GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: CPS 10371/1

File Number: DWERVT13539

Duration of Permit: From 22 February 2024 to 22 February 2029

PERMIT HOLDER

Shire of Harvey

LAND ON WHICH CLEARING IS TO BE DONE

Weir Road reserve (PIN 1317941)

AUTHORISED ACTIVITY

The permit holder must not clear more than one (1) native tree within the area cross-hatched yellow in Figure 1 of Schedule 1.

CONDITIONS

1. Period during which clearing is authorised

The permit holder must not clear any *native vegetation* after 22 February 2026.

2. Avoid, minimise, and reduce impacts and extent of clearing

In determining the *native vegetation* authorised to be cleared under this permit, the permit holder must apply the following principles, set out in descending order of preference:

(a) avoid the clearing of *native vegetation*;

(b) minimise the amount of *native vegetation* to be cleared; and

(c) reduce the impact of clearing on any environmental value.

3. Weed and dieback management

When undertaking any clearing authorised under this permit, the permit holder must take the following measures to minimise the risk of introduction and spread of *weeds* and *dieback*:

(a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;

(b) ensure that no known *dieback* or *weed*-affected soil, *mulch*, *fill*, or other material is brought into the area to be cleared; and

(c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

4. Revegetation mitigation

(a) The permit holder must, within 12 months of the commencement of clearing authorised under this permit:

(i) undertake deliberate planting of five (5) marri (*Corymbia calophylla*) trees within Weir Road reserve (PIN 1317941);

(ii) ensure only local provenance propagating material is used for planting activities;

(iii) ensure planting is undertaken at an optimal time; and

(iv) undertake watering of seedlings, as required, for at least two years post-planting.

(b) The permit holder must, within 24 months of planting the trees in accordance with condition 4(a)(i) of this permit:

(i) engage an environmental specialist to make a determination on the likelihood of survival of planted trees;

(ii) if the determination made by the environmental specialist under condition 4(b)(i) is that any planted trees will not survive, the permit holder must plant additional trees that will result in five (5) trees persisting at the suitable location; and

(iii) where additional planting of trees is undertaken in accordance with condition 4(b)(ii), the permit holder must repeat the activities required under conditions 4(a)(ii)-(iv) and 4(b)(i)-(ii) of this permit.

5. Records that must be kept

The permit holder must maintain records relating to the listed relevant matters in accordance with the specifications detailed in Table 1.

Table 1: Records that must be kept

No.	Relevant matter	Specifications
1.	In relation to the authorised clearing activities generally	(a) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to GDA2020, expressing the geographical coordinates

No.	Relevant matter	Specifications
		in Eastings and Northings; (b) the date that the area was cleared; (c) the size of the area cleared (in trees); (d) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 2; and (e) actions taken to minimise the risk of the introduction and spread of *weeds* and *dieback* in accordance with condition 3
2.	In relation to planting pursuant to condition 4	(a) the date(s) on which the planting was undertaken; (b) the number of trees planted; (c) a description of the planting activities undertaken pursuant to condition 4(a), including actions taken to implement watering; and (d) a description of any additional planting undertaken in accordance with condition 4b(ii) and (iii), including dates of additional planting, number of additional trees planted and any remedial actions undertaken.

6. Reporting

The permit holder must provide to the *CEO* the records required under condition 5 of this permit when requested by the *CEO*.

DEFINITIONS

In this permit, the terms in Table 2 have the meanings defined.

Table 2: Definitions

Term	Definition
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*.
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
dieback	means the effect of *Phytophthora* species on native vegetation.
department	means the department established under section 35 of the *Public Sector Management Act 1994* (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
environmental specialist	means a person who holds a tertiary qualification specialising in environmental science or equivalent, and has a minimum of 2 years work experience in flora identification and surveys of flora native to the region being inspected or surveyed, or who is approved by the *CEO* as a suitable flora specialist for the bioregion, and who holds a valid flora licence issued under the *Biodiversity Conservation Act 2016*.
EP Act	*Environmental Protection Act 1986* (WA)
fill	means material used to increase the ground level, or to fill a depression.
local provenance	means native vegetation seeds and propagating material from natural sources within the same IBRA subregion of the area cleared.
mulch	means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation.
native vegetation	has the meaning given under section 3(1) and section 51A of the EP Act.
optimal time	means the period from May to June for undertaking planting.
weeds	means any plant – (a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or (c) not indigenous to the area concerned.

