Government of Western Australia
Department of Water and Environmental Regulation

# Clearing Permit Decision Report

## 1 Application details and outcome

### 1.1. Permit application details

| | |
|---|---|
| **Permit number:** | CPS 9130/1 |
| **Permit type:** | Area permit |
| **Applicant name:** | Hoa Dinh Nguyen and Kim Tu Nguyen |
| **Application received:** | 2 December 2020 |
| **Application area:** | 3.65 hectares of native vegetation |
| **Purpose of clearing:** | Horticultural practices |
| **Method of clearing:** | Mechanical |
| **Property:** | Lot 8 on Deposited Plan 408204 |
| **Location (LGA area/s):** | Shire of Carnarvon |
| **Localities (suburb/s):** | South Plantations |

### 1.2. Description of clearing activities

The vegetation proposed to be cleared is a triangular parcel of land that is surrounded by agriculture to the east and west. The proposed clearing is to enable conversion of the application area to arable land.

### 1.3. Decision on application

| | |
|---|---|
| **Decision:** | Granted |
| **Decision date:** | 9 November 2021 |
| **Decision area:** | 3.65 hectares of native vegetation as depicted in Section 1.5, below. |

### 1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Water and Environmental Regulation (DWER) advertised the application for 21 days and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix A), relevant datasets (see Appendix E.1), the photographs provided by the applicant (see Appendix D), the clearing principles set out in Schedule 5 of the EP Act, relevant planning instruments and any other matters considered relevant to the assessment (see Section 3).

The assessment identified that the proposed clearing will result in the following:

- the clearing is not likely to have a significant impact on populations of conservation significant fauna or flora within the local area (50 kilometre radius)
- may impact fauna utilising the application area at the time of clearing
- may increases the risk of weeds spreading into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values.

After consideration of the available information, as well as the applicant's avoidance, minimisation and mitigation measures (Section 3.1), the Delegated Officer considered that with appropriate management conditions, the proposed clearing is not likely to lead to an unacceptable risk to the environment. The Delegated Officer decided to grant a clearing permit subject to conditions to:

- avoid, minimise and reduce the impacts and extent of clearing.
- implement suitable weed management practices that are appropriate to mitigate the impact of spreading weeds into adjacent vegetation (see Section 3.2.1).
- undertake slow, progressive, one directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity.

