



# CPS 10154 Amendment

## Site Inspection Report

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## Introduction

The Shire of Esperance (SOE) has proposed to clear an additional 0.18 ha of native vegetation located within the Myrup Road reserve and the Shire of Esperance-vested Reserve 51287 for the purposes of widening access roads for increased heavy rigid traffic activity and drainage. Refer to Figure 1 for a map of the proposed CPS 10154 Amendment area.

The CPS 10154 Amendment area is located along the northern boundary of Reserve 51287 (Lot 1885 Myrup Road), which is a Crown Land Reserve under a management order for the Shire of Esperance, and a small component of the Myrup Road reserve between SLK 0.63 and 0.65 (Main Roads 2023). The entry road into the reserve is proposed to be widened to approximately 15 m to improve accessibility and ease of entering for heavy rigid vehicle traffic. The CPS 10154 Amendment area is comprised of two polygons with an amalgamated area of approximately 0.31 ha, within which approximately 0.18 ha exists as native vegetation.

## Desktop Summary

The desktop assessment was conducted for the site for the previous Vegetation, Flora, Fauna and Environmental Considerations Report (Walkerden & Waters 2023). A brief summary of the findings is presented below:

The site is mapped within the Recherche subregion (ESP02) of the Esperance Plains IBRA bioregion. The vegetation association (VA) 6048, described as: 'Shrublands; banksia scrub-heath on sandplain in the Esperance Plains region', has been mapped over the site by Beard (1973). This VA is endemic to the Esperance Plains bioregion and the Shire of Esperance. This vegetation assemblage has been extensively cleared across the Esperance Plains, with only 14.21% of its original extent remaining, of which only 0.89% of the current extent is protected within IUCN / CAR reserves (GoWA 2018). Therefore, remnant vegetation of this VA is considered to be significant.

There are 43 threatened and priority flora taxa recorded within 20 km of the site. The CPS 10154 Amendment site is located in close proximity (< 300 m) to two WA Herbarium records of the BC Act-listed Priority 3 flora *Dampiera sericantha* within the Myrup Road reserve. A significant population of *Dampiera sericantha* was located within the southern half of the Myrup Waste Facility during the targeted survey component for the previous report (Walkerden & Waters 2023). No threatened (TEC) or priority (PEC) ecological communities were mapped as occurring over the project area, despite being located within the buffer zone for the EPBC Act-listed TEC 'Proteaceae-dominated Kwongkan Shrublands of the Southeast Coastal Floristic Province of Western Australia (Kwongkan)'. The desktop assessment returned 51 priority and threatened fauna recorded within 20 km of the site, of which the southern death adder (*Acanthophis antarcticus*, P3), Carnaby's Cockatoo (*Zanda latirostris*, EN), Recherche Cape Barren goose (*Cereopsis novaehollandiae* subsp. *grisea*, VU), Chuditch (*Dasyurus geoffroii*, VU), quenda (*Isoodon obesulus* subsp. *fusciventer*, P4), western brush wallaby (*Notamacropus irma*, P4), and glossy ibis (*Plegadis falcinellus*, MI) were determined to be likely to occur within the CPS 10154 Amendment area.



**CPS 10154 Amendment**

- CPS 10154 Amendment Area
- Cadastre

Created on 20/12/2023 by K. M. Garnaut  
Shire of Esperance

Scale: 1:2000  
Imagery: Esperance Townsite Aerial (January 2023)

Coordinate System: GDA 1994 MGA Zone 51  
Esri, HERE, Garmin, Foursquare, FAO, METI/  
NASA, USGS, Esri, CGIAR

## Site Inspection

A site inspection was conducted by Julie Waters (Environmental Coordinator) and Kahree Garnaut (Environmental Officer) of the Shire of Esperance on the 19<sup>th</sup> of December 2023. The soil at the site is light grey deep sandy duplex sand, presumably overlying tertiary marine sediments (siltstone, sandstone, spiculite and mudstone) of the Pallinup Formation (Schoknecht et al. 2004). This matched the desktop description of the soil mapping unit (SMU), described as: 'grey deep sandy duplex (gravelly) soils with associated duplex sandy gravels and minor pale deep sands and shallow gravel.'

