

Your ref:
Our ref: 12560977

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Wedgefield Industrial Estate Clearing - Mulgara Fauna Assessment

Dear David

1. Background

DevelopmentWA is undertaking subdivision works in Wedgefield, Port Hedland. To inform and facilitate clearing, DevelopmentWA requested GHD's assistance to determine if there is evidence of Mulgara present within Lots 350, 351 and 352 (Stage 3).

GHD surveyed all of Lots 350, 351 and 352 (Stage 3), with three active Mulgara burrows identified at the time of survey, with the results of this survey documented in a letter dated 8 September 2021. DevelopmentWA shared these survey results with Department of Biodiversity Conservation and Attractions (DBCA) and the Town of Port Hedland. DBCA recommended a number of additional management actions within the current survey area and remaining subdivision area to minimise potential significant impacts to the species.

In response to DBCA's correspondence, GHD recommended a stepped approach for DevelopmentWA's consideration and if in agreement, submission to the Town of Port Hedland, to seek their approval to allow the clearing to commence in compliance with the Subdivision Approval conditions. The proposed approach to clearing of the initial area was as follows:

1. Development WA has previously commissioned the development of an EMP for the subdivision, which has been implemented successfully to date, which included mulgara management actions.
2. Based on the advice from DBCA for the next stage of clearing, DevelopmentWA installed cameras at identified burrows to confirm management protocols are appropriate and meet the intent of Subdivision Approval conditions 6, which requires a wildlife protection management plan for Brush-tailed Mulgara to be prepared and approved.
3. If approved by the Town of Port Hedland, DevelopmentWA will commence clearing of vegetation from the area recently surveyed by GHD, with specific adherence to the following management measures:
 - Clearing will occur outwards from already disturbed or developed areas to allow fauna to escape into remaining vegetated areas (Measure 24)
 - A sequential clearing plan that avoids isolating fauna in 'islands' and allows for fauna to escape and relocate (Measure 41)
 - Active Mulgara burrows to be flagged and not cleared until the animals have had an opportunity to escape (24 to 48 hrs depending on the distance from the disturbance) (Measure 42)

4. Ground disturbing activities will clear up to a 10 m buffer of the active burrows, at which point fauna cameras will be installed on the burrows, by a sufficiently experienced ecologist, for two (or more) nights to confirm nil mulgara activity during the window of avoidance following initial ground disturbance, consistent with the DBCA advice.
5. If there is no activity recorded on the cameras, then the remainder of the area recently surveyed by GHD will be cleared; whereas if mulgara activity is observed clearing works will conclude until January 2022, with additional management identified.

This approach was accepted by DevelopmentWA and proposed to the Town of Port Hedland, who has not raised any objections.

1.1 Scope and limitations

DevelopmentWA requested GHD attend site and install fauna cameras to monitor the identified active burrows within the area recently surveyed by GHD, including Lots 350, 351 and 352, for a period of approximately 48 hours. DevelopmentWA, with assistance from DeGrey Civil, facilitated the collection and return of the memory cards and cameras to GHD's Perth office to allow analysis of the images recorded to determine if Mulgara activity is recorded. This would inform if the remainder of the area surveyed by GHD can be cleared or not in line with the proposal approach to clearing.

This letter details the background, purpose, site visit methodology, camera analysis and results. This letter has been prepared by GHD for DevelopmentWA and may only be used and relied on by DevelopmentWA for the purpose agreed between GHD and DevelopmentWA.

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2. Site Assessment

2.1 Field preparation

GHD contacted Allan Holland, Operations Manager at DeGrey Civil, who is the contractor in possession of the site to liaise with them regarding access and identifying the areas they intend to clear.

Robert Browne-Cooper, GHD Senior Zoologist undertook field preparation and site visits, met with Allan when arriving in Port Hedland before attending the Wedgefield subdivision. This provided an opportunity to confirm clearing areas, site access, complete pre-start and site induction prior to the Mulgara survey and assessment.

