453 BRAMLEY RIVER ROAD, OSMINGTON



Flora and fauna assessment

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EXECUTIVE SUMMARY

Nicole Siemon and Associates Pty Ltd (NSA) were commissioned by the owners of 453 Bramley River Road, Osmington to undertake a flora and fauna assessment of the remnant vegetation around two existing dams. The owners propose to expand the water storage capacity. The permanent freshwater increases the conservation values of the lot.

This report has been prepared to inform government of the implications of vegetation clearing on threatened flora, fauna and vegetation communities.

The vegetation pockets assessed are regeneration following the original construction of the dams. The area is included in cattle paddock and has been heavily grazed for an extended period of time. The ground is heavily pugged. The dominant shrub layer is *Taxandria linearifolia* (Common teatree) over a weed assemblage. Occasional *Lepidosperma tetraquetrum* (Angled sword sedge), *Juncus pauciflorus* (Loose flowered rush) and *J. pallidus* (Pale rush) persist.

Because of the high level of degradation by grazing of most of the remnant vegetation, many understorey species are no longer present. Therefore, vegetation units identified may have originally comprised a number of plant communities that are no longer recognisable because of species loss. The remnant vegetation appears to belong to floristic community types that are not threatened or priority ecological communities. There is no suitable habitat in the vegetation to be cleared for Western ringtail possum, nor suitable habitat in the proposed clearing area for any species of black cockatoos or other threatened fauna.

In summary, in the opinion of NSA PL, there is no significant impediment to clearing the persisting remnant vegetation. Rehabilitation and revegetation following dam construction offers the best opportunity to create viable habitat, reduce stock access directly to the water which will improve the filtration and reduce nutrient export from the property and increase biodiversity values of the watercourse downstream.

1.0 INTRODUCTION

1.1 Background

Nicole Siemon and Associates Pty Ltd (NSA) were contracted by the owners of 453 Bramley River Road, Osmington to review the existing remnant vegetation to determine its ecological values. The permanent freshwater increases the conservation values of the property. The owners are seeking to expand the storage storage capacity. The dam design is yet to be developed however, the intention is to reconstruct the dam walls to include benching to facilitate revegetation and offer greater habitat diversity to support more fauna. Water quality improvement through exclusion of stock from direct access is also planned.

A flora and fauna survey is required to determine the vegetation condition, dominant species and to determine whether or not suitable habitat exists for threatened or endangered flora and fauna. This results of this report are provided to inform the clearing permit application.