The area is mapped as being part of the Beard Vegetation Association (VA) 6048: Shrublands; Banksia scrub-heath on sandplain in the Esperance Plains Region. This VA was appropriate for the area. This Beard VA is recognised as being extensively cleared (< 30% remaining) within the Shire of Esperance district and the Recherche IBRA sub-region, and is inadequately represented in the CAR reserve network (< 1%). The site is situated within the Bandy Harbour sub-catchment of the Bandy Creek Catchment, within the Esperance Coast Basin.

## Flora

A total of 31 native flora species were identified within the amendment area, and an additional nine non-native or invasive species. No threatened or priority flora were identified within the site. Due to the early-summer timing of the survey, it is expected that many annual and cryptic flora possibly occurring, such as orchids, were not detectable at the time of survey.

**Table 1.** Incidental list of flora species present within proposed CPS 10154 Amendment area.

Family	Species	Common Name	Invasive
Anarthriaceae	<i>Anarthria scabra</i>		
Asteraceae	<i>Hyperchaeris radicata</i>	Flatweed	*
Casuarinaceae	<i>Allocasuarina humilis</i>	Dwarf Sheoak	
Cyperaceae	<i>Caustis dioica</i>		
Cyperaceae	<i>Mesomelaena tetragona</i>	Semaphore Sedge	
Cyperaceae	<i>Tricostularia compressa</i>		
Ericaceae	<i>Leucopogon obovatus</i> subsp. <i>obovatus</i>	Beard-heath	
Fabaceae	<i>Acacia cyclops</i>	Red-eyed Wattle	
Fabaceae	<i>Jacksonia spinosa</i>		
Haemodoraceae	<i>Anigozanthos rufus</i>	Red Kangaroo Paw	
Hemerocallidaceae	<i>Chamaescilla corymbosa</i>	Blue Squill	
Iridaceae	<i>Patersonia lanata</i>	Woolly Patersonia	
Juncaceae	<i>Juncus kraussii</i> subsp. <i>australiensis</i>	Jointed Rush	
Loranthaceae	<i>Nuytsia floribunda</i>	Moodjar / Mungee	
Myrtaceae	<i>Eucalyptus pleurocarpa</i>	Tallerack	
Myrtaceae	<i>Melaleuca striata</i>	Mauve Bottlebrush	
Myrtaceae	<i>Gaudium laevigatum</i>	Victorian Tea Tree	*
Onagraceae	<i>Oenothera stricta</i>	Common Evening Primrose	*
Orobanchaceae	<i>Orobanche minor</i>	Lesser Broomrape	*

Family	Species	Common Name	Invasive
Pinaceae	<i>Pinus pinaster</i>	Maritime Pine	*
Pittosporaceae	<i>Billardiera fusiformis</i>	Australian Bluebell	
Poaceae	<i>Austrostipa</i> sp.		
Poaceae	<i>Briza maxima</i>	Blowfly Grass	*
Poaceae	<i>Eragrostis curvula</i>	African Lovegrass	*
Poaceae	<i>Vulpia myuros</i>	Rat's Tail Fescue	*
Polygalaceae	<i>Lysimachia arvensis</i>	Pimpernel	*
Proteaceae	<i>Adenanthos cuneatus</i>	Coastal Jugflower	
Proteaceae	<i>Banksia obovata</i>	Wedge-leaved Dryandra	
Proteaceae	<i>Lambertia inermis</i> var. <i>inermis</i>	Chittick	
Proteaceae	<i>Synaphea media</i>		
Restionaceae	<i>Hypolaena exsulca</i>		
Restionaceae	<i>Hypolaena fastigiata</i>		
Restionaceae	<i>Hypolaena humilis</i>		
Restionaceae	<i>Lepyrodia macra</i>	Large Scale Rush	
Rhamnaceae	<i>Spyridium globulosum</i>	Basket Bush	
Xanthorrhoeaceae	<i>Xanthorrhoea platyphylla</i>	Grasstree	

## Vegetation Types and Condition

Flora species present within the additional proposed clearing area were classified into Vegetation Type A: Scattered *Nuytsia floribunda* and *Eucalyptus pleurocarpa* over mixed shrubland with Restionaceae and Cyperaceae sedges, which was previously distinguished in Walkerden & Waters (2023). Refer to Table 2 below and Figures 2-5.

