



1. Application details

1.1. Permit application details

Permit application No.: 6954/1
Permit type: Area Permit

1.2. Applicant details

Applicant's name: Mr John Lione

1.3. Property details

Property: Lot 5444 on Plan 206478
Colloquial name:
Local Government Authority: Shire of Gingin
DER Region: Greater Swan
DPaW District: Swan Coastal
LCDC:
Localities: Mindarra

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
40		Mechanical Removal	Grazing & pasture

1.5. Decision on application

Decision on Permit Application: Refuse

Decision Date: 15 July 2016

Reasons for Decision: The applicant applied to clear 40 hectares of native vegetation.

The clearing permit application has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986*, and it has been concluded that the proposed clearing is at variance to Principles (a) and (b), may be at variance to Principles (c), (e), (g) and (h) and is not likely to be at variance to Principles (d), (f), (i) and (j).

The Delegated Officer determined that the proposed clearing will impact on significant habitat for Carnaby's Cockatoo (*Calyptorhynchus latirostris*), may impact on the habitat of two rare declared flora and eleven priority flora taxa that have a probability of occurring in the area under application, will impact on a significant remnant that forms part of an ecological linkage, and may cause land degradation in the form of wind erosion.

On 7 June 2016, the Delegated Officer advised the applicant that it was unlikely a clearing permit would be granted. The applicant was invited to provide additional information including the ability to avoid or minimise impacts. No response had been received at the time of this decision.

In deciding to refuse the clearing permit application, the Delegated Officer also had regard to the advice from the Shire of Gingin that Planning Approval had not been issued by the Shire.

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
Mapped Beard vegetation association 949 is described as low woodland; banksia (Shepherd et al. 2001).	The applicant proposes to clear 40 hectares of native vegetation within Lot 5444 on Deposited Plan 206478, Mindarra, for the purpose of pasture and grazing.	Very Good; Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).	The description and condition of the vegetation within the application area was determined via a site inspection undertaken by the Department of Environment Regulation in April 2016 (DER 2016).
Mapped Heddle vegetation complex Mogumber Complex – North is described as open to closed heath (Heddle et al. 1980).		To Degraded: Structure severely disturbed; regeneration to good	The majority of the vegetation within the application area is comprised of low closed heath

condition requires intensive management (Keighery 1994).

with emergent *Eucalyptus* sp. and *Nuytsia floribunda*. Where soils are comprised of white sand, the vegetation is open low woodland of *Eucalyptus* sp. and *Banksia* sp. (DER 2016).

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 at variance to this Principle

The applicant proposes to clear 40 hectares of native vegetation within Lot 5444 on Deposited Plan 206478, Mindarra, for the purpose of pasture and grazing. The vegetation within the application area ranges from very good to degraded (Keighery 1994) condition, with the majority of the vegetation in very good (Keighery 1994) condition (DER 2016). Approximately 55 per cent of the vegetation within the application area is comprised of low closed heath with emergent *Eucalypts* and *Nuytsia floribunda* on gravelly and yellow soils (DER 2016). The remaining areas are comprised of open low woodland of *Eucalypts* and *Banksia* sp. on white sands (DER 2016).

The soil within the application area is mapped as Wd9, which Northcote et al. (1960–68) describes as broad valleys and undulating interfluvial areas with some discontinuous breakaways and occasional mesas; lateritic materials mantle the area: chief soils are sandy acidic yellow mottled soils, soils containing much ironstone gravel in the A horizons, both forming a complex pattern with each other and with lateritic sandy gravels. The Gingin East Soil Survey maps the application area as two map units. Approximately 75 per cent of the application area is mapped as Map unit Capitella BJd Phase 222CpBJd, which is described as gently undulating rises, with areas dominated by duricrust (rock outcrop). The remaining area is mapped as Map unit Capitella BJ Phase 222CpBJ, which is described as gently undulating rises with yellow brown, pale shallow and some deep sands (CSLC 2016).

