coffey environments
SPECIALISTS IN ENVIRONMENTAL, SOCIAL AND SAFETY PERFORMANCE

14 December 2012

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

Attention: Rory Stemp

Dear Rory,

RE: Western Ringtail Possum Survey, Busselton Health Campus, October 2012, EP2012/215

This letter reports the results of the Western Ringtail Possum (WRP) Survey conducted within the remnant vegetation of the Busselton Health Campus in October 2012 and incorporates information from the Department of Environment and Conservation's (DEC) translocation program. The survey was conducted as part of monitoring surveys following the commencement of vegetation clearing, construction and development of the proposed new Busselton Health Campus. Vegetation clearing was undertaken 4 to 14 October 2012. Prior to and during the vegetation clearing the DEC translocated 20 adult WRPs (13 females and 7 males) to the Tone-Perup Nature Reserve (Appendix A). Of these, 10 WRPs received radio collars (5 females and 5 males). In addition to the 20 adult WRPs, 10 pouch young (4 pink, 3 furred and 3 at heal) were recorded from WRPs relocated by DEC.

In addition to the 20 WRPs relocated by DEC, Coffey Environments relocated a further 10 adult WRPs (7 females and 3 males) to the conservation area within the Busselton Health Campus during the vegetation clearing. One juvenile male was also captured (mother-son pair) but was rejected during translocation. The juvenile was taken to a local volunteer carer. Results of the Coffey and DEC translocation have been included as Appendix A.

Survey methodology was consistent with previous surveys conducted on site in February and November 2009, February and December 2010 and March and November 2011 and March 2012. The survey conducted during October 2012 consisted of a two-night nocturnal survey to estimate the number of possums within the site and a daytime survey to determine the presence of WRP dreys. Dr Paul Mitrovski and Mr Matt Johnson undertook nocturnal surveys and daytime assessment of dreys on 15 and 16 October 2012, immediately following the vegetation clearing.

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The survey builds on the following information collected since February 2009.

- February 2009 WRP survey as part of the 'Significant Fauna and Flora Values – Busselton Hospital Redevelopment Site' report (Coffey Environments, 2009; P2009-121, V1).
- November 2009 WRP survey (Coffey Environments letter report; ENVIPERT00629AA_Environmental Assessment_008_gf).
- February 2010 WRP survey (Coffey Environments letter report; ENVIPERT00629AA_Environmental Assessment_011_gf).
- December 2010 WRP survey (Coffey Environments letter report; ENVIPERT00629AA_Environmental Assessment_018_1nr).
- March 2011 WRP survey (Coffey Environments letter report; ENVIPERT00629AA_Environmental Assessment_020_gf).
- November 2011 WRP survey (Coffey Environments letter report; ENVIPERT00629AA_WRP Survey Nov 2011_001_gf).
- March 2012 WRP survey (Coffey Environments letter report; ENVIPERT00629AC_WRP Survey March 2012_001_gf).

METHODOLOGY

Spotlighting was conducted over two evenings. The project area was traversed on foot using head torches (not including constructions areas). Locations of WRP sightings were recorded using a hand-held GPS. The weather on both nights of the survey was fine and cool and was considered suitable for undertaking a possum survey. Coffey Environments acknowledges that it is unlikely all possums inhabiting the area were sighted on any given night. Whilst spotlighting, possums often turn their heads or close their eyes when light is shone nearby. These actions can make spotlighting counts difficult given that eye-shine is the primary method of locating individuals. There are also areas of habitat on site that contain thick canopy and are likely to reduce possum detection rates.

Daytime searches were conducted by searching the site for dreys or possums that could be observed in the canopy. Dreys were assigned to one of 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.

All dreys were recorded with a hand-held GPS. Additional information collected during the daytime surveys included the height of the drey, the tree species and the presence or absence of a possum. Locations of possums that were either not in a drey or in a hollow were also recorded.

RESULTS

A total of 132 WRPs were recorded during the two night survey (Figure 1). Sixty four WRPs were recorded on the first night, with 68 WRPs recorded on the second night. WRPs were located as individuals, in pairs and as a group of three, which is likely to be associated with the breeding season and young animals that are yet to disperse. Most groups made of 2 or more individuals consisted of an

adult with large back young or sub-adults that had not yet dispersed. Location points shown in Figure 1 sometimes represent more than one individual.

