



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 7516/1
Permit type: Area Permit

1.2. Applicant details

Applicant's name: AMG (WA) Pty Ltd

1.3. Property details

Property: LOT 3 ON DIAGRAM 35920, WAROONA
Local Government: WAROONA, SHIRE OF
Authority:
DER Region: Greater Swan
DPaW District: SWAN COASTAL
Localities: WAROONA

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
14		Mechanical Removal	Extractive industry

1.5. Decision on application

Decision on Permit Application: Refusal

Decision Date: 5 January 2018

Reason for Decision: The clearing permit application received on 13 March 2017 has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the *Environmental Protection Act 1986*. It has been concluded that the proposed clearing is at variance to clearing principles (a), (b), (e) and (h), may be at variance to principles (d), (f), (g) and (i) and is not likely to be at variance to the remaining clearing principles.

The Delegated Officer determined that the proposed clearing will result in the loss of 14 hectares (Area 1 and Area 2) of vegetation that; contains high biodiversity, significant habitat for fauna, including foraging and potential breeding habitat for black cockatoos, forms part of a regionally significant ecological linkage and is a significant remnant in a highly cleared area.

The Delegated Officer determined that the significant residual impacts associated with Area 1 (3.25 hectare) could be counterbalanced with an appropriate offset. In regards to Area 2 (10.75 hectares) it was determined that an offset was not appropriate to counterbalance the significant environmental impacts identified.

In letters dated 29 September 2017 and 26 October 2017 the applicant was afforded the opportunity to modify the application to allow the Delegated Officer to progress towards a grant of Area 1, subject to a suitable offset proposal. No formal response, requesting to modify the application was received, however, in a meeting on 16 November 2017 the applicant confirmed that he did not intend to amend the application or provide a revised offset proposal for Area 1 and requested that a determination be made in relation to the full area applied for.

The Delegated Officer had regard to the environmental values of the native vegetation outlined under principles (a) to (j), and planning instruments and other relevant matters outlined in this report, in making the decision on this application.

These matters were taken into consideration by the Delegated Officer in the decision to refuse to grant a clearing permit.

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
<p>The application area has been mapped as the following Swan Coastal Plain Vegetation Complex:</p> <p>Southern River Complex is described as Open Woodland: Open woodland of <i>Corymbia calophylla</i> (marri) - <i>Eucalyptus marginata</i> (jarrah) - banksia species with fringing woodland of <i>Eucalyptus rudis</i> (flooded gum) - <i>Melaleuca raphiophylla</i> (swamp paperbark) along creek beds (Government of Western Australia, 2017).</p>	<p>The applicant proposes to clear 14 hectares of native vegetation within Lot 3 on Diagram 35920, Waroona for the purpose of sand extraction.</p>	<p>Very Good; Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).</p> <p>To</p> <p>Degraded; Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).</p>	<p>The vegetation description and condition was determined from a site visit conducted by Department of Water and Environmental Regulation (DWER) on 6 July 2017 and from flora surveys conducted by MBS Environmental and Woodman Environmental.</p> <p>In determining the vegetation description and condition, regard was had to the January 2016 fires that impacted the application area. To ensure the vegetation's ability to regenerate is acknowledged in condition ratings, where a natural disturbance event has occurred, consideration is also given to the vegetation's regenerative capacity and environmental values of the site which have the ability to return with time without intervention.</p> <p>The application area (as depicted in Figure 1) has been divided into two areas based on differences in vegetation condition and composition.</p> <p>Area 1 – (approximately 3.25 hectares, southern portion): The vegetation within this area is in a degraded (Keighery, 1994) condition (DWER, 2017a) and is likely to regenerate to at least good (Keighery, 1994) condition. The overstorey comprises of <i>Banksia attenuata</i> (both dead and epicormics growth evident) over an understory dominated by <i>Stirlingia latifolia</i> (DWER, 2017a) (Figure 2).</p> <p>Area 2 (approximately 10.75 hectares, northern portion): The vegetation within this area is in very good (Keighery, 1994) condition (DWER, 2017a). This area contains vegetation that is consistent with the description of the Southern River Complex and is on trajectory to be back to its pre-fire condition (DWER, 2017a) (Figure 3).</p>

