



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 7342/1
Permit Holder:	Forshaw Pastoral Company Pty Ltd
Duration of Permit:	27 October 2017 – 27 October 2022

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

PART I – CLEARING AUTHORISED

1. Purpose for which clearing may be done

Clearing for the purpose of irrigated agriculture.

2. Land on which clearing is to be done

Lot 39 on Deposited Plan 238417, Eighty Mile Beach, (Nita Downs Station).
Lot 41 on Deposited Plan 238418, Eighty Mile Beach (Nita Downs Station).

3. Area of Clearing

The Permit Holder must not clear more than 200 hectares of native vegetation within the areas cross-hatched yellow on attached Plan 7342/1.

4. Application

This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

PART II – MANAGEMENT CONDITIONS

5. Avoid, minimise etc clearing

In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:

- avoid the clearing of native vegetation;
- minimise the amount of native vegetation to be cleared; and
- reduce the impact of clearing on any environmental value.

6. Direction of clearing

The Permit Holder shall conduct clearing in a progressive manner from one direction to the other (e.g. west to east) to allow fauna to move into adjacent native vegetation ahead of the clearing activity.

7. Period in which clearing is authorised

The Permit Holder must ensure that the planting of crop species occurs within three months of the authorised clearing being undertaken.

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8. Fauna management

- (a) Immediately prior to undertaking any clearing authorised under this Permit, the Permit Holder shall engage a *fauna specialist* to undertake clearance surveys using transects spaced at a maximum 100 metres on average within the areas cross-hatched yellow on attached Plan 7342/1 for the greater bilby (*Macrotis lagotis*).
- (b) Immediately prior to undertaking any clearing authorised under this Permit, the Permit Holder shall engage a *fauna specialist* to relocate any greater bilby found under condition 8(a) of this permit, in accordance with a fauna licence pursuant to Regulation 15 of the *Wildlife Conservation Regulations 1970*.
- (c) Where any greater bilby is identified and relocated under condition 8(a) and 8(b) of this Permit, the Permit Holder shall include the following in a report submitted to the Department of Water and Environmental Regulation:
 - (i) the gender of each greater bilby captured under condition 8(a);
 - (ii) the location of any greater bilby captured using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
 - (iii) the date, time, vegetation type and weather conditions at each location where a greater bilby is captured under condition 8(c)(ii);
 - (iv) the gender of each greater bilby relocated under condition 8(b);
 - (v) the location of any greater bilby, as listed in condition 8(b), relocated using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
 - (vi) the date, time, vegetation type and weather conditions at each location where a greater bilby is relocated under condition 8(c)(v);
 - (vii) the name of the fauna specialist that relocated the greater bilby under condition 8(b); and
 - (viii) a copy of the fauna licence authorising the relocation of the greater bilby under condition 8(b).

PART III - RECORD KEEPING AND REPORTING

9. Records must be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit:

- (a) In relation to the clearing of native vegetation authorised under this Permit:
 - (i) the species composition, structure and density of the cleared area;
 - (ii) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
 - (iii) the date that the area was cleared; and
 - (iv) the size of the area cleared (in hectares).

10. Reporting

- (a) The Permit Holder must provide to the CEO on or before 30 June of each year, a written report:
 - (i) of records required under condition 8 and 9 of this Permit; and
 - (ii) concerning activities done by the Permit Holder under this Permit between 1 January to 31 December of the preceding calendar year.
- (b) If no clearing authorised under this Permit was undertaken between 1 January to 31 December of the preceding calendar year, a written report confirming that no clearing under this permit has been carried out, must be provided to the CEO on or before 30 June of each year.
- (c) Prior to 12 May 2022, the Permit Holder must provide to the CEO a written report of records required under condition 8 and 9 of this Permit where these records have not already been provided under condition 10(a) of this Permit.

DEFINITIONS

The following meanings are given to terms used in this Permit:

fauna specialist: means a person who holds a tertiary qualification specializing in environmental science or equivalent, and has a minimum of 2 years work experience in fauna identification and surveys of fauna native to the region being inspected or surveyed, or who is approved by the CEO as a suitable fauna specialist for the bioregion, and who holds a valid fauna licence issued under the *Wildlife Conservation Act 1950*.