There are 22 priority flora species and four rare flora species recorded within the local area (10 kilometre radius). Of these, 11 priority flora species and three rare flora species have been recorded within the same mapped soil type (Wd9) and vegetation type to that of the application area. One rare flora species grows on seasonally damp, sandy clay flats near swamps (DEC 2006). There are no watercourses or wetlands within the application area (DER 2016) and therefore the application area is not likely to include this species. The two remaining rare flora species and seven of the priority flora species occur in association with lateritic and gravelly soils over sand (Western Australian Herbarium 1998-). The remaining four priority species occur in sandy soils (Western Australian Herbarium 1998-).

Noting the size of the application area and that it contains vegetation in predominately very good (Keighery 1994) condition, there is a probability that rare and priority flora species may occur within the native vegetation under application. An appropriately timed flora survey undertaken by a qualified botanist would be required to determine whether any rare or priority flora species occur within the application area.

There are seven conservation significant fauna species recorded within a 10 kilometre radius of the application area (Parks and Wildlife 2007-). Of these species, the proposed clearing may impact on Carnaby's cockatoo (*Calyptorhynchus latirostris*), as suitable habitat was identified on site (DER 2016).

The application area is part of a large contiguous remnant of native vegetation. Although removing the vegetation within the application area will not sever an ecological linkage, the proposed clearing will directly reduce the size and may impact on the functionality of this large remnant in supporting fauna habitat and movement. The proposed clearing would remove the middle third of an approximately 2.3 kilometre wide north to south vegetated corridor. Whilst vegetation would remain both east and west of the application area, the width of the corridor will be reduced and the eastern side may have limited functionality as it includes vegetation in degraded (Keighery 1994) condition.

The local area retains approximately 60 per cent native vegetation. The application area is mapped as Beard vegetation association 949 and Heddle vegetation complex Mogumber Complex - North which retain approximately 57 and 48 per cent of their pre-European vegetation extents respectively (Government of Western Australia 2015; Parks and Wildlife 2015).

Based on the condition of the vegetation within the application area, the probability of rare and priority flora, the position of the application area within a larger remnant of vegetation, and the significance of the vegetation as habitat for fauna including species of conservation significance, it is considered that the application area comprises a high level of biological diversity.

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

Methodology

References:
CSLC (2016)
DEC (2006)

DER (2016)
Government of Western Australia (2015)
Keighery (1994)
Northcote et al. (1960-68)
Parks and Wildlife (2007-)
Parks and Wildlife (2015)
Western Australian Herbarium (1998-)

GIS Databases:

- Heddl vegetation complexes
- SAC Bio Datasets (Accessed April 2016)
- Soils, statewide
- Parks and Wildlife Tenure
- Pre-European vegetation
- Virtual mosaic

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

Comments Proposed clearing is at variance to this Principle

The application area is part of a large contiguous remnant of native vegetation. The clearing of the vegetation within the application area will not sever an ecological linkage, however, it will reduce the size and may impact on the functionality of this large remnant in supporting fauna habitat and movement. The proposed clearing would remove the middle third of an approximately 2.3 kilometre wide north to south vegetated corridor. Whilst vegetation would remain both east and west of the application area, the width of the corridor will be reduced and the eastern side may have limited functionality as it includes vegetation in degraded (Keighery 1994) condition.

A total of seven fauna species of conservation significance have been recorded within 10 kilometres of the application area (Parks and Wildlife, 2007-) being Carnaby's cockatoo (*Calyptorhynchus latirostris*), western swamp tortoise (*Pseudemydura umbrina*), both listed as rare or likely to become extinct under the *Wildlife Conservation Act 1950*, eastern great egret (*Ardea modesta*), rainbow bee-eater (*Merops ornatus*), both listed as protected under international agreement, hooded plover (*Charadrius rubricollis*), and blue-billed duck (*Oxyura australis*), both listed as priority four, and Mogumber bush cricket (*Throscodectes xederoides*), listed as priority three.

The application area includes vegetation in predominately very good (Keighery 1994) condition (DER 2016) and is likely to comprise suitable habitat for a variety of indigenous fauna. The local area retains approximately 60 per cent native vegetation, however, the proposed clearing of 40 hectares of vegetation will contribute to the decline in available fauna habitat in the region.