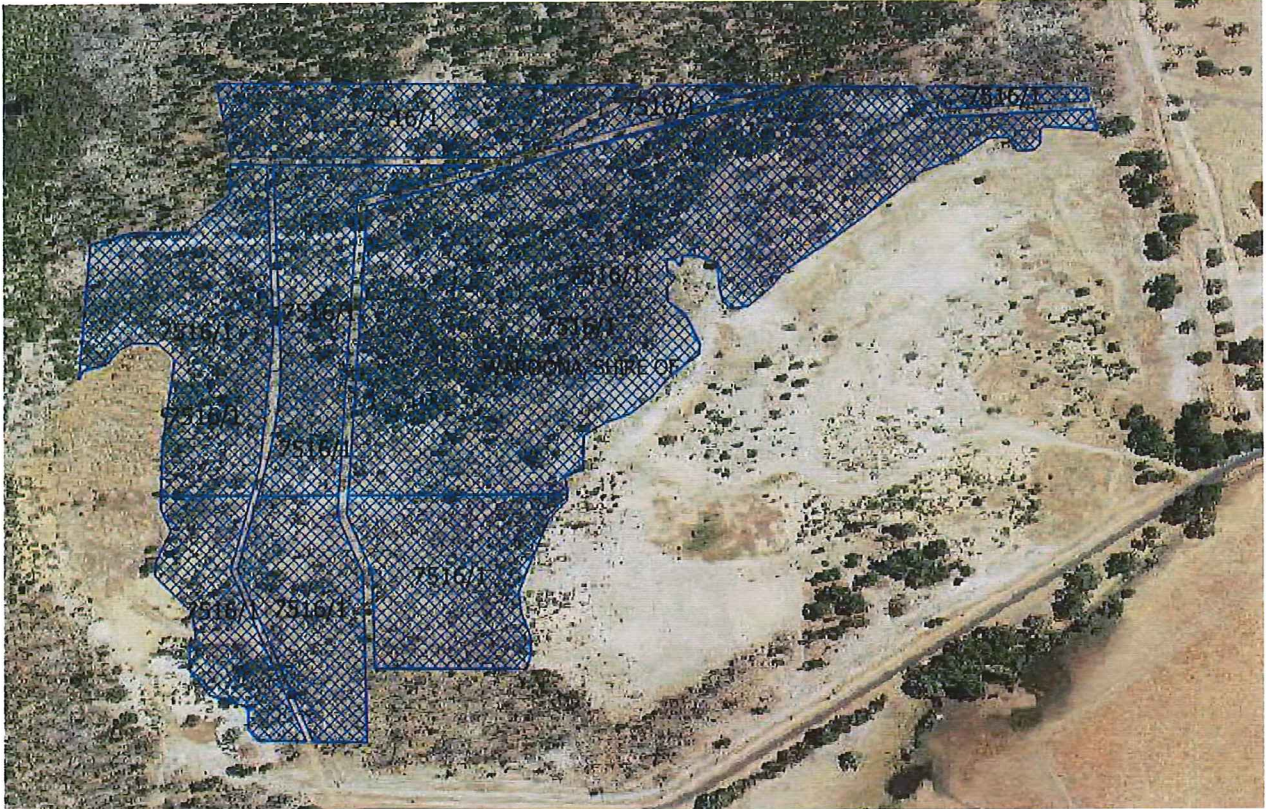


Figure 1: Map of Application Area



Figure 2: Map of Area 1

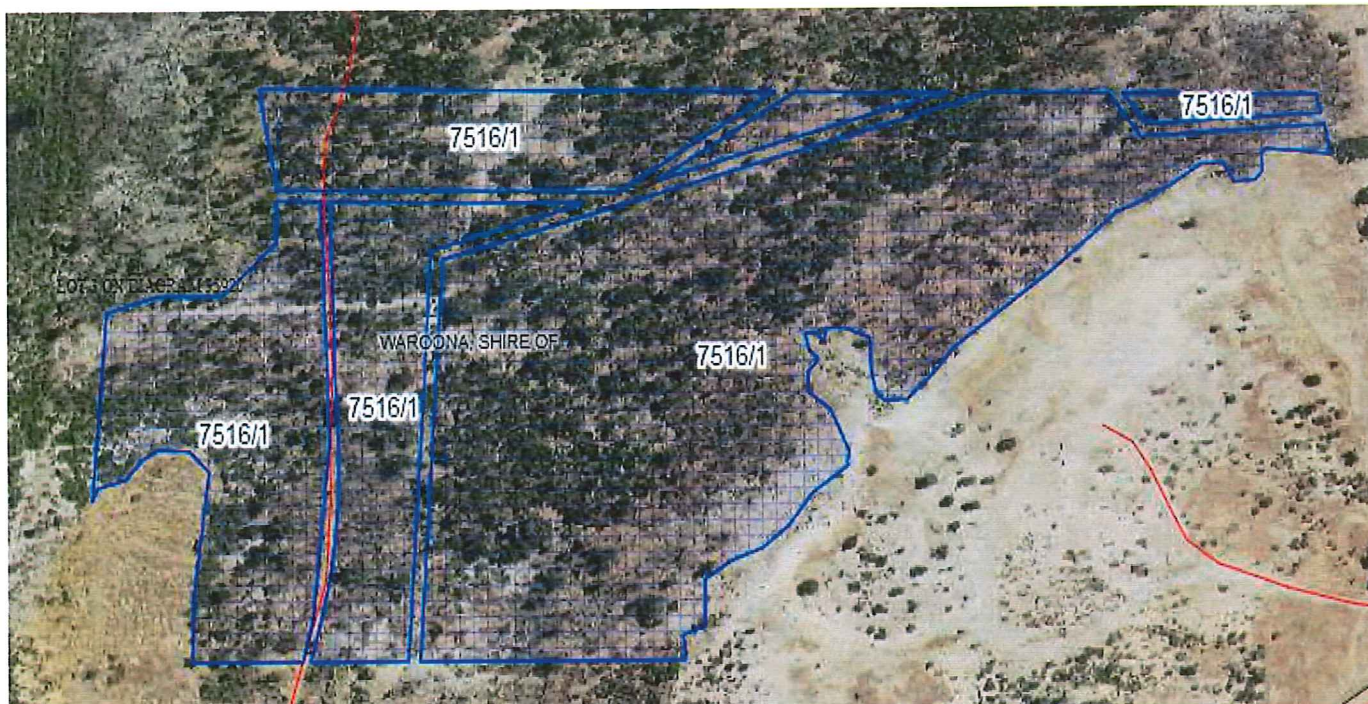


Figure 3: Map of Area 2

3. Background

General Introduction

In 13 March 2017, AMG (WA) Pty Ltd submitted an application to clear native vegetation under the *Environmental Protection Act 1986* (EP Act) in accordance with the bilateral agreement made under section 45 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) (reference: EPBC 2017/7916) relating to environmental assessment. In an email of 22 December 2017 the Department of Environment and Energy (DotEE) advised that the proponent had withdrawn EPBC 2017/7916 from assessment and approval under the EPBC Act. An email was received from the applicant's consultant on 4 January 2017 confirming that the applicant requested that DWER's assessment be undertaken in accordance with s51O of the EP Act only and that assessment under the EPBC Act would be pursued separately.

AMG (WA) Pty Ltd propose to clear 14 hectares of native vegetation within 'Jackson Block' at Lot 3 on Diagram 35920, Waroona for the purpose of sand extraction. Lot 3 is located approximately eight kilometres west of the town of Waroona, Western Australia.

This clearing permit application is a joint venture between AMG (WA) Pty Ltd and Pandanus Park Aboriginal Corporation. Pandanus Park Aboriginal Corporation advised that they have a joint sand operation on the Pandanus Park Aboriginal Community (Kimberley Region) with AMG (WA) Pty Ltd, however it is not operational yet. The community is seeking training in the sand extraction operation through this project. It is advised that the community needs the sand extraction operation to be successful for the financial future of the community (Pandanus Park Aboriginal Corporation, 2017).

The applicant has obtained letters of support for the project from:

- Minister for Indigenous Affairs
- Peel Development Commission
- Ms Josie Farrer – Member for the Kimberley
- Department of Aboriginal Affairs
- Minister for Employment, Women and Assisting the Prime Minister for the Public Service
- Department of Training and Workforce Development

Lot 3 is a 218 hectare property and Jackson Block covers approximately 36.8 hectares in the south east corner.

The property is freehold land and is owned by Stanley, Susan, Garry and Rosalind Meek. On 8 May 2015 AMG (WA) Pty Ltd entered into a ten year lease over Lot 3.

Sand is proposed to be extracted using an excavator and loader. Clearing is proposed to be undertaken in a staged approach, with each stage comprising of seven hectares (Accendo, 2017a). Extraction is to be undertaken progressively in two stages in a south to north direction. The two stages are to proceed sequentially with land stabilisation works commencing upon the completion of each stage (Accendo, 2017a).

MBS Environmental (2015) identified two vegetation units within the application area, one covering the majority of the remnant vegetation and another covering a small section of fringing wetland in the northwest corner of

the survey area.

The dominant Vegetation Unit 1 is described as 'Low woodland of *Corymbia calophylla*, *Eucalyptus marginata*, *Banksia* spp. and *Allocasuarina fraseriana* over a low open shrubland dominated by *Hibbertia hypericoides* over a grassland of native and introduced species on very low relief sand dunes'.

The minor Vegetation Unit 2 is described as 'Thicket of *Kunzea ericifolia*, *Melaleuca preissiana* and *Melaleuca raphiophylla*, over open low shrubland of *Astartea scoparia* and *Adenanthos meisneri* over bare ground in lower ground associated with a sumpland'.

In January 2016 the application area was burnt during the Waroona fires. Since January 2016 officers from DWER (and its predecessor agency the Department of Environment Regulation (DER)) have visited the application area twice, once on 11 March 2016 and again on 6 July 2017. It was reported that the application area was regenerating, with evidence of understory species coppicing from underground root structures and re-sprouting. Epicormic growth was evident in a number of jarrah, marri, banksia and allocasuarina trees and it is expected that Area 2 of the application area will continue to regenerate back to its pre-fire condition if left undisturbed. Some of the application area is impacted by dieback which may reduce the ability for it to regenerate successfully without intensive management.

Methodology References
Accendo (2017a)
MBS Environmental (2015)
Pandanus Park Aboriginal Corporation (2017)

Public consultation

Comments

The application was advertised online on 20 June 2017 for a 21 day submission period. A publication summary was advertised in *The West Australian* on Monday 26 June 2017.

On 5 July 2017, a public submission was received which questioned whether it was necessary to mine 14 hectares of land to obtain sand when there is already approximately 250,000,000 tonnes available at the Alcoa alumina refinery at Wagerup ready for use (Submission, 2017).

This submission was referred to the applicant's consultant on 17 July 2017 requesting that a response be prepared. On 28 July 2017, a response was received from the applicant's consultant stating that Alcoa had been contacted and that it was advised that the residue sand from the refinery in Wagerup has a potentially hazardous chemical composition and is therefore not considered a suitable alternative to sand for residential developments (Accendo, 2017b).

The applicant further advised that the sand resource within the subject site will almost wholly be used as a construction material (i.e. fill, concrete and building sand) for residential developments in nearby localities. The then Department of Mines and Petroleum (DMP) identified a shortage of building materials between Perth and Busselton. A dependable supply of these materials is crucial for construction and building involved with development (Accendo, 2017b).

Transporting these materials from distant sources increases costs for housing and all developments (Accendo, 2017b). The DMP and Shire of Waroona have specifically identified the subject site as being located within a 'regionally significant basic raw materials' area (Accendo, 2017b).

Methodology References:
Accendo (2017b)
Submission (2017)

Avoidance, mitigation and offset

Avoidance and Mitigation

Supporting information provided with the clearing permit application notes that the proponent has endeavoured to avoid any vegetation in association with a wetland of conservation significance. Accordingly, the application area does not contain any wetland vegetation (Accendo, 2017a).

The following mitigation measures are proposed by the applicant's consultant (Accendo, 2017a):

The management objectives for vegetation and flora are:

- Restrict vegetation clearing to a practical minimum;
- Prevent unauthorised clearing of native vegetation outside of the clearing footprint;
- Ensure vegetation clearing is undertaken in an appropriate manner to maximise success of later rehabilitation activities; and
- Minimise disturbance to remaining vegetation to retain health and integrity.

Management actions to minimise disturbance to vegetation include:

- Undertake clearing in two discrete stages to minimise potential impacts associated with erosion;
- Plan clearing such that it does not result in the creation of isolated remnants of native vegetation that have no ecological corridors to allow fauna movement to adjacent areas;
- Peg/flag areas to be cleared to avoid any unnecessary disturbance to adjacent vegetation not approved to be disturbed;
- Create strategic firebreaks where necessary; and
- Restrict vehicle movement to designated access tracks, to prevent vegetation damage and erosion.

Offset

The applicant identified the following significant residual environmental impacts associated with the proposed clearing:

- Clearing 14 hectares of vegetation associated with under-represented vegetation associations/complexes (i.e. Beard vegetation association 1000 and Southern River Complex); and
- Clearing 14 hectares of black cockatoo foraging and potential breeding habitat.

To counterbalance the above impacts the applicant proposed an offsets package that consists of:

- Placing a conservation covenant over 106 hectares of non-secure remnant native vegetation; and
- Revegetation of two hectares within a conservation significant wetland.

The Delegated Officer considers that the impacts associated with clearing of Area 2 are not able to be appropriately offset. Area 1 is considered to have the following significant residual impacts:

- 30 potential future nesting trees, seven with hollows that could be suitable as a nesting site for black-cockatoos;
- 3.25 ha of black cockatoo foraging habitat;
- 3.25 ha of high biodiversity vegetation in at least good (Keighery, 1994) condition; and
- 3.25 ha of a significant remnant in a highly cleared landscape.

DWER has undertaken a preliminary offset calculation using the Commonwealth DotEE's Offset Assessment Guide for the proposed clearing of Area 1. The calculation addresses the impacts to black cockatoo foraging and breeding habitat, biodiversity values and significance as a remnant. The minimum acceptable land acquisition offset in this instance would be approximately 19.4 hectares of Lot 3 in a very good (Keighery, 1994) condition.

On 29 September 2017, a letter was sent to the applicant's consultant outlining the significant residual impacts associated with the proposed clearing (broken down into Area 1 and Area 2). The letter further advised that the impacts associated with Area 1 could be counterbalanced by a suitable offset proposal. The letter requested the provision of written approval from the landowners for the applicant to use part of Lot 3 as an offset. A response was invited within 30 days of the date of the letter.

On 10 October 2017 an email was received from the applicant's consultant requesting a meeting to discuss the preliminary assessment report. On 13 October 2017 an email was received from the applicant requesting an extension of time to provide a response to DWER's letter. On 16 October 2017 an email was received from the applicant's representative advising that a meeting and extension are no longer required and requested that DWER finalise their assessment.

On 26 October 2017, a letter was sent directly to the applicant extending an opportunity to provide information that would enable DWER to progress towards the grant of a permit for Area 1. On 26 October 2017, an email was received from the applicant raising a number of perceived concerns with the assessment process, however formal advice regarding how to progress with the application was not provided.