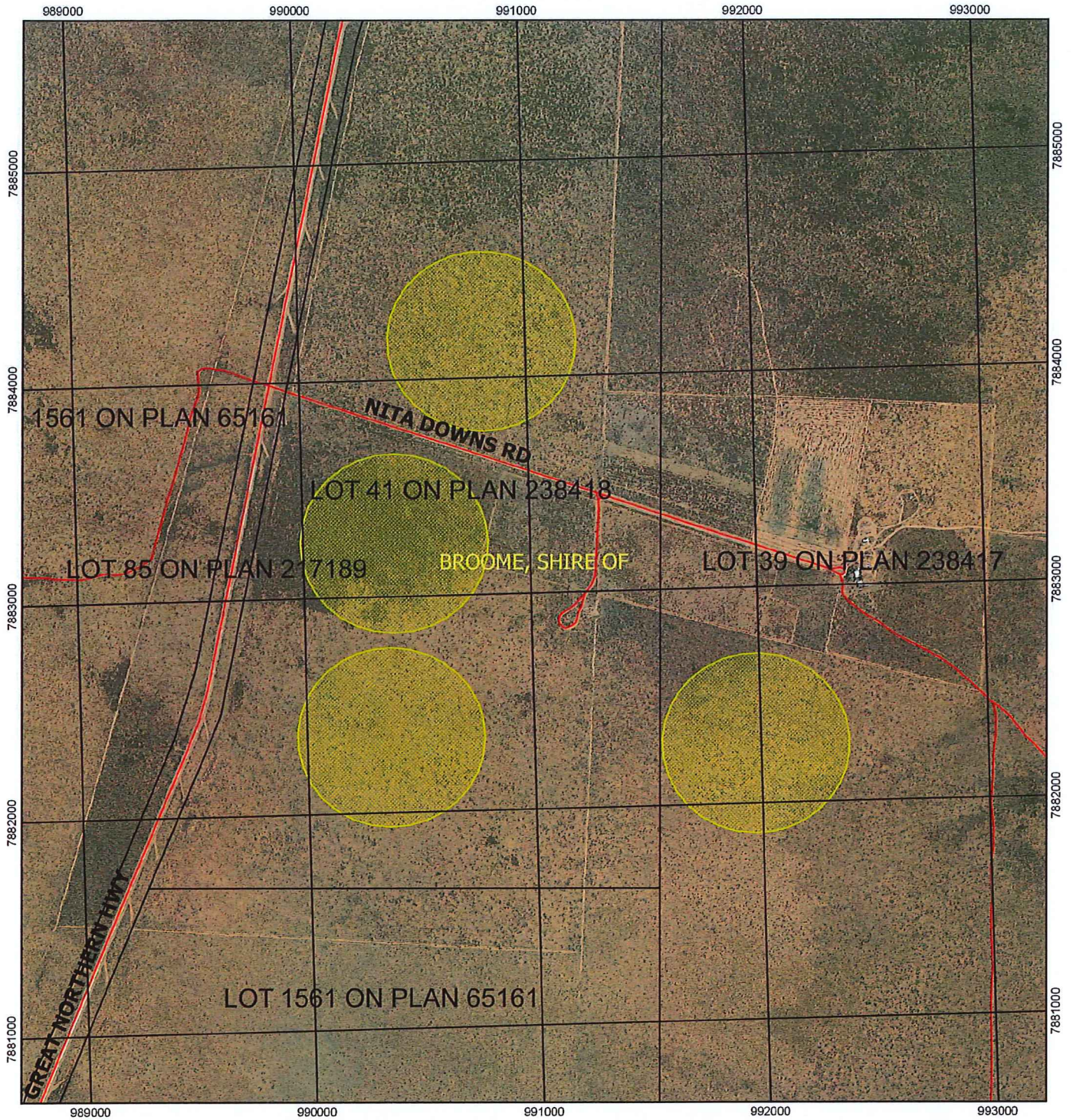


Kelly Faulkner
EXECUTIVE DIRECTOR
REGULATORY SERVICES (ENVIRONMENT)





*Officer delegated under Section 20
of the Environmental Protection Act 1986*

27 September 2017

Plan 7342/1



Legend

-  Roads
-  LGA
-  Cadastre
- Virtual Mosaic (LGATE-V001)
-  Areas approved to clear



MGA 94
Geocentric Datum of Australia 1994

1:20,304

Date 27/9/17

Officer with delegated authority under Section 20
of the Environmental Protection Act 1986



GOVERNMENT OF
WESTERN AUSTRALIA



1. Application details

1.1. Permit application details

Permit application No.: 7342/1
Permit type: Purpose Permit

1.2. Applicant details

Applicant's name: Forshaw Pastoral Company Pty Ltd

1.3. Property details

Property: Lot 41 on Deposited Plan 238418
Lot 39 on Deposited Plan 238417
Local Government Authority: Shire of Broome
DER Region: Kimberley
Localities: Eighty Mile Beach

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
200		Mechanical Removal	Pastoral diversification

1.5. Decision on application

Decision on Permit Application: Grant

Decision Date: 27 September 2017

Reasons for Decision: The application for a clearing permit was received on 21 November 2016, and has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986*. It has been concluded that the proposed clearing may be at variance to principles (a), (b) and (g), is not at variance to principle (e) and is not likely to be at variance to the remaining clearing principles.

The Delegated Officer determined that the application area may comprise an area of high biodiversity, may be necessary for the maintenance of significant habitat for indigenous fauna, and that the proposed clearing may cause land degradation in the form of wind erosion between clearing and pasture establishment.

The Delegated Officer has granted the clearing permit subject to conditions requiring:

- pre-clearance surveys to identify any greater bilbies within the application area, and the relocation of any greater bilby recorded during pre-clearance surveys;
- one directional clearing to allow fauna to move into adjacent habitat; and
- the planting of crop species within three months of any clearing being undertaken to minimise wind erosion.

In determining to grant a clearing permit subject to conditions, the Delegated Officer found that the proposed clearing is unlikely to lead to an unacceptable risk to the environment.

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description

One Beard vegetation association is mapped within the application area. Beard vegetation association 699 is described as shrublands, pindan; *Acacia eriopoda* shrubland with scattered low bloodwood (*Eucalyptus dichromophloia*) and *Eucalyptus setosa* over soft and curly spinifex on sandplain (Shepherd et al., 2001).

A flora survey of the application area undertaken between 5 and 9 June 2017 identified that the application area is comprised of open woodland and shrubland over hummock grassland understorey dominated by soft spinifex (*Triodia epactia*) with sparse to moderate amounts of tussock grasses (including *Chrysopogon pallidus*, *Eriachne obtusa* and *Aristida* sp.) (Biota Environmental Services, 2017).

Clearing Description

The applicant proposes to clear 200 hectares of native vegetation (comprising four 50 hectare pivots) within Lot 39 on Deposited Plan 238417 and Lot 41 on Deposited Plan 238418, Eighty Mile Beach (Nita Downs Station), for the purpose of establishing irrigated fodder crops.

The applicant initially applied to clear 160 hectares of native vegetation and has since amended the application area to 200 hectares.

Vegetation Condition

Excellent; Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).

To Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).

Comment

The condition of the vegetation was established via a site inspection undertaken by Officers of the former Department of Environment Regulation (DER) (now the Department of Water and Environmental Regulation (DWER)) and a flora survey undertaken by Biota Environmental Services (Biota Environmental Services, 2017; DER, 2017).

3. 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 may be at variance to this Principle

The applicant proposes to clear up to 200 hectares of native vegetation (comprising four 50 hectare pivots) within Lot 39 on Deposited Plan 238417 and Lot 41 on Deposited Plan 238418, Eighty Mile Beach (Nita Downs Station), for the purpose of establishing irrigated fodder crops.

