

Targeted Flora Report for *Leucopogon* sp. Cascade in proposed road realignment

Shire of Esperance, CPS 8400/1



November 2020

1 Executive Summary

This 'Vegetation, Flora, Fauna and Environmental Considerations and Targeted Flora Report' has been undertaken in accordance with the 'Environmental Protection Authority (EPA) Technical Guidance, Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia (2016)' to fulfil condition 8(a) of CPS 8400/1 Clearing Permit, as administered by Department of Water and Environmental Regulations (DWER). This involved conducting a Targeted Flora Survey specifically for determining any impact to *Leucopogon* sp. Cascade (P1) inside a proposed road realignment along Neds Corner Rd, designed to avoid impact to a known population of *L. sp. Cascade* discovered during the flora survey for CPS 8400/1.

2 Introduction

The Shire of Esperance endeavors to maintain a high level of road safety, being proactive in identifying high risk roads and progressively upgrading them. The Shire of Esperance manages the largest road network of any local government in Western Australia, encompassing a total of 4 593 km of road. The Shire of Esperance has been granted a clearing permit, CPS 8400/1 'Neds Corner Rd reconstruction, from South Coast Highway to Yerritup Rd', due to the narrow nature of the existing road resulting in dangerous conditions that don't meet modern safety requirements.

New populations of *Leucopogon* sp. Cascade, a priority one species that is poorly known, was discovered during the 2019 flora survey for the clearing permit application. To avoid impact to any plants present in intact vegetation, an exclusion zone was proposed with an accompanying road realignment on the opposite side of the road. These new re-alignment areas had not been surveyed in September 2019. Approval for the clearing permit was granted, with condition 8(a) that "prior to undertaking any clearing within the area cross-hatched green on Plans 8400/1cm 8400/1e and 8400/1g (Appendix 7.1; Appendix 7.2), the Permit Holder shall engage a botanist to conduct a targeted flora survey for the presence of threatened flora and priority flora in accordance with the Environmental Protection Authority's *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* (December 2016)". This report summarises the results of the targeted flora survey.

Further information on the site and project can be found in the previously submitted 'Vegetation, Flora, Fauna and Environmental Considerations Report for CPS 8400/1 Neds Corner Road widening, South Coast Hwy to Yerritup Rd' and 'Targeted Flora Report for CPS 8400/1 Neds Corner Road widening, South Coast Hwy to Yerritup Rd'.

Neds Corner Rd, extending from South Coast Hwy to Yerritup Rd, is located approximately 77 km north-north-west of Esperance town-site, and 31 km south of Cascade town-site (Figure 1). It is a major connection between the Cascade town-site and the main highway connecting Esperance to other regional centers.