During a meeting on 16 November 2017, the applicant confirmed that the desired approach with respect to the ongoing assessment was for DWER to make a determination on the full application area and that no revised offset proposal would be submitted to allow consideration of the granting of Area 1. This discussion was summarised and recorded in an email to the applicant dated 20 November 2017.

Other relevant matters

The following information has been included at the request of the applicant.

In an email dated 3 August 2017, the applicant provided the following information in relation to the importance of this project to the Pandanus Park Aboriginal Community and the issues that the community is facing:

- *"A majority of the community are reliant on Centrelink payments as no opportunity for employment is on offer. When applying for a job the constant knockback's is depressing for the person applying . This is why we have to create our own opportunity for our peoples future";*
- *"The suicide is from depression from the lack of opportunities for aboriginal people. We as a community are trying to resolve this by creating opportunities for our people . The government don't realise this is What is creating suicide amongst indigenous people";*
- *"The other fact is people are dealing in drugs to create an income to survive instead it's destroying our people . The drugs and alcohol will not be tolerated in our community. We have evicted people who have taken this line within our community. The fact is that people are not surviving on Centrelink payments we need opportunities to survive";*
- *"Our community has no activities for children as with no funding is available even for an oval. The children need education with computers within the community to help them achieve their education. At the moment the community does not have the funding to provide this for our children . We also need funding for a teacher to teach up to grade four within our community. At the moment the children have to be up at 6 AM and return from school by bus after 5 PM these children are as young as 4/5 years of age. Then quite often they fall asleep on the bus and end up back in Derby and get home late at night";*
- *"If the government are trying to close the gap amongst aboriginal People they need to create employment , education and funding. We have taken the initiative to try and achieve a financial self-sufficient community. With this to be achievable we need government support moving forward to create our own financially self sufficient community. This is by the way of supporting projects and opportunities we put forward to better our community and people and youth";*
- *"Without opportunities for the communities The standard of living in communities will rapidly decline. The suicide rate Will increase in years moving forward without these opportunities. The communities are slowly losing their assets due to financial hardship . This is making us more reliant on government agencies for financial support to survive . In turn living on Centrelink and paying rental on our own assets is also financially crippling our people"; and*
- *"If the government was serious about employment and closing the gap amongst Aboriginal people, The government would support opportunities like you have before you to show we can be self-sufficient financially. We cannot survive on the current system without support we can see our community is going backwards. Examples are as follows-*

*Domestic violence
Drugs
Suicide
Unemployment Centrelink reliant
Alcohol
No future for our youth
Mental health*

This project is giving our people the opportunity to better ourselves and community and create a future for our people and children moving forward".

(AMG (WA) Pty Ltd, 2017a)

In an email dated 28 June 2017, the applicant's consultant advised:

"Mine manager also once again training (Patricia Riley) as a mine manager for the operation as well as occupational health and safety. This will give Pat the skills to operate the community operation. The community operation requires funding as roads need to be constructed at approximately \$1000000 for operational. This project is a joint venture and income will also be generated into the community. This funding will benefit in the way of oval , basketball court , solar power , swings and BBQ area for the youth and community members a store in the community rather than purchasing from the roadhouse . The store will also generate employment for members within the community. This should also benefit the current suicide rate as the community will be self sufficient (employment , income) . Then also construct a road to current approved sand mine or moxie the product to lay down area with in the community. Without Waroona none of this can occur due to government reliance on incomes and lack of practical experience.

1 x bulldozer (D8) for clearing and operator for clearing plus operator (when approved) (sub contractor). 2 days approximately \$12000

2x loaders for sand extraction (which 1 will be trained from the community (Pandanus Park) and employed in the operation . Then this person when capable will be moved back to the community to operate a loader in the community . The community has no loader practical experience and this will give practical experience. Then another trainee will then have the opportunity to be trained and employed and rotate with other members. Then when capable two operators for the loaders in the community will operate BOTH machines at Waroona. These operators will need to return home in turn several trainees will be trained so can return to family and the land (cultural reasons). Loaders approximately for 2 x \$600000 plus operators wages. Excavator for the white sand in the operation to remove white sand which is a valuable resource. This will be as required excavator will stay onsite. (\$100000) moxie (\$ 300000)

Operational drivers in our trucks and semi for delivery of product sold directly for delivery from the operation. 1 x will be trained from Pandanus for local delivery such as delivery for asphalt providers who use sand in their blending. This will grow in time pending on market.

Office workers for noting quantity being removed from site and weight of weigh bridge. Training in the weights and measures to each truck as weights vary and the legality of this importance from truck to truck . The invoicing at the end of the month costings of the running of the operation ect. Testing as per mine site each morning alcohol testing for all Personal as per all mining operations.

Chlorine pool as to not remove dieback from site which the operator's will be responsible for. This was a requirement from DER on our prior application due to the severely infected area.

Rental or purchase of a waroona house to accommodate community members. Purchasing groceries, fuel , hardware from local businesses in Waroona.

Consultation of neighbours being Mike Warmly and James from premium all sands both written letters on our behalf.

Please also note that my son and Grandchildren are indigenous and are owners in this project also in our family trust . This is why Senator Patrick Dodson can not write a support letter due to family ties to my son and grandchildren. They are also traditional owners from the Kimberley but due to health issues with my grandsons have to stay in Perth. As he is constantly at Princess Margaret Hospital for specialist appointments and monitoring. My son will also be working within this operation.

There is also opportunity for community members to work at cloudbreak and Solomon mines once experienced. This is through family operations on these sites but experienced operators are required. Once again this is the importance of the Waroona operation".

(AMG (WA) Pty Ltd, 2017b)

The applicant has obtained letters of support for the project from numerous parties (as identified in the background section above).

4. Assessment of application against clearing principles

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

Comments

Proposed clearing is at variance to this Principle

The previous 20.8 hectare application area for CPS 6620/1 overlaps the current application area. The applicant's representative advised that the same flora and fauna reports were to be used for the assessment of this application as were provided to support the previous application. As the current application area overlaps the previous application area and as the same flora and fauna reports have been used, the following assessment has similarities to the assessment of CPS 6620/1.

A Level 1 Flora and Vegetation survey of approximately 36.8 hectares of the 218 hectares of Lot 3 was undertaken in May 2015 by MBS Environmental (2015) identified the vegetation under application as 'Low Woodland of *Corymbia calophylla*, *Eucalyptus marginata*, *Banksia* spp. and *Allocasuarina fraseriana* over a low open shrubland dominated by *Hibbertia hypericoides* over a grassland of native and introduced species on very low relief sand dunes'. This report indicates that the application area is in good to very good (Keighery, 1994) condition (MBS Environmental, 2015).

A Level 2 Flora and Vegetation Assessment was undertaken in September 2015 by Woodman Environmental. This assessment covered an area of approximately 218 hectares which included the application area. The assessment identified the vegetation under application as 'Mid open woodland to open forest of *Allocasuarina fraseriana*, *Eucalyptus marginata* and *Corymbia calophylla* over low open woodland to woodland dominated by *Banksia attenuata*, *Banksia grandis* and *Banksia ilicifolia* over mid sparse to open shrubland dominated by

Xanthorrhoea preissii over low to mid sparse shrubland to shrubland dominated by *Hibbertia hypericoides* over low sparse to open forbland dominated by *Dasypogon bromeliifolius* and *Desmocladius flexuosus* on grey sand on lower to upper slopes and flats'. This report indicates that the application area is in good (Keighery, 1994) condition (Woodman Environmental, 2015).

In January 2016, the application area was burnt during the Waroona fires. Vegetation communities have the ability to regenerate following natural disturbance events such as fire and with time the environmental values of the application area are likely to return.

On 11 March 2016, former DER officers inspected the application area post-fire and reported that the area was regenerating with evidence of understory species coppicing from underground root structures and re-sprouting. Epicormic growth was evident in a number of jarrah, marri and allocasuarina trees.

On 16 September 2016, the Commonwealth DotEE listed Banksia Woodlands of the Swan Coastal Plain ecological community as endangered under the EPBC Act.

On 6 July 2017, DWER officers inspected the current application area and noted that the application area was continuing to regenerate well, with areas of abundant jarrah and banksia regrowth observed. The application area has been divided into two areas based on differences in vegetation condition and composition and indicative regenerative capacity.

Area 1 (approximately 3.25 hectares) is the southern portion of the application area (see Figure 2). The vegetation within this area is in a degraded (Keighery, 1994) condition (DWER, 2017a) and is likely to regenerate to at least good (Keighery, 1994) condition. The vegetation in Area 1 comprises of *Banksia attenuata* (both dead and epicormics growth evident) over an understory dominated by *Stirlingia latifolia* (DWER, 2017a).

Area 2 (approximately 10.75 hectares) is the northern portion of the application area (see Figure 3). The vegetation within this area is in a very good (Keighery, 1994) condition (DWER, 2017a). This area comprises of vegetation that is consistent with the description of the Southern River Complex and is on trajectory to be back to its pre-fire condition of very good to excellent (Keighery, 1994) condition (DWER, 2017a).

There is also a small area in the north east of Area 2 which was observed to be in the worst condition post-fire. The overstorey in this area is dominated by jarrah and woody pear, however it contains very little native understory and numerous weeds were observed in this area including; **Phytolacca octandra* (red ink plant), **Zantedeschia aethiopica* (arum lily), **Hypochaeris glabra* (smooth catsear), **Solanum nigrum* (blackberry nightshade), **Arctotheca calendula* (cape weed), **Lotus* sp. and **Cynodon dactylon* (couch) (DWER, 2017a).

A Level 1 Flora and Vegetation Survey of approximately 36.8 hectares of Lot 3 (Jackson Block) was undertaken in May 2015 by MBS Environmental. This survey consisted of a desktop assessment and reconnaissance site survey. This survey identified 83 vascular plant taxa, including 17 introduced taxa. MSB Environmental (2015) advised that this number is likely to be an underestimate due to the timing of the survey. The timing of MBS Environmental's survey was identified as a major constraint in identifying many conservation significant taxa, especially orchid taxa.