Based on land system mapping by the former Department of Agriculture and Food Western Australia (DAFWA) the application area occurs within the Nita Land System, which comprises an area of approximately 2,803 square kilometres and extends from the north-eastern edge of the Pilbara bioregion through to Bidyadanga. The Nita Land System is described as sandplain with deep red sands that support sparse low tree steppe grassland.

A site inspection of the application area identified the presence of red pindan sandy soils throughout (DER, 2017) and a flora survey undertaken by Biota Environmental Sciences identified that the typical habitat of the application area comprised flat pindan sandplain, with soils comprising a substrate of orange-red sand overlying red sand (Biota Environmental Sciences, 2017).

The site inspection and flora survey identified that the vegetation types were consistent with the Nita Land System and typical of pindan sandplain vegetation in the locality, comprising open woodlands and shrublands over hummock grassland understorey dominated by soft spinifex (*Triodia epactia*) with sparse to moderate amounts of tussock grasses (including *Chrysopogon pallidus*, *Eriachne obtusa* and *Aristida* sp.) (DER, 2017; Biota Environmental Services, 2017).

The flora survey identified that the dominant trees within the application area comprised *Corymbia greeniana* and *Corymbia zygophylla*, with scattered *Corymbia flavescens* and *Bauhinia cunninghamii*. *Acacia drepanocarpa* was the dominant medium to tall shrub species, with other species including *Acacia coleii* and occasional *Acacia sericophylla*, *Acacia tumida* var. *kulpam*, *Gardenia pyriformis* subsp. *keartlandii* and *Grevillea wickhamii* subsp. *macrodonta*. The most common low shrubs comprise *Chamaecrista symonii*, *Corchorus incanus* subsp. *incanus*, *Jacksonia aculeata*, *Sida* sp. Pindan (B.G. Thomson 3398), *Solanum dioicum* and *Waltheria indica*. The most common herbs comprise *Calandrinia strophiolata*, *Euphorbia vaccaria* subsp. *vaccaria*, *Polycarpha corymbosa*, *Pterocaulon serrulatum*, *Ptilotus polystachyus* and *Trianthema pilosum* (Biota Environmental Sciences, 2017).

The vegetation within the application area is considered to be in a degraded to excellent (Keighery, 1994) condition. The degraded areas were associated with historical clearing and cattle grazing and were largely limited to the boundary of the north western proposed pivot (DER, 2017). The remainder of the vegetation is in a very good to excellent (Keighery, 1994) condition (DER, 2017; Biota Environmental Services, 2017) and appears to have recovered well from cattle grazing (DER, 2017). Only three weed species were recorded during a flora survey of the application area, and these were present at a small number of locations (Biota Environmental Services, 2017).

The local area considered in the assessment of this application is defined as a 50 kilometre radius surrounding the application area. The local area is extensively vegetated and contains approximately 99 per cent native vegetation cover.

According to available datasets, there are no Threatened Ecological Communities (TECs) recorded within the local area.

According to available datasets, one Priority Ecological Community (PEC) has been recorded within the local area, being 'Vegetation Association 37 as defined by John Beard's vegetation mapping for the Kimberley (Beard 1979)' (Priority 3). This PEC is mapped approximately 8.5 kilometres north of the application area and is described as shrublands comprising teatree thicket (Shepherd et al., 2001). The application area is mapped as Beard vegetation association 699, and a flora survey and site inspection of the application area did not identify any shrublands comprising teatree thicket (DER, 2017; Biota Environmental Services, 2017). Therefore, the application area is not representative of this PEC, and the proposed clearing is not likely to impact on this PEC.

According to available datasets there are nine Priority flora species recorded in the local area, these being *Tephrosia andrewii* (Priority 1), *Nicotiana heterantha* (Priority 1), *Lawrencia* sp. Anna Plains (N.T. Burbidge 1433) (Priority 3), *Tribulopsis marliesiae* (Priority 3), *Phyllanthus eremicus* (Priority 3), *Seringia katatona* (Priority 3), *Terminalia kumpaja* (Priority 3), *Pterocaulon intermedium* (Priority 3), and *Acacia glaucocaesia* (Priority 3).

The closest rare flora record is located approximately 61 kilometres east of the application area and a site inspection identified that the application area provides suitable habitat for this species (DER, 2017).

With regards to conservation significant flora, the former Parks and Wildlife (now the Department of Biodiversity, Conservation and Attractions (DBCA)) advised that "the application area has the potential to support [one] declared rare flora species [name withheld] and a number of priority flora species. As such, it is recommended that a suitably designed flora survey be conducted to detect if these species are present in the application area" (Parks and Wildlife, 2017a).

In consultation with the former Parks and Wildlife, the applicant commissioned Biota Environmental Sciences to undertake a targeted flora survey of the application area in June 2017. Together with the four pivots that make up the application area, the survey also incorporated an additional five pivots (total of nine pivots) which are proposed for clearing under a separate application submitted by the applicant, being Clearing Permit Application CPS 7122/1, located approximately 650 metres north. DBCA provided comment on the adequacy of the flora survey and advised that "overall, based on the current information, it would appear that the timing, methodology and intensity of the targeted survey are adequate for this particular application" (DBCA, 2017a).

The flora survey identified two Priority flora species within the application area, being *Seringia katatona* (Priority 3) and *Phyllanthus eremicus* (Priority 3) (Biota Environmental Services, 2017).

Phyllanthus eremicus was found in all but one of the pivots surveyed. This species occurred as scattered individuals within CPS 7342/1 application area but was more frequently recorded in the five northern proposed pivot areas associated with CPS 7122/1. A total of 106 individuals were recorded at 69 locations inside all pivots, while a further 19 individuals were recorded from 8 locations during limited searches conducted outside of the proposed pivots (Biota Environmental Services, 2017). The findings of the flora survey indicate that this species is scattered but common within the pindan vegetation on Nita Downs Station. The flora survey provided a conservative estimate of the local suitable habitat and identified that there is over 11,500 hectares of prospective habitat for *P. eremicus* on Nita Downs Station (Biota Environmental Services, 2017).