END OF CONDITIONS

Ryan Mincham
MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

30 January 2024

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 10371/1
Permit type:	Area permit
Applicant name:	Shire of Harvey
Application received:	6 October 2023
Application area:	One native tree
Purpose of clearing:	Hazard reduction
Method of clearing:	Mechanical
Property:	Weir Road reserve (PIN 1317941)
Location (LGA area/s):	Shire of Harvey
Localities (suburb/s):	Harvey

1.2. Description of clearing activities

The vegetation proposed to be cleared is one native marri (*Corymbia calophylla*) tree within a road reserve. The removal of the tree is necessary as it blocks the line of sight for the nearby driveway (see Figure 1, Section 1.5).

1.3. Decision on application

Decision:	Granted
Decision date:	30 January 2024
Decision area:	One native tree, 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 14 days and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix B), relevant datasets (see Appendix F.1), the clearing principles set out in Schedule 5 of the EP Act (see Appendix C), 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 loss of native vegetation that is suitable habitat for threatened black cockatoo species
- the potential introduction and spread of weeds and dieback 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 minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing is unlikely to lead to appreciable land degradation or have long-term adverse impacts on environmental values. The environmental values can be

minimised and managed to unlikely lead to an unacceptable risk to environmental values. The applicant has suitably demonstrated avoidance and minimisation measures.

The Delegated Officer decided to grant a clearing permit subject to conditions to:

- avoid, minimise to reduce the impacts and extent of clearing
- take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback
- mitigate the loss of suitable habitat for black cockatoos through the planting of five marri trees within Weir Road reserve.

1.5. Site map

Figure 1 Map of the application area

The area cross-hatched yellow indicate 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)

The key guidance documents which inform this assessment are:

- *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

Evidence was submitted by the applicant, demonstrating that the marri tree proposed to be removed could not be avoided as it blocks the line of sight for vehicles exiting a driveway. In response to the Department's request for mitigation planting, the applicant proposed to plant five marri trees within the Weir Road reserve to account for the removal of a single tree (Shire of Harvey, 2023b). The Delegated Officer was satisfied that the applicant has undertaken reasonable measures to avoid and minimise potential impacts of the proposed clearing on environmental values.

3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix B) 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 C) identified that the impacts of the proposed clearing present a risk to biological values (fauna), an under-represented vegetation type and conservation areas. 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 Principles (a) and (b)

Assessment

According to available databases, a total of 19 conservation significant fauna species were recorded in the local area (10 kilometre radius) with eight conservation significant fauna species recorded in similar vegetation and habitat type, these were:

- *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo)
- *Dasyurus geoffroii* (chuditch)
- *Falco peregrinus* (peregrine falcon)
- *Phascogale tapoatafa wambenger* (south-western brush-tailed phascogale)
- *Pseudocheirus occidentalis* (western ringtail possum)
- *Tyto novaehollandiae novae-hollandiae* (masked owl)
- *Zanda baudinii* (Baudin's cockatoo)
- *Zanda latirostris* (Carnaby's cockatoo)

Black cockatoos

The *Corymbia calophylla* (marri) tree present within the application area provides suitable foraging habitat for *Calyptorhynchus banksii* naso (forest red-tailed black cockatoo), *Zanda baudinii* (Baudin's cockatoo) and *Zanda latirostris* (Carnaby's cockatoo). Black cockatoo species are noted to forage on a range of plant species, with the

primary foraging resources varying between species (Commonwealth of Australia, 2012). Carnaby's cockatoos forage on the seeds, nuts, and flowers of a variety of plants, including Proteaceous species (Banksia spp., Hakea spp., and Grevillea spp.), as well as Allocasuarina and Eucalyptus species, marri and a range of introduced species (Valentine and Stock, 2008). Forest red-tailed black cockatoos feed predominantly on the seeds of marri and jarrah, which comprise approximately 90 per cent of their diet (DEC, 2008). Baudin's cockatoos primarily feed on the seeds of marri, but may also forage on the seeds of jarrah and Proteaceous species (DEC, 2008). Given the application area contains a marri tree, the application area is likely to provide suitable foraging habitat for black cockatoos.