## 1.5. Site map

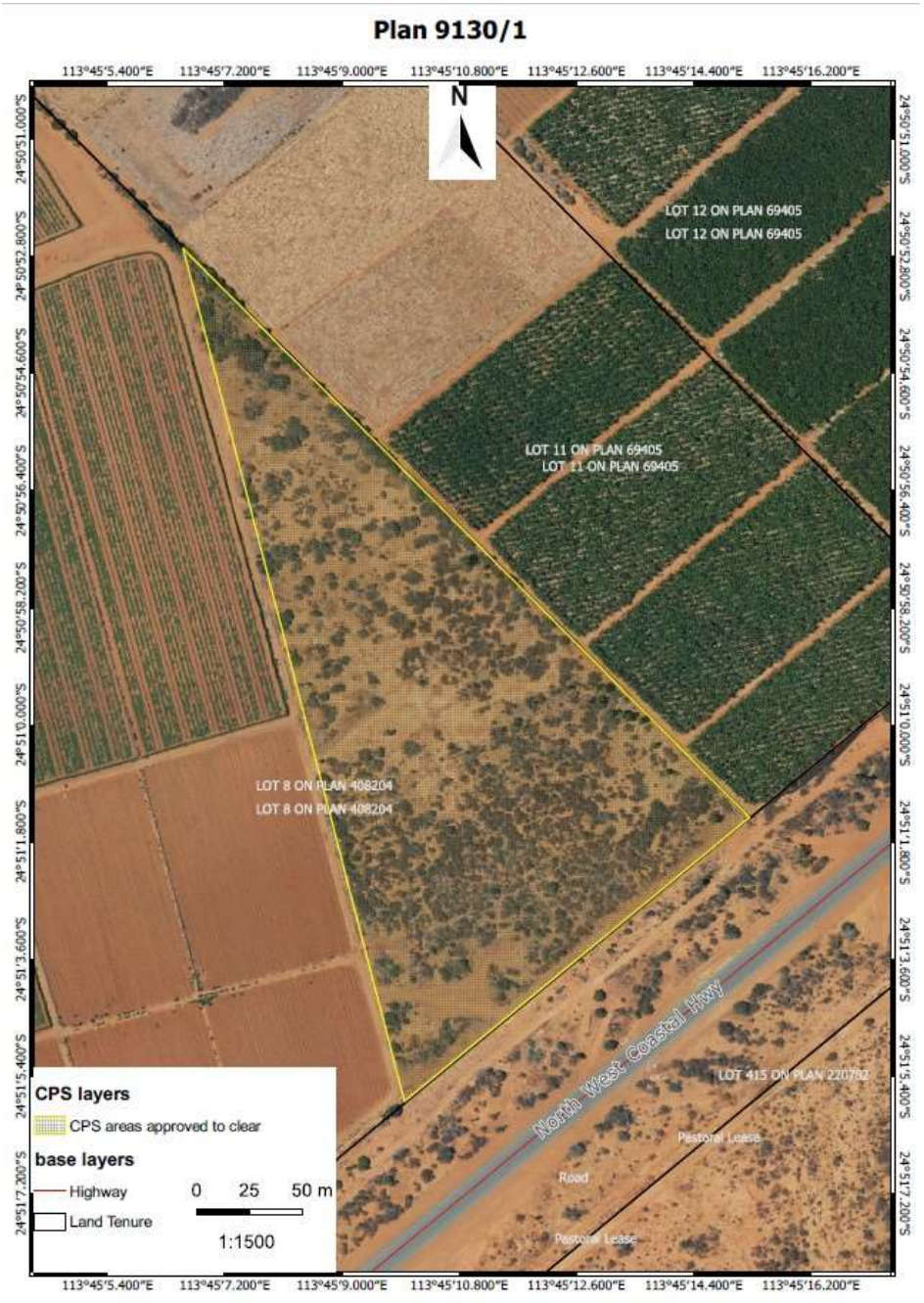


Figure 1 Map of the application area. The area crosshatched yellow indicates the area authorised to be cleared under the granted clearing permit.

## 2 Legislative context

The clearing of native vegetation in Western Australia is regulated under the EP Act and the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (Clearing Regulations).

In addition to the matters considered in accordance with section 51O of the EP Act (see Section 1.4), the Delegated Officer has also had regard to the objects and principles under section 4A of the EP Act, particularly:

- the precautionary principle
- the principle of intergenerational equity
- the principle of the conservation of biological diversity and ecological integrity.

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Soil and Land Conservation Act 1945* (WA)

Relevant policies considered during the assessment include:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)

## 3 Detailed assessment of application

### 3.1. Avoidance and mitigation measures

The applicant was unable to provide evidence of efforts to avoid and minimise potential impacts of the proposed clearing on environmental values. The Delegated Officer considered that noting the historical disturbance of the site and the surrounding land uses that this information was not required in this instance.

### 3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix A) and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values.
The assessment against the clearing principles (see Appendix B) identified that the impacts of the proposed clearing may present a risk to conservation significant fauna. The consideration of these impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

#### *3.2.1. Biological values (fauna) - Clearing Principle (b)*

Assessment

**Coastal and wetland Birds**

A large proportion (50) of the conservation significant fauna species recorded in the local area are migratory wetland and shore birds or recorded onshore sightings of pelagic sea birds (see Appendix A.1: Fauna). The McNeill Claypan, Shark Bay East wetlands and Lake MacLeod are known to support a range of migratory water birds during long periods of inundation following heavy rains, or as a result of Gascoyne River flood events. Although the application area is mapped as Gascoyne Marshes 308, photographs provided by the applicant indicate vegetation is open scrub, composed of open mixed *Acacia* low shrubland, with a ground layer dominated by **Cenchrus ciliaris* (buffel grass). This vegetation does not indicate wetland or riparian vegetation, therefore the application area is unlikely to provide significant habitat for the above conservation significant bird species.

**Dryland Birds**

An additional six conservation significant birds were recorded in the local area, however two of these species are now locally extinct. *Amytornis textilis textilis* (Western grasswren) was once distributed across southern western Australia and is now confined to the Shark Bay region (Government of Australia 2006). Since 1910 this species has retracted in its range considerably (over 90 per cent), most likely due to over grazing (Government of Australia 2006).

