



GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

| | |
|-------------------------------|-----------------------------------|
| Purpose Permit number: | CPS 7345/1 |
| Permit Holders: | Baldy Bay Pty Ltd |
| Duration of Permit | From 28 July 2017 to 28 July 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 non-irrigated agriculture.

2. Land on which clearing is to be done

Lot 702 on Deposited Plan 28193, Lake Argyle.

3. Area of Clearing

The Permit Holder shall not clear more than 150 hectares of native vegetation within the areas cross hatched yellow on attached Plan 7345/1.

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 – ASSESSMENT SEQUENCE AND MANAGEMENT PROCEDURES

5. Period in which clearing is authorised

The Permit Holder shall not clear any native vegetation:

- (a) between 1 November and 30 March of any given year; and
- (b) unless planting crop species within three months of the authorised clearing being undertaken.

6. 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:

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

7. Weed control

When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds*:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared; and
- (b) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

PART III – RECORD KEEPING AND REPORTING

8. Records to 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 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 or decimal degrees;
 - (ii) the date that the area was cleared; and
 - (iii) the size of the area cleared (in hectares).

9. Reporting

- (a) The Permit Holder must provide to the CEO on or before 30 June of each year, a written report demonstrating adherence to all conditions of this permit, and setting out the records required under condition 8 of this permit in relation to clearing and other activities carried out between 1 January and 31 December of the previous 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.
- (a) Prior to 1 April 2022, the Permit Holder must provide to the CEO a written report of records required under condition 8 of this Permit where these records have not already been provided under condition 9(a) of this Permit.

DEFINITIONS

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

weed/s means any plant -

- (a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or
- (b) published in a Department of Parks and Wildlife Regional Weed Rankings Summary, regardless of ranking; or
- (c) not indigenous to the area concerned.

