

YOUR REF CPS 9341/1
OUR REF F14/645 D22/23087
ENQUIRIES [REDACTED]
DATE 11/08/2022



[REDACTED]
Senior Environmental Officer
Native Vegetation Regulation
Department of Water and Environmental Regulation
Locked Bag 10, Joondalup DC WA 6919

Dear [REDACTED],

Subject: Clearing Permit Application CPS 9341/1 - Request for Further Information - Response to Additional Information Provided

I refer to your e mail dated 26 July 2022, requesting further information in regards to the Shire of Esperance's Application to Clear Native Vegetation.

We have provided a response to each of the items below.

Please contact [REDACTED] on [REDACTED] should you require further information.

Yours faithfully,

[REDACTED]
Shire of Esperance

1. Priority flora impacts

Leucopogon interruptus – it is noted that the overall extent of impact to this species has not changed (15 out of 39 individuals). If possible, please validate (through on ground inspection) the Shire's comments that this species may occur within the intact vegetation south of Merrivale Road. I acknowledge that this is freehold land and land access may be limited.

Should that not be viable, please provide additional management actions (such as attempts to protect existing adjacent individuals through weed management etc) to demonstrate how the loss of 15 individuals would be mitigated. This is given DBCA's advice that this impact is significant at a local level.

██████████ and ██████████ searched extensively for additional plants along the Merrivale Road Reserve on the 03/08/2022 an additional 10 plants were found during the search none of which will be impacted, updated map of the population is pictured in Figure 1. Resulting in 15 plants of 49 plants being potentially impacted. No other suitable habitat (with similar species composition occurred in the Shire road reserve). No suitable habitat was visible from the Shire road reserve within private property.



Figure 1. Updated location of *Leucopogon interruptus* plants within the Merrivale Road reserve.

Leucopogon interruptus at this location is growing adjacent and underneath and within centimetres of varying size *Leptospermum laevigatum* plants (seedlings to large adults). Any control (either physical or chemical) of the *Leptospermum laevigatum* present within the road reserve will likely result in significant impact to a majority of the *Leucopogon interruptus* present within the road reserve. Within the 10 new plants located to the east of the original population there is some weed invasion from *Asparagus declinatus*. Comprehensive chemical control of *Asparagus declinatus* has been occurring and can still be conducted without any collateral damage of *Leucopogon interruptus*.



Figure 2. *Leucopogon interruptus* growing immediately underneath *Leptospermum laevigatum* within the Merivale Road reserve



Figure 3. Three individual *Leucopogon interruptus* plants amongst *Leptospermum laevigatum* within the Merivale Road reserve

Melaleuca dempta – it is noted that the extent of impact to this species has decreased from 26 out of 34, to 9 out of 34 individuals. Please provide additional information regarding the number of individuals of this species within the proposed offset site, which will help to better quantify the extent of regional impact to this species. As for *L. interruptus*, please also provide additional management measures that will be undertaken to assist in the ongoing survival of individuals adjacent to the proposed clearing.

Melaleuca dempta was present within the proposed offset site at Reserve 35302 (confirmed by [REDACTED] on 20.7.22, KSW7922, Accession 9603) with a total population of 12 mature shrubs and 172 juvenile plants within the Reserve 35302, having recently experienced a mass germination event. The total population however was much higher with large numbers of mature *Melaleuca dempta* shrubs seen along salt lake embankments on private land (Lot: 1756 Pln: 208327, Gibson) immediately north of the reserve, with counts not occurring on the private property, which has large areas of intact salt lake systems. *Melaleuca dempta* has also been found at Lot: 1817 Pln: 169667, Gibson. (west of Coolgardie Esperance Highway on Fleming Grove). Seed can be collected from the *Melaleuca dempta* plants at Site V and stored at DBCA's Threatened Flora Seed Centre, prior to works commencing to mitigate the impacts to this species if deemed necessary.

Please also provide additional Shire commitments relating to the protection of those priority flora individuals that are adjacent to the clearing footprint during construction, such as flagging/demarcating individuals/populations, and operator debriefs regarding priority flora locations etc.