There are three records for *Leipoa ocellata* (malleefowl) in the local area. These sightings are undated and have been on record since before 1984 (Benshemesh 2007). Over the past century Malleefowl has contracted its range particularly in arid areas, and since 1981 Malleefowl has further contracted its range by 28 percent in Western Australia (Benshemesh 2007). Given that Malleefowl has not been recorded in the local area for approximately 40 years, it is unlikely this species will be impacted by the proposed clearing.

*Hirundo rustica* (Barn swallow)*, Apus pacificus* (Fork-tailed swift) are migratory species that feed on flying insects, and may utilise the application area to feedg on insects rising from the vegetation. Two birds of prey, *Falco peregrinus* (Peregrine falcon) and *Falco hypoleucos* (Grey falcon) were also recorded. These species may also utilise the application aera for foraging prey such as small birds or mammals. However, given the southern boundary of the application area is adjoined by a large expanse of relatively undisturbed native vegetation, the proposed clearing is unlikely to significantly impact the available foraging habitat for the above species.

**Other conservation significant Fauna**

*Lagostrophus fasciatus fasciatus* (banded hare-wallaby, mernine), has been recorded 9.3 kilometres from the proposed clearing. This record is from a location now adjacent to the Carnarvon airstrip and is dated 1910. Since this record, Banded hare-wallaby or mernine has become locally extinct and is now only found on islands off Western Australia (DEC 2012a).

*Egernia stokesii badia* (Western spiny-tailed skink) is associated with arid low heath with areas of *Spinifex longifolius* and is known to shelter in fallen logs and under loose sheets and boulders of limestone and in crevices formed by solution erosion of caprock (DEC 2012b). It is noted that the application area may comprise some elements of the known habitat for this species, however Western spiny-tailed skink was recorded from a cluster of three records occurring approximately 35 kilometres southwest from the application area. This species has also retracted in its range (DEC 2012b) and records in the local area represent the most northerly extreme of the species distribution (DEC 2012b), therefore it is unlikely occur within the application area.

*Idiosoma incomptum* (Carnarvon shield-backed trapdoor spider) is known from four records, in generally undisturbed vegetation. According to the known distribution of this species the records occurring within the local area represent the western edge of the population range for this species (Rix *et al.* 2019). The above records occur within flood plains with associated sandy soils and alluvial plains. Soils mapped within the application area are composed of Reddish-brown earthy loams. The ground layer vegetation proposed to be cleared is dominated by buffel grass, this species is an aggressive introduced grass, that tends to cover the ground with dense tussocks, unsuitable for Carnarvon shield-backed trapdoor spider. Given the poor to very poor (Trudgen, 1991) nature of the application area it is unlikely that this species is present.

Conclusion

Although recorded in the local area, the ranges of Western grasswren, malleefowl and banded hare-wallaby have since retracted from the local area. Western spiny-tailed skink has also retracted in its range. Therefore the proposed clearing is unlikely to impact available habitat for these species. Due to unsuitable soil conditions and the dominance of buffel grass, the application area is unlikely to provide habitat for the Carnarvon shield-backed trapdoor spider. Barn swallow, Fork-tailed swift, Peregrine falcon and Grey falcon may utilise the application area for foraging and hunting prey, however given the extent of relatively undisturbed vegetation in adjacent areas, the proposed clearing is unlikely to significantly reduce available feeding habitat.

Based on the above assessment, it is unlikely the clearing will significantly impact conservation significant fauna. The potential direct impact to fauna present at the time of clearing may be managed by the implementation of a fauna management condition. Weed management will also assist in ensuring that the adjacent fauna habitat is not impacted by the proposed clearing.

Conditions

To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- Clearing shall be undertaken in a slow, progressive manner in one direction to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity.
- Implement weed management measures to mitigate impacts to adjacent vegetation.

## 3.3. Relevant planning instruments and other matters

A portion of the application area falls within the Carnarvon Irrigation Area, Carnarvon Irrigation District and the Gascoyne River and Tributaries surface water area. On 13 January 2021 advice was sought, from the Mid-West Gascoyne Region (DWER), on water quality impacts, in relation to current policy and guidelines, for the granting of licences to clear native vegetation in these areas, under the *Rights In Water and Irrigation Act 1914* (RIWI Act). Advice received on 04 February stated no amendment to the applicant's current licence is necessary for the purposes of the clearing permit (DWER 2021).