In recognition of this constraint Woodman Environmental were commissioned to undertake a spring flora survey. The Level 2 spring survey was conducted in September 2015 and consisted of a desktop assessment, a reconnaissance survey followed by a detailed field survey. This assessment covered an area of approximately 218 hectares and identified a total of 192 discrete vascular flora taxa, including 144 native taxa (Woodman Environmental, 2015). Sixteen quadrats were established over the 218 hectare survey area, two of which appear to occur just within the northern and southern boundary of the application area. Transect data indicates that the most intensive survey work was conducted west of the power lines outside of the application area. Transect data shows that limited ground was covered within the application area and was mainly limited to firebreaks and minor deviations off the firebreaks.

The combined results of the two above mentioned flora surveys recorded a total of 152 native species within the study area (Woodman Environmental, 2015).

GIS datasets indicate that 25 priority flora species have been recorded within the local area (10 kilometre radius).

Woodman Environmental's survey was undertaken from 22 to 25 September 2015. The survey was conducted at an appropriate time, as the majority of the taxa in this region would have been in flower.

Woodman Environmental (2015) identified one significant flora taxa in the study area, being; *Acacia semitrullata* (Priority 4). A total of 11 individuals of *Acacia semitrullata* were recorded at five point locations within the study area (Woodman Environmental, 2015). None of these individuals were recorded within the application area. No other rare or priority flora were recorded within the current application area.

No priority ecological communities have been mapped over the application area. Woodman Environmental has classified the vegetation under application as Vegetation Type 1 (VT1). VT1 corresponds to vegetation

generally consisting of *Allocasuarina fraseriana*, *Eucalyptus marginata* and *Corymbia calophylla* woodland over banksia woodland over taxon-rich shrubland on variable landforms from upper slopes to flats (Woodman Environmental, 2015). This vegetation type has similarities to SCP21c, which is listed as a priority 3 ecological community. Despite these similarities, Woodman Environmental (2015) concluded that this vegetation type more closely resembles SCP21a.

As outlined in the assessment at principle (d), the mapping of the Banksia Woodlands threatened ecological community (TEC) includes the application area.

As outlined in the assessment at principle (b), the application area contains foraging and breeding habitat for black cockatoos. Area 1 comprises of 3.25 hectares of foraging habitat for black cockatoos and approximately 30 potential future nesting trees, seven with hollows that could be suitable as a nesting site for black cockatoos. Area 2 comprises 10.75 hectares of foraging habitat and 74 potential future nesting trees, 10 with hollows that could be suitable as a nesting site for black cockatoos. Both Area 1 and Area 2 may also contain habitat for southern brush-tailed phascogale and quenda.

Glevan Consulting (2015) conducted an assessment of a 36.8 hectare area (the study area) of Lot 3 (including the application area) for the presence of phytophthora dieback. This assessment identified that 13.6 hectares of the study area was infected with phytophthora dieback. The January 2016 fire would have removed the dead and dying vegetation, which was affected by dieback. The fire may have the effect of hastening the progress to a post-epidemic assemblage of non-susceptible native plants and weeds (Parks and Wildlife, 2016). The uninfested areas are expected to recover normally from the effects of fire (Parks and Wildlife, 2016). The fire reduced visible disease expression, which will remain permanently muted in older parts of the infestation where the disease has already reached an endemic equilibrium, meanwhile a visible epidemic will eventually become obvious again in areas that had only been recently infested. The fire will not affect disease progression or the final impact of the disease (Parks and Wildlife, 2016).

Area 2 comprises high biodiversity, significant habitat for fauna, including vegetation in a good to very good (Keighery, 1994) condition, forms part of a significant ecological linkage and may comprise a TEC. Area 1 also comprises significant habitat for fauna and forms part of a significant ecological linkage, however the vegetation contains lower levels of biological diversity due to the impacts of dieback and general edge effects associated with the cleared land on either side. Therefore, the proposed clearing is at variance to this Principle.

Methodology References:
DWER (2017a)
MBS Environmental (2015)
Molloy et al. (2009)
Parks and Wildlife (2007-)
Parks and Wildlife (2016)
Woodman Environmental (2015)

GIS Datasets:
Sac Bio Datasets – accessed June 2017

(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

Comments Proposed clearing is at variance to this Principle

Six terrestrial fauna species listed as specially protected under the *Wildlife Conservation Act 1950* (WC Act) have been recorded within the local area, being; Baudin's cockatoo (*Calyptorhynchus baudinii*), Carnaby's cockatoo (*Calyptorhynchus latirostris*), forest red-tailed black cockatoo (*Calyptorhynchus baudinii*), chuditch (*Dasyurus geoffroii*), numbat (*Myrmecobius fasciatus*) and southern brush-tailed phascogale (*Phascogale tapoatafa subsp. tapoatafa*) (DBCA, 2007-).

A fauna survey conducted by Terrestrial Ecosystems in May 2015 identified three broad fauna habitat types in the 36.8 hectare area surveyed (Jackson Block), being:

- *E. marginata*, *C. calophylla*, *A. fraseriana* and *Banksia* sp. woodland over sparsely vegetated shrubs over grasses and herbs on grey sands;
- Large cleared sections of native vegetation that were previously used for sand extraction on the eastern side and a disused mining area in the south-west corner that abuts regrowth vegetation in the power line corridor; and
- A small section west of the central point that comprises dense shrubs on white sands that extends to the track that runs north-south through the project area.

Carnaby's cockatoo is listed as endangered and Baudin's cockatoo and forest red-tailed cockatoo are listed as vulnerable under the EPBC Act. Black cockatoos breed in large hollow-bearing trees, generally within woodlands or forests or in isolated trees (Commonwealth of Australia, 2012). These species nest in hollows in live or dead trees of karri, marri, wandoo, tuart, salmon gum, jarrah, flooded gum, York gum, powder bark, bullich and blackbutt (Commonwealth of Australia, 2012).

Black cockatoos have a preference for foraging habitat that includes jarrah and marri woodlands and forest heathland and woodland dominated by proteaceous plant species such as *Banksia* sp., *Hakea* sp. and *Grevillea* sp. (Commonwealth of Australia, 2012). Clearing of feeding habitat on the Swan Coastal Plain poses a significant threat to the long term survival of Carnaby's cockatoos (Shah, 2006).

During the latest site inspection on 6 July 2017 no black cockatoo foraging evidence was observed (DWER, 2017a). The lack of foraging evidence may be due to the January 2016 fires, however evidence of the ability of banksias to germinate post fire was observed during the site inspection. As outlined in Principle (a), Area 1 comprises of 3.25 hectares of foraging habitat for black cockatoos and approximately 30 potential future nesting trees, seven with hollows that could be suitable as a nesting site for black cockatoos. Area 2 comprises of 10.75 hectares of foraging habitat for black cockatoos, in a better condition and with more of the preferred foraging species than Area 1 and 74 potential future nesting trees, 10 with hollows that could be suitable as a nesting site for black cockatoos.

Cumulative impacts of the loss of banksia woodlands on the swan coastal plain restrict the availability of food sources for black cockatoos. Noting the application area has been mapped within a 12 kilometre buffer of a known breeding site, contains numerous potential breeding trees, has historic evidence of foraging use and is in close proximity to wetlands, the application area is considered to be significant habitat for black cockatoos. Area 1 however, comprises a lower foraging habitat value, given the vegetation structure and condition, than Area 2.

The Chuditch is listed as vulnerable under the EPBC Act. Chuditch are now only present in approximately five per cent of their pre-European range. Most chuditch are now found in varying densities throughout the jarrah forest and south coast of Western Australia. Chuditch use a range of habitats including forest, mallee shrublands, woodland and desert. The densest populations have been found in riparian jarrah forest (DEC, 2012a). Terrestrial Ecosystems (2015) notes that these is a low possibility that chuditch could be in the remnant vegetation in low number. Given this species preference for riparian jarrah forest it is unlikely that the application area provides significant habitat for this species.

The numbat is also listed as vulnerable under the EPBC Act. Numbats build nests in hollow logs or trees, or dig burrows. Only two isolated populations of this species remains at Dryandra and Perup in the southwest of Western Australia, approximately 160 kilometres apart (DoE, 2014). Given the numbats habitat preference, the proposed clearing is not likely to impact upon habitat for this species.

The southern brush-tailed phascogale is a small arboreal dasyurid. In south west Western Australia they have been observed in dry sclerophyll forests and open woodlands that contain hollow bearing trees. Habitat clearing, fragmentation, and alteration by logging and mining are the greatest threats to this species (DEC, 2012b). Terrestrial Ecosystems (2015) report that the size of the remnant patch of vegetation is large enough to sustain a population of brush-tailed phascogale and some of the habitat is suitable. The brush-tailed phascogale were identified in the vicinity of the project area, but were not caught during fauna surveys at the nearby mineral sand project (Terrestrial Ecosystems, 2015).

Potential quenda (*Isoodon obesulus fusciventer*) diggings (conical shape hole) were observed during the fauna survey (Terrestrial Ecosystems, 2015). The quenda is listed as a Priority 5 species under the WC Act. This species inhabits scrubby, often swampy, vegetation with dense cover up to one metre high, often feeds in adjacent forest and woodland that is burnt on a regular basis and in areas of pasture and cropland laying close to dense cover. Populations inhabiting jarrah and wandoo forests are usually associated with watercourses (DEC, 2012c).

Although, potential diggings were identified, Terrestrial Ecosystems (2015) advise that none were observed where it was obvious that a pointed nose had created a cone shape depression in the leaf litter or surface soils, which is a distinguishing feature of quenda diggings. The open understorey and presence of foxes in the project area would ensure numbers are maintained at a low level if they were present (Terrestrial Ecosystems, 2015).