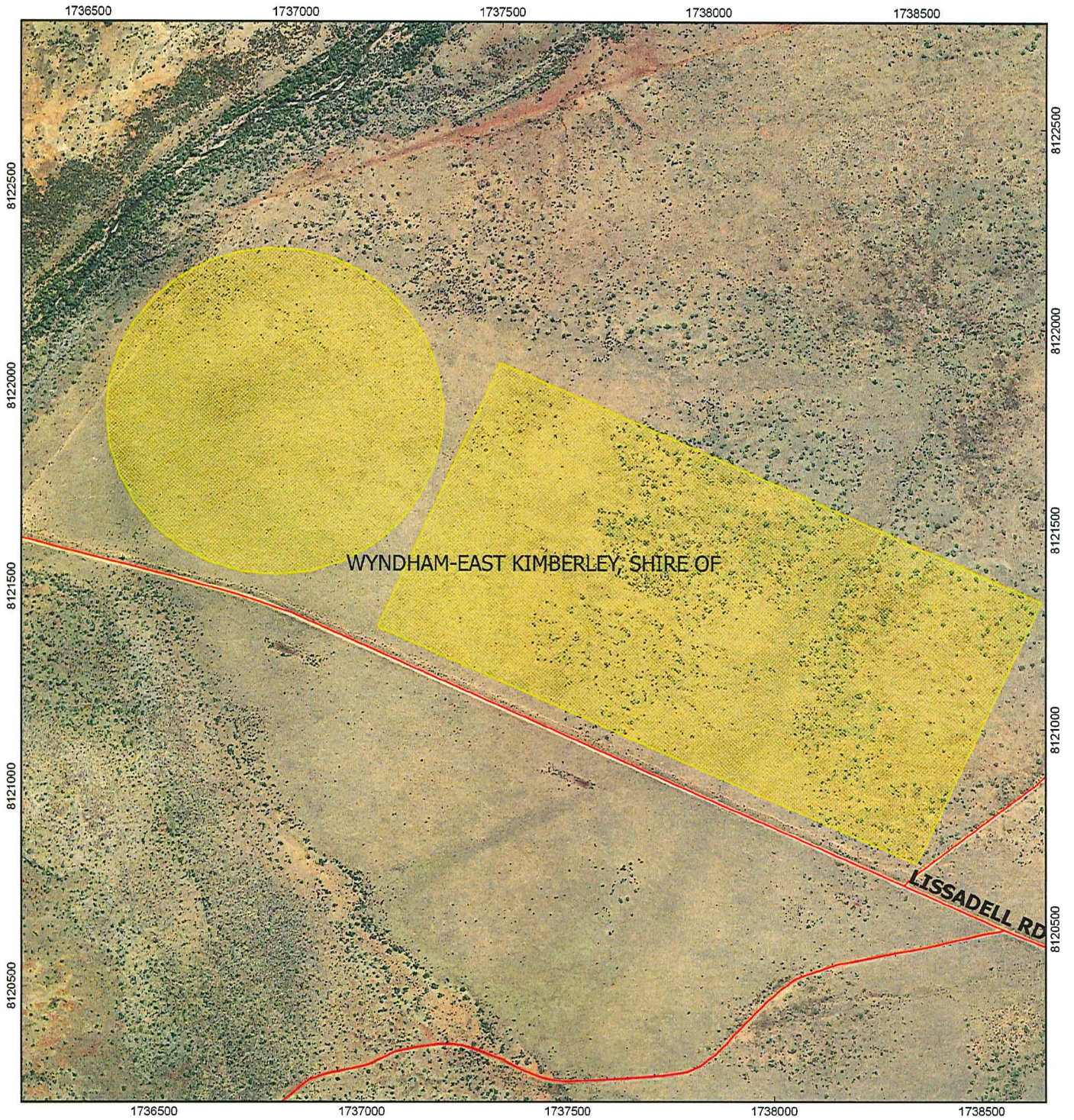


Dr Anne Mathews
SENIOR MANAGER
CLEARING REGULATION





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

28 June 2017

Plan 7345/1



Legend

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



MGA 94
Geocentric Datum of Australia 1994

1:11,177

Anne Mathews Date *28/6/2017*
ANNE MATHEWS



GOVERNMENT OF
WESTERN AUSTRALIA
Officer with delegated authority under Section 20
of the Environmental Protection Act 1986



1. Application details

1.1. Permit application details

Permit application No.: 7345/1
Permit type: Area Permit

1.2. Applicant details

Applicant's name: Baldy Bay Pty Ltd

1.3. Property details

Property: Lot 702 on Deposited Plan 28193, Lake Argyle
Local Government Authority: Wyndham-East Kimberley, Shire of
DER Region: North West
DPaW District: East Kimberley
Localities: Lake Argyle

1.4. Application

| | | | |
|--------------------|-----------|--------------------|--------------------------|
| Clearing Area (ha) | No. Trees | Method of Clearing | For the purpose of: |
| 150 | | Mechanical Removal | Pastoral diversification |

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 28 June 2017
Reasons for Decision: The application for a clearing permit was received on 31 October 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 is at variance to principle (f), may be at variance to principles (i) and (j), 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 proposed clearing may result in the increased run-off and sedimentation of a minor non perennial watercourse and may exacerbate flooding. To mitigate the potential impacts to surface water quality and flooding, a condition has been placed on the permit that requires the applicant to plant the intended crops over the cleared areas within three months of the date of clearing. The applicant will also be required to clear outside of Kununurra's wet season (November to March).

The Delegated Officer also determined that the proposed clearing may cause the spread of weeds into adjacent areas of remnant vegetation. To mitigate potential impacts to adjacent remnant vegetation, a weed management condition has been placed on the permit. The weed management condition requires earth-moving machinery to be clean of weeds when entering and exiting the clearing area and restrict the movement of machines and other vehicles to the limits of the area to be cleared.

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 | Clearing Description | Vegetation Condition | Comment |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Beard vegetation association 4000 is described as grasslands, tall bunch grass savanna, sparse low tree; coolibah, inland bloodwood; Mitchell grass and Hindus grass and <i>Eucalyptus microtheca</i> and <i>Corymbia opaca</i> over <i>Astrebla</i> sp. and <i>Iseilema</i> spp. (Shepherd et al., 2001). | The applicant proposes to clear 150 hectares of native vegetation within Lot 702 on Deposited Plan 28193, Lake Argyle, for the purpose of non-irrigated cropping. | Very Good; Vegetation structure altered; obvious signs of disturbance (Keighery, 1994). To | The condition and description of the vegetation within the application area was determined via a site inspection undertaken by officers of the Department of Environment Regulation (DER) on 23 February 2017 (DER site inspection). |

Degraded: Structure severely disturbed; regeneration to Good condition requires intensive management (Keighery 1994)
The majority of the application area is in a Good to Degraded (Keighery, 1994) condition (DER, 2017).

