

17 April 2014

Our ref: ENAUPERT04326AA

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 2014**

### **Introduction**

This letter report details the results of the March 2014 survey for Western Ringtail Possum (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 Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC 2011/6011) and State *Environmental Protection Act 1986* (NVCP 4433/2). The Western Ringtail Possum Management Plan was recently revised and was approved by the Commonwealth Government (31 October 2013) and the Department of Environmental Regulation (WA) (3 September 2013).

The approved 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 5 (post-construction) and again at year 10 (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 the 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 a 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 being conducted 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 conducted in October 2012, immediately after translocation and clearing was undertaken.

Construction of the new Busselton Health Campus is currently underway and the first phase of construction is scheduled for completion in October 2014.

## **Objective**

The objectives of the March 2014 monitoring survey were:

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

## **Methodology**

The survey was conducted by Svein van Oyen (Zoologist) and Clinton van den Bergh (Ecologist) on the 24 and 25 March 2013.

Spotlighting searches for WRPs were conducted over two consecutive evenings. The campus was traversed after dark and all areas of remnant or planted vegetation were 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 fine and cool on the 24 March 2014 and cloudy with light drizzle on the 25 March 2014. Weather conditions were considered suitable for undertaking a possum survey on the 24 March 2014 but the light drizzle may have hampered visibility during the possum survey on the 25 March 2014.

Daytime searches were also conducted to detect possum dreys or WRPs that could be observed in the canopy. All dreys were recorded with a GPS and additional information was also collected including the height of the drey, the tree species and the presence or absence of a WRP in the drey.

Dreys were also 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 64 and 55 WRPs were recorded on the two survey nights respectively. The location of all WRP recorded during the survey are shown in Figure 1.

The density of WRPs within the Busselton Health Campus is 19 individuals per hectare of canopy (WRP/ha), based on an estimated remaining canopy area of 3.35 ha (Coffey, 2013b).

WRPs were located as individuals, in pairs and as a group of up to three individuals. Most pairs consisted of an adult and sub-adult that had not yet dispersed.

A total of 29 dreys were recorded during the survey, with the majority (20) of dreys classified as category 3. One drey was classified as category 1 and eight dreys were classified as category 2. Seven dreys were occupied by WRPs during the day. Another WRP was recorded during the day nested in a forked tree branch. A number of hollows in mature trees at the site were also expected to be occupied by WRP but could not be investigated due to the height in the tree.

## Discussion

The WRP population at the Busselton Health Campus was 64 individuals during the March 2014 survey, slightly higher than the survey undertaken a year earlier in March 2013 (61 individuals). However, the WRP population is slightly lower 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 (Chart 1).

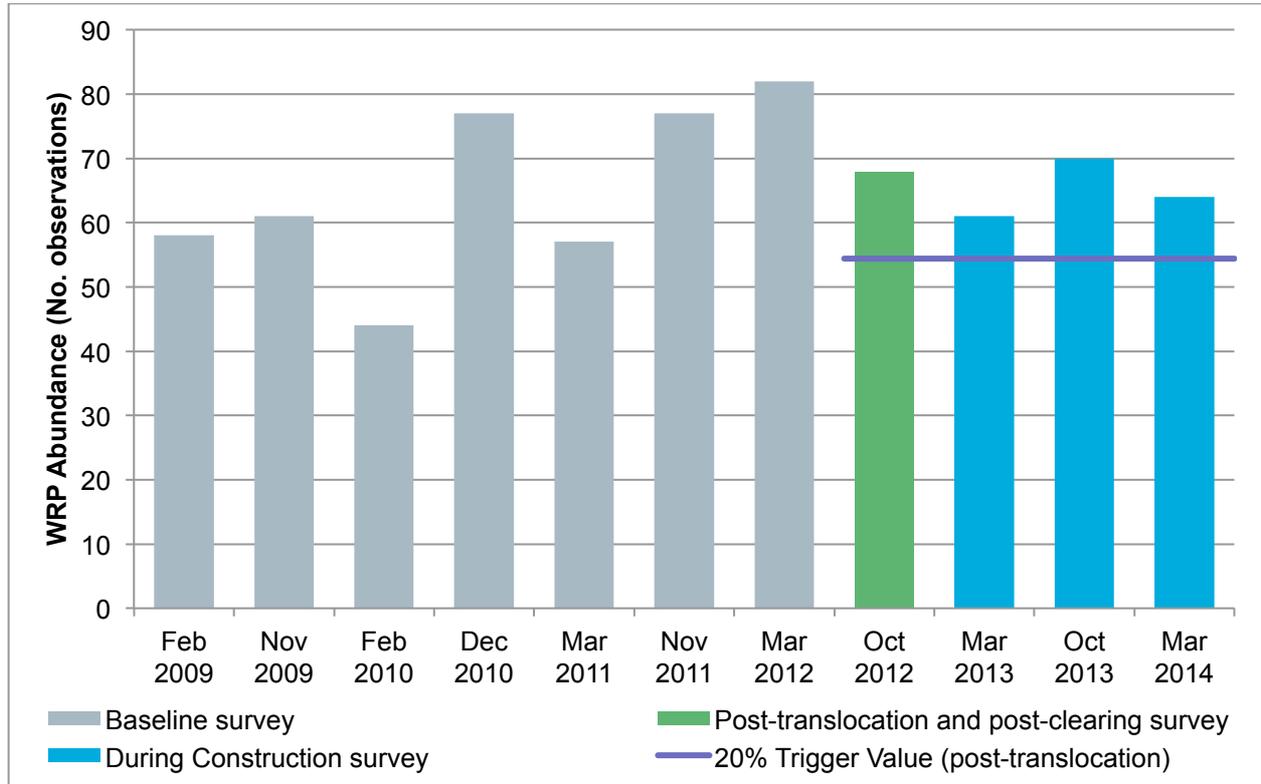
The WRP Management Plan requires additional monitoring to be undertaken in the event that there is a 20% reduction in the baseline (post clearing and post translocation) population of WRP at the site. As the WRP population remains above the trigger value, monitoring should continue on a biannual basis in accordance with the WRP Management Plan.

Historically, WRP population estimates (2009 – 2014) fluctuate greatly in February/March (44 – 82 individuals) (Chart 1; Table 1). However, post clearing and post translocation population estimates during March suggest the WRP population estimate may be stabilising (61 individuals in 2013 and 64 individuals in 2014) (Chart 1; Table 1).

The possum density was 19 individuals/ha of canopy during the March 2014 survey and was among the highest density observed during the monitoring program. Three of the four monitoring surveys conducted since clearing was undertaken at the Busselton Health Campus have recorded WRP densities greater than prior to disturbance (Table 1). This is likely to be an indication that possums displaced by clearing have taken up residence elsewhere on the Busselton Health Campus.

The seasonal trend in WRP abundance appears to have continued in March 2014. This trend has been typified by an increase in WRP abundance during spring (October-December monitoring) followed by a decrease in numbers around 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.

**Chart 1 - Abundance of Western Ringtail Possum at the Busselton Health Campus**



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

Survey	Number	Density (Individuals/ha of canopy)
February 2009	58	13.1
November 2009	61	13.8
February 2010	44	10
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

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

## Conclusion

The current monitoring frequency (biannually) should be maintained until 5 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 or further population investigations are not required at this stage.

Please do not hesitate to contact the undersigned on 08 9269 6200 if you require any further information regarding this letter

For and on behalf of Coffey



**Paul Mitrovski**  
Senior Environmental Scientist

Attachment

Figure 1: Western Ringtail Possum observation and drey locations (March 2014)

References:

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

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