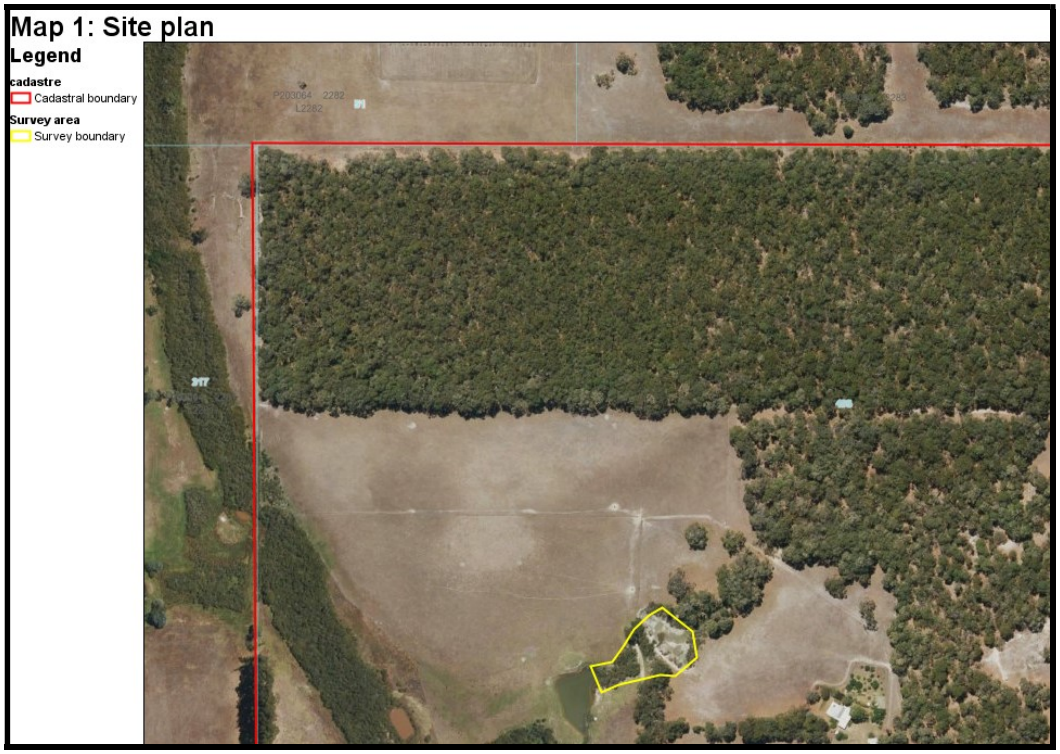
1.2 Purpose

The scope of this report is to document an assessment of flora and fauna in the persisting remnant vegetation and identify any impediments to its clearing. This includes assessing and targeting the presence and distribution of threatened and priority flora, fauna and ecological communities.

1.3 Study area

The property, 453 Bramley River Road, is just over 48.5 ha in area and is partially covered with remnant vegetation and a planted shelterbelt of assorted eucalyptus species (Map 1). It is a functioning cattle farm.

The third order waterway cuts from east to west through the midpoint of the property. It is a portion of this tributary of the Margaret River that is the subject of this study.



2.0 SITE DETAILS

453 Bramley River Road (Parcel ID 203064; 2280) is located approximately 11.5 km ENE of the township of Margaret River. The headwaters of the waterway on which the dams are sited are approximately 450 m upstream of the structures, and below the two dams, the tributary joins into a second order stream to the west. The surrounding land is gently undulating. 26.5 ha of the property retains forest, there is 2.67 ha of riparian vegetation with the remaining 18.8 ha utilised for cattle grazing, a house, sheds and an orchard.

The site that is subject to this assessment is integrated into an active cattle paddock and is predominantly cleared with pockets of relic cover. It is these fragments of vegetation (0.38 ha) that is the subject of this investigation.

It is assumed that other consultants have provided detailed background into the landscape, soils and soil subsystems and this information is not reproduced here.

3.0 FLORA AND FAUNA

3.1 Desktop analysis

The site is a narrow riparian corridor linking medium forest, mainly jarrah and marri to the north and east, to the riparian vegetation along the waterway on the west. The vegetation mapping of Havel and Mattiske (2000) identifies the site as retaining two vegetation complexes on the uplands and valleys of the Blackwood Plateau and Plain, Treeton (T) and Treeton (Tw). The Government of Western Australia (2019) defines these vegetation complexes are described as:

- Treeton (T) Woodland of *Eucalyptus marginata subsp. marginata-Corymbia calophylla* with some *Allocasuarina fraseriana* on mild slopes in the perhumid zone.
- Treton (Tw) This complex is described as “open forest of *Eucalyptus patens*, *Corymbia calophylla, Eucalyptus marginata* on lower slopes and on floors of minor valleys in the perhumid zone”.

A literature review was performed to see if the remnant bushland had been identified previously as having significant ecological value. The available vegetation mapping and topography mapping were overlayed using a geographic information system (GIS) to determine general characteristics of the area.

An environmental considerations report was prepared based on relevant state government datasets based on a 10 km radius of the site.

Environmental Matters Requiring Further Investigation	**Status**
Environmentally Sensitive Area *	No data
Native vegetation **	Yes
Threatened ecological communities - Commonwealth listed	No data
Threatened ecological communities - State listed	No data
Priority ecological communities	No data
Threatened Flora - within the selected area	No data
Threatened Flora - within the buffer of selected area	Yes
Commonwealth Listed Threatened Flora - within the selected area	No data
Commonwealth Listed Threatened Flora - within the buffer of selected area	Yes
Threatened Fauna - within the selected area	No data
Threatened Fauna - within the buffer of selected area	Yes
Commonwealth Listed Threatened Fauna - within the selected area	No data