A total of 27 dreys were located during the daytime survey (Figure 1) with 19 occupied by WRPs. Of the 27 dreys, 14 dreys were classified as category 1 dreys; eight were classified as category 2, four as category 3 and one as category 4. There were hollows throughout the site but no WRPs were recorded in hollows. Three WRPs were located during the day that were not in dreys, but perched in a tree branch.

DISCUSSION

The number of possums recorded during the October 2012 survey was comparable to previous surveys (Table 1). The trend for WRPs to be present on site tends to follow seasonal breeding with an increase in local abundance during November/December followed by a decrease in numbers around late-February/March. Despite the loss of habitat and translocation of 20 adult WRPs, numbers were similar to previous results from the same season. The similar abundance is likely due to the number of young recorded during the survey.

The results of the February 2009, November 2009, February 2010, December 2010, March 2011, November 2011, March 2012 and October 2012 surveys suggest that the Busselton Hospital site contains a healthy population of WRPs with a density of up to seven possums per hectare, which is comparable to previous surveys conducted for this species within the Busselton area (Jones *et al*., 2007; Coffey Environments, 2009; EP2009-121, V1).

Table 1 Number of Western Ringtail Possums recorded on site during baseline surveys

Survey	Night 1	Night 2
February 2009	58	47
November 2009	61	52
February 2010	44	44
December 2010	77	68
March 2011	47	57
November 2011	72	77
March 2012	75	82
October 2012	64	68

Coffey Environments completed three years of baseline surveys on the Busselton Hospital Site in March 2012. This is the first survey conducted during the clearing and construction stage of the redevelopment of the Busselton Health Campus. It is recommended that surveys continue throughout the redevelopment of the Busselton Health Campus to determine any impacts on the resident WRP population.

Please do not hesitate to contact the undersigned on 08 9355 7100 if you require any further information regarding this letter.