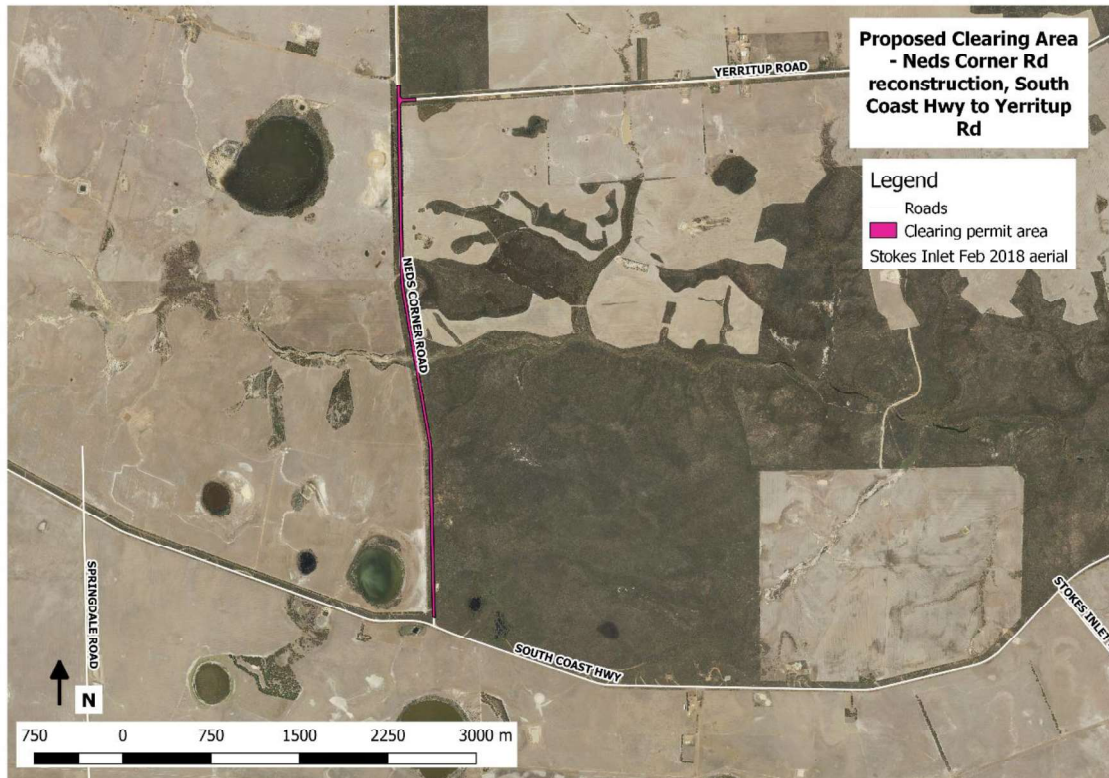


Figure 1. Location of CPS 8400/1, Neds Corner Rd widening, from South Coast Hwy to Yerritup Rd.

3 Methodology

The targeted flora survey was undertaken following the Environmental Protection Authority's (EPA) 'Technical Guidance, Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia (2016)'. This was conducted on 04/11/20 by [REDACTED] the Shire's Environmental Officer and [REDACTED] Field Assistant. The known and confirmed populations were visited prior to commencing the survey of the realignment areas for botanists to re-familiarise themselves with key taxonomic and identifier markers. The realignment areas highlighted by the green shaded areas in the CPS 8400/1 approval were then thoroughly searched by foot. All new plants found were counted and mapped using a Panasonic FS-G1 Toughpad with the program ROAM. No formal collection of specimen occurred or was sent to the WA Herbarium due to the close proximity of the originally found specimens demonstrating was a single population. No informal collections occurred under Katie White's Regulation 61, Biodiversity Conservation Regulations 2018 Licence for Flora Taking, FT61000029 or Sophie Willsher's, FB62000278. A threatened and priority reporting form (TPFL) was submitted to Department of Biodiversity, Conservation and Attractions (DBCA)'s Esperance Flora Officer, Emma Massenbauer and the Species and Communities branch on 09/11/20.

4 Results and discussion

4.1 CPS 8400/1c population

Located at three km north of South Coast Hwy, no additional plants were discovered in the proposed realigned area. It is proposed that clearing will continue inside the proposed realignment inside the western area of the road reserve, to avoid impacting the two plants growing on the eastern side of the

road.

4.2 CPS 8400/1e population

CPS 8400/1e map depicts the road realignment inside the western area of the road reserve at 2.4 km north of South Coast Hwy, implemented to create an exclusion zone that avoids impacting a single plant in the previous road design. The targeted flora survey discovered 5 additional plants of *Leucopogon* sp. Cascade on the western road reserve. Of these, three were present within the proposed realignment area.