Vegetation types throughout the application area ranged from mixed open woodland (*Eucalyptus* sp., *Bauhinia cunninghamii*, *Ficus* sp., *Atalaya hemiglauca*) over mixed tussock grasses and herbs to mixed tussock grassland over mixed herbs with exotic *Citrullus lanatus* and *Vachellia farnesiana* and emergent *Bauhinia cunninghamii*, *Corymbia* sp. and *Acacia synchronicia* (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 is not likely to be at variance to this Principle

The DER site inspection identified that the vegetation within the application area is in a Very Good to Degraded (Keighery, 1994) condition, with the majority in a Good to Degraded (Keighery, 1994) condition (DER, 2017). The variation in vegetation condition was largely a result of the presence of invasive weeds, namely *Citrullus lanatus*, *Calotropis procera* and *Vachellia farnesiana*. In addition, a number of areas were affected by soil compaction as a result of frequent cattle activity (DER, 2017). The DER site inspection did not identify diverse or discrete habitats within the application area (DER, 2017).

The vegetation within the application area ranges from mixed open woodland of *Eucalyptus* sp., *Bauhinia cunninghamii*, *Ficus* sp., and *Atalaya hemiglauca* over mixed tussock grasses and herbs to mixed tussock grassland over mixed herbs with exotic *Citrullus lanatus*, *Calotropis lanatus* and *Vachellia farnesiana* and emergent *Bauhinia cunninghamii*, *Corymbia* sp. and *Acacia synchronicia* (DER, 2017). A small creek line intersects the application area, which contains exotic *Vachellia farnesiana* over native herbs (DER, 2017).

As discussed under Principle (g), the Commissioner of Soil and Land Conservation (CSLC) advised that the Argyle Land System is mapped over the application area, described as gently undulating plain with cracking clay soils (CSLC, 2017). The DER site inspection identified that the soils within the application area comprise of brown/black clays. With the exception of areas adjacent to and including the creek line, none of the soils were waterlogged at the time of inspection (DER, 2017).

The local area considered in the assessment of this application is defined as a 50 kilometre radius measured from the perimeter of the application area. The local area is extensively vegetated and contains approximately 99.6 per cent native vegetation cover.

According to available datasets there are records of 15 State-listed priority (P) flora species within the local area, being, *Acacia camptocarpa* (P1), *Acacia capillaris* (P2), *Acacia clavisetia* (P3), *Acacia smeringa* (P1), *Corymbia cadophora* subsp. *polychroma* (P1), *Eucalyptus ordiana* (P2), *Fuirena incrassata* (P3), *Jacquemontia* sp. Keep River (J.L. Egan 5051) (P1), *Goodenia bynesii* (P3), *Micraira* sp. Purnululu (M.D. Barrett & R.L. Barrett 1507) (P1), *Stylidium prophyllum* (P3), *Triodia barbata* (P1), *Triodia bunglensis* (P2), *Triodia cremnophila* (P1), and *Triodia racemigera* (P1). While the species identified within the application area include taxa that are representative of the abovementioned genera, based on the DER site inspection findings and a review of the habitat requirements of the above priority flora species, it was determined that the application area is unlikely to provide suitable known habitat for these priority flora species (Western Australian Herbarium, 1998-; DER, 2017). Therefore, a flora survey targeted at these species is considered to be unnecessary.

As discussed under Principles (c) and (d) respectively, according to available datasets, there are no records of threatened flora or threatened ecological communities (TEC) within the local area, and the proposed clearing is not likely to impact on any TECs or threatened flora.

The application area is within a mapped occurrence of a priority ecological community (PEC) known as the 'Argyle Land System' (P3), which is described as gently undulating black soil alluvial plain supporting Mitchell and other grasslands (Parks and Wildlife, 2016). The mapped occurrence of the PEC at this location comprises 13,529 hectares and the entire mapped occurrence of this PEC is 42,773.8 hectares. The application area therefore, comprises approximately 0.23 per cent of the known occurrence of this PEC. While some of the vegetation within the application area may be representative of that commonly associated with this community, noting that the application area comprises a relatively small patch of this PEC's mapped occurrence, and given the presence of invasive weeds and historical disturbance, the proposed clearing of 150 hectares is not likely to significantly impact on the extent of this PEC.

