



Pink-tailed Worm-lizard Translocation Report

Ginninderry Conservation Trust
&
Woodlands and Wetlands Trust

Revision Number	Date	Prepared by	Revised by
Draft 1.0	21/12/2021	Millie Sutherland Saines	Jason Cummings
Final	06/05/2022	Millie Sutherland Saines	Jason Cummings

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1. Executive Summary:

In October 2021, ten Pink-tailed Worm-Lizards (*Aprasia parapulchella* / PTWL) were salvaged from a paddock planned-for development within the Ginninderry Development area and translocated safely to Crace Grasslands Nature Reserve. Measurements and samples were taken to identify individuals and monitor survival going forward. This site was re-surveyed in Autumn and a further five individuals were located and transferred into the adjacent Conservation Corridor. This translocation was conducted as a partnership between the Ginninderry Conservation Trust (GCT), the Woodlands and Wetlands Trust (WWT), ACT Parks and Conservation Service (PCS) and The Australian National University (ANU).

2. Background

Ginninderry Development and the Ginninderry Conservation Trust have been working together to ensure the development of the new suburbs in Western Belconnen cause as little impact on the environment as possible. The Conservation Corridor that is managed by the GCT, is a stronghold for Pink-tailed Worm Lizards (PTWL) (*Aprasia parapulchella*). The expansion of the Ginninderry development extends into low quality PTWL habitat (outside of the corridor – as-approved by the EPBC Act). As a requirement of the EPBC Act approval, Riverview Developments is required to ensure the pre-clearance survey and relocation of PTWL in the development footprint. To maximise the research potential of these relocations, a partnership ACT Government and ANU was established to translocate any PTWL found to suitable nature reserves elsewhere in the ACT. ACT Government hold the approved translocation proposal while ANU hold the ethics approval for the research elements of the project.

3. Methods

Work on habitat restoration for Pink-tailed Worm Lizards (PTWL) has been conducted by ACT Parks and Conservation Service for almost a decade. While translocations of the similar species – the Striped Legless Lizard (*Delma impar*) have occurred, no translocations have taken place for PTWL in the ACT.

Three sites were identified to trial this translocation in conjunction with ACT Parks: one within Crace Grasslands and two within Mulangari Grasslands. This work was done in conjunction with Dr Richie Milner and Emma Carlson of Offsets within ACT Parks and Conservation Service.

The surveys were undertaken over the week of the 4th of October and opportunistically for two weeks. When PTWL were located, the *Survey 123* application was used to map the individual PTWL's location. Information recorded was location, date, time, vegetation cover %, average vegetation height, weight, vent to snout length and an image of rock and lizard was also collected. It should be noted that the areas were searched a number of times to reduce the likelihood that

animals were missed. As construction has been delayed due to wet weather, the areas were re-surveyed in Autumn 2022 – a further five individuals were located and transferred into the adjacent Conservation Corridor area.

Any PTWL found were collected and put into a calico bag and labelled with date, time and species. These were set aside in a shady position until the survey was complete for the day. Any other native species found were also collected and bagged and were later released within the conservation corridor. Once the sweep area was completed, all animals were taken to the Link building where researchers from ANU were met to conduct the processing.



Figure 1: PTWL within a sandwich bag ready for processing

Aprasia were placed into a clear sandwich bag to conduct the following:

- Full body measurement
- Vent to snout measurements
- Body swab sampling for eDNA assessment

The PTWL were also tail snipped. A 5mm portion of the tail was cut with sharp surgical scissors as an extra eDNA sample. The wound site was then treated with Tri-solfen to keep wound clean and reduce the pain.

Once processing was complete, animals were transferred back into their calico bags and taken to Crace Grasslands to be released. PTWLs were released next to a suitable rock and encouraged to seek shelter underneath. Early reports from surveys in this site two months after release detected a number of PTWLs with snipped tails which suggests survival post release.



Figure 2: PTWL correctly released near base of rock

4. Results

4.1. Overview

During the whole survey period, A total of 10 PTWLs were translocated from Ginninderry into Crace Grasslands during this period. Eight other animals were found including five Olive Legless Lizards (*Delma inornata*), a Boulenger's Skink (*Morethia boulengeri*), a Copper-tail Skink (*Ctenotus taeniolatus*), a Three-toed skink (*Heriergus decresiensis*) and a Whistling Tree Frog (*Litoria verreauxii*).

80% of PTWL found were discovered under rocks less than 40cm in diameter (one was found under a larger rock – 40-60cm in size, and one individual's data was not recorded). This is consistent with the data showing habitat preference of rocks between 10-30cm (Osbourne & Wong 2013).