Carnaby's cockatoos were once abundant in Western Australia; however since the late 1940s the species has suffered a 30 per cent contraction in range, a 50 per cent decline in population and, between 1968 and 1990, disappeared from more than a third of its breeding range (Saunders 1990; Saunders & Ingram 1998; Shah 2006; Garnett et al. 2011).

The Carnaby's cockatoo recovery plan (Parks and Wildlife 2013) summarises habitat critical to the survival for this species as:

- the eucalypt woodlands that provides nest hollows used for breeding, together with nearby vegetation that provides feeding, roosting and watering habitat that supports successful breeding;
- woodland sites known to have supported breeding in the past and which could be used in the future, provided adequate nearby food and/or water resources are available or are re-established; and
- in the non-breeding season the vegetation that provides food resources as well as the sites for nearby watering and night roosting that enable the cockatoos to effectively utilise the available food resources.

The recovery plan also states, "Success in breeding is dependent on the quality and proximity of feeding habitat within 12 kilometres of nesting sites. Along with the trees that provide nest hollows, the protection, management and increase of this feeding habitat that supports the breeding of Carnaby's cockatoo is a critical requirement for the conservation of the species" (Parks and Wildlife 2013).

Carnaby's cockatoo opportunistically forage in proteaceous woodlands and kwongan heath, with a preference for hakea, grevillea, banksia and eucalypt species (Valentine and Stock 2008). Based on knowledge of the preferred foraging habits of Carnaby's cockatoos and the vegetation present within the application area it is considered to be suitable foraging habitat for this species.

Breeding habitat for Carnaby's cockatoos is defined as trees of species known to support breeding within the range of the species which either have a suitable nest hollow or are of a suitable diameter at breast height (DBH) to develop a nest hollow. For most tree species, suitable DBH is 500 millimetres (Commonwealth of Australia 2012). For Carnaby's cockatoos the entrance to hollows must have a minimum diameter of at least 100 millimetres to be suitable (DEC 2010). No large primary habitat trees were observed on-site (DER 2016), and it is considered that the proposed clearing is unlikely to impact nesting habitat for this species.

Basic ecological theory, expert opinion and recent evidence suggests that the remaining native and pine plantation foraging habitat on the Swan Coastal Plain is just sufficient to support the current population of Carnaby's cockatoo. Therefore, it is considered that any reduction in foraging habitat will result in a reduction in the carrying capacity of the region and therefore a decline in the population of Carnaby's cockatoo. A study involving population analysis modelling suggests that if clearing continues to occur at its current rate without effective habitat restoration, the species is likely to decline to extinction in less than 20 years (Cockerill et al. 2013).

The application area occurs approximately 4.7 kilometres from confirmed Carnaby's cockatoo breeding areas. There are watercourses and wetlands mapped within the local area (10 kilometre radius), the closest being a conservation category dampland approximately 1.3 kilometres from the application area. There are three conservation category lakes within the local area.

Based on the presence of suitable foraging species within the application area, proximity to confirmed nesting areas, and presence of water sources within the local area, the vegetation under application comprises significant foraging habitat for Carnaby's cockatoo.

The Mogumber bush cricket is listed as priority three, meaning the species is known from several locations and does not appear to be under imminent threat or is known from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. There are four records of this species, occurring in three separate areas, the closest record occurring approximately 9.7 kilometres from the application area. Two of the records for this species occur within the Parks and Wildlife managed Seven Mile Well Nature Reserve. There is limited information on the habitat requirements of the Mogumber bush cricket, however previous records occurred on heath vegetation in grass.

The western swamp tortoise occur in association with watercourses and wetlands, however none of which occur within the application area (DER 2016).

The rainbow bee-eater is a mobile avian species with a large home range and is unlikely to be significantly impacted upon by the proposed clearing. The eastern great egret, hooded plover, and blue-billed duck occur in association with watercourses and wetlands, none of which occur within the application area (DER 2016).

Based on the composition and condition of the vegetation, the presence of suitable habitat for a conservation significant species, and the position of the application area within a larger remnant of vegetation, it is considered that the vegetation within the application area comprises significant habitat for indigenous fauna.

The applicant has advised that large trees will be retained within the application area. The retention of large trees will retain limited foraging habitat value for Carnaby's cockatoo.