Seringia katatona was found in all but two of the proposed pivots surveyed. All of the pivots that make up this application recorded scattered individuals of *S. katatona*. A total of 443 stems were recorded from approximately 25 locations inside the pivot areas, with a further 11 stems recorded just outside one of the pivots during limited searches outside of the application area (Biota Environmental Services, 2017). The flora survey noted that it is likely that *S. katatona* occurs more broadly through pindan vegetation on Nita Downs Station at a similar density to that observed in the pivots, as there is abundant suitable and contiguous habitat in the vicinity, and a number of collections to the east of Nita Downs Station (Biota Environmental Services, 2017).

DBCA provided comment on the findings of the flora survey and advised "*Phyllanthus eremicus* and *Seringia katatona* both have broad distributions (extending 350 and 260km, respectively) and are known from numerous locations (greater than 5 and greater than 10, respectively). Herbarium records indicate that *P. eremicus* is recorded as occurring sparsely or infrequently where it occurs, while *S. katatona* would appear to be relatively common where it occurs. The [flora survey] indicates that both these species were recorded relatively frequently within the application areas. Both species were also recorded outside the application areas, however, only a relatively small area beyond the application areas was searched, so the proportional local impact based solely on known plant numbers is very high. The consultant conservatively estimated that the application area encompasses approximately 4 per cent of the local extent of suitable habitat for these species. While exact proportional local impact is difficult to determine based on the limited information available, it is likely that there are substantial areas of continuous habitat between and beyond the application areas, and that the proposed clearing is unlikely to affect the conservation status of either of these species" (DBCA, 2017a).

As discussed under Principle (c), a flora survey of the application area did not identify the aforementioned rare flora species (Biota Environmental Services, 2017), and the proposed clearing is considered unlikely to contain, or be necessary for the continued existence of this species.

Excluding marine species, there are records of 43 conservation significant fauna species recorded within the local area (Parks and Wildlife, 2007-). These include two Threatened (under the *Wildlife Conservation Act 1950* (WC Act) terrestrial fauna, one Other Specially Protected (under the WC Act) fauna, one Priority 4 (as listed by DBCA) non-migratory avian fauna, and 39 migratory avian fauna, of which eight are Threatened, one is Priority 4, and 30 are Protected Under International Agreement. Of these, the application area contains suitable habitat for the greater bilby (*Macrotis lagotis*) and spectacled hare-wallaby (*Lagorchestes conspicillatus* subsp. *leichardti*) (DER, 2017).

As discussed under Principle (b), a fauna survey undertaken for the majority of the application area, targeted at the greater bilby and spectacled hare-wallaby, identified secondary evidence of the greater bilby with an inactive burrow and a relatively recent scat recorded at a single location within the application area. Further activity in the form of diggings was identified outside of the application area. There was no evidence of the spectacled hare-wallaby recorded (Broome Bird Observatory, 2017).

Based on known habitat requirements, with the exception of the greater bilby and spectacled hare-wallaby, the application area is considered unlikely to comprise significant habitat for any other abovementioned conservation significant fauna species.

As the application area contains vegetation predominantly in a very good to excellent (Keighery, 1994) condition, two Priority 3 flora species and habitat that is utilised by the greater bilby, the proposed clearing may comprise a high level of biodiversity and may be at variance to this Principle.

To minimise direct impacts to the greater bilby, the applicant will be required to:

- Conduct pre-clearance surveys to identify greater bilbies within the application area;
- Relocate any greater bilbies recorded during the pre-clearance survey; and
- Undertake directional clearing to allow fauna to move into adjacent habitat.

While the application area may contain a high level of biological diversity, it is acknowledged that the values present within the application area also occur within the immediate vicinity, and may occur throughout the larger Nita Downs Station (comprising approximately 210,000 hectares). Therefore, it is considered that with the fauna management measures outlined above, the proposed clearing is not likely to have a significant impact on the level of biological diversity in the local area, and will not lead to an unacceptable risk to the environment.

Methodology

References:

Biota Environmental Sciences (2017)
Broome Bird Observatory (2017)
DBCA (2017a)
DER (2017)
Keighery (1994)
Parks and Wildlife (2007-)
Parks and Wildlife (2017a)

GIS Databases:

DAFWA Subsystems
SAC Bio Datasets (Accessed September 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 may be at variance to this Principle

With regards to conservation significant fauna, the former Parks and Wildlife initially advised that “the application area may contain suitable habitat or populations of Threatened fauna including the greater bilby (*Macrotis lagotis*)... and spectacled hare-wallaby (*Lagorchestes conspicillatus* subsp. *leichardti*)” (Parks and Wildlife, 2017a). The former Parks and Wildlife provided further comment on the greater bilby based on the findings of the former DER’s site inspection report and advised that “DER’s site inspection report... reveals that while some areas... appear more degraded, the photographs attached to the [site inspection] report appear to show potential greater bilby habitat across the site” (Parks and Wildlife, 2017b).

The greater bilby (classified as Threatened (Vulnerable) in Western Australia under the WC Act and Vulnerable under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)) is known from four records within 40 kilometres of the application area (Parks and Wildlife, 2007-) and largely occupies three major vegetation types; open tussock grassland on uplands and hills, mulga woodland or shrubland growing on ridges and rises, and hummock grassland in plains and alluvial areas (Department of the Environment and Energy, 2016). The greater bilby once occurred across 70 per cent of mainland Australia, but has now disappeared from up to 90 per cent of its historical range and occurs in fragmented populations in south-western Queensland, drier areas of the Northern Territory, and northern Western Australia (Pavey, 2006). In Western Australia, the species occurs in parts of the Gibson Desert and Great Sandy Desert bioregions, parts of the Pilbara bioregion, the Dampierland Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (within which the application area is located) along Eighty Mile Beach north to Beagle Bay, and in the Central Kimberley and Ord-Victoria Plains bioregions south of the Fitzroy and Margaret Rivers. The distribution of the greater bilby is highly fragmented in Western Australia (Pavey, 2006).