As discussed under Principle (b), given the condition of the vegetation within the application area, and the absence of diverse or discrete habitat types for threatened or priority fauna recorded within the local area, the application area is considered unlikely to comprise significant fauna habitat.

The Department of Parks and Wildlife (Parks and Wildlife) advised that the proposed clearing is unlikely to have any significant impacts to biodiversity values on site or the surrounding area (Parks and Wildlife, 2017).

Noting the extensive areas of higher quality vegetation within the surrounding area, and the high density of weed species and absence of significant habitat for threatened or priority flora or fauna within the application area, the application area is considered unlikely to comprise a high level of biological diversity.

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

References:

CSLC (2017)

DER (2017)

Keighery (1994)

Parks and Wildlife (2016)

Parks and Wildlife (2017)

Western Australian Herbarium (1998-)

GIS Databases:

Kimberley Remnant Vegetation

SAC Bio Datasets (Accessed April 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 not likely to be at variance to this Principle**

According to available datasets there are records of 27 fauna species of conservation significance within the local area (Parks and Wildlife, 2007-). Of these species, 18 are migratory avian species that likely utilise areas of wetland habitat associated with the nearby Bow River (approximately 10 kilometres north east of the application area), Ord River (approximately 11 kilometres north east of the application area) and Lake Argyle (approximately 20 kilometres north of the application area). Given the distance to suitable wetland habitats, the application area is not likely to comprise significant habitat for these species.

The remaining nine fauna species are the land snail (*Mouldingia orientalis*), orange leaf-nosed bat (*Rhinonicteris aurantia*), freshwater crocodile (*Crocodylus johnstoni*), peregrine falcon (*Falco peregrinus*), barking owl (*Ninox connivens* subsp. *connivens*), Drysdale grunter (*Syncomistes rastellus*), Gouldian finch (*Erythrura gouldiae*) and Lakeland Downs mouse/kerakenga (*Leggadina lakedownensis*) (Parks and Wildlife, 2007-).

The freshwater crocodile (Specially Protected under the *Wildlife Conservation Act 1950* (WC Act)) and Drysdale grunter (P2) are aquatic fauna. Given the absence of perennial watercourses or wetlands, the application area is unlikely to comprise significant habitat for these species.

The peregrine falcon (Specially Protected under the WC Act) and barking owl (P2) are highly mobile avian species with large home ranges, and it is not expected that the proposed clearing will impact on significant habitat for these species.

The Gouldian finch (P4) nests in tree-hollows with known breeding habitat characterised by rocky hills with smooth-barked gums within close proximity to small waterholes that persist throughout the dry season (Birdlife International, 2016). The DER site inspection did not identify any rocky hills or trees with hollows (DER, 2017). It is considered unlikely that the application area comprises significant habitat for this species.

There are four records of the land snail (Threatened under the WC Act) within the local area, the most recent recorded in 1996. There is little biological information available for this species, however given the lack of discrete habitat features (in the form of rocky outcrops or otherwise) and evidence of frequent cattle activity, the application area is unlikely to comprise significant habitat for this species.

The orange leaf-nosed bat (Threatened under the WC Act) roosts largely in caves and forages in open woodland (McKenzie and Hall, 2008). The application area does not contain suitable roosting habitat for this species (DER, 2017) and higher quality foraging habitat exists in the local area, therefore, the proposed clearing is not likely to impact on significant habitat for this species.

Noting the level of disturbance within the application area and the presence of higher quality vegetation in the surrounding area, the application area is not likely to comprise significant habitat for the small ground dwelling Lakeland Downs mouse/kerakenga (P4).

Given the condition of the vegetation within the application area and absence of diverse or discrete habitat types, and noting the presence of higher quality vegetation in the surrounding area, the proposed clearing is not likely to be at variance to this Principle.

Methodology References:
Birdlife International (2016)
DER (2017)
McKenzie and Hall (2008)
Parks and Wildlife (2007-)

GIS Databases:

(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

According to available datasets there are no records of threatened (rare) flora within the local area.