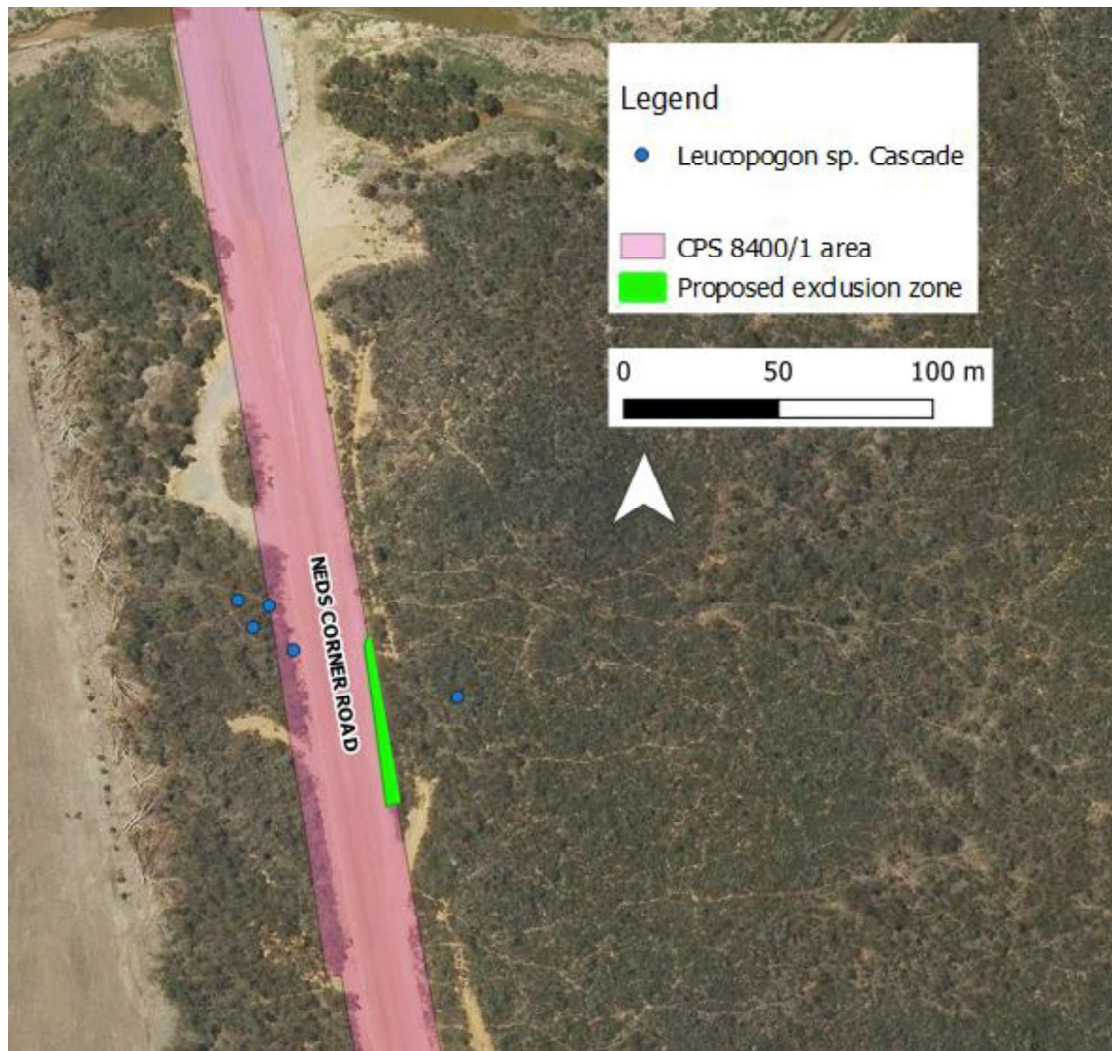


Figure 2. Location of *Leucopogon* sp. Cascade along Neds Corner Rd, as depicted in map CPS 8400/1e

4.3 CPS 8400/1g population

CPS 8400/1g map depicts the road realignment into the eastern road reserve at 1.7 km north of South Coast Hwy. A population of five plants *L. sp. Cascade* were present on the western road reserve, with two plants located inside the current road active footprint. The road realignment was proposed to avoid impacting the other three plants, and implemented an exclusion zone. However, during the targeted flora survey, a single plant

was found inside the proposed realignment area.