The spectacled hare-wallaby has two known records within a 40 kilometre radius of the application area (Parks and Wildlife, 2007-). This species exists in patchily distributed populations within the Pilbara and Kimberley regions (Winter et al., 2016). This species occupies a wide variety of habitat types including open forests, open woodland, tall shrublands, tussock grasslands and hummock grasslands. In the drier southern parts of its range (Western Australia) it commonly occupies spinifex (*Triodia* sp.) sandplains interspersed with low shrubs and a diversity of soft grasses, sedges, or forb species (Winter et al., 2016).

Noting the soil and vegetation type identified during a site inspection and targeted flora survey, as described in Principle (a), it is considered that the application area contains suitable habitat for the greater bilby and spectacled hare-wallaby (DER, 2017; Biota Environmental Sciences, 2017).

A targeted fauna survey was conducted for the greater bilby and spectacled-hare wallaby by the Broome Bird Observatory in June 2017. As with the flora survey, Broome Bird Observatory also assessed Clearing Permit Application CPS 7122/1 at the time of the survey. The survey covered 40 hectare pivot areas and included 100 metre transect searches and two hectare plots searches within each of the 40 hectare pivots for both species. DBCA provided comment on the adequacy of the fauna survey methodology and advised that “the fauna survey was adequate to determine, within reason, the presence of greater bilby and spectacled hare wallaby individuals and thus the direct impacts of the proposed clearing” (DBCA, 2017b).

The fauna survey did not find evidence of the spectacled hare-wallaby within the application area, or within the surrounding area (Broome Bird Observatory, 2017). The survey noted that the fire age within the landscape was recent, resulting in low and small *Triodia* hummocks, which were deemed unsuitable for spectacled hare-wallaby sheltering sites. The survey concluded that it is unlikely that any significant population, or even any individuals, occurred at the time of the assessment (Broome Bird Observatory, 2017). Given the findings of the fauna survey, the application area is considered unlikely to provide significant habitat for this species.

The fauna survey identified secondary evidence of the greater bilby with an inactive burrow and a relatively recent scat recorded at a single location within one of the proposed pivots within the application area and further activity in the form of diggings and a scat identified on the border of one of the proposed pivots associated with Clearing Permit Application CPS 7122/1 (Broome Bird Observatory, 2017).

The survey noted that the burrow entrance had filled with leaves and a spider web, and was not deemed to be active, however based on the apparent freshness of the scat at its entrance, the burrow was likely to have been used since the 2016 to 2017 wet season (Broome Bird Observatory, 2017). The habitat in which the greater bilby burrow was detected, was described as *Bauhinia cunninghamii* and *Corymbia greeniana* open woodland, containing dense stands of *Acacia monticola*, with little grass ground cover, but extensive leaf litter around shrub bases. The digging evidence identified on the border of one of the proposed pivots associated with Clearing Permit Application CPS 7122/1 was found in open *Senna notabilis* shrubland, where the majority of individual plants had been excavated at their bases (Broome Bird Observatory, 2017).

The fauna survey noted that while greater bilbies are likely to occur at times within the proposed pivot areas, the evidence suggests that this species is in low abundance within these areas, and very few individuals are likely to use the pivot areas for either burrowing or foraging (Broome Bird Observatory, 2017). The fauna survey concluded that based on habitat assessments outside of the pivot areas, where stands of *Acacia monticola* and *Senna notabilis* were also recorded, it is expected the species will occur in similar abundances within the surrounding landscape (Broome Bird Observatory, 2017).

DBCA provided comment on the findings of the fauna survey and specifically on the proposed impacts to the greater bilby, separating impacts to individual, local population and species level. With regards to impacts to individuals, DBCA advised that "as recent signs of bilby were recorded within [one of the proposed pivots], the proposed clearing of this pivot would likely have a direct impact on individuals" (DBCA, 2017b).

With regards to impacts to the local population DBCA advised that "evidence of recent activity [within and within relatively close proximity to the application area] indicates this area likely forms part of the home range of at least one individual, and it is therefore likely a local population exists. However, it is recognised that a local population would be nomadic and therefore may occur sporadically within the application areas and in low abundances (specifically within the pivot areas), and comprise of a few individuals that use the proposed pivot areas for either burrowing, foraging and/or traversing... [However] there would likely be a risk of indirect impacts to the local population (and individuals) associated with the loss of habitat, and increased cattle density/impacts in vegetation adjacent to the pivots..." (DBCA, 2017b).

With regard to impacts at a species level DBCA advised that " while the loss of a few individuals or a local population will not cause the conservation status of the species to be elevated, the cumulative impacts on the species in many locations should be considered in the context of the overarching decline" (DBCA, 2017b).

DBCA recommended that "If clearing is approved (without relocating the pivots), consider clearing techniques that will minimise or avoid direct impacts to individuals" (DBCA, 2017b).

With regard to other conservation significant fauna, a further 39 migratory avian species have been recorded within 40 kilometres of the application area (Parks and Wildlife, 2007-), with these species likely utilising habitat within the Eighty Mile Beach RAMSAR site, located approximately 14 kilometres west of the application area. These highly mobile species occupy large home ranges and given the distance to the RAMSAR site, the proposed clearing is not likely to impact on significant habitat for these species.

Three other conservation significant fauna species have been recorded within a 40 kilometre radius, being the peregrine falcon (*Falco peregrinus*) (Other Specially Protected Fauna), princess parrot (*Polytelis alexandrae*) (Priority 4) and golden bandicoot (*Isodon auratus* subsp. *auratus*) (Threatened). The princess parrot and golden bandicoot each have one historical record within a 40 kilometre radius of the application area, dated to 1990 and 1898 respectively (Parks and Wildlife, 2007-). Noting the limited historical records within close proximity, it is unlikely that the proposed clearing will impact on significant habitat for these species.

