

13 April 2016

Our ref: ENAUPERT04326AD_012_v1

Department of Health
C/- Busselton Hospital
Locked Bag 3
Busselton WA 6280

Attention: Rory Stemp

Dear Rory,

Western Ringtail Possum Monitoring – Busselton Health Campus, March 2016

This letter report details the results of the March 2016 survey for Western Ringtail Possums (WRP) at the Busselton Health Campus. The survey was conducted as part of a monitoring program undertaken on behalf of the Department of Health in accordance with the Western Ringtail Possum Management Plan (Coffey, 2013a).

The preparation and implementation of the Western Ringtail Possum Management Plan was a condition of approval for the Busselton Health Campus redevelopment under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC 2011/6011) and *Environmental Protection Act 1986* (NVCP 4433/2). The Western Ringtail Possum Management Plan was revised and approved by the Department of Environment Regulation (formerly Department of Environment and Conservation - DEC) on 3 September 2013 and the Department of the Environment (formerly Department of Sustainability, Environment, Water Population and Communities - DSEWPAC) on 31 October 2013.

The Western Ringtail Possum Management Plan outlines the requirement for a WRP monitoring program to be conducted at the Busselton Health Campus and includes the following management measures:

M17: Monitor the WRP population twice a year during construction, twice per year for two years following construction and then annually until year five (post-construction) and again at year ten (post construction) using ground-based methods. If during the period of twice yearly monitoring there is a greater than 20% reduction in the baseline population, twice yearly monitoring will be extended for a period agreed between DEC, DSEWPAC and Department of Health.

- *Undertake a WRP survey within two months of the completion of the translocation program to establish a baseline population remaining on the site.*
- *Following each WRP monitoring survey the results will be compared with the baseline survey described above (with consideration of seasonal variation) and where there is a reduction in the number of individuals recorded, the DSEWPAC and DEC will be notified by the Department of Health. The information will be made available on the Department*

of Health's website for transparency purposes. Summary of the monitoring data will be reported annually to DEC and DSEWPAC.

- *Monitoring will be consistent with baseline monitoring completed by Coffey Environments (Coffey Environments, 2009). It will involve traversing the site by foot during the day time hours searching for possum dreys, and nocturnal spotlighting over two evenings using head torches. The location of dreys and WRPs will be recorded using hand-held GPS. Monitoring will be conducted twice per year (nominally in February/March and November/December) and undertaken by personnel with demonstrated experience in conducting WRP surveys.*

Surveys have been conducted biannually at the site since February 2009, with surveys completed in late summer (February – March) and spring (October – December). While the Western Ringtail Possum Management Plan indicates surveys to be conducted in November/December, these surveys are now conducted in October to be consistent with the post-translocation and post-clearance survey that was completed on October 2012, following translocation and clearing.

Construction of the new Busselton Health Campus has largely been completed; with the exception of the car park yet to be completed.

Objective

The objectives of the March 2016 monitoring survey were:

- To conduct monitoring of WRPs using a method consistent with the baseline monitoring previously conducted at the site (Coffey, 2013b).
- Compare the survey results with the baseline survey data (post clearing and post translocation).

Method

The survey was conducted by Michelle Holliday (Ecologist) and Clinton van den Bergh (Ecologist) on 8 and 9 March 2016.

Spotlight searches for WRPs were conducted over two consecutive evenings. The Busselton Health Campus was traversed after dark and all the areas of remnant or planted vegetation was searched, using a head torch to detect eye shine or other signs of possums. Locations of WRPs were recorded using a GPS. The weather was dry, warm and clear on both nights and considered to be suitable for undertaking the survey.

A daytime search was completed 9 March 2016 to detect any possum dreys or WRPs that could be observed in the canopy. All dreys were recorded with a GPS and additional information was collected including the height of the drey, the tree species and the presence or absence of a WRP in the drey.

Dreys were assigned to one of the following four categories:

1. Flat bed of vegetative material.
2. Slightly concave nest of vegetative material.
3. Dome shape nest with an open top.
4. Completely conical nest that is fully-enclosed.

Results

A total of 79 and 75 WRPs were noted on the two survey nights, respectively. The locations of all the WRPs recorded during the survey are shown in Attachment 1.

The density of WRPs within Busselton Health Campus is approximately 23 individuals per hectare of canopy (WRP/ha), based on an estimated remaining canopy area of 3.35 ha (Coffey, 2013b).

WRPs were observed as individuals, in pairs and groups of three. The majority of pairs consisted of an adult and sub-adult that had not yet dispersed.

