



1. Application details

1.1. Permit application details

Permit application No.: 7107/1
Permit type: Area Permit

1.2. Applicant details

Applicant's name: Glavocich Pty Ltd

1.3. Property details

Property: Lot 31 on Plan 13707
Local Government Authority: Shire of Gingin
DER Region: Greater Swan
DPaW District: Swan Coastal
Localities: Cowalla

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
12.35		Mechanical Removal	Horticulture

1.5. Decision on application

Decision on Permit Application: Refused
Decision Date: 6 October 2017

Reasons for Decision:

The application for a clearing permit was received on 7 June 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 (b), may be at variance to principles (a), (d) and (f) and is not likely to be at variance to the remaining clearing principles.

The Delegated Officer determined that the proposed clearing will impact on significant foraging habitat for Carnaby's cockatoo (*Calyptorhynchus latirostris*), and the application area may be an occurrence of the *Banksia* Woodlands of the Swan Coastal Plain federally listed threatened ecological community.

On 15 September 2016, DWER advised the applicant that the proposed clearing would impact on significant foraging habitat for Carnaby's cockatoo, a conservation category dampland and potentially impact on a Priority 1 flora species. In response, the applicant commissioned a targeted flora survey and amended the application area (from 13.53 hectares to 12.35 hectares) to exclude the dampland and provide a 50 metre vegetative buffer to its mapped occurrence. With regards to Carnaby's cockatoo foraging habitat, on 15 November 2016, the applicant proposed to secure the remaining vegetation within Lot 31, which comprises approximately 9.1 hectares, in conservation estate.

On 3 March 2017, DWER advised that the revised application area was unlikely to impact on conservation significant flora or the mapped dampland and that the proposed offset for Carnaby's cockatoo was not adequate. DWER's response included examples of potentially suitable offsets, and the applicant was provided with the opportunity to provide a suitable offset.

On 17 August 2017, DWER met with the applicant to discuss the offset requirements in detail. The applicant indicated that a further reduction in the proposed clearing area to minimise the offset requirements was not financially viable, nor was providing an offset to adequately address the significant residual impacts.

On 4 September 2017, the applicant provided additional information advising of the applicant's willingness to act as caretaker for remnant vegetation within unallocated Crown land directly north of Lot 31. As outlined within the WA Environmental Offset Guidelines, the objective of on-ground management actions is tangible improvement to environmental values in an offset area and in this instance, is not sufficient to provide a direct contributing offset to Carnaby's cockatoo foraging habitat.

In making the decision to refuse the application, the Delegated Officer had regard to the applicants submissions dated 15 November 2016 and 4 September 2017 but concluded that the offset proposal was not adequate to address the significant residual impacts of the proposed clearing. The Delegated Officer also noted that the outstanding planning approval from the Shire of Gingin is a relevant matter but was not the deciding factor in the decision to refuse to grant a clearing permit.

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description

The application area has been mapped as Heddl vegetation Bassendean complex north, which is comprised of low open forest and low open woodland of *Banksia* species, *Eucalyptus tottiana* (pricklybark) to low woodland of *Melaleuca* species and sedgelands which occupy the moister sites (Heddl et al., 1980).

A site inspection of the application area undertaken by officers of the former Department of Environment Regulation (DER)(now the Department of Water and Environmental Regulation (DWER)) identified that vegetation largely consists of *Banksia* woodland with scattered *Melaleuca* sp., *Eucalyptus gomphocephala*, *Eucalyptus rudis*, *Corymbia calophylla* and *Banksia prionotes* over a midstorey of *Stirlingia latifolia*, *Calytrix fraseri*, *Xanthorrhoea preissii*, *Jacksonia* sp., *Daviesia* sp. and *Hibbertia hypericoides*. Parts of the application area contain a diverse herbaceous understorey (DER, 2016).