The application area falls within the native title of Yinggarda, Baiyungu and Thalanyji people. It is the permit holder's responsibility to comply with the *Aboriginal Heritage Act 1972* (WA) and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

The applicant advised that this particular area had not been cleared in the past as it was not included in the original irrigation layout. As it was not being used for horticultural production it became a site for refuse. The area has now been cleared of rubbish in anticipation of the future use (Applicant 2021).

**End**

# Appendix A. Site characteristics

## A.1. Site characteristics

The information provided below describes the key characteristics of the area proposed to be cleared and is based on the best information available to DWER at the time of this assessment. This information was used to inform the assessment of the clearing against the Clearing Principles, contained in Appendix B.

| Characteristic | Details |
|---|---|
| Local context | The area proposed to be cleared is a 3.65-hectare triangular of patch native vegetation surrounded by arable land on the east and west side. The southern boundary is adjoined to an expansive tract, of native vegetation comprised of mixed scrubland and clay pans.<br>Spatial data sets indicate the local area (50-kilometre radius from the centre of the area proposed to be cleared) retains approximately 98.5 per cent of the original native vegetation cover. |
| Ecological linkage | The application area is only connected to adjacent native vegetation at its southern boundary and therefore does not function as an ecological linkage. The majority of the vegetation within the local area is relatively undisturbed, with little to no fragmentation. |
| Conservation areas | One Tree Point Reserve and China man's Pool Nature Reserves occur at 10 and 7.4 kilometres respectively west of the application area. The proposed clearing will not impact these reserves. |
| Vegetation description | Photographs supplied by the applicant indicate the vegetation within the proposed clearing area consists of open mixed *Acacia* low shrubland, over a mosaic of *Atriplex* spp., *Mariana*. Spp. and introduced **Cenchrus ciliaris* (buffel grass).<br>This is partly consistent with the mapped vegetation type:<br>• Gascoyne Marshes 308, which is described as *Atriplex* spp. *Maireana* spp. communities on alkaline soils (Shepherd et al, 2001).<br>Representative photos of the vegetation proposed to be cleared are available in Appendix D. |
| Vegetation condition | Photographs supplied by the applicant indicate the vegetation within the proposed clearing area is in poor (Trudgen 1991) to very poor (Trudgen 1991) condition.<br>The full Trudgen (1991) condition rating scale is provided in Appendix C. |
| Climate | • Mean annual rainfall: 229.4 millimetres<br>• Temperature (mean annual minimum): 26.1 degrees centigrade<br>• Temperature (mean annual maximum): 29.4 degrees centigrade |
| Landform and Soil description | Landform: Flood plains and minor sandy banks, supporting low shrublands of bluebush and saltbush.<br>Three soil types occur within the application area, these are mapped as:<br>• Gascoyne association - 'medium textured' Phase. Described as: Reddish brown earthy loams, non-calcareous loams and less commonly gradational red earths.<br>• Coburn association - erosion moderate Phase. Described as: Backplains (flat with moderately to strongly saline soils and predominantly salt tolerant vegetation).<br>• Coburn association Phase. Described as Backplains (flat with moderately to strongly saline soils and predominantly salt tolerant vegetation). Predominantly red duplex soils which are subject to salinity. |
| Land degradation risk | On the 18 January 2021 the application area was surveyed by the office of the Commissioner of Soil and Land Conservation. No concerns were raised regarding the proposed clearing (CSLC 2021). See table A.4 for the mapped land degradation risks rating for each soil type. |
| Waterbodies | The southern bank of the Gascoyne River is within 0.55 kilometres of the most northerly tip of the application area Figure 2. Other large water bodies in the local area include:<br>• McNeill Claypan System approximately 1.5 kilometres to the southwest.<br>• Shark Bay East wetland approximately 10 kilometres to the southwest.<br>• Lake MacLeod approximately 36 kilometres to the northwest. |