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

Methodology **References:**
Cockerill et al. (2013)
Commonwealth of Australia (2012)
DEC (2010)
DER (2016)
Garnett et al. (2011)
Keighery (1994)
Parks and Wildlife (2007-)
Parks and Wildlife (2013)
Saunders (1990)
Saunders and Ingram (1998)
Shah (2006)
Valentine and Stock (2008)

GIS Databases:
- Carnaby's cockatoo breeding areas confirmed
- Geomorphic wetlands (classification), Swan Coastal Plain
- Hydrography, linear
- Hydrography, hierarchy
- Parks and Wildlife Tenure
- SAC Bio Datasets (Accessed April 2016)
- Virtual mosaic

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

Comments **Proposed clearing may be at variance to this Principle**
Three rare flora species have been recorded within the local area (10 kilometre radius) on the same soil and vegetation type to those mapped within the application area.

The first of these species is known from three disjunct populations with an estimated total population size of 7300 individuals (DotE 2016). The application area occurs amongst 20 subpopulations which comprise the northernmost population of this species. Eleven of these subpopulations occur within Parks and Wildlife managed lands, with the remaining occurring in private property or road reserves. In this population, the species grows in low mixed heath with a Banksia open low woodland on grey and white sand (DotE 2016). The closest record of this species is approximately 2.1 kilometres from the application area in vegetation contiguous with the application area. This record occurs on Map unit Capitella BJ Phase 222CpBJ, which also occurs within a portion of the application area. Given the preferred habitat and soil type for this species occurs within the application area, it is considered that the application area may include suitable habitat for this species.

The second species is known from six populations, two of which occur on Parks and Wildlife managed lands. This species occurs on gravel and granite on slopes (Western Australian Herbarium 1998-) in association with vegetation ranging from mixed Jarrah-Marri woodland to low mixed heath. Given the preferred habitat and soil type for this species occurs within the application area, it is considered that the application area may include suitable habitat for this species. Given the application area may include suitable habitat for these species, an appropriately timed flora survey undertaken by a qualified botanist would be required to confirm whether these two species occur within the application area.

The third species grows on seasonally damp, sandy clay flats near swamps (DEC 2006). There were no watercourses or wetlands within the application area (DER 2016). Therefore, the application area is not likely to include this species.

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

Methodology **References:**
DEC (2006)
DER (2016)
DotE (2016)
Western Australian Herbarium (1998-)

GIS Databases:
- SAC Bio Datasets (Accessed April 2016)
- Soils, statewide
- Parks and Wildlife Tenure
- Pre-European vegetation

(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**
There are no threatened ecological communities (TEC) mapped within 10 kilometres of the application area. The vegetation within the application area is unlikely to represent a TEC.

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

Methodology **GIS Databases:**
- SAC Bio Datasets (Accessed April 2016)

(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 may be at variance to this Principle**
The local area (10 kilometre radius) has approximately 60 per cent vegetation remaining.

The area under application is located within the Swan Coastal Plain Interim Biogeographic Regionalisation of Australia (IBRA) bioregion. This IBRA bioregion has approximately 38 per cent of its pre-European vegetation extent remaining (Government of Western Australia 2015).

The vegetation within the application area is mapped as Beard vegetation association 949 of which there is approximately 57 per cent of pre-European extent remaining within the Swan Coastal Plain bioregion (Government of Western Australia 2015). The vegetation is mapped as Heddl vegetation complex Mogumber Complex-North, which retains approximately 48 per cent of its pre-European vegetation (Parks and Wildlife 2015).

The area under application is located within the Shire of Gingin, which retains approximately 55 per cent pre-European extent (Government of Western Australia 2015).

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).

The application area is part of a large contiguous remnant of native vegetation, which includes several Department of Parks and Wildlife (Parks and Wildlife) managed properties. The proposed clearing will contribute to the regional decline in available fauna habitat. Although removing the vegetation within the application area will not sever an ecological linkage, the proposed clearing will directly reduce the size and may impact on the functionality of this large remnant in supporting fauna habitat and movement.

The application area contains suitable habitat for Carnaby's cockatoo and potential habitat for rare and priority flora, and therefore may be considered a significant remnant and therefore the proposed clearing may be at variance to this principle.