The South West Regional Ecological Linkage (SWREL) report (Molloy et al., 2009) defines an ecological linkage as "A series of (both contiguous and non-contiguous) patches which, by virtue of their proximity to each other, act as stepping stones of habitat facilitate the maintenance of ecological processes and the movement of organisms within, and across, a landscape". Axis lines in the SWREL Report are used to identify patches of remnant vegetation with high connectivity or linkage value; the emphasis for biodiversity planning and conservation becomes the protection and management of the patches identified using the linkage axis lines, rather than within the area defined by the line itself.

Remnant vegetation within the SWREL boundary can be assigned a 'proximity analysis' group. A patch of vegetation with an edge touching or less than 100 metres from a linkage (axis line) is assigned to proximity analysis group 1(a) which is the highest category group. A SWREL axis line is mapped approximately 250 metres west of Area 2 and 320 metres west of Area 1.

There is native vegetation contiguous from the mapped SWREL linkage to Buller Nature Reserve (240 metres south), Myalup State Forest (8.8 hectares west) and Hamel State forest (7.3 kilometres east) (Molloy et al., 2009). Given the application area is located within this contiguous native vegetation, the application area falls within proximity analysis group 1(a) as the patch of vegetation which it is part of has an edge touching the

linkage.

The application area forms part of this ecological linkage and assists in the maintenance of the ecological process of conservation reserves within the local area. This value of Area 2 is heightened by the high quality fauna habitat value that assists in the maintenance of these species within the connected reserves. Area 1 has cleared land on either side, with approximately 80 metres cleared directly west between the contiguous native vegetation and Area 1. Given the cleared land and lower quality fauna habitat, the proposed clearing of Area 1 will still impact the linkage, however the impacts are not likely to be as significant as the proposed clearing of Area 2.

The application area contains significant habitat for black cockatoos, potential habitat for brush-tailed phascogale and quenda, and forms part of a significant ecological linkage. Therefore, the proposed clearing is at variance to this Principle.

Methodology

References:

Commonwealth of Australia (2012)
DBCA (2007-)
DEC (2012b)
DEC (2012c)
DotE (2014)
DWER (2017a)
Molloy et al. (2009)
Shah (2006)
Terrestrial Ecosystems (2015)

GIS Datasets:

Sac Bio Datasets – accessed June 2017

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.

Comments

Proposed clearing is not likely to be at variance to this Principle

Four rare flora species have been recorded in the local area, being; *Caladenia huegelii*, *Drakaea micrantha*, *Diuris purdiei* and *Synaphea stenoloba*.

The closest mapped rare flora species is *Caladenia huegelii* which has been recorded within approximately 1.5 kilometres of the application area within Buller Nature Reserve.

Caladenia huegelii occurs in areas of mixed woodland of jarrah (*Eucalyptus marginata*), candlestick banksia (*B. attenuata*), holly banksia (*B. illicifolia*) and firewood banksia (*B. menziesii*) with scattered sheoak (*Allocasuarina fraseriana*) and marri (*Corymbia calophylla*) over dense shrubs of blue boy (*Stirlingia latifolia*), Swan River myrtle (*Hypocalymma robustum*), yellow buttercups (*Hibbertia hypericoides*), buttercups (*H. subvaginata*), balga (*Xanthorrhoea preissii*), coastal jug flower (*Adenanthos cuneatus*) and *Conostylis* species (DEC, 2009). Throughout its range the species tends to favour areas of dense undergrowth. Soil is usually deep grey-white sand usually associated with the Bassendean sand-dune system (DEC, 2009).

Drakaea micrantha is usually found in cleared fire breaks or open sandy patches that have been disturbed, and where competition from other plants has been removed (Brown et al., 1998). *Drakaea micrantha* occurs in infertile grey sands, in banksia, jarrah (*Eucalyptus marginata*) and common sheoak (*Allocasuarina fraseriana*) woodland or forest. Suitable habitat for this species is located within the application area.

Diuris purdiei grows in sand to sandy clay soil amongst scattered shrub in areas subject to winter inundation (Brown et al., 1998). Suitable habitat for this species is likely to occur in the north west corner of the application area which is adjacent to mapped wetlands.

Synaphea stenoloba occurs on loamy soils in low lying areas that are occasionally inundated. Associated vegetation is generally swampy heath to one metre high (DotEE, 2017). Suitable habitat for this species is likely to occur in the north west corner of the application area which is adjacent to mapped wetlands.

Woodman Environmental was commissioned by the applicant to undertake a spring flora survey of the whole of Lot 3. Woodman Environmental's assessment was undertaken from 22 to 25 September 2015. This visit was conducted at the most appropriate time to survey in the Swan Coastal Plain Bioregion, as the majority of the taxa in this region are in flower at this time (Woodman Environmental, 2015).

In addition to the four species listed above, a desktop assessment and literature review undertaken by Woodman Environmental (2015) identified an additional four rare flora species which may occur within the application area, being; *Diuris micrantha*, *Drakaea elastica*, *Eleocharis keigheryi* and *Synaphea* sp. Fairbridge Farm.

Woodman Environmental (2015) conducted an initial reconnaissance visit on 2 September 2015 with the main purpose being a targeted search for *Drakaea elastica*. All areas of appropriate habitat, particularly grey sand

areas adjacent to winter-wet areas, and thickets of *Kunzea glabrescens* (Spearwood), were inspected via wandering transects (Woodman Environmental, 2015). The most appropriate time to survey for this species is July/August when the orchids leaves are most evident. Woodman Environmental provided advice that the leaves should still have been present in early September. The targeted search for this species did not record this species.

Woodman Environmental (2015) set up 16 quadrats within the survey area, two of which occur just within the northern and southern boundary of the application area. It is noted that in addition to searches conducted around and between quadrats, specific, targeted searching for significant flora taxa in the survey area was undertaken.

No rare flora was recorded within the application area or within the larger survey area.

Given the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology References:
Brown et al. (1998)
DEC (2009)
DotEE (2017)
Woodman Environmental (2015)

GIS Datasets:
Sac Bio Datasets – accessed June 2017

(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.

Comments Proposed clearing may be at variance to this Principle

According to available datasets, the application area is mapped as the 'Banksia Woodlands of the Swan Coastal Plain' (Banksia woodlands) ecological community listed as Priority 3 by Department of Biodiversity, Conservation and Attractions (DBCA). This community is listed as an endangered TEC under the EPBC Act.

The Banksia Woodlands ecological community is restricted to areas in and immediately adjacent to the Swan Coastal Plain Interim Biogeographic Regionalisation of Australia (IBRA) bioregion, including the Dandaragan plateau. This coastal plain stretches from around Jurien Bay in the north, to Dunsborough in the south (DotEE, 2016).

This ecological community has undergone a decline of about 60 per cent in its original extent and almost all of the ecological community that remains, occurs as highly fragmented patches less than 10 hectares in size (DotEE, 2016).

This ecological community has a dominant *Banksia* component, which includes at least one of four key species—*Banksia attenuata* (candlestick banksia), *B. menziesii* (firewood banksia), *B. prionotes* (acorn banksia) and/or *B. ilicifolia* (holly-leaved banksia) (DotEE, 2016).

The ecological community provides habitat for many native plants and animals that rely on *Banksia* Woodlands for their homes and food. Remaining patches of the ecological community provide important wildlife corridors and refuges in a mostly fragmented landscape (DotEE, 2016).

The DotEE mapping of this ecological community includes the application area. The application area forms part of a larger remnant of 218 hectares (Lot 3 Buller Road) and is linked by contiguous vegetation to Buller Nature Reserve which is a remnant of approximately 301 hectares. The majority of the vegetation in this combined 518 hectare remnant is predominately in good (Keighery, 1994) or better condition and is the largest remnant in the local area.

The two flora and vegetation surveys conducted over the application area were undertaken prior to the EPBC listing of this ecological community in September 2016. To determine if a particular site aligns with this TEC the approved conservation advice states that it is necessary to check the site against the description, size and condition thresholds. Due to the timing of the surveys this was not undertaken and no additional survey information or analysis, against the approved conservation advice, of the previous survey findings have been provided by the applicant.

The Level 1 Flora and Vegetation Survey conducted by MBS Environmental (2015) identified the dominant vegetation unit within the application area to be 'Low Woodland of *Corymbia calophylla*, *Eucalyptus marginata*, *Banksia* spp. and *Allocasuarina fraseriana* over a Low Open Shrubland dominated by *Hibbertia hypericoides* over Grassland of native and introduced species on very low relief sand dunes'. The *Banksia* species found in this vegetation unit includes the diagnostic species; *Banksia attenuata*, *Banksia menziesii* and *Banksia ilicifolia* (DBCA, 2017).

The Level 2 Flora and Vegetation Survey conducted by Woodman Environmental (2015) described the vegetation as *Allocasuarina fraseriana*, *Eucalyptus marginata* and *Corymbia calophylla* woodland over *Banksia*

woodland over taxon-rich shrubland on variable landforms from upslopes to flats.

Woodman Environmental (2015) stated that this vegetation type does appear to be related to and have similarities to SCP21c 'Low lying *Banksia attenuata* woodlands or shrublands', however the description of the SCP21 subgroups provided in the floristic survey of the SCP (Gibson *et al* 1994) indicates that this vegetation type more closely resembles SCP21a 'Central *Banksia attenuata*, *Eucalyptus marginata* woodland' than SCP21c (DBCA, 2017). Both SCP21a and SCP21c are listed in the approved conservation advice as floristic community types with relationships to the Banksia Woodlands ecological community.

The conservation advice for this TEC states that; these Banksia woodland community types are fire prone habitats that include species with a range of life history traits that allow them to persist in this fire prone environment (through resilience to survive fires as well as species that are killed by fire but then germinate after fire).