A total of 16 dreys were recorded during the daytime survey, with two dreys classified as Category 1, seven dreys classified as Category 2 and seven dreys classified as Category 3. No dreys classified as Category 4 were recorded. Four of the dreys were positively identified as being occupied by WRPs during the day. Another four WRPs were recorded during the day in the fork of branches in two *Agonis flexuosa* (Peppermint), one Eucalyptus and one Melaleuca tree, with one WRP sighted in a nest box.

Three deceased WRPs were also recorded; the cause of death is unknown, although two were noted as showing signs of predation.

Discussion

The WRP population at Busselton Health Campus was 79 individuals during the March 2016 survey, higher than the survey undertaken a year earlier in March 2015 (68 individuals) and higher than the baseline (post clearing and post translocation) population of 68 individuals recorded in October 2012. The population remains above the 20% trigger value set-out in the WRP Management Plan (Attachment 2).

Historically, the abundance of WRP (2009 – 2012) has fluctuated greatly between summer (February/March) surveys (44 to 82 individuals), however, summer surveys completed subsequent to the post clearing and post translocation baseline survey (October 2012) have showed a steady increase in WRP abundance over time (see Attachment 2 and Table 1). This may indicate that possums displaced by the clearing have taken up residence elsewhere on the Busselton Health Campus. It may also suggest that the WRP population is healthy with new WRPs or dispersed sub-adults taking residence in the Busselton Health Campus.

Table 1 - Number and density of Western Ringtail Possums recorded during monitoring

Survey	Number	Density (Individual/ha of canopy)
February 2009	58	13.1
November 2009	61	13.8
February 2010	44	10.0
December 2010	77	17.4
March 2011	57	12.9
November 2011	77	17.4
March 2012	82	18.6
October 2012*	68	20.3
March 2013*	61	18.1
October 2013*	70	20.9
March 2014*	64	19.1
October 2014*	68	20.3

Survey	Number	Density (Individual/ha of canopy)
March 2015*	68	20.3
October 2015*	108	32.2
March 2016*	79	23.6

* Conducted subsequent to vegetation clearing and the translocation of 20 individuals to Tone-Perup Nature Reserve.

WRP abundance has previously been typified by an increase in WRP abundance during spring (October–December monitoring) followed by a decrease in numbers in early autumn (February–March monitoring) (Table 1). The trend appears to follow seasonal breeding, with juveniles and sub adults leading to a natural increase in the population in spring, and dispersal and mortality resulting in a decline by early autumn. The results of the March 2016 survey are aligned with this seasonal trend.

The increase in WRP abundance and density at Busselton Health Campus may be associated with the completion of the vast majority of construction activities and may indicate that the population at Busselton Health Campus is growing (has not yet reached its carrying capacity) due to improved tree health/condition across the site.

Conclusion

The current monitoring frequency (biannually) should be maintained until 2 years post-construction in accordance with the WRP Management Plan. As the WRP population remains above the trigger value, contingency measures involving an increase in monitoring frequency, further population investigation or consultation with the Department of Environment and Regulation and the Department of the Environment is not required at this stage.

For and on behalf of Coffey



Michelle Holliday

Environmental Consultant (Ecologist)

References

Coffey 2013a. Western Ringtail Possum Management Plan, Department of Health Campus Redevelopment.

Coffey 2013b. Western Ringtail Possum Monitoring, October survey 2013, Department of Health: Busselton Health Campus.

Attachment

1. Western Ringtail Possum observation and drey locations (March 2016).
2. Abundance of Western Ringtail Possums at the Busselton Health Campus 2009 – 2016.

Attachment 1

Western Ringtail Possum observation and drey locations (March 2016)

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344,000 344,100 344,200 344,300

LEGEND

- Site boundary
 - Conservation area
 - Drey location
- WRP record
- 8 March 2016
 - 9 March 2016



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6,275,200

6,275,100

6,275,000

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Source:
Conservation area from Natural Area Consultants (June 2013)
Road names from Landgate
Spatial reference from Specterra (March 2016)

344,000 344,100 344,200 344,300



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Department of Health

Western Ringtail Possum Monitoring
Busselton Health Campus, March 2016

Western Ringtail Possum
observations and drey locations
(March 2016)

Figure No:

1

MXD Reference: 4326AD_012_GIS001_V0_3

Attachment 2

Abundance of Western Ringtail Possum at Busselton Health Campus

2009 – 2016

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Abundance of Western Ringtail Possums at the Busselton Health Campus 2009 - 2016