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in Parks and Wildlife Managed Lands (%)
IBRA Bioregion¹				
Swan Coastal Plain	1,501,221	579,161	38	17
Shire¹				
Shire of Gingin	319,675	176,727	55	28
Beard Vegetation Association in Bioregion¹				
949	209,983	120,237	57	43
Hedde Vegetation Complex²				
Mogumber Complex - North	21,880	10,438	48	21

Methodology References:
Commonwealth of Australia (2001)
¹Government of Western Australia (2015)
²Parks and Wildlife (2015)

GIS Databases:
- Hedde vegetation complexes
- Pre-European vegetation
- Virtual mosaic

(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

There are no watercourses or wetlands mapped within the application area and no vegetation growing in association with a watercourse or wetland was observed within the application area (DER 2016).

There are watercourses and wetlands mapped within the local area, the closest being a conservation category dampland approximately 1.3 kilometres from the application area.

Given there is no vegetation growing in association with a watercourse or wetland, the proposed clearing is not likely to be at variance to this principle.

Methodology References:
DER (2016)

GIS Databases:
- Geomorphic wetlands (classification), Swan Coastal Plain
- Hydrography, linear
- Hydrography, hierachy

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

Comments Proposed clearing may be at variance to this Principle

The Gingin East Soil Survey maps the application area as two map units. Map unit Capitella Bjd Phase 222CpBJd is described as gently undulating rises, with areas dominated by duricrust (rock outcrop). Map unit Capitella BJ Phase 222CpBJ is described as gently undulating rises with yellow brown, pale shallow and some deep sands (CSLC 2016).

A land degradation assessment undertaken by the Department of Agriculture and Food WA (DAFWA) identified that the risk of salinity, waterlogging, eutrophication, water erosion and flooding causing appreciable land degradation as a result of the proposed clearing is low (CSLC 2016).

DAFWA's land degradation assessment identified that due to the soil types present, the wind erosion risk on the sandy soils is rated as high to extreme if vegetative protection is lost. The Commissioner of Soil and Land Conservation advised that if full ground cover is not maintained over the cleared area, significant land

degradation is possible (CSLC 2016). Therefore, the clearing of significant areas of native vegetation, as proposed, is likely to increase wind erosion within the application area.

Based on the high risk associated with wind erosion, the proposed clearing may cause appreciable land degradation.

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

Methodology References:
CSLC (2016)

(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 may be at variance to this Principle**

The application area is part of a large contiguous remnant of native vegetation, which includes several Parks and Wildlife managed properties. Three of these properties border Lot 5444 on Deposited Plan 206478, Mindarra, with one directly adjacent to the application area. There are three nature reserves within 10 kilometres of the application area, being Mogumber Nature Reserve, Lake Wannamal Nature Reserve, and Boonanarring Nature Reserve.

The application area, together with the surrounding area of remnant native vegetation which it is contiguous with, provides fauna habitat and a vegetated corridor for which fauna can move between conservation areas. While the proposed clearing is unlikely to sever the connectivity between these areas, the removal of a large area of vegetation within the landscape will directly reduce the size and may impact on the functionality of this large remnant in supporting fauna habitat and movement in the local area. The proposed clearing would remove the middle third of an approximately 2.3 kilometre wide north to south vegetated corridor. Whilst vegetation would remain both east and west of the application area, the width of the corridor will be reduced and the eastern side may have limited functionality as it includes vegetation in degraded (Keighery 1994) condition.

The disturbance caused by the proposed clearing may increase the risk of weeds and dieback spreading into the adjacent vegetation and increase the impact of edge effects.

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

Methodology References:
Keighery (1994)

GIS Databases:
- Parks and Wildlife Tenure
- Virtual mosaic

(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**

There are no watercourses or wetlands within the application area (DER 2016) and therefore the proposed clearing is unlikely to cause deterioration in the quality of surface water.

A land degradation assessment report undertaken by DAFWA identified that the risk of salinity, water logging, eutrophication and water erosion as a result of the proposed clearing was low (CSLC 2016).

The application area does not occur within a *Country Areas Water Supply Act 1914* area or a Public Drinking Water Source Area.