| Characteristic | Details |
|---|---|
| |  <br>Figure 2. The position of the application area (blue cross hatch) relative to the Gascoyne River to the north. 10 meter contours shown in yellow. |
| Hydrogeography | The application area falls within the RIWI Act, Groundwater Area (DWER-034). Flood risk for the area is 1 in 100 (1%) annual exceedance probability (AEP).<br>Public drinking water source area (DWER-033) occurs within 6 kilometres east of the application area. |
| Flora | A total of 16 species listed as Priority flora are recoded in the local area. The nearest record is *Rumex crystallinus* Priority 2, occurring 5.3 kilometres from the application area. The most recorded species is the priority 4, *Abutilon* sp. Quobba (H. Demarz 3858), occurring at four locations within the local area. No threatened flora are recorded in the local area. All conservation significant flora are given further consideration in table A.2 below. |
| Ecological communities | The TEC - Subtropical and Temperate Coastal Saltmarsh State listed as P3 by the DBCA and listed as Vulnerable under the EPBC Act, occurs 8.8 kilometres west of the proposed clearing. The vegetation within the application area is not representative of saltmarsh vegetation. |
| Fauna | A total of 60 species listed as conservation significant fauna are recorded within the local area. A large proportion of the bird species are confined to wetland, open water and intertidal zones, these include; *Actitis hypoleucos* (Common Sandpiper) MI, *Tringa glareola* (Wood sandpiper) MI, *Tringa nebularia* C, (greenshank) MI, *Gelochelidon nilotica* (Gull-billed tern) MI, *Calidris acuminata* (Sharp tailed sandpiper) MI, *Calidris ruficollis* (Red-necked stint), MI, *Calidris subminuta* (Long-toed Stint), MI *Rostratula australis* (Australian painted snipe) EN, *Tringa stagnatilis* (Marsh sandpiper) MI, , *Plegadis falcinellus* (Glossy ibis) MI, *Charadrius leschenaultii* (Greater sand plover) VU, *Calidris ferruginea* (curlew sandpiper) CR, *Hydroprogne caspia* (Caspian Tern) MI, *Tringa brevipes* (Grey-tailed tattler) P4, *Chlidonias leucopterus* (white-winged tern) MI, *Numenius madagascariensis* (Eastern curlew) CR, *Thalasseus bergii* (Crested tern) MI, *Xenus cinereus* (Terek sandpiper) MI, *Limosa lapponica* (Bar-tailed godwit) MI, *Pandion cristatus*, (Osprey), MI, *Numenius phaeopus* (Whimbrel) MI, *Arenaria interpres* (Ruddy turnstone) MI, *Numenius minutus* (Little curlew) MI, *Sternula albifrons* (Little tern) MI, *Calidris tenuirostris*, (Great knot) CR, *Philomachus pugnax* (Ruff/reeve) MI, *Charadrius dubius* (little ringed plover) MI, *Pluvialis squatarola* (Grey plover) MI, Limosa *limosa* (Black-tailed godwit) MI, *Charadrius mongolus* (Lesser Sand Plover) EN, *Calidris alba* (sanderling) MI, *Calidris canutus* (Red knot) EN, *Calidrismelanotos* (Pectoral Sandpiper) MI, *Pluvialis fulva* (Pacific golden plover) MI, *Macronectes giganteus* (Southern giant petrel) MI, *Limosa lapponica menzbieri* (Bar-tailed godwi (northern Siberian)) CR, *Sterna dougallii*, (Roseate tern) MI, *Sterna hirundo* (Common tern) MI, *Charadrius veredus* (Oriental Plover) MI, *Fregata ariel* (Lesser frigatebird) MI, *Limicola falcinellus* (Broad- |

| Characteristic | Details |
|---|---|
| | billed sandpiper) MI, *Limnodromus semipalmatus* (Asian dowitcher) MI, *Ardenna pacifica* (Wedge-tailed Shearwater) MI, *Oceanites oceanicus* (Wilson's storm-petrel) MI, *Phaethon rubricauda* (Red-tailed tropicbird) P4, *Ardenna carneipes* (fleshy-footed shearwater) VU, *Thalassarche chlororhynchos* (Atlantic yellow-nosed albatross) VU, *Anous stolidus* (common noddy) MI, *Glareola maldivarum* (Oriental pratincole) MI, *Botaurus poiciloptilus* (Australasian bittern) VU.<br><br>The remaining conservation significant fauna are given further consideration in table A.3 below and section 3.2.1. |

## A.2. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix E.1), and impacts to the following conservation significant flora required further consideration.