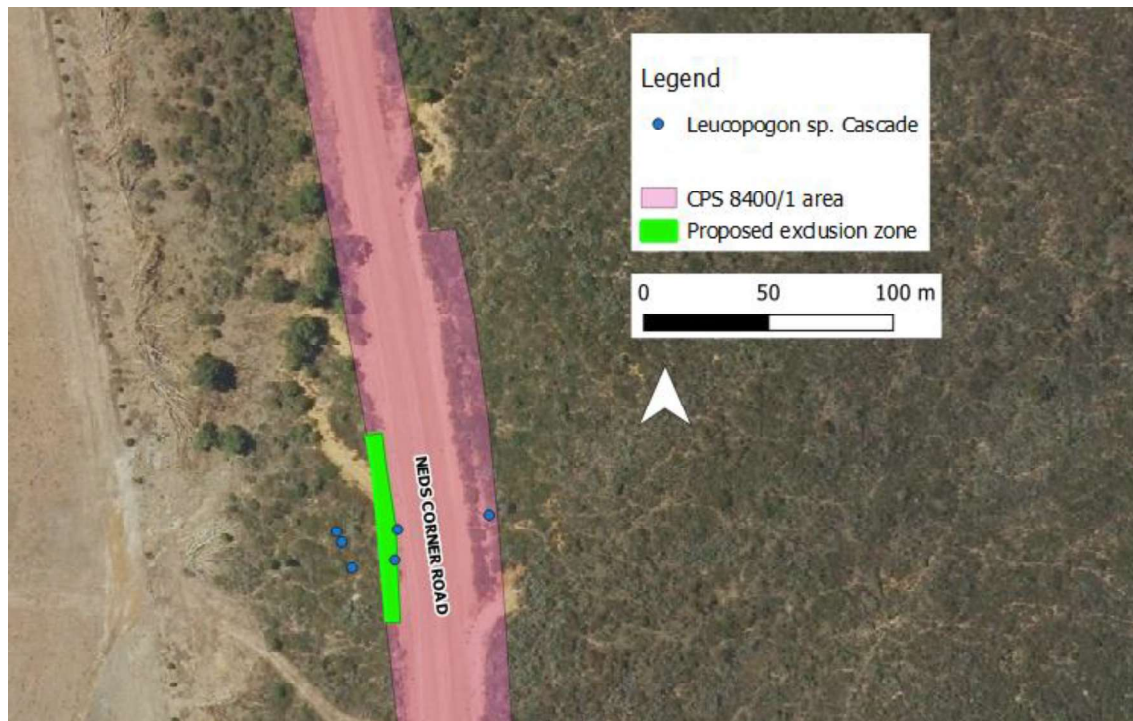


Figure 3. Figure 2. Location of *Leucopogon* sp. Cascade along Neds Corner Rd, as depicted in map CPS 8400/1g.

5 Discussion

Unfortunately due to the extremely narrow nature of Neds Corner Rd, the steep batters currently present and its position as a heavy haulage route during harvest, a minimum of 28 m is required to complete the road reconstruction and increase safety levels to meet modern safety requirements. Therefore, it is proposed that widening continue at 28 m using the design with the least amount of impact to conservation.

This involves continuing with the proposed realignment at CPS 8400/1c map with no impact to any *Leucopogon* sp. Cascade plants occurring at all. However, at CPS 8400/1g there was one plant present within the proposed realignment. This is still less than the possible three plants that would be cleared in the western road reserve without the realignment. Lastly, at CPS 8400/1e map population, three additional plants would be taken if the road realignment was implemented, opposed to the single plant if continued on current alignment (and an exclusion zone not implemented). It's proposed therefore that the clearing permit area be amended to allow for an additional plant be taken at CPS 8400/1g and remove the exclusion zone that creates the road realignment for CPS 8400/1e.

To summarise, the impact of the proposed CPS 8400/1 Neds Corner Rd Reconstruction, from South Coast Hwy to Yerritup, project, six *L. sp. Cascade* plants will be cleared out of a total of 13 plants across the entire area. This includes the two *L. sp. Cascade* plants already present within the existing road footprint.

6 References

Adams E. (2012), *Shire of Esperance Threatened and Priority Flora: Field guide*, unpublished for the Department of Environment and Conservation

Commonwealth of Australia, *Environmental Protection and Biodiversity Conservation Act 1999* (Cth), < <https://www.legislation.gov.au/Details/C2019C00275>>

Department of Biodiversity, Conservation and Attractions (2020) *Florabase*, The Flora of Western Australia Online (and collections housed at the WA Herbarium). < <https://florabase.dpaw.wa.gov.au/search/advanced.>>

Department of Water and Environmental Regulations (2019), *Procedure: Native vegetation clearing permits, Application, assessment, and management requirements under Part V Division 2 of the Environmental Protection Act 1986*, Government of Western Australia. [October 2019]. < https://dwer.wa.gov.au/sites/default/files/Procedure_Native_vegetation_clearing_permits_v1.PDF>

Environmental Protection Authority (EPA) (2016), *Technical Guidance, Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia*, Government of Western Australia. < <http://www.epa.wa.gov.au/policies-guidance/technical-guidance-flora-and-vegetation-surveys-environmental-impact-assessment>>

Main Roads of Western Australia (2020), *Standard Line Kilometres online application*, Government of Western Australia. < <https://mrapps.mainroads.wa.gov.au/gpsslk>>

Western Australian Government, *Biodiversity Conservation Act 2018*. < https://www.legislation.wa.gov.au/legislation/statutes.nsf/law_s50938.html>

Western Australian Government, *Landgate*, < <https://www0.landgate.wa.gov.au/>>

Western Australia Local Government Association (WALGA), *Local Government Mapping spatial database*.

7 Appendix

7.1 Approved clearing permit CPS 8400/1 covering the Neds Corner Rd reconstruction, from South Coast Hwy to Yerritup Rd project.



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	8400/1
Permit Holder:	Shire of Esperance
Duration of Permit:	From 22 July 2020 to 22 July 2025

ADVICE NOTE

The Crown Reserve referred to in condition 13 of this permit is intended to offset the significant residual environmental impacts identified under CPS 8400/1. The 64.91 hectares that remains within Crown Reserve 4181 is to be a banked offset.