Calytrix fraseri is dominant throughout the midstorey in the southern portion of the application area, south of an existing cleared path which dissects the application area (DER, 2016).

Clearing Description

The applicant proposes to clear 12.35 hectares of native vegetation within Lot 31 on Plan 13707, Cowalla, for the purpose of horticulture.

The applicant initially applied to clear 13.53 hectares of native vegetation and has amended the application area to 12.35 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 and description of the application area was determined via a site inspection undertaken by officers of the former DER (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 may be at variance to this Principle

The applicant proposes to clear 12.35 hectares of native vegetation within Lot 31 on Plan 13707, Cowalla, for the purpose of horticulture. The applicant initially applied to clear 13.53 hectares of native vegetation and has amended the application area to 12.35 hectares.

A site inspection identified that the vegetation within the application area ranges from excellent to degraded (Keighery, 1994) condition, with the majority (approximately 10 hectares) in a very good to good (Keighery, 1994) condition (DER, 2016; Bamford, 2016). Weed species were largely confined to areas of disturbance associated with cleared tracks and to the eastern boundary of the application area adjacent to existing horticultural land (DER, 2016).

The application area is dominated by *Banksia* woodland with scattered *Eucalyptus gomphocephala*, *Eucalyptus rudis*, *Melaleuca* sp., *Corymbia calophylla* and *Banksia prionotes* over a midstorey of *Stirlingia latifolia*, *Calytrix fraseri*, *Xanthorrhoea preissii*, *Jacksonia* sp., *Daviesia* sp. and *Hibbertia hypericoides* (DER, 2016). The understorey is diverse in areas and comprises a suite of native sedges and grasses. *Calytrix fraseri* is the dominant midstorey species south of the existing cleared path, which dissects the centre of the application area (DER, 2016).

The local area considered in the assessment of this application is defined as a 10 kilometre radius surrounding the application area.

According to available datasets, there are seven priority flora species mapped within the local area (10 kilometre radius surrounding the application area). Of these, *Allocasuarina grevilleoides* (Priority 3), *Banksia dallanneyi* subsp. *pollostata* (Priority 3), *Leucopogon* sp. Yanchep (M. Hislop 1986) (Priority 3), *Calothamnus pachystachyus* (Priority 4) and *Verticordia paludosa* (Priority 4) are all known from more than 20 records. None of these species are considered to have a restricted distribution and the proposed clearing is not likely to impact on the conservation status of these species.

A preliminary assessment identified that the area mapped as a conservation category dampland, within the north west corner of the initial application area, provides suitable habitat for and may contain Priority 1 flora species *Grevillea evanescens* (with the closest record 9.8 kilometres south east). The preliminary assessment identified that the proposed clearing may impact on the conservation status of this species, if present. The applicant was notified of this potential in DER's letter of 15 September 2016.

In response, the applicant commissioned a targeted flora survey within the application area on 24 October 2016. The targeted flora survey did not identify this species (Waters, 2016) and the proposed clearing is not likely to impact on this species.

The targeted flora survey identified *Dodonaea hackettiana* (Priority 4) within the mapped dampland in the north west portion of Lot 31 (Waters, 2016). The applicant has amended the application area to exclude the vegetation where this species was identified and there is now a 50 metre vegetative buffer provided to this population and the mapped dampland. Noting the provision of a 50 metre buffer, the proposed clearing is not likely to impact on the conservation status of this species or significantly impact on the dampland.

According to available datasets, and as discussed under Principle (c), there are no rare flora records within the local area.

The application area is mapped as the *Banksia* Dominated Woodlands of the Swan Coastal Plain IBRA Region Priority Ecological Community (PEC) (Priority 3). The main feature of this PEC is the presence of *Banksia attenuata* and/or *B. menziesii*, which commonly co-occur, on deep sandy soils. The vegetation within the application area is consistent with the description of this PEC.