| Species name | Conservation status | Suitable habitat features ? [Y/N] | Suitable vegetation type? [Y/N] | Suitable soil type? [Y/N] | Distance of closest record to application area (km) | Number of known records (total) | Are surveys adequate to identify? [Y, N, N/A] |
|---|---|---|---|---|---|---|---|
| *Rumex crystallinus* | P2 | NO | NO | NO | 5.3 | 1 | N/A |
| *Schoenia filifolia* subsp. *arenicola* | P1 | NO | NO | NO | 5.5 | 6 | N/A |
| *Abutilon* sp. Quobba (H. Demarz 3858) | P2 | NO | NO | NO | 5.9 | 8 | N/A |
| *Chthonocephalus tomentellus* | P2 | YES | NO | NO | 8.8 | 6 | N/A |
| *Acacia ryaniana* | P2 | NO | NO | NO | 9.3 | 2 | N/A |
| *Atriplex spinulosa* | P1 | NO | NO | NO | 9.9 | 1 | N/A |
| *Swainsona ecallosa* | P1 | NO | NO | NO | 10 | 2 | N/A |
| *Sporobolus blakei* | P3 | NO | NO | NO | 10 | 1 | N/A |
| *Abutilon* sp. Pritzelianum (S. van Leeuwen 5095) | P3 | NO | NO | NO | 14.2 | 5 | N/A |
| *Owenia acidula* | P3 | YES | NO | NO | 30.4 | 1 | N/A |
| *Sondottia glabrata* | P2 | NO | NO | NO | 31.6 | 2 | N/A |
| *Carpobrotus* sp. Thevenard Island (M. White 050) | P3 | NO | NO | NO | 25.2 | 3 | N/A |
| *Lepidium biplicatum* | P3 | NO | NO | NO | 34.6 | 1 | N/A |
| *Scholtzia* sp. Folly Hill (M.E. Trudgen 12097) | P2 | YES | YES | NO | 38.8 | 1 | N/A |
| *Lepidium scandens* | P3 | YES | YES | NO | 36.2 | 1 | N/A |
| *Chthonocephalus spathulatus* | P3 | NO | NO | NO | 40.1 | 2 | N/A |

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

## A.3. Fauna analysis table

| Species name | Conservation status | Suitable habitat features? [Y/N] | Suitable vegetation type? [Y/N] | Distance of closest record to application area (km) | Number of known records (total) | Are surveys adequate to identify? [Y, N, N/A] |
|---|---|---|---|---|---|---|
| *Falco peregrinus* (Peregrine falcon) | OS | NO | NO | 3.9 | 12 | N/A |
| *Hirundo rustica* (Barn swallow), | MI | YES | YES | 4.3 | 1 | N/A |
| *Falco hypoleucos* (grey falcon) | VU | YES | YES | 4.5 | 5 | N/A |
| *Apus pacificus* (Fork-tailed swift) | MI | YES | YES | 9.3 | 2 | N/A |
| *Lagostrophus fasciatus fasciatus* (banded hare-wallaby, mernine) | VU | NO | NO | 9.3 | 1 | N/A |
| *Leipoa ocellata* (malleefowl) | VU | Yes | Yes | 22.5 | 3 | N/A |
| *Idiosoma incomptum* *(Carnarvon shield-backed trapdoor spider)* | MI | YES | YES | 25.7 | 4 | N/A |
| *Amytornis textilis textilis* (Western grasswren) | *P4* | Yes | Yes | 30.9 | 1 | N/A |
| *Egernia stokesii badia* (Western spiny-tailed skink) | VU | NO | YES | 35.8 | 3 | N/A |

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority MI, migratory birds protected under an international agreement

## A.4. Land degradation risk table

| | Gascoyne association - 'medium textured' Phase | Coburn association - erosion moderate Phase | Coburn association Phase |
|---|---|---|---|
| **Acidification Risk** | 0% of map unit has pHCa < 4.5 | 0% of map unit has pHCa < 4.5 | 0% of map unit has pHCa < 4.5 |
| **surface salinity** | <3% of map unit has a moderate to extreme risk | 30% of map unit has a moderate to extreme risk | 30% of map unit has a moderate to extreme risk |
| **Wind erosion** | -No data | No data | No data |
| **Water erosion** | No data | No data | No data |
| **Phosphorus export** | No data | No data | No data |