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

PART I - CLEARING AUTHORISED

- Purpose for which clearing may be done**
Clearing for the purpose of road construction and upgrades.
- Land on which clearing is to be done**
Neds Corner Road reserve (PIN 11644162), Coomalbidgup
Yerritup Road reserve (PIN 11644162), Coomalbidgup
- Area of Clearing**
The Permit Holder must not clear more than 5.56 hectares of native vegetation. All clearing must be within the areas cross-hatched yellow and shaded green on attached Plans 8400/1a, 8400/1b, 8400/1c, 8400/1d, 8400/1e, 8400/1f, 8400/1g, 8400/1h and 8400/1i.
- Application**
This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.
- Type of clearing authorised**
This Permit authorises the Permit Holder to clear native vegetation for the activities described in condition 1 of this Permit to the extent that the Permit Holder has the power to carry out work involving clearing for those activities under the *Local Government Act 1995* or any other written law.

PART II - MANAGEMENT CONDITIONS

- Avoid, minimise and reduce the impacts and extent of clearing**
In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:
 - avoid the clearing of native vegetation;
 - minimise the amount of native vegetation to be cleared; and

- (c) reduce the impact of clearing on any environmental value.
7. **Dieback and weed control**
When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the 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.
8. **Flora management**
- (a) Prior to undertaking any clearing within the area cross-hatched green on attached Plans 8400/1c, 8400/1e and 8400/1g, the Permit Holder shall engage a *botanist* to conduct a *targeted flora survey* for the presence of *threatened flora* and *priority flora* in accordance with the Environmental Protection Authority's *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* (December 2016).
 - (b) Where *threatened flora* or *priority flora* are identified in relation to condition 8(a) of this Permit, the Permit Holder shall ensure that no clearing of *threatened flora* or *priority flora* occurs.
9. **Fauna management - direction of clearing**
The Permit Holder shall conduct clearing in a slow progressive manner from one direction to the other (e.g. east to west) to allow fauna to move into adjacent native vegetation ahead of the clearing activity.
10. **Threatened ecological community management**
The Permit Holder shall not clear more than 2.04 hectares of vegetation representative of the 'Proteaceae Dominated Kwongkan Shrublands of the Southeast Coastal Floristic Province of Western Australia' threatened ecological community.
11. **Carnaby's cockatoo habitat management**
The Permit Holder shall not clear more than 5.56 hectares of vegetation that provides suitable habitat for Carnaby's cockatoo (*Calyptorhynchus latirostris*).
12. **Period in which clearing is authorised**
The Permit Holder must ensure that road widening and upgrade activities occur within three months of the authorised clearing being undertaken.
13. **Offset – Crown Reserve 4181**
By 21 July 2021, the Permit Holder shall provide to the CEO a copy of the executed change in purpose of the area cross-hatched red on attached Plan 8400/1j within Crown Reserve 4181 from 'common reserve' to 'conservation'.

PART III - RECORD KEEPING AND REPORTING

14. **Records to be kept**
The Permit Holder must maintain the following records for activities done pursuant to this Permit:
- (a) In relation to the clearing of native vegetation authorised under this Permit,
 - (i) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
 - (ii) the date that the area was cleared;
 - (iii) the size of the area cleared (in hectares);

- (iv) purpose for which clearing was undertaken;
- (v) actions taken to avoid, minimise and reduce the impacts and extent of clearing in accordance with Condition 6 of this Permit;
- (vi) actions taken to minimise the risk of the introduction and spread of weeds and dieback in accordance with Condition 7 of this Permit;
- (vii) actions taken in accordance with condition 9 of this Permit;
- (viii) the size of vegetation representative of the 'Proteaceae Dominated Kwongan Shrublands of the Southeast Coastal Floristic Province of Western Australia' threatened ecological community cleared (in hectares) in accordance with condition 10 of this Permit;
- (ix) the size of vegetation that provides suitable foraging habitat for Carnaby's cockatoo (*Calyptrorhynchus latirostris*) in accordance with condition 11 of this Permit; and
- (x) the date road construction and upgrade activities commenced following cessation of authorised clearing in accordance with condition 12 of this Permit.

- (b) In relation to flora management pursuant to condition 8 of this Permit:
 - (i) the location of each *threatened flora* or *priority flora* species recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
 - (ii) the species name of each *threatened flora* or *priority flora* species identified;
 - (iii) a copy of the botanist's flora survey report and complete Metadata and Licensing Statement in accordance with the Environmental Protection Authority's *Instructions for the preparation of data packages for the Index of Biodiversity Surveys for Assessments (IBSA)*.

15. Reporting

- (a) The Permit Holder must provide to the CEO on or before 31 July of each year, a written report demonstrating adherence to all conditions of this permit, and setting out the records required under Condition 14 of this permit in relation to clearing carried out between 1 July and 30 June of the previous financial year.
- (b) If no clearing authorised under this Permit was undertaken between 1 July and 30 June of the previous financial year, a written report confirming that no clearing under this permit has been carried out must be provided to the CEO on or before 31 July each year.
- (c) Prior to 21 April 2025, the Permit Holder must provide to the CEO a written report of records required under condition 14 of this Permit where these records have not already been provided under condition 15(a) of this Permit.