Environmental Matters Requiring Further Investigation	Status
Commonwealth Listed Threatened Fauna - within the buffer of selected area	Yes
Priority Flora or Fauna - within the selected area	No data
Priority Flora or Fauna - within the buffer of selected area	Yes
Mapped as potential fauna habitat	Yes
Wetlands	Yes
Ecological linkages	No
Adjoining a conservation area	Yes
Acid Sulfate Soils	Yes
EPA Policy Area	No
Public Drinking Water Source Area	Yes
PDWSA Protection Zone	No
Waterways Conservation Act Management Areas	No
CAWSA Part II Clearing Control Catchments	No
RIWI Groundwater Areas	Yes
RIWI Surface Water Areas	No
Department of Aboriginal Affairs Sites and Other Heritage Places	No data
Contaminated sites	No data
Bushfire Prone Area	Yes
Local Biodiversity Strategy	No

** No exemptions for clearing of native vegetation apply.*
*** Note vegetation extent mapping does not show small patches, some wetlands and native trees. Confirm presence/absence via aerial photography or site visit.*

As a result of the preliminary review, information was sought from existing databases and Dandjoo relating to known populations of Declared Rare Flora, Priority Species and Threatened Ecological Communities. Full definitions of conservation status pursuant the Acts are not included in this document.

There are seven EPBA Act listed flora and seven State listed threatened flora within a 10 km radius of the site. Threatened fauna occur within a 10 km radius of the site with over 239 records of EPBC Act listed and 286 records of Threatened or specially protected fauna within 10 km. There are also 74 records of priority listed fauna species. Those with the greatest chance of being found were Carter's freshwater mussel, Hairy marron, White bellied frog, Western Ringtail possum and Carnaby's cockatoo.

Both freshwater aquatic species require well oxygenated fresh permanent water, which reduces the likelihood of them being present. Cattle activity along the dam

margins also reduces the likelihood of White bellied frog habitat requirements being met.

The 27.58 ha of forest area within the property is identified as potentially providing feeding habitat for Carnaby's cockatoo. This is outside the proposed future clearing area.

Map 2: Native vegetation extent and the planned survey area shown in yellow (DPIRD, 2020)



3.2 Field survey

The field survey process was based on an observational survey methodology. A senior ecologist walked through the site in July 2024 for two hours on a single occasion. The intensity of the survey was deemed adequate for the remnant vegetation quality.

The survey area is identified within the Map 2.

The assessment was undertaken in accordance with the Environmental Protection Authority (EPA) Guidance Statement 51, "Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia" (EPA, 2004).

During the visit to the study area, a comprehensive list of native and non-native vascular flora was compiled (Appendices 2 and 3). There were no taxa that could not be identified with certainty in the field.

The upper dam was completely dry so review of the dam wall and margins were assessed for burrow entrances. All vegetation was assessed for evidence of wildlife nesting, resting or foraging.

3.3 Survey limitations

Table 1: Limitations with regard to assessment adequacy and accuracy

Aspect	Constraint	Comment
Scope	No	The survey scope was based on information prvided by the hydrologist and was designed to comply with DWER requirements.
Proportion of flora identified	Negligible	The survey was carried out while the upper dam was empty in July. The warmer season and experience suggests that it is prime flowering time for flora in high rainfall areas of the south west of the WA. It is estimated that 90 – 95% of species in the highly degraded remnant vegetation were identified.
Proportion of fauna identified	Minor	The survey was carried out while the upper dam was empty in July and the lower dam was close to full. The most threatened freshwater animal in the south west is the Hairy marron, however, they prefer well oxygenated, clear water habitats with complex shelter including large woody debris. All vegetation was assessed for the presence of hollows or wildlife, and calls were recorded.
Availability of contextual information	Negligible	Comprehensive regional and local surveys of remnant vegetation have been carried out and this vegetation is located in a long grazed paddock.
Completeness of survey	Minor	All areas of remnant vegetation were visited including those outside of the potential future clearing area. Spring season assessment is unlikely to affect the conclusions presented.