As part of the Shires project planning all environmental information is included in the Work Pack for each project. Both the Site V, Scaddan Road project and the Site P, Merrivale Project internal environmental approval and sign off, mention of the presence of Priority flora and maps are included in the Work Pack along with any conditions of Clearing Permits. This information is required to be all read and signed off by the Project Manager, Project Supervisor and communicated to staff in onsite debriefs. It is standard practice for Shire Environmental Officers to flag out threatened plants with flagging tape prior to commencement of work.

2. Vegetation type and condition information

Please provide a description of what vegetation is being impacted at the revised Site V, noting that a revised impact summary has not been provided. Specifically, it is not clear whether Vegetation Type A, which comprises Carnaby's cockatoo habitat, has been completely excluded from this application area. I note that the revised application area shapefile still appears to intersect with Vegetation Type A.

This information has previously provided by Shire of Esperance in Appendix 1 (page 8) of the response provided on 17/6/2022.

Vegetation type A is still within the clearing area although only degraded condition vegetation of this type will be cleared, full breakdown of vegetation type and condition to be cleared is available for easy reference in Table 1 below.

Table 1. Area to be cleared within Site V, Scaddan by Vegetation type and condition.

Vegetation type	Total	Excellent	Very Good	Good	Degraded	Completely degraded
Vegetation type A - Highly disturbed mixed acacia and proteaceae shrubland	0.332	-	-	-	0.332	-
Vegetation type B - Open <i>Eucalyptus kessellii</i> ssp. <i>kessellii</i> woodland over <i>Acacia cyclops</i> shrubland	0.125	-	-	-	0.125	-
Vegetation type C - Regenerating <i>Eucalyptus</i> Mallee over <i>Acacia cyclops</i> shrubland	0.868	-	-	0.157	0.711	-
Vegetation type D - <i>Eucalyptus</i> Mallee over <i>Melaleuca</i> shrubland	2.389	-	<0.000	2.285	0.101	0.002
Vegetation type E - Scattered <i>Melaleuca cuticularis</i> and Samphire community on salt lake periphery	0.128	-	0.128	0.001	-	-
Total	3.842	-	0.128	2.442	1.267	0.002

Please provide Shapefiles for Sites S and X that have been clipped against the vegetation condition/type for extent of clearing (rather than the entire road reserve). This is consistent with those provided for Site P titled 'veg cond type cleared'. I note that while this has been provided for Site X, the shapefile has not been afforded any vegetation condition or type attributes.

Shapefiles provided as attachment to response.

3. Weed and Dieback Management Plan

The Shires Weed and Dieback Management Plan makes the following reference for several sites “It is highly likely that proposed works will increase the distribution of weeds and degrade vegetation along the entire road reserve where works occur... Ideally, regular wash downs during ... works to remove weed seeds or follow up herbicide control of invasive species needs to occur. However, this will be extremely expensive to employ contractors and mobilise equipment, which may not be feasible with given budgets”.

While the department appreciates that this may be a reality, please advise whether the Shire can commit to either of these management measures for some sites, and if so, which sites. Note that it would be preferable if such measures were undertaken for those sites, or even portions of those sites at higher risk of further weed and dieback spread to adjacent priority flora populations.

Limiting Dieback spread is important to the Shire of Esperance and the Shire will schedule works in the summer months (which coincide with dry soil conditions) in higher dieback risk areas. For CPS 9341 this includes Site B, Site S, Site P and Site X which are located in higher rainfall parts of the Shire.

In some projects additional control measures will also be taken based on the environmental values of each site and risks from environmental weeds and dieback on the environmental value. For example, Site S Coramup Rd report states (on page 12) that “indicator signs for a plant pathogen were mostly restricted from SLK 4.01 to 4.45 of Coramup road. This area should be treated with extra precaution to limit the spread of the disease, and suggested to complete these works last or wash down prior to continuing with the road resheet”. All of the recommendations for best practice environmental management are included in our internal approvals systems (Work Packs).