For and on behalf of Coffey Environments Australia Pty Ltd

Paul Mitrovski
Senior Environmental Scientist – Zoology

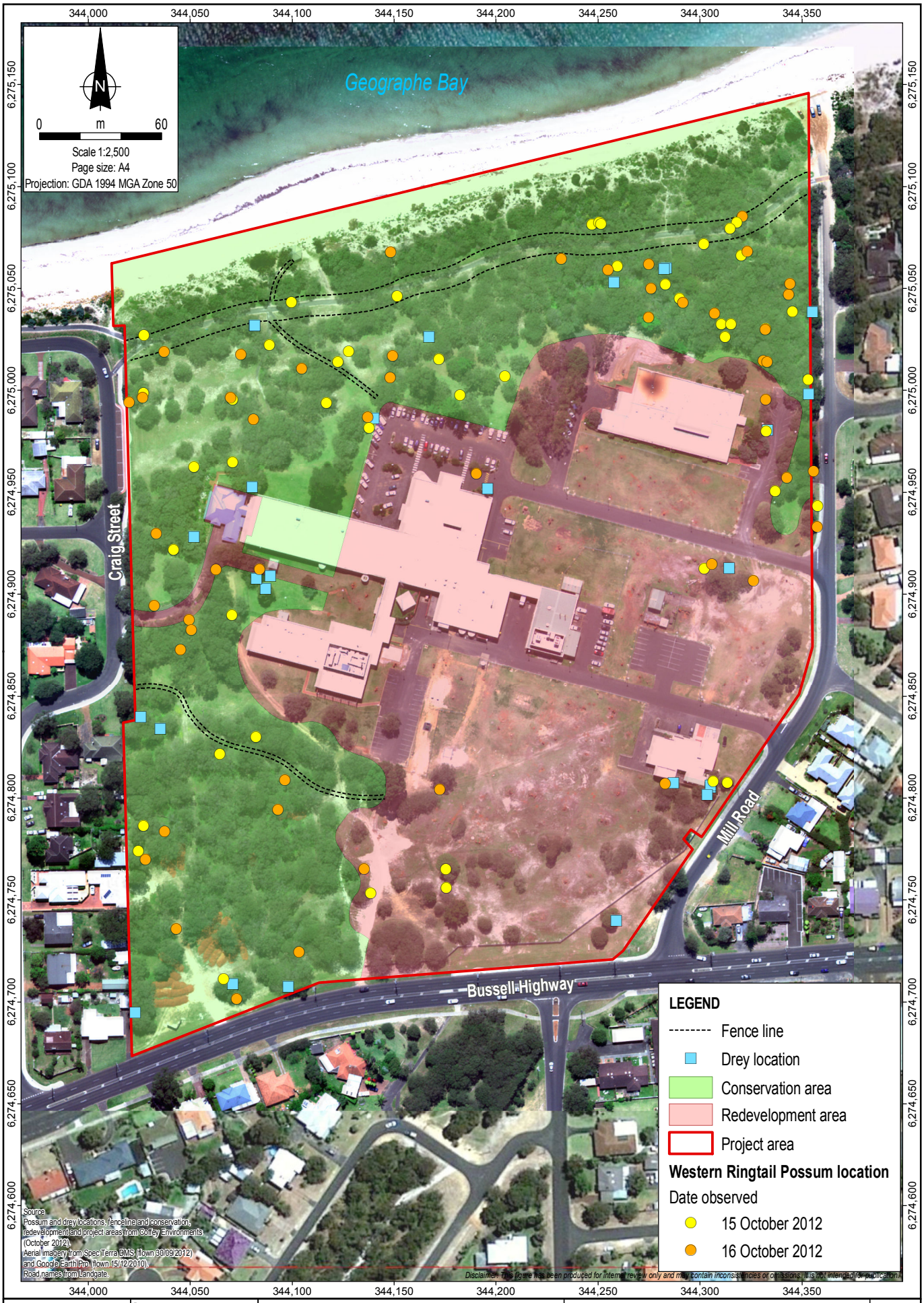
Martine Scheltema
Principal Environmental Consultant

cc Kate Clarke
Caesar D'Adamo

Attachments:

Figure 1 – WRP Survey Results, October 2012

Appendix A – Translocation Results



coffey environments	Date: 09.11.2012 MXD: 0629_01_GIS001_v0_1 File Name: 0629_01_F001_GIS	Department of Treasury and Finance Western Ringtail Possum Survey, Busselton Hospital	Western Ringtail Possum observations and drey locations - October 2012	Figure No: 1

Appendix A Translocation Results

Translocation Personnel	Sex	Age	Translocation Date	Translocation Location
Coffey	Female	Adult	5 Sep 2012	Busselton Hospital
Coffey	Female	Adult	7 Sep 2012	Busselton Hospital
Coffey	Female	Adult	10 Sep 2012	Busselton Hospital
Coffey	Male	Adult	12 Sep 2012	Busselton Hospital
Coffey	Male	Adult	12 Sep 2012	Busselton Hospital
Coffey	Female	Adult	14 Sep 2012	Busselton Hospital
Coffey	Male	Adult	14 Sep 2012	Busselton Hospital
Coffey	Female	Adult	14 Sep 2012	Busselton Hospital
Coffey	Female	Adult	14 Sep 2012	Busselton Hospital
Coffey	Male	Juvenile	14 Sep 2012	Volunteer Carer*
Coffey	Female	Adult	15 Sep 2012	Busselton Hospital
DEC	Male	Adult	22 Sep to 5 Oct 2012	Perup Nature Reserve
DEC	Male	Adult	22 Sep to 5 Oct 2012	Perup Nature Reserve
DEC	Male	Adult	22 Sep to 5 Oct 2012	Perup Nature Reserve
DEC	Male	Adult	22 Sep to 5 Oct 2012	Perup Nature Reserve
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DEC	Female	Adult	22 Sep to 5 Oct 2012	Perup Nature Reserve
DEC	Female	Adult	22 Sep to 5 Oct 2012	Perup Nature Reserve

*Male was rejected by mother and delivered to nearby volunteer carer.