Food resources within the range of roost sites are important to sustain populations of black cockatoos, and foraging resources should therefore be viewed in the context of the proximity to known night roosting sites to the application area. Available databases show there are three confirmed roosting sites in the local area with the closest located 1.65 kilometres south of the application area. In addition, there are also two artificial nest boxes within the local area, although it is not certain if these have been used. The closest of these is approximately 500 metres from the application area. Black cockatoos will generally forage up to 12 kilometres from an active breeding site. Following breeding, they will flock in search of food, usually within six kilometres of a night roost (Commonwealth of Australia, 2012). Noting the presence of foraging habitat within the range of known roosting locations, the application area contains foraging habitat which may be utilised by black cockatoos. To reduce the impacts of clearing suitable foraging habitat, the Shire agreed to plant five marri trees to provide suitable black cockatoo foraging habitat within the road reserve (Shire of Harvey, 2023b).

Chuditch

Chuditch use a range of habitats including forest, mallee shrublands, woodland and desert. The densest populations have been found in riparian jarrah forest which is not present within the application area. Chuditch require adequate numbers of suitable den and refuge sites (horizontal hollow logs or earth burrows) and sufficient prey biomass (large invertebrates, reptiles and small mammals) to survive. They are capable of travelling long distances and have large home ranges, and even at their most abundant, chuditch are generally present in low numbers (Department of Environment and Conservation, 2021). The closest record of chuditch within the local area is recorded approximately 4.78 kilometres from the application area. While the chuditch may range through the application area it is unlikely to be significantly impacted by the proposed clearing.

Peregrine falcon

The peregrine falcon typically nests on rocky ledges in tall, vertical cliff faces and gorges, or in tall trees associated with drainage lines, and can hunt in a range of habitat types including timbered watercourses, riverine environments, wetlands, plains, open woodlands, and pylons and spires of buildings (Australian Museum, 2019). Given its proximity to existing records, the application area may provide suitable foraging habitat for the peregrine falcon. However, noting that the peregrine falcon is a highly mobile species with a large home range that does not rely on special niche habitats, the peregrine falcon is likely to be transient in the application area and it is unlikely that the application area represents significant habitat for the species.

South-western brush-tailed phascogale

The conservation dependant southern brush-tailed phascogale inhabits dry sclerophyll forests and open woodlands that contain hollow-bearing trees (DEC 2012). As there are 10 records of this species in the local area with the closest 1 kilometre from the application area, it may be present in the application area at the time of clearing. However, due to more suitable habitat in the local area, including the conservation area directly south of the application area, the south-western brush-tailed phascogale is unlikely to be significantly impacted by the proposed clearing.

Western ringtail possum

The western ringtail possum (WRP) is a medium sized, nocturnal species that roams through the trees at night, feeding on leaves of eucalypt, marri and peppermint trees and other fruits and flowers. It has a long, thin tail with a white tip that helps it to move through the trees and carry nesting material (DCCEEW, 2023). As there are 16 records of this species in the local area, with the closest 320 metres from the application area, it may be present at the time of clearing. However, due to more suitable habitat in the local area, including the conservation area directly south of the application area, the western ringtail possum is unlikely to be significantly impacted by the proposed clearing.

Masked owl

The masked owl (southwest) inhabits in open forests and woodlands, preys on small mammals, possums, reptiles,

birds and insects (Australian Museum, 2020). There is one record of this species in the local area 2.09 kilometres from the application area. While this speciesmay be present at the time of clearing, given the presence of more suitable habitat in the local area, including the conservation area directly south of the application area, the masked owl is unlikely to be significantly impacted by the proposed clearing.