The closest record of threatened flora is located approximately 101 kilometres north of the application area. This species is an erect perennial herb that grows within dark grey clay and black soils which stay waterlogged in summer and are inundated after rain (Western Australian Herbarium, 1998-).

The DER site inspection identified that the clay soils of the application area were not waterlogged (with the exception of the creek line area), despite the heavy rainfall that had been experienced by the region during the weeks preceding the inspection (DER, 2017). Noting this, it is considered unlikely that the application area provides suitable habitat for the abovementioned species.

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

Methodology References:

DER (2017)
Western Australian Herbarium (1998-)

GIS Databases:

SAC Bio Datasets (Accessed April 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 datasets, there are no recorded TECs within the local area.

The closest mapped TEC is known as the 'Organic mound spring sedgeland community of the North Kimberley bioregion', recorded approximately 238 kilometres west of the application area.

No organic springs or mound springs occur within the application area (DER, 2017). 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 April 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 per cent 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 Interim Biogeographic Regionalisation of Australia (IBRA) bioregion, local government authority and mapped vegetation associations are all above the 30 per cent threshold.

The local area is well vegetated and retains approximately 99.6 per cent of its pre-European vegetation extent. The application area represents approximately 0.015 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 984,140.17 hectares.

Noting the high level of disturbance and absence of significant habitat for flora and fauna species of conservation significance, the application area is not considered to be significant as a remnant. Noting that the Shire, the IBRA bioregion and the local area retain more than 30 per cent of their vegetation extents, it is considered that the application area is not 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 (%) | Department of Parks and Wildlife Managed Lands (%) | |
|---------------------------------------------------|-------------------|---------------------|---------------|----------------------------------------------------|-------------|
| | | | | Extent (ha) | Current (%) |
| IBRA Bioregion* | | | | | |
| Ord Victoria Plain | 5,497,881 | 5,493,144 | 99.9 | 940,518 | 17 |
| Local government authority* | | | | | |
| Shire of Wyndham-East Kimberley | 11,189,826 | 11,016,723 | 98 | 1,523,914 | 14 |
| Beard Vegetation Association in Bioregion* | | | | | |
| 4000 | 102,487 | 101,607 | 99.1 | 0 | 0 |

Methodology References:
Commonwealth of Australia (2001)
*Government of Western Australia (2016)

GIS Databases:
Kimberley Remnant Vegetation
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 at variance to this Principle

A minor non perennial watercourse has been mapped within the application area. The DER site inspection identified some standing water associated with this watercourse (DER, 2017). The watercourse runs towards Limestone Creek located approximately 2.5 kilometres north of the application area. This portion of Limestone Creek is also mapped within the south west portion of the Lake Argyle and Lake Kununurra Ramsar site. A separate portion of Limestone Creek occurs approximately 180 metres west of the application area, however this portion of the creek is separated from the application area by a rocky ridge. The vegetation associated with this watercourse is predominantly in a Good to Degraded (Keighery, 1994) condition with a prevalence of introduced species and signs of soil compaction and erosion as a result of cattle disturbance (DER, 2017).

The shallow bank of the watercourse, which was absent in some areas to cattle disturbance, was lined with introduced *Vachellia farnesiana*. Numerous herbs that are commonly associated with watercourses within the region were also identified nearby (DER, 2017).

Given that the proposed clearing will impact on vegetation growing in association with this watercourse, the proposed clearing is at variance to this Principle.

Noting the disturbance surrounding the minor non perennial watercourse, density of *Vachellia farnesiana* and that riparian habitat in better condition occurs within and around nearby larger water bodies such as Limestone Creek, Bow River, Ord River and Lake Kununurra, the proposed clearing is not likely to have a significant impact on riparian habitat within the local area.

Methodology References:
DER (2017)
Keighery (1994)

GIS Databases:
Hydrography, linear
Hydrography, hierarchy

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

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

The CSLC advised that the application area is mapped as the Argyle Land System, described as gently undulating plain on limestone and shale with cracking clay soils (CSLC, 2017). The DER site inspection identified that the soils within the application area comprise of brown/black clays. With the exception of areas located adjacent to and including the non-perennial watercourse, none of the soils were waterlogged at the time of inspection (DER, 2017).