The peregrine falcon is known from four records within a 40 kilometre radius, the most recent recorded in 2006 (Parks and Wildlife, 2007-). Noting that the peregrine falcon is a highly mobile avian species with a large home range, the proposed clearing is not likely to impact on significant habitat for this species.

In summary, noting the extent of clearing proposed (200 hectares), that a greater bilby burrow was identified within the application area and further bilby activity was identified within close proximity to the application area, the application area may be necessary for the maintenance of, and may comprise, significant habitat for the greater bilby. Therefore, the proposed clearing may be at variance to this Principle.

To minimise direct impacts to the greater bilby, the applicant will be required to:

- Conduct pre-clearance surveys to identify greater bilbies within the application area;
- Relocate any greater bilbies recorded during the pre-clearance survey; and
- Undertake directional clearing to allow fauna to move into adjacent habitat.

The cumulative impact of clearing on the greater bilby as a result of this clearing permit application and the applicants other aforementioned clearing permit application CPS 7122/1 (total combined clearing area of 450 hectares) has been considered. Noting that the greater bilby habitat values present within each application area occur within the immediate vicinity, and may occur throughout the larger Nita Downs Station (comprising approximately 210,000 hectares), it is considered that with the fauna management measures outlined above, the proposed clearing will not lead to an unacceptable risk to the greater bilby.

Methodology References:
Biota Environmental Sciences (2017)
Broome Bird Observatory (2017)
DBCA (2017b)
DER (2017)
DotEE (2016)
Parks and Wildlife (2007-)
Parks and Wildlife (2017a)
Parks and Wildlife (2017b)
Pavey (2006)
Winter et al. (2016)

(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

The closest rare flora record is located approximately 61 kilometres east of the application area. Based on the findings of the site inspection report, the former Parks and Wildlife advised that "the application area has the potential to support [the abovementioned] declared rare flora species [name withheld] and a number of priority flora species. As such, it is recommended that a suitably designed flora survey be conducted to detect if these species are present in the application area" (Parks and Wildlife, 2017c).

The abovementioned rare flora species is an erect, compact, multi-stemmed shrub that grows from 0.7 to 0.9 metres high with purple flowers from April to December (Western Australian Herbarium, 1998-). This species grows within red sand in pindan and relict desert dune swales and is known from three records within the Shire of Broome (Western Australian Herbarium, 1998-). This species is classified as Critically Endangered under WC Act.

In consultation with the former Parks and Wildlife, the applicant commissioned Biota Environmental Sciences to undertake a targeted flora survey of the application area in June 2017. DBCA provided comment on the adequacy of the flora survey and advised that "overall, based on the current information, it would appear that the timing, methodology and intensity of the targeted survey are adequate for this particular application" (DBCA, 2017a).

The survey did not identify the presence of rare flora within the application area (Biota Environmental Services, 2017), and based on these findings it is considered unlikely that the application area includes or is necessary for the continued existence of rare flora.

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

Methodology References:
Biota Environmental Services (2017)
DBCA (2017a)
DER (2017)
Parks and Wildlife (2017c)
Western Australian Herbarium (1998-)

GIS Databases:
SAC Bio Datasets (Accessed September 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 is not likely to be at variance to this Principle

According to available databases, there are no records of TECs within the local area. The closest mapped TEC is the 'Assemblages of the organic springs and mound springs of Mandora Marsh area', located approximately 70 kilometres south of the application area.

TECs in the Dampierland IBRA bioregion endorsed by the Minister for Environment include monsoon vine thickets on coastal sand dunes of the Dampier Peninsula (also listed under the EPBC Act), and four assemblages associated with several organic and/or mound springs in the bioregion.

No organic springs or mound springs occur within the application area (DER, 2017) and on this basis it is considered that the application area is not likely to comprise the whole or a part of, or be necessary for the maintenance of any TECs.

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

Methodology References:
DER (2017)

GIS Databases:
SAC Bio Datasets (Accessed September 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 not at variance to this Principle

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 percent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001).

As indicated in Table 1, the remaining extents of native vegetation within the Dampierland IBRA bioregion, local government authority and mapped vegetation associations are all above the recommended 30 per cent threshold.

The local area is well vegetated and retains approximately 99 per cent (999,912.17 hectares) of its pre-European vegetation extent (taking into account the coastal water mark). The application area represents approximately 0.012 per cent of the remaining native vegetation within the local area and the proposed clearing would reduce the extent of native vegetation within the local area to 999,752.17 hectares.

Noting that the Shire, the IBRA bioregion and the local area retain more than 30 per cent of their vegetation extents respectively, it is considered that the vegetation within the application area is not significant as a remnant of native vegetation within an area that has been extensively cleared.

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

Table 1: Vegetation Extents

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Pre-European Extent in Parks and Wildlife Managed Lands (%)
IBRA Bioregion*				
Dampierland	8,343,939	8,319,873	99.7	1.6
Shire*				
Shire of Broome	5,469,337	5,436,103	99.3	2.6
Beard vegetation association in Bioregion*				
699	1,976,313	1,974,958	99.9	0.0

Methodology

References:

Commonwealth of Australia (2001)
Government of Western Australia (2016)

GIS Databases:

IBRA WA (Regions - Sub Regions)
Pre-European 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 is not likely to be at variance to this Principle

According to available databases, there are no wetlands or watercourses mapped within the application area. The closest major wetland or watercourse is the Eighty Mile Beach RAMSAR site located approximately 14 kilometres west of the application area. No wetlands, watercourses or riparian vegetation was identified within the application area (DER, 2017; Biota Environmental Services, 2017).

Noting the findings of the site inspection and flora survey, distance to the RAMSAR site, and the extent of native vegetation remaining between the RAMSAR site and the application area, it is considered unlikely that the proposed clearing will impact on vegetation that is growing in, or in association with, an environment associated with a watercourse or wetland.