Conclusion
Based on the above assessment, the proposed clearing will result in loss of foraging habitat for black cockatoos.

For the reasons set out above, it is considered that the impacts of the proposed clearing on black cockatoos can be managed by mitigation planting of five marri trees.

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

- undertake the planting of five native marri trees (*Corymbia calophylla*) within Weir Road reserve.

3.2.2. Significant remnant vegetation and conservation areas - Clearing Principles (e) and (h)

Assessment

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 (i.e. pre-European settlement) (Commonwealth of Australia, 2001). This is the threshold level below which species loss appears to accelerate exponentially at an ecosystem level. While the local area (10 kilometre radius) retains 33 per cent of the pre European vegetation extent, the Dardanup vegetation complex mapped within the application area retains 5.7 per cent of the pre European extent and is below the 30 per cent threshold.

The application area contains native vegetation in a completely degraded (Keighery, 1994) condition which is unlikely to be significant as a remnant. Noting the applicant's commitment to plant five marri trees, the removal of the one marri tree will not significantly reduce the area of remnant native vegetation in the local area.

As the application area is opposite DBCA legislated tenure on the other side of the road reserve, the proposed clearing may have an impact on the environmental values of adjacent conservation areas. A condition to manage weeds and dieback will reduce the potential impact to the conservation area.

Conclusion

Based on the above assessment, the proposed clearing will result in the loss of one marri tree and has the potential to spread weeds and dieback into the nearby conservation area.

For the reasons set out above, it is considered that the impacts of the proposed clearing can be managed through a weed and dieback management condition.

Conditions

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

- minimise the risk of introduction and spread of weeds and dieback
- avoid, minimise to reduce the impacts and extent of clearing

3.3. Relevant planning instruments and other matters

No Aboriginal sites of significance have been mapped within the application area. 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.

End

Appendix A. Additional information provided by applicant

Summary of comments	Consideration of comment
Applicant agreed to plant five marri trees within Weir Road reserve (Shire of Harvey, 2023b).	See Section 3.2.1

Appendix B. Site characteristics

B.1. Site characteristics

Characteristic	Details
Local context	The area proposed to be cleared is part of the native vegetation within the intensive land use zone of Western Australia. It is located within a road reserve within the urban area of the town of Harvey. Aerial imagery indicates the local area (10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 33 per cent of the original native vegetation cover.
Ecological linkage	The application area is not within a mapped ecological linkage, with the closest linkage being the South West Regional Ecological Linkages located approximately 380 metres north of the application area. The application area is separated from this linkage by rural land which is predominantly cleared.
Conservation areas	The application area is opposite DBCA legislated tenure which is located on the other side of the road reserve.
Vegetation description	Photographs supplied by the applicant indicate the vegetation within the proposed clearing area consists of one marri tree. Representative photos are available in Appendix E. This is consistent to some extent with the mapped vegetation type: • Dardanup Complex, which is described as Mosaic of vegetation types characteristic of adjacent vegetation complexes such as closed scrub of Melaleuca species, open woodland of Marri, Jarrah and Banksia species and open woodland of Marri. The mapped vegetation type retains approximately 5.7 per cent of the original extent (Government of Western Australia, 2019).
Vegetation condition	Photographs supplied by the applicant indicate the vegetation within the proposed clearing area is in a Completely Degraded (Keighery, 1994) condition. The full Keighery (1994) condition rating scale is provided in Appendix D. Representative photos are available in Appendix E.
Climate and landform	The closest Bureau of Meteorology weather station is in Wokalup 5.9 kilometres south of the town of Harvey (BOM, 2023). The highest mean maximum temperature is 31 degrees in January and the lowest is 16.7 degrees in July. The highest mean minimum temperature is 16.1 degrees in February and 7.9 degrees in August. The mean rainfall is 927.1 mm per year. The application area is on a flat site ranging from 55 – 60 metres above sea level. There is one system in the application area, the Lowden Valleys System which is described as Deep gneissic valleys, in the south of the Western Darling Range. Loamy earth, loamy duplex, gravel and stony soils. Jarrah-marri forest.
Soil description	The soil is mapped as Kirup low slopes phase which is described as duplex sandy or loamy gravels and yellow deep sands over conglomerate over granite rock with relief 20-60 m, slopes 5-20%.
Land degradation risk	The soil has high wind erosion risk, medium water erosion risk, medium water repellence, high subsurface acidification risk and medium phosphorus export risk with low risks for the remaining land degradation risk.