As discussed under Principle (d), the application area is within an area defined as 'likely to occur' for the *Banksia* Woodlands of the Swan Coastal Plain threatened ecological community (TEC), which is federally listed as Endangered under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) (Threatened Species Scientific Committee, 2016). The application area contains vegetation that is consistent with the description of this ecological community (DER, 2016; Bamford, 2016; Threatened Species Scientific Committee, 2016) and therefore may be an occurrence of this community.

As discussed under Principle (b), the application area is dominated by *Banksia* woodland, which is the preferred foraging habitat for Carnaby's cockatoo (*Calyptorhynchus latirostris*). A Carnaby's cockatoo habitat assessment (the Assessment) identified evidence of foraging within the application area and described it as having moderate foraging value (Bamford, 2016). The application area is considered to provide significant foraging habitat for this species.

Noting the presence of significant foraging habitat for Carnaby's cockatoo and presence of vegetation mapped as a PEC that may also be representative of a TEC, the application area may contain a high level of biological diversity.

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

Methodology References:
Bamford (2016)
DER (2016)
Keighery (1994)
Threatened Species Scientific Committee (2016)
Waters (2016)

GIS Databases:
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 is at variance to this Principle

There are records of eight conservation significant fauna species within the local area, these being Carnaby's cockatoo, greater bilby (*Macrotis lagotis*), Carter's freshwater mussel (*Westralunio carteri*), great egret (*Ardea modesta*), rainbow bee-eater (*Merops ornatus*), common greenshank (*Tringa nebularia*), woolybush bee (*Hylaeus globuliferus*) and blue-billed duck (*Oxyura australis*) (Department of Parks and Wildlife (Parks and Wildlife), 2007-).

The greater bilby (Specially Protected under the *Wildlife Conservation Act 1950* (WC Act)) is known within the local area from a single record collected in 1920, and the application area is outside of the present known distribution of this species. On this basis it is considered that this species is unlikely to have persisted within the landscape and the proposed clearing is unlikely to impact on this species.

The blue-billed duck occupies permanent deep water-bodies in southern Australia. Given that the application area does not contain any permanent water bodies (DER, 2016), the application area is unlikely to contain suitable habitat for this species. Similarly, the application area does not provide suitable habitat for the aquatic Carter's freshwater mussel.

The great egret, Rainbow bee-eater and common greenshank are migratory avian species with large home ranges and it is unlikely that the application area provides significant habitat for these species.

Carnaby's cockatoo is listed as Specially Protected (Endangered) under the WC Act and has been given the status of Endangered under the EPBC Act. This species forages on the seeds, nuts and flowers of a large variety of plants including Proteaceous species (*Banksia*, *Hakea* and *Grevillea*), as well as *Allocasuarina* and *Eucalyptus* species, *Corymbia calophylla* and a range of introduced species (Valentine and Stock, 2008).

The records of foraging activity for Carnaby's cockatoo on the Swan Coastal Plain reveal that *Banksia* species account for nearly 50 per cent of the diet for this species. *Banksia* species are therefore considered an essential native food source for Carnaby's cockatoo (Shah, 2006).

The Assessment was undertaken within the application area on 8 November 2016, which involved walking through the application area looking for Carnaby's cockatoo foraging evidence, and assessing the foraging value of the vegetation (Bamford, 2016). The Assessment identified that the vegetation under application is mostly comprised of *Banksia* woodland dominated by *Banksia attenuata* (about 60 per cent of stems) and *Banksia menziesii* (about 30 per cent of stems), with small numbers of *Banksia ilicifolia*, *Melaleuca preissiana* and *Eucalyptus rudis* (Bamford, 2016). Noting that the application area is dominated by *Banksia* woodland, it is considered to provide suitable foraging habitat for Carnaby's cockatoo.