## Appendix B. Assessment against the clearing principles

| Assessment against the clearing principles | Variance level | Is further consideration required? |
|---|---|---|
| **Environmental value: biological values** | | |
| Principle (a): *"Native vegetation should not be cleared if it comprises a high level of biodiversity."*<br>Assessment: Sixteen priority flora were recorded within the local area. According to available data sets, none of the above species are recorded, within mapped soil zones similar to the application area. Photographs provided by the applicant indicate the vegetation proposed to be cleared does not include species that would indicate a priority ecological community. The vegetation is in a poor to very poor (Trudgen 1991) condition mainly as a result of dominance by introduced species such as **Cenchrus ciliaris* (buffel grass) and **Passiflora foetida* (passionflower). Therefore, it is unlikely the proposed clearing will impact an area of high biodiversity. | Not likely to be at variance | No |
| Principle (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."*<br>Assessment: The area proposed to be cleared may contain foraging habitat for conservation significant fauna. | Not likely to be at variance | Yes<br>*Refer to Section 3.2.1, above.* |
| Principle (c): *"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."*<br>Assessment: The area proposed to be cleared is unlikely to contain habitat for flora species listed under the BC Act. According to available data sets no threatened flora area recorded within the local area. | Not likely to be at variance | No |
| Principle (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."*<br>Assessment: The area proposed to be cleared does not contain species that indicate a threatened ecological community. | Not at variance | No |
| **Environmental value: significant remnant vegetation and conservation areas** | | |
| Principle (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."*<br>Assessment: The local area is mapped as retaining 98.5 per cent of its native vegetation cover. As very little fragmentation occurs within the local area, the vegetation proposed to be cleared is not considered to be part of a ecological linkage. | Not at variance | No |
| Principle (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."*<br>Assessment: The distance to the nearest conservation area, Pool nature Reserve is 7.4 kilometres to the west of the application area. Given the distance from the above reserve, the proposed clearing is not likely to have an impact on the environmental values of any conservation areas. | Not at variance | No |
| **Environmental value: land and water resources** | | |
| Principle (f): *"Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."*<br>Assessment: The southern bank of the Gascoyne River is within 0.55 kilometres of the application area. However, the vegetation proposed to be cleared is not representative of riparian or wetland vegetation. Also given the land adjacent to the riverbank and the east and west boundaries of the | Not likely to be at variance | No |

| Assessment against the clearing principles | Variance level | Is further consideration required? |
|---|---|---|
| application area is currently used for agriculture, the proposed clearing is unlikely to impact off-site hydrology and water quality. | | |
| Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."*<br><br>Assessment: The application area was inspected by the Department of Primary Industries and Regional Development on 18 January 2021 (CSLC 2021). The inspection raised no concerns regarding the proposed clearing. | Not at variance | No<br>. |
| Principle (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."*<br><br>Assessment: Given Public drinking water source area terminates six kilometres east of the proposed clearing and approximately 2400 hectares of the Gascoyne River floodplain within the local area has been cleared and converted to agricultural land, the proposed clearing of 3.65 hectares, is unlikely to impact further on surface or ground water quality. | Not likely to be at variance | No |
| Principle (j): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."*<br><br>Assessment: The mapped soils and topographic contours in the surrounding area do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding. | Not likely to be at variance | No |

## Appendix C. Vegetation condition rating scale

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation's ability to regenerate. Disturbance at a site can be a cumulative effect from a number of interacting disturbance types.

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from

Trudgen, M.E. (1991) *Vegetation condition scale* in National Trust (WA) 1993 Urban Bushland Policy. National Trust of Australia (WA), Wildflower Society of WA (Inc.), and the Tree Society (Inc.), Perth.