Characteristic	Details
Waterbodies	The desktop assessment and aerial imagery indicated that there are no watercourses within the application area, with the closest being a man-made drain located 220 metres north of the application area.
Hydrogeography	The application area is within the Harvey Irrigation District as proclaimed under the RIWI Act.
Flora	A total of 18 conservation significant flora species were recorded in the local area, with the closest record 260 metres from the application area, *Caladenia uliginosa* subsp. *patulens.* A total of 11 conservation significant flora were recorded in the same vegetation type, with only one within the same soil type. Given the degraded nature of the site, no conservation significant flora are likely to be impacted by the proposed clearing.
Ecological communities	The application area is not in a significant ecological community, with the closest being the Banksia Woodlands of the Swan Coastal Plain TEC which is mapped 150 metres from the application area.
Fauna	A total of 19 conservation significant fauna species were recorded in the local area. The closest of these is located approximately 200 metres from the application area, that being the white-tailed black cockatoo. Eight conservation significant fauna were found in similar habitat and vegetation types to the application area. There are two black cockatoo artificial nest boxes within the local area, with the closest approximately 500 metres north-east of the application area. There are also three confirmed roosting sites with the closest 1.65 kilometres south of the application area. The application area is adjacent to large tracts of vegetation mapped as black cockatoo feeding in the Swan Coastal Plain and is within the distribution range of all three black cockatoo species.

B.2. Fauna analysis table

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

Species name	Common 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]
Calyptorhynchus banksii naso	forest red-tailed black cockatoo	VU	Y	Y	1.65	5	N/A
Dasyurus geoffroii	chuditch, western quoll	VU	Y	Y	4.78	13	N/A
Falco peregrinus	peregrine falcon	OS	Y	Y	0.20	2	N/A
Phascogale tapoatafa wambenger	south-western brush-tailed phascogale, wambenger	CD	Y	Y	1.01	10	N/A
Pseudocheirus occidentalis	western ringtail possum, ngwayir	CR	Y	Y	0.32	16	N/A
Tyto novaehollandiae novaehollandiae	masked owl (southwest)	P3	Y	Y	2.09	1	N/A
Zanda baudinii	Baudin's cockatoo	EN	Y	Y	0.82	6	N/A

Species name	Common 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]
Zanda latirostris	Carnaby's cockatoo	EN	Y	Y	0.93	4	N/A

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

Appendix C. 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."* Assessment: The area proposed to be cleared comprises a single marri tree and is not likely to comprise a high level of biodiversity.	Not likely to be at variance	Yes *(Refer to Section 3.2.1, above.)*
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."* Assessment: The area proposed to be cleared contains habitat suitable for conservation significant fauna. Marri is known to be a preferred foraging species for the three threatened black cockatoo species.	May be at variance	Yes *(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."* Assessment: The area proposed to be cleared is unlikely to contain habitat for threatened flora species listed under the BC Act.	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."* Assessment: The area proposed to be cleared does not contains species that are representative of a threatened ecological community.	Not likely to be 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."* Assessment: The extent of native vegetation in the local area is consistent with the national objectives and targets for biodiversity conservation in Australia, however, the Dardanup complex only has 5.7 per cent of the original extent remaining which is inconsistent with the national objectives and targets. The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area.	May be at variance	Yes (Refer to Section 3.2.2, above.)