The Assessment identified evidence of foraging throughout the site with evidence of seed and beetle larvae extraction from *Banksia* cones (Bamford, 2016). There was a lack of very recent foraging evidence identified, which indicates that the application area is occasionally visited by a smaller flock of Carnaby's cockatoo (Bamford, 2016). The assessment identified that the vegetation provides good quality foraging habitat, however, given that it doesn't appear to be heavily used by Carnaby's cockatoo, and the extent of surrounding habitat, the application area was described as having moderate foraging (foraging) value, with a rating of six out of ten (Bamford, 2016). This rating was based on the vegetation composition, condition and structure, site context and species density.

The recovery plan for Carnaby's cockatoo defines breeding habitat as including nesting sites, and the foraging habitat and water sources within foraging distance of nesting sites (Parks and Wildlife, 2013). These areas are considered to be habitat critical to the survival for Carnaby's cockatoo (Parks and Wildlife, 2013). The loss or degradation of foraging habitat within 12 kilometres of nesting sites is considered to pose the greatest risk to Carnaby's cockatoo (Saunders and Ingram, 1998; Parks and Wildlife, 2013). The application area is approximately six kilometres from a known nesting site, and is therefore considered to represent significant foraging habitat for Carnaby's cockatoo.

The recovery plan further notes that habitat critical to the survival of Carnaby's cockatoo reflects the distinct, but equally important, behavioural components during the breeding and non-breeding seasons (Parks and Wildlife, 2013). The long-term survival of a robust population of Carnaby's cockatoos depends on the availability of suitable woodland breeding habitat and tree hollows, and foraging habitat capable of providing enough food to sustain the population (Parks and Wildlife, 2013).

The extent of nearby suitable foraging habitat for Carnaby's cockatoo within both the Gngangara-Moore River State Forest (five kilometres west) and Moore River National Park (six kilometres east) is acknowledged. However, noting that the application area provides good quality foraging habitat on the Swan Coastal Plain, and evidence of foraging was identified within the application area (Bamford, 2016), it is considered to provide significant foraging habitat for Carnaby's cockatoo.

To be suitable as a Carnaby's cockatoo breeding site trees require a suitable nest hollow or be of a suitable diameter at breast height (DBH) to develop a nest hollow. For most tree species, a suitable DBH is 500 millimetres (Commonwealth of Australia, 2012). A site inspection of the application area and Carnaby's cockatoo habitat assessment did not identify any large trees with suitable breeding hollows for Carnaby's cockatoo (DER, 2016; Bamford, 2016).

The closest mapped ecological linkage is approximately 13 kilometres south of the application area and the proposed clearing is not likely to impact on the values of this linkage.

Noting that the application area provides significant foraging habitat for Carnaby's cockatoo, the proposed clearing is at variance to this Principle.

Methodology

References:

Bamford (2016)
Commonwealth of Australia (2012)
DER (2016)
Keighery (1994)
Parks and Wildlife (2007-)
Parks and Wildlife (2013)
Saunders and Ingram (1998)
Shah (2006)
Valentine and Stock (2008)

GIS Databases:

Parks and Wildlife Tenure
Carnaby's Cockatoo Breeding Areas - Confirmed

(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 rare flora records within the local area.

The closest rare flora record is located approximately 13.9 kilometres south west of the application area. This species is a mallee that grows from 1.5 to four metres high, within shallow soils over limestone on the slopes or gullies of limestone ridges and outcrops (Western Australian Herbarium, 1998-).

Topographical mapping indicates that the application area is relatively flat, and a site inspection of the application area did not identify any limestone ridges or outcrops (DER, 2016).

Therefore, it is considered that the application area is unlikely to provide suitable habitat for the abovementioned species and the proposed clearing is not likely to be at variance to this Principle.