**Measuring vegetation condition for the Eremaean and Northern Botanical Provinces (Trudgen, 1991)**

| Condition | Description |
|---|---|
| Excellent | Pristine or nearly so, no obvious signs of damage caused by human activities since European settlement. |
| Very good | Some relatively slight signs of damage caused by human activities since European settlement. For example, some signs of damage to tree trunks caused by repeated fire, the presence of some relatively non-aggressive weeds, or occasional vehicle tracks. |
| Good | More obvious signs of damage caused by human activity since European settlement, including some obvious impact on the vegetation structure such as that caused by low levels of grazing or slightly aggressive weeds. |
| Poor | Still retains basic vegetation structure or ability to regenerate it after very obvious impacts of human activities since European settlement, such as grazing, partial clearing, frequent fires or aggressive weeds. |
| Very poor | Severely impacted by grazing, very frequent fires, clearing or a combination of these activities. Scope for some regeneration but not to a state approaching good condition without intensive management. Usually with a number of weed species present including very aggressive species. |
| Completely degraded | Areas that are completely or almost completely without native species in the structure of their vegetation; i.e. areas that are cleared or 'parkland cleared' with their flora comprising weed or crop species with isolated native trees or shrubs. |

## Appendix D. Photographs of the vegetation provided by the applicant (Applicant 2021)

Figure 3 Centre of the application area facing north.

Figure 4 Centre of the application area facing east.

Figure 5 Centre of the application area facing south east.

Figure 6 Centre of the application area facing west.

## Appendix E. Sources of information

### E.1. GIS databases

Publicly available GIS Databases used (sourced from www.data.wa.gov.au):

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Cadastre Address (LGATE-002)
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography – Inland Waters – Waterlines
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Imagery
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Native Title (ILUA) (LGATE-067)
- Offsets Register – Offsets (DWER-078)
- Pre-European Vegetation Statistics
- Public Drinking Water Source Areas (DWER-033)
- Ramsar Sites (DBCA-010)
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available
- Soil Landscape Mapping – Systems
- Wheatbelt Wetlands Stage 1 (DBCA-021)

Restricted GIS Databases used:

- ICMS (Incident Complaints Management System) – Points and Polygons
- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

### E.2. References

Applicant (Hoa Dinh Nguyen and Kim Tu Nguyen) (2021) *Supporting information for clearing permit application CPS 9130/1,* received 31 May 2021 (DWER Ref: A2013843).

Australian Government (2006) Advice to the Minister for the Environment and Heritage from the Threatened Species Scientific Committee on Amendments to the list of Threatened Species under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), *Amytornis textilis textilis* (Thick-billed

Grasswren (western subspecies)). Available from Amytornis textilis textilis — Western Grasswren (WA) (environment.gov.au)

Benshemesh, J. (2007). National Recovery Plan for Malleefowl. Department for Environment and Heritage, South Australia.

Commissioner of Soil and Land Conservation (CSLC) (2021) *Additional advice from* Buddy Wheaton *for clearing permit application CPS 9130/1*, received 28 January 2021. Department of Primary Industries and Regional Development, Western Australia (DWER Ref: A1975782).

Commonwealth of Australia (2001) *National Objectives and Targets for Biodiversity Conservation 2001-2005*, Canberra.

Department of environment and conservation (DEC) (2012a) *Western Barred Bandicoot Perameles bougainville, Burrowing Bettong Bettongia lesueur and Banded Hare-Wallaby Lagostrophus fasciatus national recovery plan.* Wildlife Management Program No. 49.

Department of Water and Environmental Regulation (DWER) (2019). *Procedure: Native vegetation clearing permits*. Joondalup. Available from: https://dwer.wa.gov.au/sites/default/files/Procedure_Native_vegetation_clearing_permits_v1.PDF.

Department of Water and Environmental Regulation (DWER) (2021), (Regulatory Services – Water) (2021) *Rights in Water and Irrigation Act 1914 advice for clearing permit application CPS 9130/1*, received 6 May 2020 (DWER Ref: A1978472).

Rix, M.G, Huey, J.A, Cooper, J.B, Austin, A.d, Harvey, M.S, (2018) *Conservation Systematics of the shield-backed trapdoor spiders of the nigrum group (Mygalomorphae, Idiopidae, Idiosoma): integrative taxonomy reveals a diverse and threatened fauna from south- western Australia*. Zookeys 756: 1-121

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.

Trudgen, M.E. (1991) *Vegetation condition scale* in National Trust (WA) 1993 Urban Bushland Policy. National Trust of Australia (WA), Wildflower Society of WA (Inc.), and the Tree Society (Inc.), Perth.

Western Australian Herbarium (1998-). *FloraBase - the Western Australian Flora*. Department of Biodiversity, Conservation and Attractions, Western Australia. https://florabase.dpaw.wa.gov.au/ (Accessed 15 October 2021)