The conservation advice states that the greatest threat to the Banksia woodland TEC is clearing and fragmentation (associated with mining), invasive species and fire regimes. Therefore the proposed clearing has potential for local scale impacts on the remaining Banksia woodland TEC with regard to impacts of clearing and increased fragmentation (DBCA, 2017).

From the site inspection reports compiled by DWER and DER officers, vegetation surveys, condition mapping and quadrat data provided by the two consultants the vegetation in Area 2 appears to meet several of the key diagnostic characteristics of the Banksia Woodland TEC. Noting Area 1 also contains *Banksia attenuata* in a degraded (Keighery 1994) condition, the vegetation is likely to form part of the TEC or its buffer and will still contribute to the overall function of the ecological community.

To accurately determine the extent of this TEC impacted by the proposed clearing, the vegetation that may represent this TEC must be considered and assessed against the key diagnostic factors (DBCA, 2017).

Given the above, the proposed clearing may be at variance to this Principle.

Methodology References:
DBCA (2017)
DotEE (2016)
MBS Environmental (2015)
Woodman Environmental (2015)

GIS Datasets:
Sac Bio Datasets – accessed June 2017

(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

Comments Proposed clearing is at variance to this Principle

The application area is located within the Swan Coastal Plain IBRA bioregion. This bioregion has approximately 38.5 per cent of its pre-European vegetation extent remaining (Government of Western Australia, 2016).

The application area is also mapped as Swan Coastal Plain Southern River complex which retains approximately 18 per cent pre-European extent (Government of Western Australia, 2017).

The application area is located within the Shire of Waroona, within which there is approximately 53 per cent pre-European extent remaining (Government of Western Australia, 2016).

The local area (ten kilometre radius) retains approximately 15 per cent native vegetation.

The national objectives and targets for biodiversity conservation in Australia have a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001). Given the local area and the Southern River complex retain less than the recommended 30 per cent threshold, the application area is located within an area that has been extensively cleared.

As outlined in Principles (a) and (b), Area 2 comprises high biodiversity values, significant habitat for black cockatoos and functions as a significant SWREL and refuge. Area 2 may also be representative of a TEC. Area 1 also comprises significant habitat for black cockatoos, however the vegetation is less significant due to it being more degraded and not containing the same level of biodiversity or connectivity value. Therefore the application area in entirety is considered to be a significant remnant.

Given the above, the proposed clearing is at variance to this Principle.

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in DBCA lands (%)
IBRA Bioregion				
Swan Coastal Plain	1,501,222	578,432	38.5	37.8
Shire				
Shire of Waroona	83,233	44,395	53	79
Vegetation Complex – Swan Coastal Plain*				
Southern River Complex	58,781	10,838	18.4	1.6

Methodology References:
Commonwealth of Australia (2001)
Government of Western Australia (2016)
*Government of Western Australia (2017)
Molloy et al. (2009)
Parks and Wildlife (2015a)

GIS Databases
Pre-European vegetation
NLWRA, Current Extent of Native Vegetation

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

Comments Proposed clearing may be at variance to this Principle

No wetlands or watercourses are located within the application area. However, the application area is directly adjacent to a wetland area (not assessed) and areas of Lot 3 Buller Road outside of the application area comprise of wetland areas including resource enhancement category, conservation category and multiple use wetlands.

Conservation category wetlands support a high level of ecological attributes and functions. The objective for these wetlands is preservation of wetland attributes and functions through various mechanisms (Water and Rivers Commission, 2001).

Resource enhanced category wetlands are considered priority wetlands which may have been partially modified but still retain substantial ecological attributes and functions. The ultimate objective is for management, restoration and protection towards improving their conservation value (Water and Rivers Commission, 2001).

Multiple use category wetlands are wetlands with few important ecological attributes and functions remaining. Use, development and management should be considered in the context of ecologically sustainable development and best management practice catchment planning through landcare (Water and Rivers Commission, 2001).

The wetland areas closest to the application area are:

- UFI 5004 multiple use sumpland (seasonally inundated basin) – 20 metres north west of Area 2 and 200 metres north west of Area 1.
- UFI 4807 conservation category sumpland – 200 metres west of Area 2 and 310 metres north west of Area 1.
- UFI 4636 conservation category sumpland – 419 metres west of Area 2 and 560 metres north west of Area 1.

Surrounding these three wetlands is an area of sumpland (UFIs 4801 and 4646) that has been mapped but not evaluated into a management category (i.e. Not Assessed). The former Department of Parks and Wildlife advised that it is not clear whether the wetland areas are part of one larger sumpland system or are discrete wetlands, however the proximity of the wetland areas may indicate hydrological connectivity (Parks and Wildlife, 2015b).

Multiple use wetland UFI 5004 is located approximately 20 metres north of Area 2 and the vegetation condition within the eastern section of the wetland has been described as very good to good (Keighery, 1994) by MBS Environmental (2015) and as good by Woodman Environmental (2015). The vegetation condition of wetland

UFI 5004 suggests that the wetland area may be commensurate with conservation category, however the management category cannot be confirmed with the information provided (Parks and Wildlife, 2015b).

The vegetation and flora survey conducted by MBS Environmental (2015) identified one vegetation unit associated with sumplands (UFIs 4801 and 4646). This vegetation unit is described as 'Thicket of *Kunzea ericifolia*, *Melaleuca preissiana* and *Melaleuca raphiophylla*, over open low shrubland of *Astartea scoparia* and *Adenanthos meisneri* over bare ground in lower ground associated with a sumpland' (MBS Environmental, 2015). This vegetation unit covered approximately 0.5 hectares of the surveyed area. This sumpland area has been omitted from the application area, however some vegetation within this mapped unit may still be located within the application area. *Kunzea* sp. was observed within the application area during the site inspection conducted by DWER officers of 6 July 2017 (DWER, 2017a).

A small depression to the east of the mapped wetland was observed during the site inspection to contain *Melaleuca preissiana* and *Kunzea* sp. (DWER, 2017a).

In regards to a similar assessment for a previous clearing permit application (CPS 6620/1), which overlaps the current application area, the applicants previous consultant submitted the following advice:

- While the proposed clearing is adjacent to a buffer area around a wetland it is not considered that the proposed clearing may be at variance to this principle as the proposed clearing avoids the wetland buffer area and given the sand extraction batter required for safety this will ensure no impact to the wetland area; and
- Sand extraction will not be conducted within two metres of the water table.

This advice is acknowledged. However, given the proximity of the mapped wetland and DWER's site inspection findings it is considered that Area 2 may contain vegetation growing in association with a wetland. Given the distance between Area 1 and the mapped wetlands, the proposed clearing of Area 1 is not considered to be at variance to this Principle.

Given the above the proposed clearing may be at variance to this Principle.

Methodology

References:

DWER (2017a)
 Parks and Wildlife (2015b)
 Water and Rivers Commission (2001)
 Woodman Environmental (2015)

GIS Databases
 Hydrography, linear
 Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Comments

Proposed clearing may be at variance to this Principle

The application area has been mapped by the former Department of Agriculture and Food Western Australia (DAFWA) (now Department of Primary Industries and Regional Development) (Department of Agriculture and Food 2017) as the Bassendean B1 Phase, which is described as 'Extremely low to very low relief dunes, undulating sandplain and discrete sand rises with deep bleached grey sands sometimes with a pale yellow B horizon or a weak iron-organic hardpan at depths generally greater than two metres; *Banksia* dominant' (Schoknecht et al., 2004).

Land Degradation Risk Category	Bassendean B1 Phase
Water Erosion	3-10% of map unit has a high to extreme water erosion risk
Wind Erosion	>70% of the map unit has a high to extreme wind erosion risk
Waterlogging	3-10% of map unit has a moderate to very high waterlogging risk
Flooding	<3% of the map unit has a moderate to high flood risk
Salinity Risk	30-50% of map unit has a moderate to high salinity risk or is presently saline

Based on the DAFWA mapped land degradation risk outlined above, the application area has a relatively low likelihood of water erosion, waterlogging and flooding (Schoknecht et al., 2004).

DAFWA mapping indicates that greater than 70 per cent of the above mentioned soils system has a high to extreme wind erosion risk (highest risk rating out of six risk categories). Given the sandy nature of the soils and

mapped land degradation risk, the proposed clearing may lead to appreciable land degradation through wind erosion.

The proposed clearing may be at variance to this Principle.

In relation to a previous clearing permit application (CPS 6620/1), which overlaps the current area, the applicants previous consultant advised that as part of any extractive industry licence, management of dust and potential erosion is a requirement and management plans are/will be developed to manage this potential impact.

Noting the applicant's advice regarding management plans it is considered that land degradation associated with the proposed land use may be able to be managed through the implementation of appropriate management strategies (i.e. bituminising roads and hardstands, staged clearing followed by rehabilitation and retaining vegetated buffers).

Methodology References:
Schoknecht et al. (2004)

GIS Databases
Land Degradation datasets

(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

Comments **Proposed clearing is at variance to this Principle**
The application area is located approximately 240 metres north west of Buller Nature Reserve. Myalup State Forest is located approximately 8.8 kilometres west and Hamel State Forest is located approximately 7.3 kilometres east.

As discussed in Principles (a) and (b) an ecological linkage, defined by the South West Regional Ecological Linkage (SWREL) Report (Molloy et al., 2009) is mapped approximately 200 metres west of the application area connecting it to Buller Nature Reserve, Myalup State Forest and Hamel State Forest. The SWERL Report notes that patches of remnant vegetation which contribute to the maintenance, function and viability of DEC (now DBCA) Managed Estate are high priorities for inclusion in the linkage.