Given the above, the proposed clearing is not likely to cause deterioration in the quality of surface or underground water and therefore is not likely to be at variance to this principle.

Methodology References:
CSLC (2016)
DER (2016)

GIS Databases:
- Country areas water supply act (Part II) – Clearing control catchments
- Hydrography, linear
- Hydrography, hierarchy
- Public drinking water source areas

(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 Commissioner of Soil and Land Conservation advised that the risk of flooding causing land degradation as a result of the proposed clearing is low (CSLC 2016).

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

Methodology References:
CSLC (2016)

Planning instruments and other relevant matters.

Comments The proposed clearing is for the purpose of pasture and grazing. The applicant has advised that areas containing gravel or yellow sand will be cleared by tractor and turned to pasture and the remaining areas containing white sands will be grazed by cattle. The applicant has advised that large trees will be retained as shade for cattle and that the entire application area will be fenced.

The Commissioner of Soil and Land Conservation (CSLC) advised that wind erosion is the most significant land degradation risk for the intended future land use and that if full ground cover is not maintained over the cleared area, significant land degradation is expected (CSLC 2016). The CSLC considers that the maintenance of full pasture cover in all seasons may not be possible (CSLC 2016).

The application was advertised in The West Australian on 29 February 2016 for a period of 21 days. One public submission was received in response to the proposed clearing. The submission objected to the proposed clearing on the basis that the application area is mapped as the Heddlu vegetation complex Mogumber complex – North, is close to priority and threatened ecological communities and reserves and wetlands, is foraging habitat for Carnaby's cockatoos, drains through wetlands to the Brockman River and occurs within a corridor which Parks and Wildlife aim to maintain as remnant vegetation. They also advise that the soil types present are not good for the proposed land use and may result in salinity (Submission 2016a). These concerns are acknowledged, and have been addressed within the relevant clearing principles.

The application area was amended during assessment by moving the application area approximately 130 metres westward. The application was readvertised in The West Australian on 16 May 2016. One public submission was received in response to the amended area. The submission objected to the proposed clearing on the basis that the application area appears to occur within a swale area, there are threatened and priority flora species within the local area, the Mogumber bush cricket has been recorded within the local area, the vegetation is adjacent to land that is of interest to Parks and Wildlife and the vegetation is part of a north south corridor (Submission 2016b). These concerns are acknowledged, and have been addressed within the relevant clearing principles.

The application area is zoned 'general rural' under the Shire of Gingin Local Planning Scheme No. 9. The Shire of Gingin classifies the land use of pasture and grazing as animal husbandry – intensive, which requires planning approval (Shire of Gingin 2016).

There are no Aboriginal Sites of Significance mapped within the application area.

On 7 June 2016, the Delegated Officer wrote to the applicant, outlining the environmental issues identified in the preliminary assessment, and inviting a response within 30 days. To date, no formal response has been received from the applicant responding to the environmental issues identified in the preliminary assessment.

Methodology References:
Shire of Gingin (2016)
Submission (2016a)
Submission (2016b)

GIS Databases:
- Town planning scheme zones
- Aboriginal sites of significance

4. References

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- Saunders, D. (1990) Problems of survival in an extensively cultivated landscape: the case of Carnaby's cockatoo *Calyptorhynchus funereus latirostris*. Biological Conservation. 54: 277-290.
- Saunders, D. and Ingram, J. (1998) Twenty-eight years of monitoring a breeding population of Carnaby's cockatoo. Pacific Conservation Biology. 4: 261-270.
- Shah, B. (2006) Conservation of Carnaby's Black-Cockatoo on the Swan Coastal Plain, Western Australia. December 2006. Carnaby's Black-Cockatoo Recovery Project. Birds Australia, Western Australia.
- Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.
- Shire of Gingin (2016) Advice provided in relation to clearing permit application CPS 6954/1. Advice received 15 April 2016. Shire of Gingin, Gingin. (DER REF: A1085377).
- Submission (2016a) Public submission received in relation to clearing permit application CPS 6954/1. Submission received 3 April 2016. (DER REF: A1075328).
- Submission (2016b) Public submission received in relation to clearing permit application CPS 6954/1. Submission received 17 May 2016. (DER REF: A1099199).
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