**Table 2:** Vegetation types present across the CPS 10154 Amendment area.

Type	Description	Represented Beard VA	Area (ha)	Diversity (native species)
A	Scattered <i>Nuytsia floribunda</i> and <i>Eucalyptus pleurocarpa</i> over mixed shrubland with Restionaceae and Cyperaceae sedges	VA 6048: Shrublands; banksia scrub-heath in Esperance Sandplain region.	0.18	31 flora taxa 14 fauna taxa



**Figure 2:** Vegetation Type A: Scattered *Nuytsia floribunda* and *Eucalyptus pleurocarpa* over mixed shrubland with Restionaceae and Cyperaceae sedges present within the CPS 10154 Amendment area. \*Note the degraded state of the vegetation with the intrusion of Victorian Tea Tree (*Gaudium laevigatum*). Photo taken by Kahree Garnaut on the 19<sup>th</sup> December 2023.

Vegetation condition across the CPS 10154 Amendment area ranged from Completely Degraded to Degraded (Keighery 1994), with the majority (approximately 0.18 ha) existing in a Degraded condition. The areas in a Degraded condition were severely infested with Victorian Tea Tree (*Gaudium laevigatum*), with minor infestations of Blowfly Grass (*Briza maxima*), Flatweed (*Hypochaeris radicata*), African Lovegrass (*Eragrostis curvula*) and Evening Primrose (*Oenothera stricta*). Refer to Figure 3.

Additionally, several Phytophthora dieback-susceptible species, namely *Banksia obovata*, *Synaphea media* and *Xanthorrhoea platyphylla*, were observed to be dead or senescing, potentially indicating dieback infestation. This effect was observed in the western half of the largest remnant, potentially explaining the localised lack of *Lambertia inermis* and other susceptible species that were otherwise abundant within the understorey. It is worth noting that there were still areas remaining in the application area possessing healthy Proteaceous species.

Scattered dumping of rubbish and agricultural waste was observed to be impacting the site along the edges, including sheep skeletal material, equipment parts, and miscellaneous containers (Figure 4). The Completely Degraded area was comprised of a cleared drainage depression supporting a sparse herbfield of Common Evening Primrose (*Oenothera stricta*) and a fringe of Jointed Rush (*Juncus kraussii*

subsp. *australiensis*). The proportions of each vegetation type in its respective condition is presented in Table 3.

**Table 3:** Quantification of vegetation condition across the CPS 10154 Amendment.

Vegetation Type	Vegetation Condition (ha)		Total Area (ha)
	Completely Degraded	Degraded	
A: Scattered <i>Nuytsia floribunda</i> and <i>Eucalyptus pleurocarpa</i> over mixed shrubland with Restionaceae and Cyperaceae sedges	< 0.01	0.18	0.18



**Figure 3:** Vegetation Type A in a Degraded condition, highlighting the infestation of Victorian Tea Tree (*Gaudium laevigatum*) in the understorey and relative lack of dieback-susceptible species such as *Lambertia inermis*. Photo taken by Kahree Garnaut on the 19<sup>th</sup> of December 2023.

