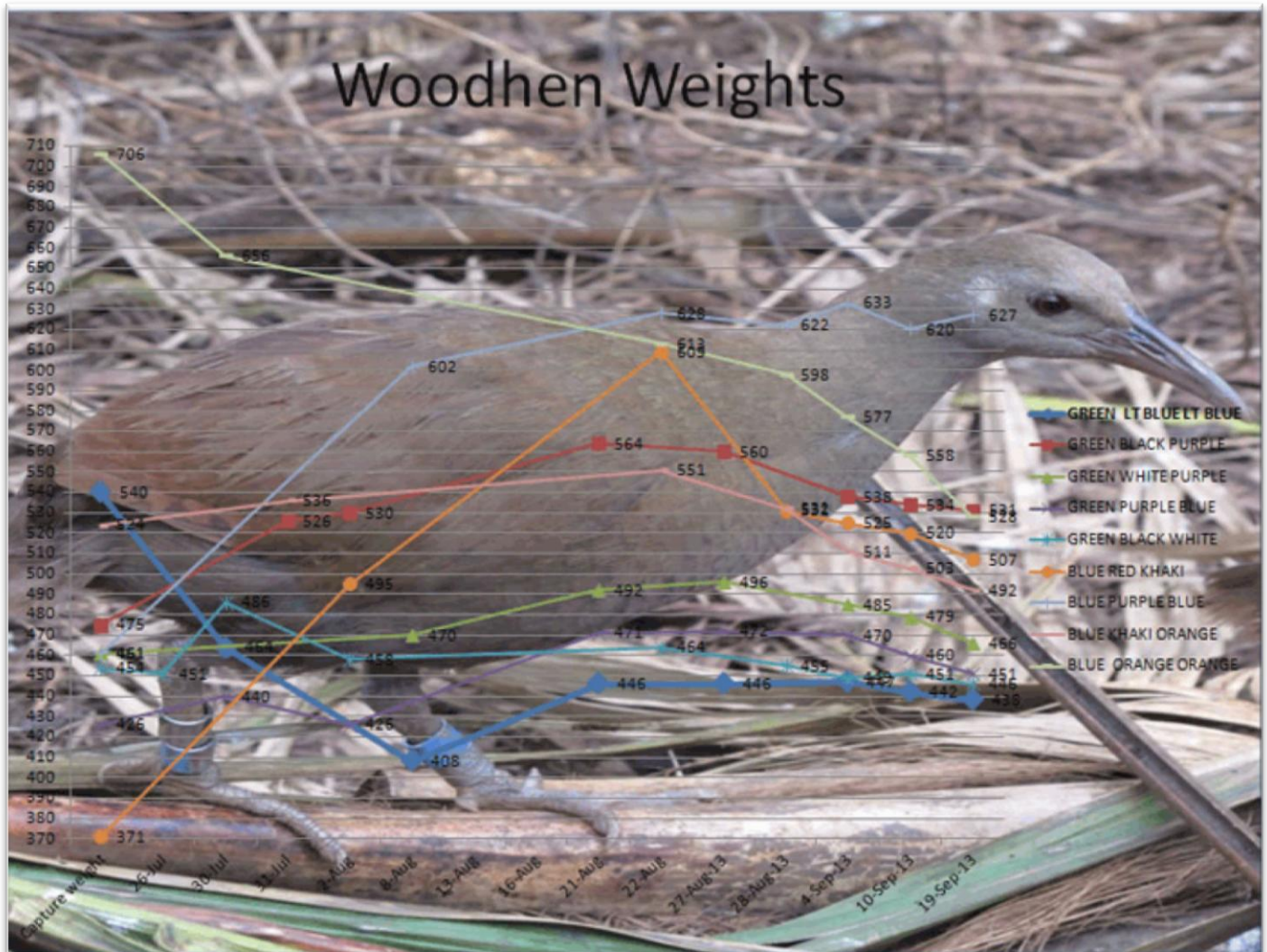
Each one of those white boxes you can see is a feed station. There are seven or eight feed stations and obviously the Kentia Palms, and other palms that don't break down very quickly.

The Woodhens settled in exceptionally well and as suspected for this species began to pack on weight. When this bird, or any bird of this genus, has been kept in captivity before, the problem has been with keeping the weight off them. In the following image this graph shows the weights of the Woodhens and how they respond to several dietary adjustments made to control weight for this species.



You can see from the graph that a couple of birds put on 15% weight in the first week or two. We made some pretty drastic cuts straight away and then their weight just stabilised and then dropped down. So there was some pretty text book stuff going on there with Michael our vet and Michael Shiels and the guys weighing them.