As the application area forms part of an ecological linkage it assists in the maintenance of the ecological process of conservation reserves within the local area. This value is heightened by the application areas high fauna habitat value that assists in the maintenance of these species within the connected reserves. Area 1 has cleared land on either side and a lower fauna habitat value, therefore the proposed clearing of Area 1 will impact the SWREL, however it is not likely to lead to a significant impact on the environmental values of Buller Nature Reserve, Myalup State Forest and Hamel State forest.

A phytophthora dieback occurrence assessment for Lot 3 reports that the study area has previously been used for sand mining, and no records or evidence of hygiene practices for this operation were identified during the assessment. This is supported by the presence of infested areas in the surrounding vegetation, where the evidence suggests that the pathogen has spread from the operational area into the vegetation (Glevan Consulting, 2015). The disturbance caused by the proposed clearing is likely to further spread dieback to Lot 3 and surrounding areas. Therefore, the proposed clearing has the potential to introduce/spread dieback into Buller Nature Reserve.

Given the above, the proposed clearing is at variance to this Principle.

Methodology References:
Glevan Consulting (2015)
Molloy et al. (2009)

GIS Databases
DBCA Estate

(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.

Comments **Proposed clearing may be at variance to this Principle**
As discussed in Principle (f) Lot 3 Buller Road comprises various wetland areas including resource enhancement category, conservation category and multiple use wetlands. The wetland areas closest to the application area are:

- UFI 5004 multiple use sumpland (seasonally inundated basin) – 15 metres north
- UFI 4807 conservation category sumpland – 144 metres west
- UFI 4363 conservation category sumpland – 390 metres west

Surrounding these three wetlands is an area of sumpland (UFIs 4801 and 4646) that has been mapped but not evaluated into a management category (i.e. Not Assessed). The then Department of Parks and Wildlife (2015b) advised that it is not clear whether the wetland areas are part of one larger sumpland system or are discrete wetlands, however the proximity of the wetland areas may indicate hydrological connectivity.

The clearing of vegetation within Lot 3 may result in sedimentation and erosion processes affecting the adjacent wetlands and subsequently a modification to the water quality.

Groundwater salinity within the application area is mapped 500-1,000 total dissolved solids, milligrams per litre. This level of groundwater salinity is classified as 'Marginal'. Given this level the proposed clearing is not likely to increase groundwater salinity.

The sand excavation also has the potential to impact on wetland values through changes to local hydrology.

It is understood that sand excavation will not occur within two metres of groundwater, however the sand excavation will significantly alter the landform of Lot 3 and subsequently the local catchment flows will be modified (Parks and Wildlife, 2015b). The then Department of Parks and Wildlife advised that in general it supports the Environmental Protection Authority's (EPA) recommendation of a minimum 50 metre buffer from wetlands that are to be protected. The mitigation of hydrological impacts in this instance may require a larger wetland buffer, however no site specific pre or post development hydrological information has been provided to indicate the predicted level of change (Parks and Wildlife, 2015b).

It is acknowledged that the potential changes to local hydrology are linked to the end land use, however the proposed clearing may cause deterioration in the quality of surface water through sedimentation and erosion processes.

In regards to a similar assessment for a previous clearing permit application (CPS 6620/1), which overlaps the current application area, the applicants previous consultant submitted the following advice:

- As part of any extractive industries licence appropriate management plans are/will be developed to manage groundwater impacts;
- No sand extraction will be conducted within two metres of the water table and therefore it is considered that groundwater will not be impacted; and
- As part of any future sand extraction licence, monitoring bores (subject to Department of Water (now DWER) approval, if required) will be placed on Lot 3 to monitor groundwater and ensure no impacts.

The applicant's advice in respect to groundwater is acknowledged. However surface water quality impacts were not addressed.

Therefore, the proposed clearing may be at variance to this clearing Principle.

Methodology References:
Parks and Wildlife (2015b)

GIS Databases
Hydrography, linear
Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain
Groundwater Salinity

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Comments **Proposed clearing is not likely to be at variance to this Principle**
Given the porous nature of the mapped soils and the low mapped (less than three per cent) flood risk (Schoknecht et al., 2004), the proposed clearing is not likely to increase the incidence or intensity of flooding.

The proposed clearing is not likely to be at variance to this Principle.

Methodology References:
Schoknecht et al. (2004)

GIS Databases
Flood Risk
Soils – Sub-systems

Planning instruments and other relevant matters.

Comments

History

In 1998, a 'Notice of Intent' (NOI) to clear was lodged with the Department of Agriculture, Western Australia, to progressively clear vegetation in 6x1 hectare blocks within Lot 3 Buller Road. The Inter Agency Working Group found issues with rare and priority flora, low representation of species in the area, and the need for rehabilitation and wetland buffers. The NOI was referred to the EPA for further assessment, after which the application was withdrawn.

In 2000, a NOI was lodged to clear 25 hectares within the same lot. The NOI was referred to the EPA, after which a site visit was conducted by the EPA Service Unit to investigate the flora and fauna values of the proposed clearing area. The EPA subsequently found that the proposal did not meet its objectives for conservation of biodiversity and advised in correspondence dated 11 October 2001 that the level of assessment would likely to be set as 'Proposal Unlikely to be Environmentally Acceptable'.

The EPA then consulted with the proponent to discuss the development of an environmental management plan and a conservation covenant, and decided to allow an interim arrangement to clear 2.7 hectares of the original 25 hectare proposal.

In December 2002, the EPA informed the proponents that prior to consideration of future clearing proposals for an additional 3.2 hectares on the property, it would "need to be satisfied that some appropriate mechanism is in place to protect the areas of greatest conservation significance".

The EPA advised the proponents that they would either need to enter into a conservation covenant for the remainder of Lot 3 Buller Road, or transfer the ownership of the remainder Lot 3 Buller Road to the former Department of Conservation and Land Management (CALM), and also develop a rehabilitation and conservation plan for the entire property. The EPA also advised the proponent that future proposals would need to take into account the success of rehabilitation. A site inspection on 27 February 2006 could not identify areas that were being actively or effectively revegetated with regrowth being observed as limited to sparse *Acacia puchella*, *Kunzea glabrescens* and some sedge species.

On 26 July 2005, a clearing permit application (CPS 805/1) was submitted to the former Department of Environment (DoE) to clear 38.8 hectares. The assessment of this application noted that the area under application may contain habitat for fauna and rare flora, is a significant remnant in an area that has been extensively cleared and contains vegetation that is growing in association with a wetland.

CPS 805/1 was refused on 11 August 2006, advising that, based on the EPA decision and advice, DoE could not approve any clearing application greater than 3.2 hectares of vegetation (identified by the EPA) unless the proposal is re-submitted to the EPA for assessment, as this would constitute a substantial change. It was considered that if the proponent was willing to reduce the area under application to 3.2 hectares, the proponents would either need to enter into a conservation covenant on the remainder Lot 3 Buller Road or transfer ownership of the remainder of Lot 3 Buller Road to CALM. This would then satisfy the previous requirements outlined by the EPA. In addition, an appropriately timed flora and fauna survey would be required to ensure that the proposal to clear 3.2 hectares would not impact on any rare flora or fauna.

In September 2006, the decision to refuse CPS 805/1 was appealed. On 30 March 2007, the Minister for the Environment; Climate Change dismissed the appeal.

In February 2007, it was noted that clearing was being undertaken on Lot 3. A site inspection was undertaken by the former DEC officers who were advised that the clearing was undertaken so that the existing pit could be rehabilitated in accordance with a Shire recommendation. An Environmental Field Notice was served. In September 2007, it was observed that approximately 1.6 hectares of vegetation had been cleared from the southern and western pit edges. A Vegetation Conservation Notice (VCN) (CPS 2124/1) was subsequently served on 27 September 2007 requiring that no further unlawful clearing takes place on Lot 3 Buller Road. A further site inspection in November 2007 confirmed that another small area of vegetation had been removed. A second VCN (CPS 2215/1) was given in September 2008 requiring the 1.6 hectares area to be revegetated. Since this VCN was given, revegetation activities have been unsuccessful in re-establishing native vegetation and further works were required. Direct seeding of 1.65 kilograms of seed was conducted in 2010 with limited success. The limited success was attributed to low rainfall and grazing by kangaroos. Further revegetation works were conducted in 2013 which involved the planting of 500 seedlings. This attempt resulted in a 50 per cent survival rate.

In May 2016, DER revoked VCNs 2124 and 2215, noting that revegetation to date had not been successful and that the area was burnt in the January fires. A Delegated Officer of DER granted a clearing permit (CPS 6701/1) over an adjacent degraded 6.2 hectare area and it was determined that clearing this area may indirectly impact on any future revegetation efforts.

On 17 June 2015, AMG (WA) Pty Ltd applied for a permit to clear 33.84 hectares of native vegetation within Lot 3 on Diagram 35920, Waroona for the purpose of sand extraction (Reference: CPS 6620/1). Through the assessment this application was reduced to 20.8 hectares. The Delegated Officer determined that the proposed clearing will result in the loss of 20.8 hectares of vegetation that; contains high biodiversity, significant habitat for fauna, including foraging and potential breeding habitat for black cockatoos, forms part of a regionally significant ecological linkage and is a significant remnant in a highly cleared area. In February

2016, the applicant was informed of the findings of former Department of Environment Regulation (DER) preliminary assessment, and was provided an opportunity to further amend the application area in order to avoid significant environmental impacts during a meeting in July 2016. The applicant declined to amend the application to avoid potential impacts. On 10 August 2016, the then Department of Environment Regulation (DER) refused the clearing permit application.