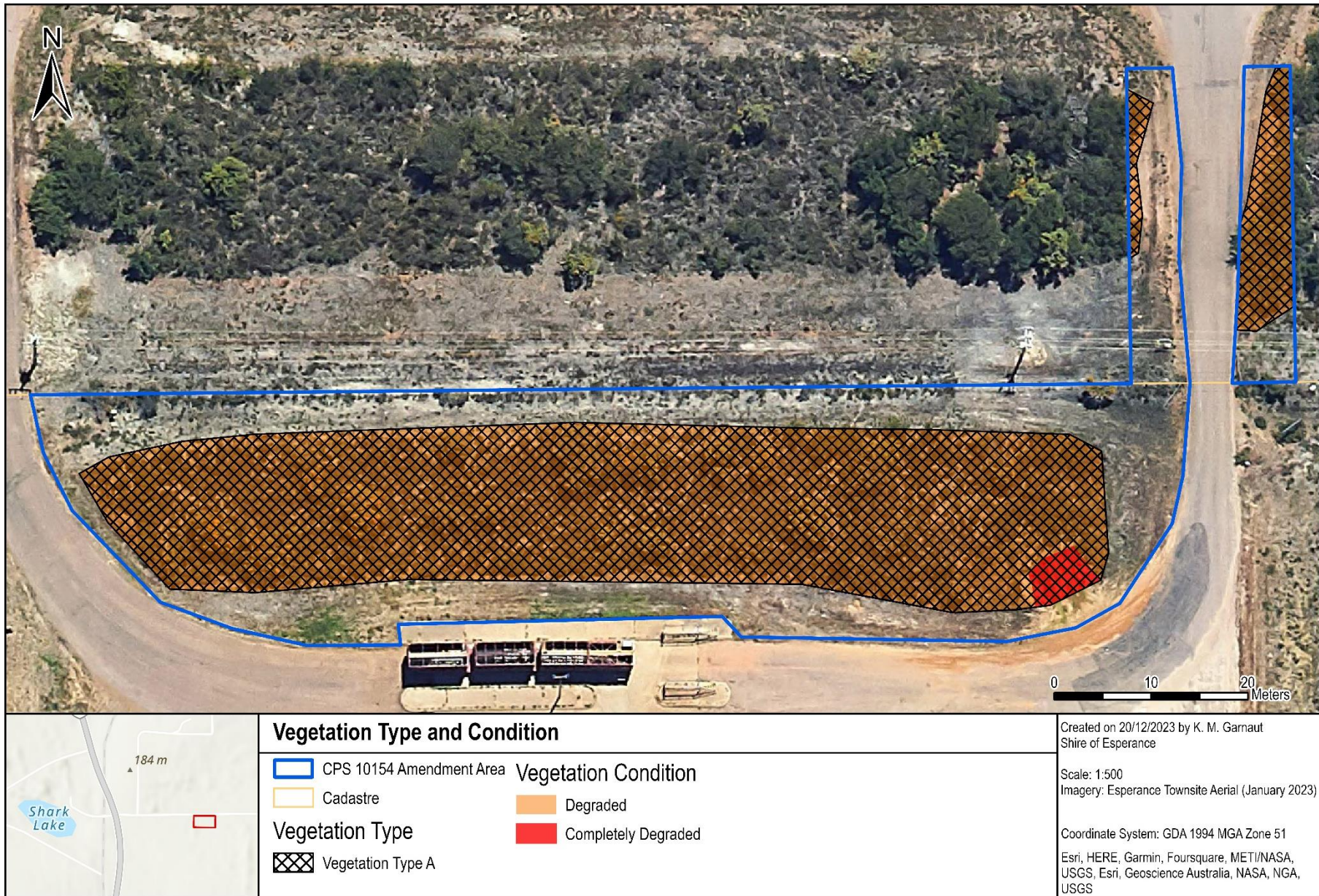


**Figure 4:** Scattered sheep skeletal material within Vegetation Type A. Photo taken by Kahree Garnaut on the 19<sup>th</sup> of December 2023.

### Threatened and Priority Ecological Communities

The desktop survey mapped the EPBC Act-listed Kwongkan TEC within 2 km of the site, suggesting this TEC is possibly present. Vegetation Type A: Scattered *Nuytsia floribunda* and *Eucalyptus pleurocarpa* over mixed shrubland with Restionaceae and Cyperaceae sedges resembled Kwongkan TEC, with over 30% Proteaceous species (predominantly *Lambertia inermis* and *Banksia obovata*) representation in the shrubland layer in areas that did not appear to be dieback-infested. However, the >70% perennial weed cover and predominantly Degraded condition of the remnant resulted in the condition thresholds of the TEC not being met. The patch likely formed part of the Kwongkan TEC prior to becoming weed and dieback infested.