Methodology References:
DER (2016)
Western Australian Herbarium (1998-)

GIS Databases:
SAC Bio Datasets (Accessed September 2017)
Topographical Contours, Statewide

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

Comments **Proposed clearing may be at variance to this Principle**

On 16 September 2016, the Commonwealth Department of the Environment and Energy (DotEE) listed the *Banksia* Woodlands of the Swan Coastal Plain ecological community as endangered under the EPBC Act. This community is largely restricted to the Perth and Dandaragan subregions of the Swan Coastal Plain Interim Biogeographic Regionalisation of Australia (IBRA) bioregion, which stretches from around Jurien Bay in the north to Dunsborough in the south (Threatened Species Scientific Committee, 2016). The ecological community also extends into adjacent areas on the Whicher and Darling escarpments to the south and east, where pockets of *Banksia* Woodland may also occur (Threatened Species Scientific Committee, 2016). The application area is mapped by DotEE as a 'likely to occur' area for the ecological community.

DotEE's mapping provides an indicative distribution of the ecological community, defining areas mapped as 'likely to occur' and 'may occur'. The approved conservation advice for this community states that "Ground-truthing (e.g. an on-ground survey) is required to verify if a particular site meets the required key diagnostic characteristics and minimum condition thresholds to be the described ecological community" (Threatened Species Scientific Committee, 2016).

The canopy of the ecological community is most commonly dominated or co-dominated by *Banksia attenuata* and/or *Banksia menziesii*. Other *Banksia* species that may dominate include *Banksia prionotes* or *Banksia ilicifolia* (Threatened Species Scientific Committee, 2016). If present, the emergent tree layer often includes *Corymbia calophylla*, *Eucalyptus marginata*, or *Eucalyptus gomphocephala*. Other trees that may be present include *Eucalyptus todtiana*, *Nuytsia floribunda*, *Allocasuarina fraseriana*, *Callitris arenaria*, *Callitris pyramidalis* and *Xylomelum occidentale* (Threatened Species Scientific Committee, 2016). The understorey of the community typically contains a high to very high diversity of shrub and herb species that often vary from patch to patch (Threatened Species Scientific Committee, 2016).

The application area contains *Banksia* woodland dominated by *Banksia attenuata* (approximately 60 per cent of stems) and *Banksia menziesii* (approximately 30 per cent of stems) with scattered *Eucalyptus gomphocephala*, *Eucalyptus rudis*, *Melaleuca* sp., *Corymbia calophylla* and *Banksia prionotes* (Bamford, 2016; DER, 2016). The understorey is diverse in areas and comprises a suite of native species (DER, 2016). The application area is therefore largely consistent with the description of the ecological community.

The approved conservation advice for this community has specified vegetation condition and size thresholds to provide guidance on whether a remnant retains sufficient conservation values to be considered a 'Matter of National Environmental Significance', as defined under the EPBC Act. For vegetation in excellent (Keighery, 1994) condition the minimum patch (remnant vegetation) size is 0.5 hectares, for vegetation in a very good condition the minimum patch size is one hectare and for vegetation in a good condition the minimum patch size is two hectares (Threatened Species Scientific Committee, 2016).

The majority of the application area (approximately 10 hectares) is in a good to very good (Keighery, 1994) condition (DER, 2016), therefore should the application area be an occurrence of the *Banksia* Woodlands of the Swan Coastal Plain TEC, it would meet the minimum size and condition thresholds specified for this community.

Given the above, the proposed clearing may be at variance to this Principle. A level two flora survey would be required to determine whether the application is representative of the TEC, and the extent of occurrence if present.

Methodology References:
 Bamford (2016)
 DER (2016)
 Keighery (1994)
 Threatened Species Scientific Committee (2016)

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 likely to be at variance to this Principle**
 The local area retains approximately 56.87 per cent native vegetation (23,155.9 hectares). The application area represents approximately 0.053 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 approximately 56.84 per cent (23,143.55 hectares).

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 Swan Coastal Plain IBRA bioregion and the Shire of Gingin retain approximately 38 and 55 per cent of their pre-European vegetation extents respectively (Government of Western Australia, 2016). The application area is mapped as Hedde vegetation Bassendean complex north, which retains approximately 71 per cent of its pre-European vegetation extent within the Swan Coastal Plain (Government of Western Australia, 2016; Parks and Wildlife, 2017). These remnant vegetation extents are all greater than the above mentioned 30 per cent threshold.