DEFINITIONS

The following meanings are given to terms used in this Permit:

botanist means a person with specific training and/or experience in the ecology and taxonomy of Western Australian flora.

CEO means the Chief Executive Officer of the Department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*.

dieback means the effect of *Phytophthora* species on native vegetation.

fill means material used to increase the ground level, or fill a hollow.

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.

priority flora means those plant taxa described as priority flora classes 1, 2, 3 or 4 by the Department of Biodiversity, Conservation and Attractions *Declared Rare and Priority Flora List for Western Australia* (as amended).

targeted flora survey means a field-based investigation, including a review of established literature, of the biodiversity of flora and vegetation of the permit area, focusing on habitat suitable for flora species that are being targeted and carried out during the optimal time to identify those species. Where target flora are identified in the permit area, the survey must also include a minimum of 10 metre radius of the surrounding area to place the permit area into local context.

threatened flora means threatened flora listed under the *Biodiversity Conservation Act 2016* within the *Wildlife Conservation (Rare Flora) Notice 2018* (as amended).

weed/s means any plant -

- (a) that is declared under the 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.

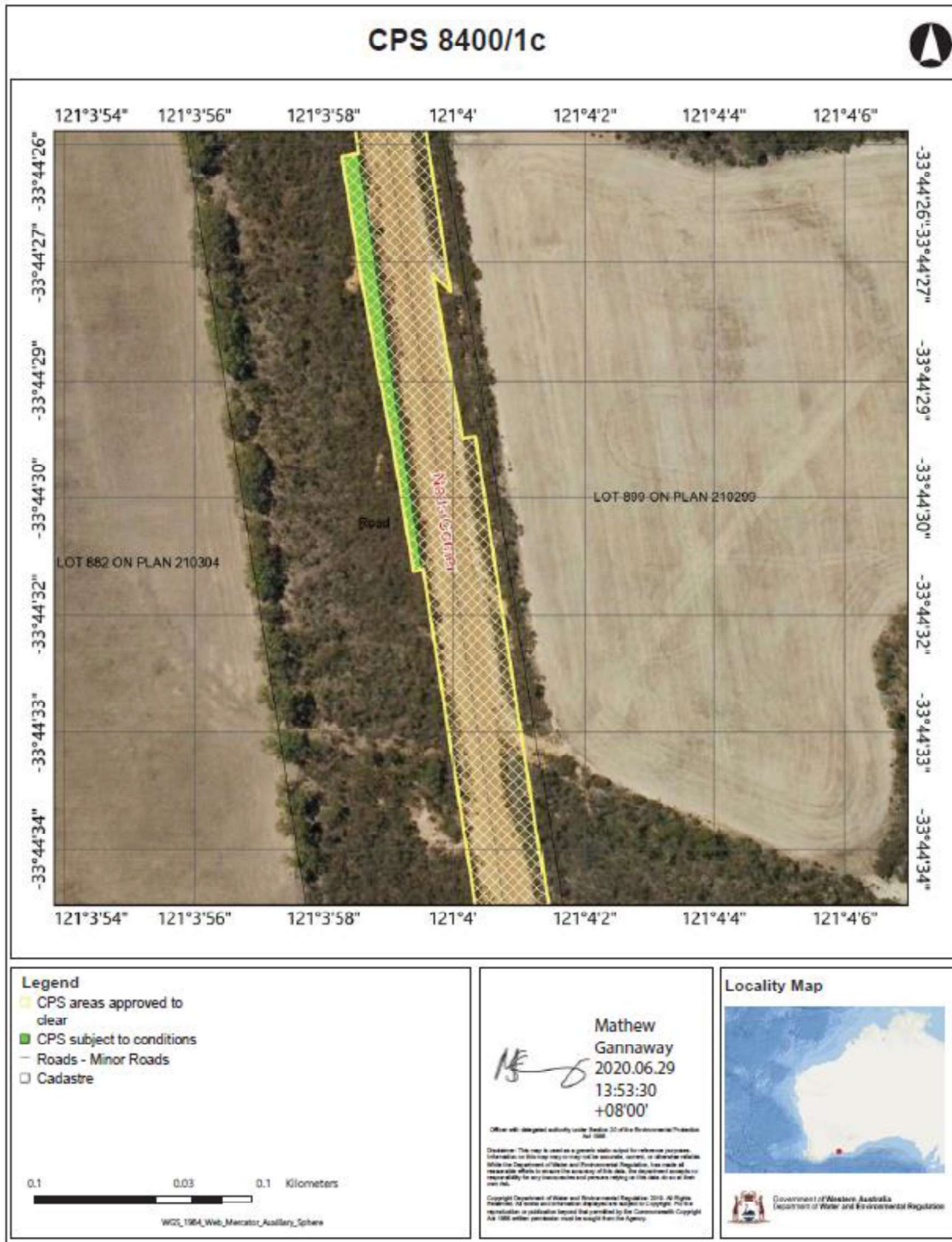


Mathew Gannaway
MANAGER
NATIVE VEGETATION REGULATION

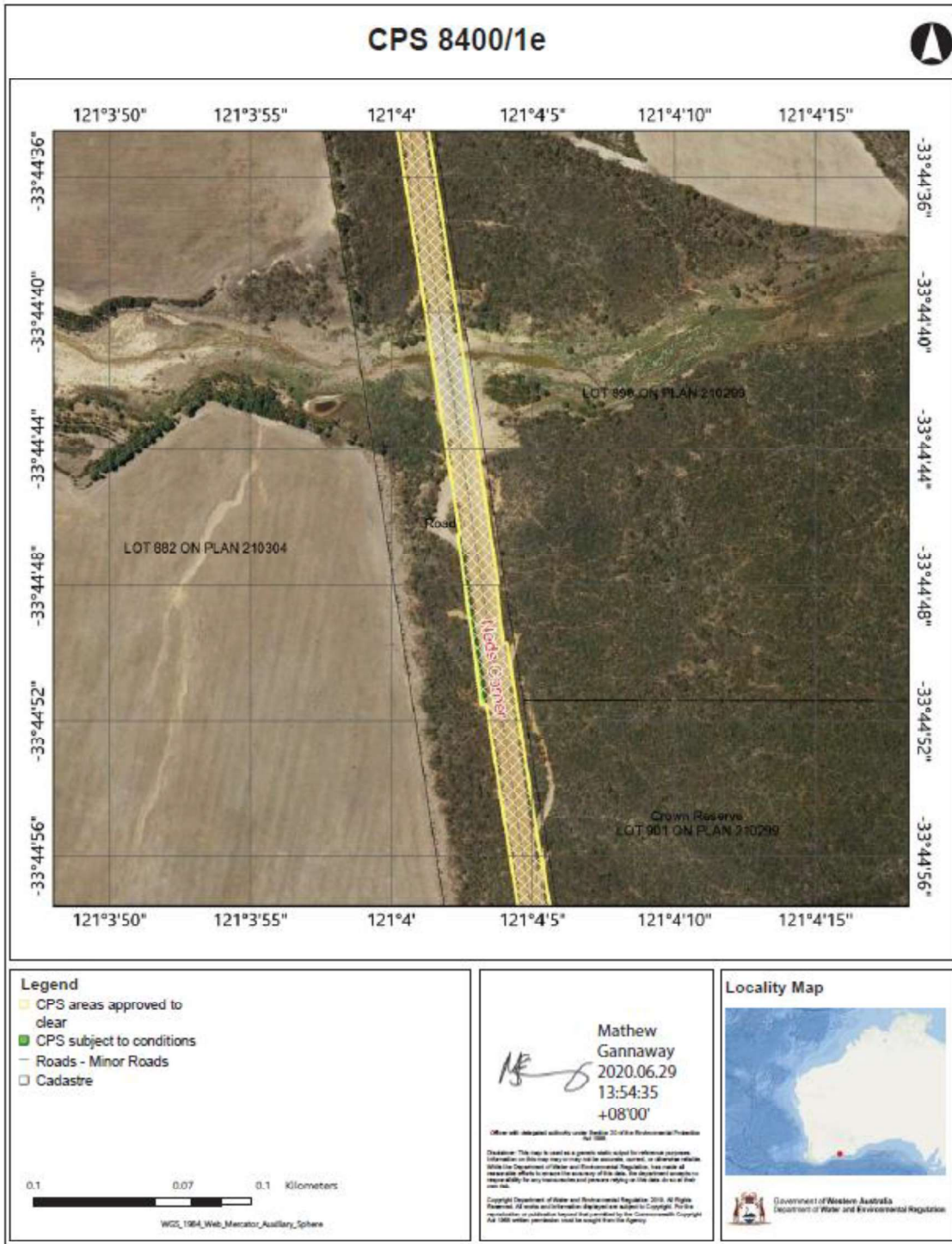
*Officer with delegated authority under Section 20
of the Environmental Protection Act 1986*