Machines are clean prior to moving from one project area to another based on risk assessments and environmental values of each site. Additional regular cleandown measures including regular washdowns will be carried out for project areas that do have vegetation in excellent condition such as Site B, V, S, and O.

Machine operators are also inducted about weed control and the importance of not spreading weeds into undisturbed areas. The Shire of Esperance will endeavour to conduct clearing works so that they start at the least weedy sections and move to the more weedy sections, for example Site S would be cleared in a north to south direction to preserve the intact vegetation as much as possible in the northern parts of the project area. The Environmental coordinator provides this advice in the Projects Work Pack part of our internal approvals systems.

The Shire of Esperance regularly monitors project sites post works and where weeds are deemed an issue post works, spraying is carried out. The post works spraying is included as part of the total project budget, so funding for these works is not a limiting factor.

4. Offset Proposal

The attached rehabilitation Plan for Reserve 35302 details these works³

Rehabilitation Plan Reserve 35302 (Lot 1985 Pln:91222)

Reserve 35302, Flemming Grove Road, Scaddan is proposed as an Environmental Offset site for CPS 9341/1. 4.306 ha of the 116.75 ha proposed as a land acquisition offset remains clear in 2022. This report details additional works planned by the Shire of Esperance to address these areas.

The environmental values specific to this area include conserving the high diversity of Proteaceous species in the area and the critical role Kwongkan plays for Carnaby Black Cockatoo, *Calyptorhynchus latirostris*, foraging grounds. The Shire of Esperance aims to restore the ecological values of the ecosystem present at Reserve 35302 (Lot 1985 Pln:91222) by rehabilitating areas to become self-sustaining and representative of the original vegetation unit.

Pre-Rehabilitation Weed Control

Weed control works have been undertaken in 2022 and these will be monitored 6 monthly in March and October for 3 years, for any re-growth. Due to the small weed loading prior to control works, it is unlikely that much (if any) follow up work will be required.

Works included a small section of approximately ten Golden Wattle (*Acacia pycnantha*) on the northern side of Fleming Grove road there was which have been ringbarked and sprayed in June 2022. Two *Pinus pinaster*, and a small area where a trailer load of garden refuse had been previously dumped including succulents, *lavendula dentata* and rose pelagonium has all been sprayed and hand pulled in June 2022.