The application area contains significant foraging habitat for Carnaby's cockatoo (DER, 2016) and may be representative of a TEC, therefore the application area is considered a significant remnant. However, given the outlined vegetation extents, the application area is not considered to be in an extensively cleared area.

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

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in Parks and Wildlife Managed Lands (%)
IBRA Bioregion*				
Swan Coastal Plain	1,501,222	578,432	38.5	38
Shire*				
Gingin, Shire of	319,676	176,623	55	47
Hedde vegetation complex **				
Bassendean complex-north	79,057	56,555	71	39

Methodology References:
 Commonwealth of Australia (2001)
 DER (2016)
 Government of Western Australia (2016)*
 Department of Parks and Wildlife (2017)**

GIS Databases:
 NLWRA, Current Extent of Native Vegetation

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

Comments **Proposed clearing may be at variance to this Principle**
 Approximately 0.55 ha of the north west corner of Lot 31 is mapped as a conservation category dampland (seasonally waterlogged basin) (wetland UFI 15083). The wetland system comprises approximately 29.48 hectares in total, with the majority located outside of Lot 31 and extending north of the application area.

Conservation category wetlands are the highest priority wetlands for protection and conservation as they support a high level of ecological functions and attributes (Water and Rivers Commission, 2001).

Vegetated buffers are key strategic elements among a series of protection barrier options that reduce the risk of sediment impact on water quality (Western Australian Planning Commission, 2005). It is recommended that a buffer of at least 50 metres be maintained around conservation category wetlands to minimise the edge effects associated with habitat modification (Western Australian Planning Commission, 2005).

The application area originally included a small portion of the mapped dampland, however the applicant has amended the application area to exclude the mapped dampland and provide a 50 metre vegetative buffer to its mapped occurrence.

The amended application area contains some species commonly associated with wetland environments, including *Eucalyptus rudis* and *Melaleuca* sp. (DER, 2016) and despite the 50 metre buffer, it is possible that these species are growing in association with the mapped wetland. However, given the scattered occurrence of these trees, and maintenance of an adequate vegetative buffer, the proposed clearing is not likely to significantly impact on the dampland or large areas of riparian vegetation.

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

Methodology References:
DER (2016)
Water and Rivers Commission (2001)
Western Australian Planning Commission (2005)

GIS Databases:
Geomorphic Wetlands, Swan Coastal Plain

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

Comments **Proposed clearing is not likely to be at variance to this Principle**
The Commissioner of Soil and Land Conservation (CSLC) advised that the soils and landscape system of the application area have been mapped by the former Department of Agriculture and Food Western Australia (DAFWA) (now the Department of Primary Industries and Regional Development) as Bassendean phase 5 map unit 212Bs_7+9, which is described as bleached sands and humic grey swampy soils that support *Banksia* species, and which have a moderate capability for the intended land use (CSLC, 2016).

A former DAFWA land degradation assessment report identified that the risk of eutrophication, wind erosion, water erosion, flooding and waterlogging causing land degradation is low (CSLC, 2016). Noting this advice, it is considered unlikely that the proposed clearing will result in appreciable land degradation.

Given the above, the proposed clearing is not likely to 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 is not likely to be at variance to this Principle**
The closest conservation area to the application area is Nabaru Nature Reserve, which is located approximately 4.3 kilometres north. Gnangara-Moore River State Forest is located approximately five kilometres west of the application area and Moore River National Park is located approximately six kilometres east of the application area.