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

Methodology

References:

Biota Environmental Services (2017)
DER (2017)

GIS Databases:

Hydrography, linear
Hydrography, hierarchy
RAMSAR Sites

(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**
As discussed in Principle (a), the application area occurs within the Nita Land System, described as sandplain with deep red sands that support sparse low tree steppe grassland. A site inspection and flora survey of the application area identified the presence of red pindan sandy soils throughout (DER, 2017; Biota Environmental Services, 2017).

No watercourses or wetlands were identified within the application area (DER, 2017; Biota Environmental Services, 2017) and given that sandy pindan soils are highly permeable, the proposed clearing is not likely to result in appreciable land degradation via water erosion or waterlogging.

Sandy soils are susceptible to wind erosion and the Commissioner of Soil and Land Conservation (CSLC) advised that "the proposed clearing will remove the vegetation protecting the soil and therefore has the potential to initiate wind erosion. This is likely to be transient and can be minimised by timing the clearing and planting operations" (CSLC, 2017).

The CSLC concludes that "the risk of land degradation in the form of water erosion, eutrophication and flooding is negligible" (CSLC, 2017).

Noting the advice from the CSLC and the extent of proposed clearing (200 hectares), the proposed clearing may result in wind erosion and may be at variance to this Principle.

To minimise the risk of wind erosion, the applicant will be required to plant the intended crops over the cleared areas within three months of the date of clearing, which will prevent the prolonged exposure of bare sandy soils.

Methodology References:
Biota Environmental Services (2017)
CSLC (2017)
DER (2017)

GIS Databases:
DAFWA Subsystems

(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 not likely to be at variance to this Principle**
According to available databases, the application area is not within any conservation areas or Parks and Wildlife managed lands. The nearest conservation areas are the Anna Plains former pastoral lease and Eighty Mile Beach marine park (which also includes a RAMSAR site), which are located approximately 14 and 15 kilometres west of the application area respectively.

Noting the separation distance between these conservation areas and the application area, and the extent of native vegetation within the local area, the proposed clearing is considered unlikely to impact on the environmental values of these areas.

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

Methodology GIS Databases:
Parks and Wildlife Tenure

(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 is not likely to be at variance to this Principle**
As assessed under Principle (f), according to available databases, no wetlands or watercourses are mapped within the application area. The closest major wetland or watercourse to the application area is the Eighty Mile Beach RAMSAR site, located approximately 15 kilometres west. Noting the distance to the nearest wetland or watercourse, the proposed clearing is not likely to impact on the flow or quality of surface water outside of the application area.

Mapped groundwater salinity within the application area is low (less than 500 milligrams per litre total dissolved solids). The CSLC advised that "the likelihood of salinity occurring as a result of implementing irrigated agriculture is negligible" (CSLC, 2017). Noting this advice, and that the local area is highly vegetated, deterioration in the quality of surface and/or underground water via increased salinity is considered unlikely.

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

Methodology References:
CSLC (2017)

GIS Databases:
Groundwater salinity, Statewide
Hydrography, linear
Hydrography, hierarchy

(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

The application area is located within the Dampierland IBRA bioregion which has a semi-arid to tropical monsoonal climate, receiving much of its rainfall during summer months (Bastin and ACRIS Management Committee, 2008).

The proposed clearing of 200 hectares of native vegetation may increase the risk of localised flooding following periods of heavy rainfall, which is commonly experienced by the region. The soils within the application area comprise of highly permeable red sands (DER, 2017) and while increased localised flooding may occur following periods of heavy rainfall, it is likely to be short term and is not likely to have a significant environmental impact, particularly given that portions of remnant vegetation would remain between the proposed pivot areas.

Noting that the risk of standing water and water erosion is associated with high rainfall events and that local runoff is likely to be for short durations, it is considered that the proposed clearing is not likely to cause or exacerbate the incidence or intensity of flooding. Furthermore, the CSLC advised that the risk of flooding as a result to the proposed clearing is negligible (CSLC, 2017).

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

Methodology References:
Bastin and ACRIS Management Committee (2008)
CSLC (2017)
DER (2017)

Planning instruments and other relevant matters.

Comments Background

In summary, the applicant has applied to clear:

- 50 hectares on Lot 39 on Deposited Plan 238417 for the purpose of pivot irrigation and associated activities (CPS 2097/1). On 4 December 2008 clearing permit CPS 2097/1 was granted. On 6 August 2009 amended clearing permit CPS 2097/2 was granted, allowing for the additional purpose of horticulture;
- 350 hectares of native vegetation on Lot 39 on Deposited Plan 238417 and Lot 41 on Deposited Plan 238418. On 26 August 2010 clearing permit CPS 3516/1 was granted. This permit expired on 26 September 2015 prior to the proposed clearing being undertaken;
- 350 hectares of native vegetation on Lot 39 on Deposited Plan 238417 and Lot 41 on Deposited Plan 238418 (CPS 7043/1), wholly overlapping the area authorised under clearing permit CPS 3516/1. Based on updated information on conservation significant flora and fauna within the region, several potential environmental impacts associated with the proposed clearing were identified. The applicant was advised that flora and fauna surveys were required to determine the extent of impacts to conservation significant flora and fauna species. The applicant did not provide the required surveys at that time and subsequently the application was refused on 26 October 2016.
- 250 hectares of native vegetation (amended from 800 hectares) on Lot 39 on Deposited Plan 238417 and Lot 41 on Deposited Plan 238418 (CPS 7122/1) located immediately north of the current application area (currently under assessment); and
- 160 hectares of native vegetation on Lot 39 on Deposited Plan 238417 and Lot 41 on Deposited Plan 238418 (CPS 7342/1 – being this application). The four proposed pivots which make up the application area for this application are within the footprint of the application area associated with CPS 7043/1. The application was amended to 200 hectares on 29 August 2017 to account for a 50 metre weed management buffer around each of the proposed pivots.