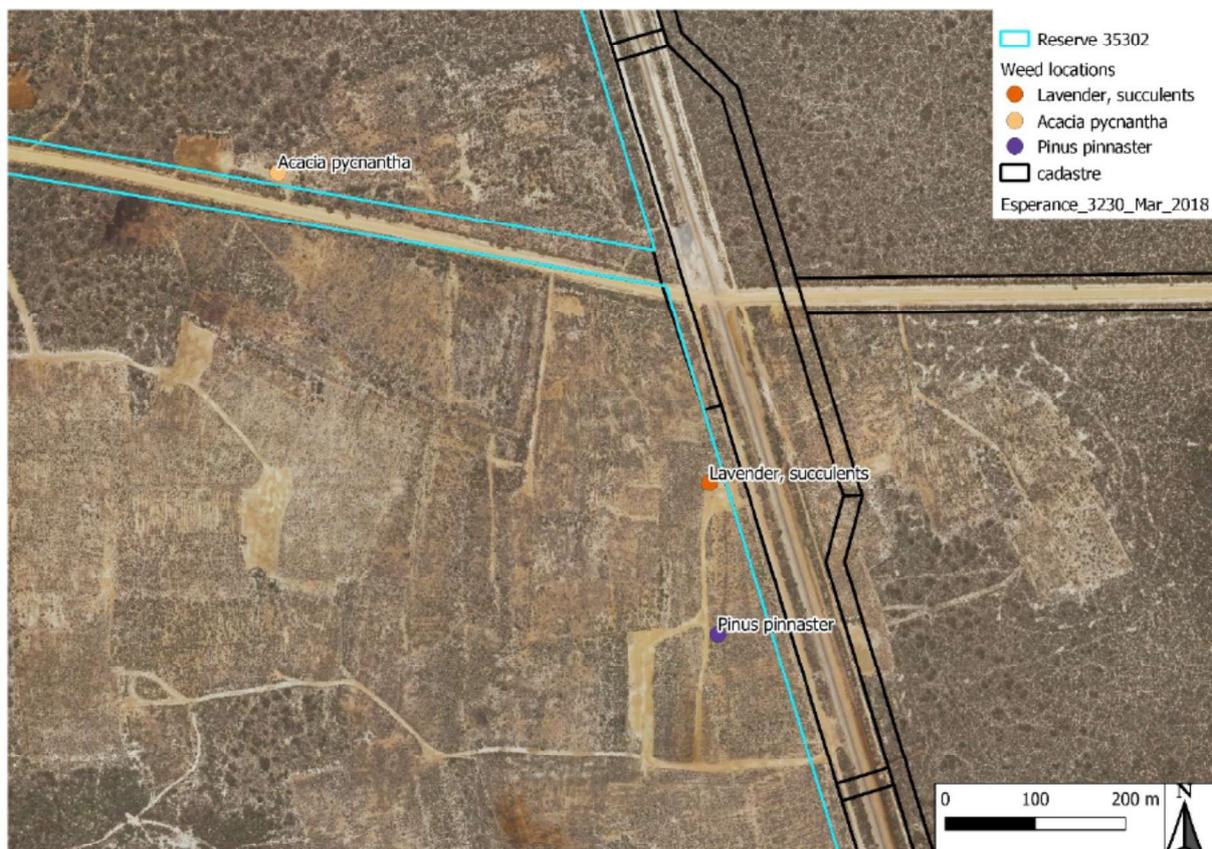


Figure 1. Location of weeds treated within the proposed offset site.

Rehabilitation Earthworks

Three hectares comprising of mostly large areas will be ripped with a dozer and if any topsoil stockpiles remain these will be spread over the site. Due to the small size of these areas and the fact that the dozer will inadvertently disturb intact vegetation in this process, no additional seed or seedlings should be required. Due to the sensitivity of the vegetation to *Phytophthora* dieback, strict hygiene including cleaning prior to works commencing at the site will be implemented.

The main east-west track in the southern portion of the reserve will be left open (un-rehabilitated) for fire and management access.

Revegetation works will consist of ripping to a depth of 200-350mm deep and spreading existing topsoil stockpiles. No direct tube stock planting or direct seeding will occur immediately, and only be used as a contingency technique if this method fails.

Revegetation works will be carried out over April-June 2023 prior to the onset of the main winter rains.



Figure 2. Location of proposed rehabilitation areas to be ripped within the proposed offset site.

Disease Hygiene Management

There are a large number of plant pathogens that can be spread by moving infected soil and plant material. Specifically, of focus is *Phytophthora* Dieback, such as *P. cinnamomi*. The project falls within the rainfall zone in which *Phytophthora* dieback may occur. Hygiene measures to minimise the risk of diseases are a standard part of Shire of Esperance's practices when clearing vegetation, including:

- All machinery, plant and equipment shall be free of soil and vegetative matter prior to entering and leaving the site.
- The movement of soil shall be avoided in wet conditions.

There is an assumption that no dieback is currently present at the site (based on DIDMS information and healthy looking Proteaceous species observed at the site during initial survey). The Shire of Esperance will use best practice clean down to ensure dieback is not introduced into the site due to our operations, however given that the site is on a public road, and accessible by the public, we cannot guarantee that dieback will not be introduced into the site by a member of the public, or be rail maintenance operations and this may impact upon completion criteria.