Noting the distance to the nearby conservation areas and extent of native vegetation remaining between the application area and these conservation areas, it is considered that the proposed clearing is 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 discussed under Principle (f), the applicant has amended the application area to exclude the mapped dampland and provide a 50 metre vegetative buffer to its occurrence. This will assist in minimising the potential for sedimentation, and it is considered unlikely for the proposed clearing to result in the deterioration of surface water within the dampland.

Groundwater salinity mapped within the application area ranges from 500 to 1000 milligrams per litre (measured as total dissolved solids). A land degradation assessment of the application area undertaken by the former DAFWA identified that the proposed clearing is not likely to result in any changes to salinity levels (CSLC, 2016), therefore the proposed clearing is not likely to result in the expression of salinity downgradient.

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

Methodology References:
CSLC (2016)

GIS Databases:
Geomorphic Wetlands, Swan Coastal Plain
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 is not likely to be at variance to this Principle

Topographical mapping indicates that the application area is relatively flat, and the sandy soils identified over the majority of the application area are considered to be highly permeable and not prone to flooding (DER, 2016).

A land degradation assessment undertaken by the former DAFWA identified that the risk of flooding and waterlogging 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)
DER (2016)

GIS Databases:
Topographical Contours, Statewide

Planning instruments and other relevant matters.

Comments The applicant holds a licence to take water on the property which is deemed to be sufficient to irrigate the proposed horticultural expansion. It is the licensee's responsibility to comply with the conditions of their licence.

The application area is zoned rural under the Shire of Gingin's town planning scheme.

The Shire of Gingin advised that "Irrigated Horticulture is defined as a 'Agriculture Intensive' land use under the Shire of Gingin's Local Planning Scheme No.9 (LPS9), which is a Discretionary land use. This means the use is not permitted unless the local government has exercised its discretion by granting of development approval" (Shire of Gingin, 2016). The Shire of Gingin advised that "planning approval has not been granted for the purpose of irrigated horticulture for the area the applicant wishes to clear" (Shire of Gingin, 2016).

The application was advertised in *The West Australian* newspaper on 11 July 2016 for a 21 day submission period, and one submission was received. The submission advised that the removal of healthy native vegetation from the Gingin area should be avoided given that it provides good habitat and helps to prevent wind erosion, particularly during summer months (Submission, 2016).

The submission noted that a part of a conservation category dampland arises in the north west corner of the application area and recommends that a buffer is maintained to this dampland (Submission, 2016).

The applicant has amended the application area to exclude the mapped dampland and provide a 50 metre vegetative buffer to the dampland occurrence. The other concerns raised in the submission are noted and have been addressed under Principles (a), (b) and (g).

With regard to the initial application area of 13.53 hectares, Parks and Wildlife advised that, dependent on surface and groundwater flow direction, the proposed end land use (horticulture) may result in water quality impacts to the dampland area mapped within and extending north of the north west corner of the application area, and recommended that a buffer of 50 metres be maintained around the mapped dampland (Parks and Wildlife, 2016). The applicant has amended the application area to provide a 50 metre vegetative buffer to the mapped dampland.

No Aboriginal Sites of Significance have been mapped within the application area.

Methodology References:
Parks and Wildlife (2016)
Shire of Gingin (2016)
Submission (2016)

GIS Databases:
Town Planning Schemes
Aboriginal Sites of Significance

4. References

- Bamford (2016) Assessment of Value for Carnaby's Black-Cockatoo. Lot 31 on Plan 13707 Cowalla Road, Shire of Gingin. Additional Information for Clearing Permit Application CPS 7107/1 (DER Ref A1353875).
Commissioner of Soil and Land Conservation (CSLC) (2016) Land Degradation Assessment Report for Clearing Permit Application CPS 7107/1. Commissioner of Soil and Land Conservation, Western Australia (DER Ref A1154563).
Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
Commonwealth of Australia (2012) EPBC Act referral guidelines for three threatened black cockatoo species, Canberra.
Department of Environment Regulation (DER) (2016) Site Inspection Report for Clearing Permit Application CPS 7107/1. Site

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