The CSLC advised that episodic high rainfall can occur, especially in the build up and over the wet season, and that although the gradient across the site is less than 2 per cent, it is sufficient to initiate soil erosion during storm events if they occur before sufficient plant cover has re-established on the site (CSLC, 2017).

The CSLC advised that surface soils may be prone to wind erosion once the protective vegetation cover is removed by clearing and soil structure damaged by pre-planting cultivation, that these risks can be managed by timing the clearing and development operations to minimise the time of exposure to both wind and water erosion, and that erosion is unlikely to occur under either irrigated agriculture or dryland agricultural use provided sufficient crop residues are maintained at the end of each production cycle (CSLC, 2017).

The CSLC also advised that other forms of land degradation such as salinity, inundation, waterlogging and eutrophication are unlikely to occur as a result of the proposed land clearing and land use (CSLC, 2017).

In line with the recommendation of the CSLC, the applicant will be required to clear outside of the wet season (November to March) and plant crop species within three months of clearing will help to stabilise soils and minimise water erosion and associated sedimentation.

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

Methodology References:
CSLC (2017)
DER (2017)

GIS Databases:
Soils, statewide

(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

The closest conservation area to the application area is a linear portion of the Lake Argyle and Lake Kununurra Ramsar site associated with Limestone Creek, located approximately 2.5 kilometres north of the application area.

Noting the distance between the application area and this Ramsar site and the extent of native vegetation remaining in the local area, and that the application area has been subject to significant historical disturbance, the proposed clearing is not likely to impact on this conservation area.

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

Methodology GIS Databases:
Ramsar Sites
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 may be at variance to this Principle

As discussed under Principle (f), a minor non-perennial watercourse intersects the application area, and the proposed clearing may increase short term sedimentation of this watercourse downstream towards Limestone Creek, particularly during periods of heavy rainfall. Given the minor non perennial nature of this watercourse, and noting the high weed density and extensive disturbance of the watercourse from cattle activity, it is expected that the impacts of sedimentation as a result of the proposed clearing will be short term and localised.

Mapped groundwater salinity within the application area is marginal (500 to 1,000 milligrams per litre total dissolved solids). Given the marginal salinity and noting that the local area is highly vegetated, no significant rise in groundwater levels is expected. Therefore, deterioration in the quality of surface and/or underground water via increased salinity as a result of the proposed clearing is considered unlikely.

Noting the potential for short term sedimentation, the proposed clearing may be at variance to this Principle. As discussed under Principle (g), the requirement to clear outside of the wet season and plant crop species within three months of clearing will help to stabilise soils and minimise water erosion and associated sedimentation.

Methodology GIS Databases:
Hydrography, linear
Hydrography, hierarchy
Groundwater Salinity, Statewide

(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 may be at variance to this Principle

The Ord Victoria Plain bioregion has a tropical monsoonal climate, with a defined wet season and dry season, with the wet season largely occurring between November and April (BoM, 2017).

Heavy rainfalls are commonly experienced by the region in the wet season, and the proposed clearing of 150 hectares of native vegetation may increase the risk of localised flooding following periods of heavy rainfall, particularly given the presence of brown/black clay soils.

As discussed under Principle (g), the CSLC advised that episodic high rainfall can occur, especially in the build up and over the wet season, and that although the gradient across the site is less than 2 per cent, it is sufficient to initiate soil erosion during storm events if they occur before sufficient plant cover has re-established on the site (CSLC, 2017).

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

To minimise the potential for flooding, the applicant will be required to undertake clearing outside of the wet season (November to March), and will be required to plant the intended crop species within three months of clearing. This will assist to minimise the intensity of flooding.

Methodology References:
BoM (2017)
CSLC (2017)

Planning instruments and other relevant matters.

Comments On 5 December 2016, the application was advertised in *The West Australian* newspaper for a 21-day submission period. No public submissions have been received.

The Shire of Wyndham-East Kimberley's (Shire) Local Planning Schemes No. 6 (Wyndham townsite) and No. 7 (Kununurra and surrounds) do not extend to the application area. The Shire advised that planning approval is not required for the proposed agriculture on Lot 702 (Shire of Wyndham-East Kimberley, 2017).