**Figure 5:** Vegetation types and condition within CPS 10154 Amendment area.

## Fauna

A total of sixteen faunal taxa were recorded during the December 2023 site inspection. The family most represented by the avifauna was the honeyeaters (Meliphagidae), which was expected given the profusion of nectar-producing flowers of *Lambertia inermis* and *Melaleuca striata*. Western grey kangaroo scats, tracks and skeletal material were located throughout the remnant. The Christmas spider was abundant within the shrubland understorey. It is likely that many small reptiles, microbats, and invertebrates not encountered during the survey inhabit the remnant, but are difficult to detect diurnally due to traits such as nocturnal or cryptic behaviour. There is potential roosting habitat for avifauna and microbat species present in the canopy of mature Moodjar (*Nuytsia floribunda*). Refer to Table 4.

The introduced cabbage white butterfly (*Pieris rapae*) was sighted during the survey, alongside diggings and scats of the invasive European rabbit (*Oryctolagus cuniculus*), recognised as a Declared Pest under the BAM Act. Domestic sheep (*Ovis aries*) skeletal material was also identified within the vegetation remnant, though these were likely to be the remains of a dead sheep dumped from a livestock truck at the Myrup wash bay. It is considered highly likely that widespread, abundant Declared Pests such as the European red fox (*Vulpes vulpes*) and feral cat (*Felis catus*) are also transient predators hunting within the proposed clearing area.

Two threatened and priority fauna were recorded within the CPS 10154 Amendment area, specifically the Carnaby's Cockatoo (*Zanda latirostris*), listed as Endangered under the EPBC Act and the BC Act, and the quenda (*Isoodon obesulus* subsp. *fusciventer*), listed as Priority 4 fauna under the BC Act. The Carnaby's Cockatoo was identified through the observation of discarded foraging material recognised by the species' EPBC Act referral guidelines (DAWE 2022), primarily in the form of chewed *Pinus pinaster* cones. Foraging habitat was present in the form of Proteaceous and Myrtaceous shrubland (*Banksia obovata*, *Lambertia inermis*, *Melaleuca striata*) and *Xanthorrhoea platyphylla*. Diagnostic, conical quenda diggings were present throughout the proposed clearing area (Figure 6), with suitable habitat provided by the dense sedge-dominated understorey, and the foliage skirts of *Anarthria scabra* and *Xanthorrhoea platyphylla*.



**Figure 6:** Conical diggings of the Priority 4-listed quenda (*Isoodon obesulus* subsp. *fusciventer*) within Vegetation Type A within the CPS 10154 Amendment.

**Table 4:** Incidental list of fauna observed within the proposed CPS 10154 Amendment.

Note: \* indicates species is introduced.

Family	Scientific	Vernacular	Noongar	WA Conservation Status
Araneidae	<i>Argiope protensa</i>	Tailed grass spider		DD
Araneidae	<i>Austrocantha minax</i>	Christmas spider		LC
Artamidae	<i>Artamus cyanopterus</i>	Dusky woodswallow	Biwoyen	LC
Cacatuidae	<i>Zanda latirostris</i>	Carnaby's Cockatoo	Ngoolark	EN
Columbidae	<i>Ocyphaps lophotes</i>	Crested pigeon	Kakarra	LC
Corvidae	<i>Corvus coronoides</i>	Australian raven	Wardang	LC
Leporidae	<i>Oryctolagus cuniculus</i> *	European rabbit		DP – C3
Macropodidae	<i>Macropus fuliginosus</i>	Western grey kangaroo	Yonga	LC
Meliphagidae	<i>Anthorchaera lunulata</i>	Western wattlebird	Djoongong	LC
Meliphagidae	<i>Lichmera indistincta</i>	Brown honeyeater	Djindjoko	LC
Meliphagidae	<i>Manorina flavigula</i>	Yellow-throated miner	Biyooro	LC
Meliphagidae	<i>Phylidonyris novaehollandiae</i>	New Holland honeyeater	Bandiny	LC
Peramelidae	<i>Isoodon obesulus</i> subsp. <i>fusciventer</i>	Quenda, southwestern brown bandicoot	Kwenda	P4
Pieridae	<i>Pieris rapae</i> *	Cabbage white butterfly		Permitted - S11
Phasianidae	<i>Coturnix pectoralis</i>	Stubble quail	Boorlam	LC
Pompilidae	<i>Cryptocheilus</i> sp.	Spider wasp		LC