Aspect	Constraint	Comment
Climate	Minor	While the survey was undertaken about seven weeks after the late break of season, there was germination of many annual weeds and native flora. It is considered that the lack of rainfall had a negligible effect on flowering in the survey area.
Access problems	Negligible	Long term grazing rendered the site readily accessible for all parts of the survey.
Competency and experience of consultants	Negligible	The Senior Ecologist, Nicole Siemon, has over thirty years' experience of vegetation, fauna and flora surveys in the south west of WA.

3.4 Flora and vegetation findings

The characteristic flora of the 0.38 ha site was divided into the upland and wetland components. As the remnant vegetation is highly degraded, it is difficult to ascribe it to a particular floristic community type.

The riparian remnant upstream of the upper dam (Plate 2; Appendix 1) is dominated by a narrow band oof *Corymbia calophylla* (Marri), many of which are affected by canker. The understorey is highly degraded with only a narrow band of *Lepidosperma tetraquetrum* (Angled sword sedge) with seedling *Taxandria linearifolia* (Common teatree) and *Astartea* sp. with a chaotic weed assemblage. Occasional *Microlaena stipoides* (Weeping meadow grass) persist.

There is one long dead Marri (400 mm DBH) with no hollows. The remaining Marri range in diameter from 200 – 400 mm DBH and most have evidence of canker. There is considerable fallen timber.

The vegetation around perimeter of the upper dam and between the upper and lower dams is relatively homogeneous, long grazed, degraded riparian vegetation (Plates 1 and 3, Appendix 1). It is characterised by regenerating Open shrubland of *Taxandria linearifolia* (Common teatree) over a chaotic weed assemblage including *Isolepis prolifera*, Pennyroyal (*Mentha pulegium*), *Juncus microcephalus*, Blackberry (*Rubus fruticosa*), Arum lily (*Zantedeschia aethiopica*) and Kikuyu (*Cenchrus clandestinum*).

Ten native plant species (Appendix 2) and twenty-one weed species (Appendix 3) were identified.

No Declared Rare, Priority Flora (*Wildlife Conservation Act*) or flora listed under the *EPBC Act* or species otherwise of conservation significance were found in the survey area.

The remnant vegetation is too degraded to be identified as representative of Treeton (Tw) which is a poorly represented vegetation complex in the conservation estate.

3.5 Fauna findings

The search included searching for:

- Burrows in the dam walls,
- Footprints in the silt for waterbirds and quenda (*Isoodon obesulus fusciventer*),
- Shrubs for resting/nesting animals including (*Pseudocheirus occidentalis*)
- Scats beneath roosts in trees and
- Listening opportunistically for birds, frogs and other wildlife.

Observations

- Red-tailed black cockatoo (*Calyptorhynchus banksii*) were heard and observed flying over the site. Seasonal foraging in the Marri upstream of the proposed clearing area is likely.
- Pacific black duck (*Anas superciliosa*) were present in the dry upper dam floor.
- No burrows were identified due to trampling by cattle.
- There were no nests or dreys in the Common teatree, the dominant vegetation within the survey area.
- There was no significant guano/droppings accumulations beneath any Marri or *Taxandria* indicating there aren't roosting /resting fauna utilising the area on a regular basis.
- There are no *Agonis flexuosa* (WA Peppermint) in the potential clearing area which is the preferred habitat of Western ringtail possum.

The survey was undertaken in the middle of the day so frog calls were not heard. The site is well outside the known range of the Critically endangered White bellied

frog (*Geocrinia alba*) and it is highly unlikely that any suitable habitat for this frog species remains, due to the lack of dense vegetation and long term cattle access.

The intensity of the search was considered to be adequate for the site and the conclusion is that there is limited potential habitat for Western ringtail possum or Black cockatoo.

4.0 Consideration against clearing principles

The land owners are applying for an area permit to clear up to 0.38 ha to increase the capacity of two existing dams. NSA PL opinion of variance against the clearing principles is provided below (Table 2).