The application area occurs within the Canning-Kimberley Groundwater Area and Ord River and Tributaries Surface Water Area and Irrigation District, proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act). The Department of Water (DoW) advised that any taking or diversion of surface and groundwater in this proclaimed area for the purposes other than domestic and/or stock watering is subject to DoW licensing (DoW, 2016). DoW advised that it has not yet received an application for surface or groundwater supply for this project (DoW, 2016).

The applicant advised that the application is for the purpose of non-irrigated agriculture. The applicant advised that a licence to take water will be obtained from DoW in the future to enable approximately 50 hectares of the application area to be used for irrigated agriculture.

The CSLC advised that the soils within the application area are likely to be alkaline and have moderate to high potential for irrigated agriculture, and that dryland agriculture will generally be limited by total rainfall and distribution during the growing season (CSLC, 2017). The CSLC advised that given the very high evaporation rates experienced, even where rooting depth is not restricted, prolonged periods without useful rainfall will reduce crop yield (CSLC, 2017).

Parks and Wildlife advised that it would not support the introduction of high risk weed species, or of moderate risk weed species that have not been assessed locally for their potential to become environmental weeds (Parks and Wildlife, 2017). Parks and Wildlife advised that there would need to be stringent conditions of use for all species, which should include the establishment of a weed monitoring system over the application area as well as a buffer beyond the application area where any introduced plants are controlled immediately (Parks and Wildlife, 2017). Parks and Wildlife noted the close proximity of the application area to an infestation of rubber vine (*Cryptostegia grandiflora*), being a Weed of National Significance and a prohibited species in WA, and advised that the applicant should have sound knowledge of this species and its location, and ensure strict hygiene measures are established to prevent any further spread of this species (Parks and Wildlife, 2017).

The applicant has submitted an application for a permit to diversify to grow a number of crop species to the Department of Lands (DoL). DoL advised that the crop species proposed for growing within the application area include the following: forage sorghum (*Sorghum bicolor*), forage maize (*Zea mays L.*), burgundy bean (*Macroptilium bracteatum*), forage oats (*Avena sativa L.*), forage barley (*Hordeum vulgare L.*), lablab (*Lablab purpureus*), lucerne (*Medicago sativa*), vetch (*Vicia sativa*), arrowleaf clover (*Trifolium vesiculosum*), persian clover (*Trifolium resupinatum*), balansa clover (*Trifolium michelianum*), serradella (*Ornithopus sativus*), cavalcade (*Centrosema pascuorum*) and cowpea (*Vigna unguiculata*) (DoL, 2017).

DoL advised that the Department of Agriculture and Food Western Australia (DAFWA) considers the intended crop species, with the exception of cavalcade and cowpea to be of low risk to the environment at this location, and that DAFWA considers cavalcade and cowpea to be of medium risk to the environment at this location (DoL, 2017). DoL advised that a weed management condition will likely be placed on the applicant's Pastoral Diversification Permit to manage the potential spread of the intended crop species outside of the proposed Pastoral Diversification Permit area, which encompasses the clearing permit application area (DoL, 2017).

An Indigenous Land Use Agreement (ILUA) is registered over an area of approximately 797.5 square kilometres which includes the application area (WI2002/003 – Argyle Diamonds). The ILUA is between Argyle Diamonds Limited and Argyle Diamond Mines Pty Ltd, individuals on behalf of the Yunurr/Yalangga, Mandangala/Tiltuwam, Neminuwarlin, Balaburr, Bilbidjing and Dundun estate groups and on behalf of the Miriwung, Gidga, Wularr and Malgnin people who have Traditional Rights in the ILUA area, and the Kimberley Land Council Aboriginal Corporation. Noting that the parties to the ILUA do not include the applicant, the ILUA is not relevant to this application.

A review of the National Native Title Tribunal's online mapping indicates that the application area is not located within the boundary of a native title determination area. In the absence of native title claimants, notification of the application was sent to the relevant Native Title Representative Aboriginal/Torres Strait Islander Body, being the Kimberley Land Council. No response has been received from the Kimberley Land Council.

Methodology References:
CSLC (2017)
DoL (2017)
DoW (2016)
Parks and Wildlife (2017)
Shire of Wyndham-East Kimberley (2017)

4. References

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