29 June 2020

7.2 Maps associated with condition 8(a) in CPS 8400/1

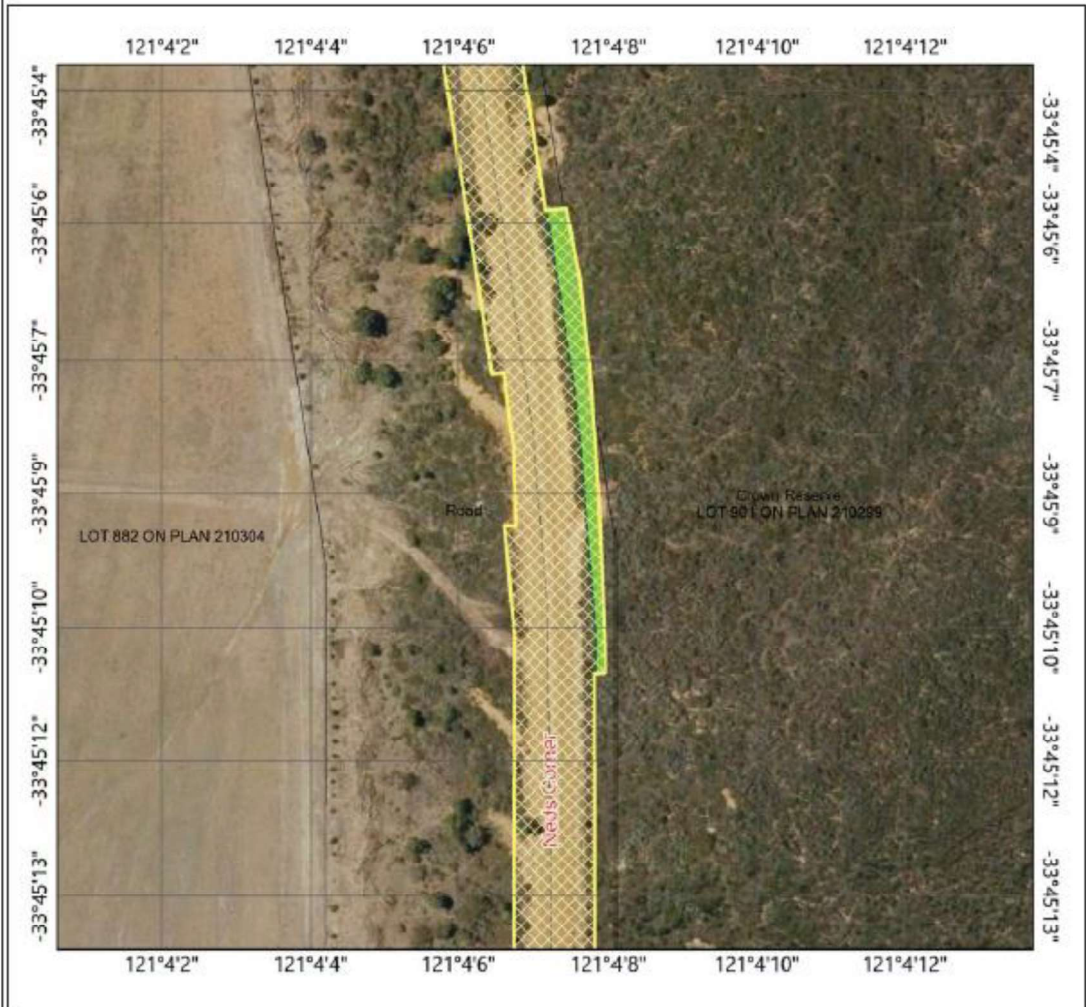


CPS 8400/1 – Neds Corner Rd, South Coast Hwy to Yerritup Rd – Targeted Flora Survey for *Leucopogon* sp. Cascade in proposed road realignment



CPS 8400/1 – Neds Corner Rd, South Coast Hwy to Yerritup Rd – Targeted Flora Survey for *Leucopogon* sp. Cascade in proposed road realignment

CPS 8400/1g



- Legend**
- CPS areas approved to clear
 - CPS subject to conditions
 - Roads - Minor Roads
 - Cadastre



Mathew
Gannaway
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Work with targeted activity under Section 33 of the Environmental Protection Act 1986

Disclaimer: This map is used as a general guide only for reference purposes. Information on this map may or may not be accurate, current, or otherwise reliable. While the Department of Water and Environmental Regulation, has made all reasonable efforts to ensure the accuracy of this map, the Department accepts no responsibility for any consequences and persons relying on this map do so at their own risk.

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Locality Map



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CPS 8400/1 – Neds Corner Rd, South Coast Hwy to Yerritup Rd – Targeted Flora Survey for *Leucopogon* sp. Cascade in proposed road realignment