The application was advertised in *The West Australian* newspaper on 12 December 2016 for a 21 day public submission period and then readvertised online to reflect the amended area on 31 August 2017. One public submission has been received for the application. The submission objects to the proposed clearing due to the following reasons (Submission, 2016):

- The area provides habitat for specially protected or Threatened fauna including the greater bilby;
- The likelihood of the presence of priority flora and possible rare flora;
- There are no vegetation or fauna surveys available; and
- There is the potential for salinity and significant soil erosion.

The submission recommends that the application be referred to the Commonwealth of Australia for assessment under the Commonwealth EPBC Act (Submission, 2016).

Since receiving this submission, the applicant has commissioned flora and fauna surveys to better inform the impacts of the proposed clearing.

Noting that the applicant will be required to undertake specific management measures to prevent direct impacts to the greater bilby and minimise the risk of land degradation, it is considered that the proposed clearing will not lead to an unacceptable risk to the environment.

Other relevant approvals

The greater bilby is protected under the EPBC Act. As a matter of national environmental significance, any action that has, will have, or is likely to have a significant impact on the greater bilby will require approval under the EPBC Act.

Any activities with a likelihood of impacting fauna specially protected under the WC Act (including clearing activities) and the relocation of fauna require a fauna licence pursuant to Regulation 15 of the *Wildlife Conservation Regulations 1970*.

The former Department of Lands (DoL) (now the Department of Planning, Lands and Heritage) granted a renewed pastoral diversification permit (s120) for the proposed irrigated agriculture over 56 hectares on Lot 39 on Deposited Plan 238417, corresponding with the area authorised under clearing permit CPS 2097/2 and being a portion of the area currently applied for in this application. The pastoral diversification permit allowed for the establishment and irrigation of Fine Stemmed Perennial Rhodes grass and Sorghum (sorghum x sudan grass hybrid) for grazing and hay production.

The applicant submitted two further pastoral diversification permit applications to the former DoL to undertake agricultural activities on Nita Downs Station, one for 350 hectares, associated with the current application area, and one for 800 hectares (associated with Clearing Permit Application CPS 7122/1). The application for the 350 hectare area is a reapplication for the existing (abovementioned) s120 permit for the same activity over an expanded area. The Department of Planning, Lands and Heritage advised that it can amend the size of the pastoral diversification permits to reflect the size of any area approved under a clearing permit.

The former DoL provided a copy of a draft pastoral diversification permit which encompasses the clearing permit application area. The draft permit includes a condition that requires a weed monitoring system to be established to cover the permit area and a 50 metre buffer area beyond the permit area boundary. The condition requires that if any of the intended crop species are found outside the permit area, they are to be controlled immediately.

The application area occurs within the Canning-Kimberley Groundwater Area proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act). In this area a RIWI Act section 5C licence to take groundwater and a RIWI Act section 26D licence to construct or alter a well are required for any groundwater supply bores.

The applicant holds a current groundwater licence (GWL165440(6)) with an annual entitlement of 500,000 kilolitres (to irrigate one 40 hectare pivot). A further 3,500,000 kilolitres is held in reserve pending appropriate information to support the proposed increase in development. The Department is currently assessing two separate applications within Nita Downs for the take of groundwater under the *Rights in Water and Irrigation Act 1914*; an amendment to GWL165440(6) to allow for 5,000,000 kilolitres of water, and a separate application for 6,000,000 kilolitres of water. The Department intends to issue under GWL165440 up to 4,000,000kL as previously advised, following the provision of a H2 hydrogeological report with an adequate pump test. This was communicated verbally to the applicant on 10 August 2017.

In regard to the additional 1,000,000kL applied for under GWL165440 and the separate application for 6,000,000kL, a H3 hydrogeological assessment would be required to identify impacts associated with the take of this amount of water. The Department has advised the applicant of this requirement.

Lot 39 on Deposited Plan 238417 and Lot 41 on Deposited Plan 238418 are zoned as 'General Agriculture under the Shire of Broome's Local Planning Scheme No.6 (LPS 6). The Shire of Broome advised that "Development Approval would be required for any activity or development the subject of a diversification permit that may be considered an 'Agriculture – Intensive' land use under LPS 6. An 'Agriculture – Intensive' land use is where land or premises are used for commercial purposes for the following:

- (a) The production of grapes, vegetables, flowers or exotic or native plants, fruits or nuts;
- (b) The establishment and operation of plant or fruit nurseries; and
- (c) The development of land for irrigated fodder, pasture or horticulture production (including turf farms)"

(Shire of Broome, 2017).

The Shire of Broome concluded that "the undertaking of irrigated agriculture and/or horticulture in the subject location is consistent with the land-use objectives of the Shire's Local Planning strategy and LPS 6. On this basis, the Shire does not wish to register any objections to the application to clear native vegetation" (Shire of Broome, 2017). The applicant has submitted an application to the Shire of Broome for Development Approval.

The applicant commissioned an Aboriginal Ethnographic Heritage Survey on 20 November 2014. The survey involved inspecting the application area for the presence of Aboriginal Heritage Sites of cultural significance (Kimberley Land Council, 2014). Areas where the proposed work activity could take place without impacting Aboriginal Heritage Sites were recorded 'cleared'.

It was determined that the entire application area was 'cleared' for the purpose of commercial grazing of cattle, cultivation and production of cattle fodder and commercial horticulture uses limited to the cultivation and production of fruits, herbs, and vegetables for market (Kimberley Land Council, 2014).

The application area is located within the Karajarri (Area B) (WAD6100/1998, WCD2004/002) Native Title area, which was determined in 2004.

On 3 January 2017, a Delegated Officer emailed the Kimberley Land Council (on behalf of the Karajarri (Area B) claimants), providing notice as required by section 24GB s9 of the *Native Title Act 1993*, and providing an opportunity to comment on the application. A response has not yet been received.

Methodology References:
Kimberley Land Council (2014)
Shire of Broome (2017)
Submission (2016)

4. References

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- Shire of Broome (2017) Direct Interest Response Received 18 January 2017 for Clearing Permit Application CPS 7342/1. DER Ref A1360248.
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