PTWL number	Weight (g)	Vent to Snout Length (mm)	Vent to Tail Length	Tail clip (TC)	Body Swab (BoS)	Estimated rock size (cm)	Vegetation cover (%)	Vegetation Type	Average Vegetation Height (cm)
PT01	1.3	88	NA	Y	Y	<_20cm	100	Pasture grasses	20
PT02	1	100	67	Y	Y	20cm_40cm	95	Clover	10
PT03	0.85	92	65	Y	Y	<_20cm	80	Pasture grass	20
PT04	1	100	NA	Y	Y	20cm_40cm	95	Pasture grass	15
PT05	1.2	105	NA	Y	Y	<_20cm	100	Pasture grass	30
PT06	1.4	94.5	NA	Y	Y	<_20cm	50	Exotic grass	15
PT07	1.1	105	26	Y	Y				
PT08	1.4	109	NA	Y	Y	20cm_40cm	1	Tussock	20
PT09	1.45	125	NA	Y	Y	20cm_40cm	20	Wild oats	20
PT10	1	100	45	Y	Y	40cm_60cm	5	Pasture	40

Table 1. Measurements from the 10 collected PTWLs found in the search at Ginninderry in October 2021

Date	Estimated rock size	Animal found	Vegetation cover (%)	Vegetation Type	Average Vegetation Height (cm)
4/10/2021	20cm_40cm	Olive legless lizard (<i>Delma inornata</i>)	40	Microlaena	20
4/10/2021	<_20cm	Whistling tree frog (<i>Litoria verreauxii</i>)	90	Pasture grass	50
5/10/2021	<_20cm	Olive legless lizard (<i>Delma inornata</i>)	90	Pasture	60
5/10/2021	20cm_40cm	Three-toed skink (<i>Heriargis decresiensis</i>)	95	Clover and oats	15
5/10/2021	20cm_40cm	Olive legless lizard (<i>Delma inornata</i>)	95	Pasture grass	25
5/10/2021	No data	Boulenger's Skink (<i>Morethia boulengeri</i>)	No data		
6/10/2021	<_20cm	Olive legless lizard (<i>Delma inornata</i>)	5	Clover	10
6/10/2021	<_20cm	Skink - copper tail (<i>Ctenotus taeniolatus</i>)	5	Pasture	20
11/10/2021	40cm_60cm_	Olive legless lizard (<i>Delma inornata</i>)	5	Pasture & native geranium	10

Table 2. Details of other species caught and translocated within Ginninderry during surveys in October 2021

4.2. Size

The vent to snout length in the caught PTWL ranged from 88mm to 125mm. Based on previous research conducted by University of Canberra, this indicates all individuals found were in their third year. This suggests there has been no, or little breeding or new recruitment within this area. (See Figure 1 & 2). This could possibly be due to poor habitat connectivity as there are large gaps between suitable rock clusters, and low-quality grasslands in-between.

This could mean future surveys of translocated sites may not find individuals as some could be reaching the end of their life expectancy.

Age-class	Sex	Mean Snout-vent length (mm)	Snout-vent length range (mm)
First year Juvenile	Indeterminate	60	52 – 68
Second year Juvenile	Indeterminate	80	68 – 90
Third year	Indeterminate	96	87 – 110
> Third year Adult	Male	109	85 – 134
> Third year Adult	Female	120	90 – 148

Figure 3. Mean snout-vent lengths for different age classes of *A. parapulchella* from Wong (2013) Thesis.

5. Conclusions

The Pink-tailed Worm-Lizard translocation conducted in October 2021 saw the translocation of ten individuals from a site deemed for clearing to a restored habitat within a conservation reserve. Future surveys of the translocated sites will be conducted by ACT Parks to monitor their survival post translocation. The samples and measurements developed with ANU will provide us with the baseline data on the individuals. Body swabs will be tested with eDNA techniques to determine whether this is a suitable method of retrieving DNA to determine an individual animal's identity from the animal without causing harm.

6. Reference List

Osborne W and Wong D (2013). The extent of habitat for the vulnerable Pink-tailed Worm Lizard (*Aprasia parapulchella*) in the West Belconnen-Ginninderra Creek investigation areas – confirmatory distribution surveys and mapping. Institute for Applied Ecology, University of Canberra. Report commissioned by The Riverview Group Pty Ltd.

Wong, D (2013). Environmental factors affecting the occurrence and abundance of the Pink-tailed Worm-lizard (*Aprasia parapulchella*) in the Australian Capital Territory. Thesis. Institute for Applied Ecology, University of Canberra.

7. Acknowledgements

Salvage relocation was funded by the Ginninderry Joint Venture pursuant to their obligations under the EPBC Act to undertake pre-construction clearance surveys and relocations for PTWL in development areas. The extension of that commitment into relocation research opportunity is a partnership of the ACT Parks and Conservation Service, Ginninderry Conservation Trust and Australian National University.