Completion criteria

All planned rehabilitation areas belong to vegetation types A and B:

- Vegetation Type A: Open Tallerack Mallee-heath and *Lambertia inermis* over mixed heath
- Vegetation Type B: *Banksia armata* dominated low heath with diverse Ericaceae, Myrtaceae and Proteaceae heath

Prior to clearing, it is likely that all of these areas would have met the the criteria for the 'Proteaceae Dominated Kwongkan Shrublands of the Southeast Coastal Floristic Province of Western Australia (Kwongkan)' threatened ecological community (TEC) criteria, due to Criterion 2a of Proteaceous species having a foliage cover of greater than 30% (Commonwealth of Australia 2014). Rehabilitation is considered to successful return the site to pre-clearing ecological values when the rehabilitated vegetation once again meets the Kwongkan TEC criteria. However, Criterion 2b, described as 'two or more diagnostic Proteaceae species are present that are likely to form a significant vegetative component when regenerated' will be used as a measure of whether the returning vegetation meets Kwongkan TEC criteria. The use of diagnostic species is for situations in which the cover of Proteaceae species is reduced due to recent disturbance, such as gravel extraction.

Table 1. Completion criteria following the SMART (specific, measurable, achievable, relevant, time-bound) principles for the rehabilitation of Reserve 35302, Fleming Grove Road (Lot 1985 PIn 91222)

Criterion	Baseline Floristic data	Completion Target	Completion Criteria
1	No baseline data exists, however based on the soil types and surrounding vegetation the site was likely to contain the Proteaceae Dominated Kwongkan Shrublands of the Southeast Coastal Floristic Province of Western Australia (Kwongkan)' threatened ecological community prior to clearing	80% of the Site meets the Key diagnostic characteristics and condition thresholds for Kwongkan TEC, using criterion 2b of the Approved Conservation advice for Kwongkan TEC. Note criterion 2b is used due to the disturbance.	80% of the revegetation site has two or more diagnostic Proteaceae species present (See appendix 2) that are likely to form a significant vegetative component.
3	<i>Eucalyptus pleurocarpa</i> is present as the dominant	Return of dominant tree species	<i>Eucalyptus pleurocarpa</i> is present in the

	tree species in Vegetation A		rehabilitation area scattered throughout at a density of one plant per 400m ²
4	Some weeds at site but in low density	Significant Environmental weed species are absent from the revegetation site.	No <i>Acacia pycnantha</i> , <i>lavender</i> , <i>Pinus pinaster</i> , succulents, or rose pelagonium are found in the rehabilitation area

Monitoring

Monitoring of the rehabilitated area following gravel extraction will determine if completion criteria have been achieved and if contingency measures are required. The methodology for monitoring will involve onsite visual assessments to determine whether revegetation has been implemented as planned and that completion criteria have been met, as outlined in Table 1. Monitoring will occur annually after the third year by the Shire of Esperance's Environmental Officers, who have a tertiary level education in Environmental Science or similar qualifications. This will continue for up to six years post rehabilitation event or until rehabilitation has been deemed successful.

Contingency measures

Where the rehabilitation is deemed unsuccessful by comparison to the completion criteria, contingency measures will be undertaken, until the completion criteria are met sufficiently. This is an adaptive process and dependent on what completion criteria has failed. A few standard techniques are outlined below:

- If the composition of species does not meet criteria, then specific species will be infill planted or seeded during the next revegetation season from April to June.
- If listed environmental weeds exist in the site then herbicide and or manual control will be applied to affected areas.

Species selection

Keystone and dominant species will be selected as a contingency measure if respreading topsoil and stockpiled vegetation has unsuccessful germination and does not meet the completion criteria. The incidental species list from the October 2019 survey (Appendix 1) will be the basis for determining species selection for seed and tubestock seedlings, based on availability. Seed can also be collected from the adjacent road reserve or the 240 ha Crown Reserve 32802 immediately to the north of the area as these contain similar vegetation types and are local province.

Reporting

The Annual Compliance Report for CPS 9341/1 will include a report on revegetation activities, outlining the measurable targets outlined in Table 1 as the completion activities and results of the monitoring. The Annual Compliance report for clearing permits administered by DWER are generally required to be submitted to DWER by 30th June, covering from the 1st January to 31st December of the preceding year.