## Summary of Impacts

The Shire of Esperance site and desktop assessment drawn the following conclusions of the 10 Clearing Principles (DER 2014):

Principles (a), (b), and (e), were assessed as 'Likely to be at variance' due to the high species richness and habitat diversity given the small area and degraded state of vegetation; the provision of suitable foraging habitat for endemic fauna such as the EPBC Act-listed Carnaby's Cockatoo and BC Act-listed quenda; and the existing extensively cleared and poorly-conserved state of Beard VA 6048 (Table 5).

All other principles were assessed as being 'Unlikely to be at variance.' Refer to Table 5 for further detail.

**Table 5:** Assessment of Clearing at proposed CPS 10154 Amendment against the 10 Clearing Principles.

<b>Clearing Principles for native vegetation under Schedule 5 of the EP Act</b>	<b>Comments</b>
Principle (a) Native vegetation should not be cleared if it comprises a high level of biological diversity	<b>Likely to be at variance</b> Diversity was high, with 31 native flora and 14 native fauna species recorded within a small area of 0.18 ha.
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 indigenous to Western Australia.	<b>Likely to be at variance</b> The vegetation provides foraging habitat for the EPBC Act-listed Carnaby's Cockatoo, which is listed as EN under both State and Federal legislation, and the quenda, listed as Priority 4 fauna under the BC Act. Both species are endemic to the south-west region of Western Australia.
Principle (c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.	<b>Not at variance</b> No TF or PF detected at the site.
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.	<b>Not at variance</b> No TECs or PECs were present at the site.
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.	<b>Likely to be at variance</b> VA 6048 has only 14.21% of its pre-European extent remaining both within Western Australia and the Shire of Esperance to which it is endemic. Only 0.89% of its current extent is conserved within IUCN reserves in the CAR network. This VA qualifies as being extensively cleared (<30% remaining) and under-represented (<15%) in the CAR reserve network. Any remaining remnant vegetation is therefore considered significant.
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.	<b>Not at variance</b> The vegetation is not associated with any watercourses, wetlands or hydrological regimes.
Principle (g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.	<b>Not at variance</b> Clearing of the 0.18 ha of vegetation in a predominantly Degraded condition within a modified landscape is unlikely to cause significant land degradation.
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.	<b>Not at variance</b> The site is approximately 588 m from Reserve 31197 (Shark Lake Nature Reserve), connected via vegetated road reserves, remnant vegetation on Shire land, and vegetated railroad corridors. Clearing of 0.18 ha of degraded remnant vegetation surrounding an existing access track and truck wash facility is unlikely to significantly impact the conservation values of the nearby conservation reserves.

<p>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.</p>	<p><b>Not at variance</b>  Clearing of 0.18 ha of degraded vegetation will unlikely have any significant impact on existing hydrological regimes. The Myrup Truck Wash Facility located immediately adjacent to the clearing area is a closed liquid waste system and has been engineered to protect the integrity of both surface and underground water quality.</p>
<p>Principle (j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.</p>	<p><b>Not at variance</b>  Native vegetation often acts to slow surface water movement, encouraging permeation into the substrate. The small area (approximately 0.18 ha) of vegetation will likely prove insignificant in the event of a flood.</p>

## REFERENCES

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