2.2 Site visit

GHD Senior Zoologist Robert Browne-Cooper, returned to the survey area on 26 October to install remote motion cameras on previously identified active burrows.

During the site visit on 26 October, remote cameras were installed at three burrows within Lots 350, 351 and 352. Cameras were installed to assess mulgara presence in the lead up to and immediately following ground disturbance clearing (Figure 1). Camera imagery with date stamp enable assessment of whether mulgara had vacated burrows allowing full Lot clearing.



Figure 1 Camera installation method at Mulgara burrows

2.3 Ground disturbance clearing by DeGray Civil

On 1 November, prior to ground disturbance clearing of Lots 350, 351 and 352, DeGrey Civil staff removed the SD data cards from the three cameras set at burrows on the aforementioned Lots. SD cards were downloaded and checked for mulgara activity by DeGray Civil and supplied to DevelopmentWA and GHD.

The ground disturbance clearing completed by DeGray Civil aimed to result be associated with sufficient disturbance in proximity of burrows to induce Mulgara to vacate these burrows prior to full Lot clearing.

Immediately following ground disturbance clearing, SD cards were then re-installed into cameras at respective burrows on 1 November by DeGray staff. This would allow detection of mulgara (if present) post ground disturbance clearing and inform on whether full Lot clearing could proceed. Several days after ground disturbance clearing, on 4 November the SD cards were removed from the three remote cameras associated with Stage 3, downloaded and supplied to DevelopmentWA and GHD.

Table 1 Mulgara burrows and camera locations. camera locations

Camera I.D.	Notes	Camera/Burrow location	Camera/Burrow location	Lots numbers
CAM23	Set at M5 - active Burrow found phase 1	S20.37247 E118.60544	50 K 667555 7746483	350, 351, 352
CAM4	Set at M4 - active Burrow found phase 1	S20.37266 E118.60548	50 K 667559 7746462	
CAM77	Set at M3 - active Burrow found phase 1	S20.37257 E118.60539	50 K 667550 7746472	

2.4 Camera analysis

Lots 350. 351 and 352

The results of the mulgara activity monitoring on cameras at burrows associated with Stage 3 are summarised in Table 2.

Based on the camera data downloaded and provided to GHD by DeGrey Civil, mulgara activity was recorded on one of the three cameras (Figure 2) during the nights prior to ground disturbance clearing. After ground disturbance clearing, there was no Mulgara images recorded on any of the cameras.

As the camera analysis indicated the burrow was no longer occupied, DeGray Civil completed the clearing of Lots 350, 351 and 352.

Table 2 *Mulgara activity recorded on cameras – Lots 350. 351 & 352*

Camera I.D.	Notes	Camera/Burrow location	Mulgara activity (pre-ground disturbance clearing)	Mulgara activity (post-ground disturbance clearing)
CAM23	Set at burrow M5 on 26 Oct 2021. Active Burrow found on 8/9/2021	50 K 667555 7746483	No mulgara activity recorded	No mulgara activity recorded
CAM4	Set at burrow M4 on 26 Oct 2021. Active Burrow found on 8/9/2021	50 K 667559 7746462	Mulgara recorded on 27, 28 and 30 Oct 2021	No mulgara activity recorded
CAM77	Set at burrow M3 on 26 Oct 2021. Active Burrow found on 8/9/2021	50 K 667550 7746472	No mulgara activity recorded	No mulgara activity recorded



Figure 2 *Mulgara emerging from burrow M4, recorded on Camera 4*

3. Discussion

Lots 350, 351 and 352

Based on the camera data analysis it appears the resident mulgara vacated the burrow following ground disturbance clearing. In this instance, the results suggests ground disturbing clearing is an effective management measure to encourage mulgara to relocate to another burrow. This outcome may have been linked to the relatively small extent of habitat clearing, presence of adjoining suitable habitat, and low density of active burrows in the area surveyed to allow the individual to relocate and potentially avoid competition with other individuals in the area.

Regards



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