Table 2 Clearing principles for native vegetation under Schedule 5 of the EP Act

Principle	***Findings***
Principle (a) Native vegetation should not be cleared if it comprises a high level of biological diversity.	*Not at variance*
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.	*Not at variance*
Principle (c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.	*Not at variance*
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.	*Not at variance*
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.	*Not at variance*
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.	*At variance*
Principle (g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.	*Not at variance*
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.	*Not at variance*
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.	*Not at variance*
Principle (j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.	*Not at variance*

4.1 Mitigation of Principle (g)

The landowners will undertake the following actions to mitigate any negative impact on flora and fauna associated with clearing the riparian remnant vegetation:

1. Ensure an experienced fauna observer is onsite throughout dam construction.
2. Excavate any sword sedge within the clearing area and transplant to re-created dam banks.
3. Revegetate a portion of the dam margins using locally indigenous plants to improve habitat values.
4. Modify fence arrangements to exclude cattle and thereby improve water quality downstream.
5. Undertake regular weed control to eradicate Blackberry and Arum lily and serious environmental weeds such as Sydney golden wattle from all waterways within the property.

5.0 CONCLUSION

The remnant riparian vegetation assessed within 453 Bramley River Road is highly degraded and incorporated into a regularly utilised cattle paddock. There was no evidence of declared rare, threatened or priority flora or fauna within the proposed clearing area.

In NSA PL opinion, there is no impediment to the clearing of the 0.38 ha of native vegetation to enable expansion of the water holding capacity of the dam in this farm.

Biodiversity values are likely to be improved over time through the planned revegetation and weed control actions of the landowners.

6.0 REFERENCES

DataWA

Environmental Protection Authority (2004) Guidance Statement 51, “Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia”

Government of Western Australia (2019) Full descriptions of WA vegetation complexes.

Mattiske EM, Havel JJ (2000) Vegetation mapping in the south west of Western Australia and Regional Forest Agreement vegetation complexes.

APPENDIX 1: Plates showing remnant vegetation



Plate 1: Example of degraded Taxandria linearifolia over Lepidosperma tetraquetrum and chaotic weed assemblage, showing pugging from cattle movement. Photo taken between the two dams.



Plate 2: Example of remnant vegetation upstream of the proposed clearing area showing Corymbia calophylla over Lepidosperma tetraquetrum and chaotic weed assemblage. Photo taken looking upstream from the upper dam.



Plate 3: Example of remnant vegetation upstream of the lower dam showing Taxandria linearifolia over a chaotic weed assemblage. Photo taken looking south east from the north bank.

APPENDIX 2: VASCULAR PLANTS IDENTIFIED IN THE RIPARIAN ZONE

Scientific name	Common name	Within the proposed clearing area
Astartea sp.	Astartea	Yes
Callistachyus lanecolata	Wonnich	No
Corymbia calophylla	Marri	No
Eucalyptus patens	Blackbutt	No
Juncus pallidus	Pale rush	yes
Juncus pauciflorus	Loose flowered rush	Yes
Lepidosperma effusum	Spreading sword sedge	Transplant following construction
Lepidosperma tetraquetrum	Angled sword sedge	Transplant following construction
Microlaena stipoides	Weeping meadow grass	No
Taxandria linearifolia	Common teatree	Yes
Shelterbelt		
Eucalyptus diversicolor	Karri	No
Eucalyptus gomphocephala	Tuart	No

APPENDIX 3: WEED SPECIES IDENTIFIED IN THE STUDY AREA

Scientific name	**Common name**
Acacia longifolia	Sydney golden wattle
Arctotheca calendula	Cape weed
Bacopa sp.	Water hyssop
Cenchrus clandestinum	Kikuyu
Cirsium vulgare	Spear thistle
Erodium botrys	Long storksbill
Hypochaeris glabra	Flat weed
Isolepis prolifera	
Juncus microcephalus	
Lotus angustissimus	Slender birdsfoot trefoil
Malva parviflora	Marshmallow
Mentha pulegium	Pennyroyal
Phytolacca octandra	Inkweed
Romulea rosea	Guildford grass
Rubus fruticosus	Blackberry
Rumex conglomeratus	Clustered dock
Rumex crispus	Curled dock
Salix babylonica	Willow
Solanum nigrum	Blackberry nightshade
Trifolium	Clover
Zantedeschia aethiopica	Arum lily