One point of interest was our initial concern with this Woodhen in the following image.



This bird lost 14% of her body weight in the first two weeks. Further investigation revealed that she is estimated to be seven years old. Age estimates determine the average longevity of Woodhens at four years. So she is an old bird.

Further investigation confirmed that she lived at the nursery where they spread the contents of the composter. It's a rubbish tip. They recycle everything on Lord Howe and compost everything, meat, everything, and they spread that out at the nursery, at the waste site, and this bird was collected from there. So it's quite possible that she's been living on what she is finding there and that's kept her alive a lot longer than she would normally live.

Currawongs behave differently, they were quite wary and took longer to adapt to the captive diets. For that reason we didn't catch them up and weigh them when they first came in. It was a long time after we caught them before we recorded their weight.

**Michael Shiels:**

*We didn't weigh them at all until we realised that one of them had a bit of sneeze and it had a bit of a discharge.*



That was about 1 1/2 months after we caught them so they are really wary to the point that it wasn't worth weighing them. They didn't eat for two days when they were first caught but they all settled down fine.

Some birds arrive with minor ailments that have been treated along the way with medicated local Longicorn beetle grubs collected by the keepers from rotting logs. We found that this was the best way to get the medication into the birds. But overall the plan has been largely hands off management for both species with the aim to release the birds in the same condition that they arrived. I have to give Francis our vet over there a plug. She resisted all veterinary urges to over treat these birds. She listened to us when we said that we didn't want to condition these birds to humans, we want to catch them as little as possible, we just want to manage what they have got and anything that comes up. If they come in with a gut load of parasites that's what they go out with, we don't want to over treat them; these are wild birds that are just in our care for a short time. Usually vets try to fix everything but to give credit to Francis; she has really been good for the project.



The following image is an overhead view of the palm nursery which is where we had the enclosures in one of the domes in the Kentia Palm nursery.



I wrote these notes three weeks ago when we had three weeks to go to the end of the 13 week trial and the birds are actually being released on Friday.

All the birds are in good health and they have adapted well to the captive diet. The aviary diets have worked well and with a few modifications they have remained largely unchanged as we plan towards 2016.

Plans have already begun for 2016 with the measuring up of the nursery site for the placement of the 55 Currawong aviaries and the 6 Woodhen pens needed to house the birds in 2016.

On the right is a great shot that one of the guys over there took of a Currawong on the walk up to Mount Gower.



When we were thinking about looking after these Currawongs' feathers we took a walk up to Mount Gower and you see them flying across the sea.

You can see the Currawongs flying 400 or 500 metres out over open water. You know when you think they are rubbing their feathers on the cage, and these poor birds have got to sit in a cage for three months, when they are released they are going to have to fly across those open cliffs. But they are all good and all the birds are doing well so they're being released on Friday.

We haven't lost any birds which is a surprise. We fully expected to lose birds as you would when you take 30 Woodhens and 10 Currawongs into captivity, you'd expect to lose one; but no, so far so good. There is one bird that we have been monitoring that has been sneezing a little bit and has since stopped sneezing. One bird started sneezing but we don't see any reason why we won't release it. We have done blood tests on it and it hasn't got aspergillosis which is a common cause of sneezing. We think that once it is released that will assist it in its recovery.



#### **Jack Stunnell:**

*I went to Lord Howe Island once with Stan Sindel and one of the locals said that he could challenge the Woodhens and he grabbed a few grubs out of rotten wood and went along and tapped on the tree with a stick. A few Woodhens rushed out of the bush and he fed them.*

Yes, the guys just go along tapping on the trees and as you tap you go "Woody, Woody, Woody" and the birds come out.

#### **Graeme Phipps:**

*Graeme thanked Rod and members present responded with their applause for a very interesting update on the 2013 trials prior to the actual eradication of rodents on Lord Howe Island scheduled for 2016.*

---

**The Avicultural Society of New South Wales (ASNSW):** <http://www.aviculturalsocietynsw.org>  
**Membership Secretary:** PO Box 248, Panania NSW 2213, Australia  
**Contact Us:** <http://www.aviculturalsocietynsw.org/contactUs.php>  
**Join us on Facebook:** <https://www.facebook.com/AviculturalSocietyNSW>  
**Follow us on Twitter:** <https://twitter.com/#!/AvicultureNSW>

**Disclaimer:** The opinions expressed in the Avicultural Review and/or on this website do not necessarily represent those of the Avicultural Society of NSW. No responsibility is accepted by the Society, the Editor, the author/s, Webmaster and/or Administrator/s for the statements, opinions and advice contained herein. Readers should rely upon their own inquiries in making any decisions relating to their own interests.