Assessment against the clearing principles	Variance level	Is further consideration required?
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."* Assessment: Given the distance to the nearest conservation area, the proposed clearing may have an impact on the environmental values of adjacent conservation areas.	May be at variance	Yes *(Refer to Section 3.2.2, above.)*
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."* Assessment: Given no watercourses or wetlands are recorded within the application area, the proposed clearing is unlikely to impact on- or off-site hydrology and water quality.	Not likely to be at variance	No
Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."* Assessment: The mapped soils are moderately to highly susceptible to wind, water erosion, nutrient export and subsurface acidification. Noting the extent and condition of the vegetation, the proposed clearing is not likely to have an appreciable impact on land degradation.	Not likely to be at variance	No
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."* Assessment: Given no watercourses are recorded within the application area the proposed clearing is unlikely to impact the Harvey Irrigation district or impact surface or groundwater 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."* Assessment: The mapped soils and topographic contours in the surrounding area do not indicate the proposed clearing of a single tree is likely to contribute to increased incidence or intensity of flooding.	Not likely to be at variance	No

Appendix D. 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 Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Measuring vegetation condition for the South West and Interzone Botanical Province (Keighery, 1994)

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species.
Very good	Vegetation structure altered, with obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and/or grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and/or grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and/or grazing.
Completely degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as ‘parkland cleared’ with the flora comprising weed or crop species with isolated native trees or shrubs.

Appendix E. Photographs of the vegetation

Appendix F. Sources of information

F.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)

F.2. References

Bureau of Meteorology (BOM) (2023) Climate statistics for Australian locations, summary statistics Wokalup. Available from: http://www.bom.gov.au/climate/averages/tables/cw_009642.shtml. Accessed 6 November 2023.

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

Department of Environment Regulation (DER) (2013). *A guide to the assessment of applications to clear native vegetation*. Perth. Available from: https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Guidelines/Guide2_assessment_native_veg.pdf.

Department of Primary Industries and Regional Development (DPIRD) (2019). *NRInfo Digital Mapping. Department of Primary Industries and Regional Development.* Government of Western Australia. URL: https://maps.agric.wa.gov.au/nrm-info/ (accessed 6 November 2023).

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.

Government of Western Australia (2019) *2018 South West Vegetation Complex Statistics. Current as of March 2019*. WA Department of Biodiversity, Conservation and Attractions, Perth, https://catalogue.data.wa.gov.au/dataset/dbca

Heddle, E. M., Loneragan, O. W., and Havel, J. J. (1980) *Vegetation Complexes of the Darling System, Western Australia*. In Department of Conservation and Environment, Atlas of Natural Resources, Darling System, Western Australia.

Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Molloy, S., Wood, J., Hall, S., Wallrodt, S. and Whisson, G. (2009) *South West Regional Ecological Linkages Technical Report*, Western Australian Local Government Association and Department of Environment and Conservation, Perth.

Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68) *Atlas of Australian Soils*, Sheets 1 to 10, with explanatory data. CSIRO and Melbourne University Press: Melbourne.

Schoknecht, N., Tille, P. and Purdie, B. (2004) *Soil-landscape mapping in South-Western Australia – Overview of Methodology and output*s Resource Management Technical Report No. 280. Department of Agriculture.

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 Harvey (2023a) *Clearing permit application CPS 10371/1*, received 6 October 2023 (DWER Ref: DWERDT847227).

Shire of Harvey (2023b) *Supporting information for clearing permit application CPS 10371/1,* received 22 December 2023 (DWER Ref: DWERDT885443).

Valentine, L.E. and Stock, W. (2008) *Food Resources of Carnaby's Black Cockatoo (Calyptorhynchus latirostris) in the Gnangara Sustainability Strategy Study Area*. Edith Cowan University and Department of Environment and Conservation. December 2008.

Western Australian Herbarium (1998-). *FloraBase - the Western Australian Flora*. Department of Biodiversity, Conservation and Attractions, Western Australia. https://florabase.dpaw.wa.gov.au/ (Accessed 6 November 2023)

SCHEDULE 1

The boundary of the area authorised to be cleared is shown in the map below (Figure 1).

Figure 1: Map of the boundary of the area within which clearing may occur