On 24 August 2016, the applicant appealed DER's decision to refuse the application. In summary, the appellant submitted that the permit ought to have been granted on the basis that the values of the vegetation proposed to be cleared are not so significant that an offset could not have been considered, and that the values have been further impacted by dieback and the Waroona fire in January 2016. The appellant also submitted that the decision to refuse the permit was inconsistent with planning documents and other decisions made by DER in the area, including in respect to the application of offsets. On 31 January 2017, the Minister for Environment dismissed the appeal stating that while some damage to vegetation was an inevitable consequence of fire, the values of the vegetation are capable of being re-established over time, specifically in relation to foraging habitat and as being part of a regional ecological linkage. The Minister further advised that, although DER cited two instruments (State Planning Policy 2.4 and the Greater Bunbury Region Scheme) that do not apply to Lot 3, the instruments that are applicable do not identify the site as of regional or State significance for basic raw materials. The Minister noted that this decision does not prevent the appellant lodging a fresh application for a permit to clear with DER.

Other Relevant Matters

This clearing permit application is a joint venture between AMG (WA) Pty Ltd and Pandanus Park Aboriginal Corporation.

The applicant has obtained letters of support for the project from:

- Minister for Indigenous Affairs
- Peel Development Commission
- Josie Farrer – Member for the Kimberley
- Department of Aboriginal Affairs
- Minister for Employment
- Department of Training and Workforce Development

AMG (WA) Pty Ltd holds a ten year lease over Lot 3 Buller Road. The current lease expires on 31 April 2025 and has the possibility of extension for another ten years.

On 29 September 2015, the Shire of Waroona (2015) issued an extractive industry licence (EIL) to the owners of Lot 3. Condition 1 of the EIL states 'The Extractive Industry hereby approved shall operate in accordance with the approved Site Management Plan to the satisfaction of the Shire of Waroona'. The Site Management Plan identifies a 13.1 hectare extraction area which is consistent with the area granted under clearing permit CPS 6701/1. On 29 June 2017, an email from the Shire of Waroona was received advising that no further application have been received from the Shire for Lot 3 (Shire of Waroona, 2017a).

The application area is mapped within the Murray groundwater area which is an area proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act). Under the RIWI Act, if a bore is to be drilled and water taken for the purposes other than the exemption criteria, a licence application must be made to DWER. On 19 August 2015 the then Department of Water (now DWER) advised that its records indicate that there are no current groundwater licences or applications pending with relation to the Lot 3 Buller Road (DoW, 2015). On 21 August 2017 Water Licensing – Peel Region, DWER confirmed that this advice remains the same (DWER, 2017b).

In an email dated 13 February 2017, the then Department Mines and Petroleum (DMP) confirmed that Lot 3 Buller Road, Waroona has been identified and mapped as containing a Regionally Significant Basic Raw Material (RSBRM) for sand. The RSBRM mapping of the Swan Coastal Plain was carried out using a consistent rule set, designed to identify the larger and hence most significant sand deposits – taking into account surface area and thickness above water table (DMP, 2017). DMP further advised that the mapping serves as a useful planning tool to identify the more significant basic raw material resources in a regional context, however it cannot be taken as government endorsement of approval for mining, which needs to consider other matters such as environmental and planning approvals (DMP, 2017).

On 10 February 2017, the Shire of Waroona sent an email to the applicant noting the following: "The Draft South Metropolitan Peel Sub-Regional Planning Framework does identify Lot 3 as containing a regionally significant basic raw material. It should be noted that the Draft Framework is one of a number of considerations to be made in assessing land use proposals, including:

- *Planning and Development Act 2005*;
- *Local Government Act 1995*;
- *Environmental Protection Act 1986*;
- Environmental Protection (Noise) Regulations 1997;
- Shire of Waroona Town Planning Scheme No. 7 1996;
- Shire of Waroona Extractive Industries Local Law 1999;
- Environmental Protection Authority Guidance Statement 3 – Separation Distances Between Industrial and Sensitive Land Uses 2005;
- Peel Region Scheme 2003;

- Peel Region Scheme Strategic Minerals and Basic Raw Materials Policy 2002;
- Local Planning Strategy 2009;
- Local Planning Policy 1 – Community Consultation;
- Local Planning Policy 15 – Extractive Industry”.

Shire of Waroona (2017b)

The Shire of Waroona Town Planning Scheme No. 7 1996 maps the application area as being zoned as rural (Rural 1). In this zone extraction ‘is not permitted unless the local government has exercised its discretion by granting development approval after giving notice in accordance with clause 64 of the deemed provisions’ (DoP, 1996). This scheme defines the objectives of rural zones as ‘Council’s objective is to preserve the rural character of the District’s farming lands and to ensure that they continue to contribute materially to the District’s economy, whilst recognising that changes in land use practices will affect land management and the landscape generally’ (DoP, 1996).

The principal purpose of the Peel Region Scheme Strategic Mineral and Basic Raw Materials Resource Policy 2002, as noted above, is to ensure long term security of access for minerals and basic raw materials and to achieve this through appropriate land use planning and control of development (WAPC, 2002). This Policy identifies lands within the Peel Region Scheme area which contains mineral resources and basic raw material of State and regional significance (WAPC, 2002). The Policy Map does not identify Lot 3 Buller Road as a Strategic Mineral and Basic Raw Materials Resource Policy Area.

Lot 3 is within the area covered by the Peel Region Scheme. The Peel Region Scheme mapping of Strategic Agricultural and Mineral and Basic Raw Materials Resource Areas does not identify Lot 3 Buller Road as a Strategic Mineral and Basic Raw Material Resource Area.

The Local Planning Strategy 2009 does not map the application area as a ‘Strategic Minerals and Basic Raw Materials Resource Policy Area’.

Lot 3 is located on the swan coastal plain, where the cumulative impacts of the loss of banksia woodlands and other areas of suitable foraging habitat on the swan coastal plain has led to a restriction on the availability of food sources for black cockatoos. All clearing proposals located within this area will have due consideration for the cumulative local and regional scale impacts.

Lot 3 Buller Road is identified as being part of a ‘Peel Regionally Significant Natural Area’ (RSNA) under the Environmental Protection Authority’s Environmental Protection Bulletin (EPB) No. 12. EPB No.12 identifies regionally significant natural areas that should be considered during strategic planning. In a highly cleared landscape, these areas represent the range of landscapes, habitats, vegetation and flora originally found in the area (EPA, 2013). Any developments in this area will be considered on their merits. However, those impacting on regionally significant natural areas will be subjected to higher scrutiny (EPA, 2013).

The EPA notes that:

- the primary protection of remnant native vegetation is best achieved by locating development in cleared areas in preference to un-cleared lands;
- the Peel RSNA information provides a key resource to inform strategic regional planning;
- the information provides guidance to State and Local Government authorities, community, industry and developers in planning to firstly, avoid, and then minimise, the impacts of development proposals and planning schemes on natural areas; and,
- development proposals and planning scheme amendments that impact on the Peel RSNA will require detailed investigations of their natural values consistent with EPA Guidance Statements 10, 51 and 56.

(EPA, 2013)

The area under application falls within the area subject to the Environmental Protection (Peel Inlet-Harvey Estuary) Policy 1992 (EPP). The purpose of this policy is to set out the environmental quality objectives for the Peel Inlet and Harvey River and outlines the means by which these objectives are to be achieved and maintained. The EPP environmental quality objectives relate to limiting the median load (mass) of total phosphorous flowing into the Estuary so that excessive growth of algae can be prevented (EPA, 1992).

Achievement and maintenance of the environmental quality objectives are primarily through the planning process. To this end, Statement of Planning Policy 2.1 (SPP 2.1) was gazetted in 2003. SPP 2.1 contains specific policy provisions that relate to different land uses, including a requirement that SPP 2.1 shall be implemented through the local planning schemes operating within the Peel-Harvey Coastal Plain Catchment (EPA, 1992).

As of 29 September 2017, DWER has not received an application for a works approval for this project. Works approvals (WA) and licences granted under Part V, Division 3 of the EP Act regulate emissions and discharges that originate from the proposed activities that fall within the description of the relevant category in the EP Regulations. In the case of Category 12 (screening, washing, crushing, grinding or milling, sizing or separating of material extracted from the ground), the WA and licence can regulate noise, dust and potentially contaminated wastewater or stormwater that originate from any comminution or beneficiation activities that occur after material has been extracted from the ground but would not address impacts from the act of

extracting the material or from transporting the material from site.

Approximately two hectares of the application area (southern section) intersects a mapped Aboriginal Site of Significance, being; Buller Road Camp.

On 16 June 2017, a direct interest letter was sent to the Peel Harvey Catchment Council (PHCC) as the proposed clearing falls within their area of interest. A response to the direct interest letter was received on 24 August 2017. PHCC's submission refers to two previous submissions which were provided in response to two prior clearing permit applications on the same property (CPS 6620/1 and CPS 6701/1). PHCC reiterates its previous advice and strongly objects to any further clearing in Lot 3 Buller Road based on the reasons outlined in their previous correspondence and as summarised below:

- Lot 3 supports a significant area of native vegetation of high ecological value;
- The vegetation is likely to be part of the Southern River Complex, of which over 80 per cent has already been cleared;
- The proposal will likely result in significant impacts to threatened or endangered black cockatoos species and the endangered Glossy - leaved Hammer Orchid (*Drakea elastica*);
- Any further extractive use of Lot 3 (or any other lot with contiguous native vegetation) must be assessed with consideration to the long term protection of biodiversity and water quality in the Peel-Harvey Catchment and the Perth and Peel Regions; and
- The further loss of native vegetation and perennial vegetation cover in the coastal catchment of the Peel-Harvey Estuary is not acceptable. Further loss of native vegetation (and sand) will increase water runoff to local watercourses and increase the risk of increased sediment and nutrient movement to downstream ecosystems.

(PHCC, 2017)

The concerns outlined above have been addressed within the assessment of the ten clearing principles.

Methodology	References: DMP (2017) DWER (2017b) EPA (1992) EPA (2010) PHCC (2017) Shire of Waroona (2015) Shire of Waroona (2017a) Shire of Waroona (2017b) WAPC (2002)
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