

ADDENDUM 1 – Review of Environmental Factors (REF) and Threatened Species and Test of Significance in *Biodiversity Conservation Act 2016*

Project Name:	Elizabeth Macarthur Reserve Rehabilitation Works	Proposal ID#:	
Project Location:	14 Martine Avenue, CAMDEN SOUTH 2570	File Ref#:	23/349654

Assessment of Impact of Development on Threatened Species

1. Proposed Activity

Camden Council proposes to undertake works to restore a riparian area along an un-named creek within Elizabeth Macarthur Reserve, Camden South.

The riparian area is currently heavily infested with a range of weed species, with only a very small number of native plants identified within the corridor. The works were initially proposed to be undertaken in the location identified in the map shown below.



Figure 1 - Extent of project works – Initial Proposal

Works will include:

- Removal of woody and other weeds through mechanical means;
- Placement of erosion control measures;
- Maintenance weeding following clearing and prior to planting of the site;
- Mulching to remove safety hazards and ensure a suitable planting surface;
- Planting with local native plant species including a mixture of grasses, groundcovers, shrubs and trees; and
- Follow up maintenance including watering and weeding as required.

Additional Information

Council received advice from BirdLife Australia Power Owl Project on 24 June 2023 on the location of a nest tree close to the project site that is currently occupied by a pair of Powerful Owls. This nest tree has in the last few years been used by Powerful Owls for breeding and producing offspring. As it is breeding season it is assumed that the current Powerful Owls are breeding.

In addition to the nest, the male Powerful Owl uses the adjoining Privet understorey as a roost to guard the hollow where the Powerful Owls nest. To develop the independence of the owlets, the Powerful Owls have used the Privet understorey to provide protective coverage for the owlets.

BirdLife Australia has provided advice on the extent of buffers for the nest, and the roost to guard the hollow, and the roost for the owlets. BirdLife Australia advise against noisy work or veg cutting within the buffers during the breeding season (March/April to October inclusive).

Based on this the extent of project works has been reviewed and reduced to observe the required buffers (Figure 2).



Figure 2. Revised extent of project works

2. Threatened Flora – Potential to Occur

Species Name	BC Act	EPBC Act	Potential to Occur	Potential Impact
Camden White Gum (<i>Eucalyptus benthamii</i>)	Critically Endangered	Vulnerable	Does not occur at the site. Occurs downstream and upstream.	No direct impact as proposed activity will not affect planted specimens which are located adjacent to the project site. All native trees within the project area have been identified for retention. The project will have beneficial impacts through removal of weed species that may compete / negatively impact existing Camden White Gums.
Brown Pomaderris (<i>Pomaderris brunnea</i>)	Endangered	Vulnerable	Does not occur at the project site.	No direct impact.
Spiked Rice Flower (<i>Pimelea spicata</i>)	Endangered	Endangered	Does not occur at the project site.	No direct impact.
Juniper-leaved Grevillea (<i>Grevillea juniperina</i> subsp. <i>juniperina</i>)	Vulnerable	-	Does not occur at the project site.	No direct impact.
Marsdenia viridiflora (<i>Marsdenia viridiflora</i>)	Endangered	-	Does not occur at the project site.	No direct impact.

Matted Bush Pea (<i>Pultenaea pedunculata</i>)	Endangered	-	Does not occur at the project site.	No direct impact.
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3. Threatened Fauna - Potential to Occur

Species Name	BC Act / FM Act	EPBC Act	Potential Likelihood and Impact
Grey-headed Flying Fox (<i>Pteropus poliocephalus</i>)	Vulnerable	Vulnerable	No impact as no roosting sites identified on the project site and no native or hollow bearing trees will be impacted.
East Coast Freetail Bat (<i>Micronomus norfolkensis</i>)	Vulnerable	-	No impact as no roosting sites identified on the project site and no native or hollow bearing trees will be impacted.
Eastern Falsistrelle (<i>Falsistrellus tasmaniensis</i>)	Vulnerable	-	No impact as development site not suitable habitat for roosting (hollows, bark)
Little Bentwing Bat (<i>Miniopterus australis</i>)	Vulnerable	-	No impact as development site not suitable habitat for roosting (hollows, caves, or man-made structures such as culverts, tunnels, etc)
Little Eagle	Vulnerable	-	No impact as woody weeds to be removed not suitable for roosting and foraging
Varied Sittella	Vulnerable	-	No impact as not suitable habitat.
Yellow-bellied Sheathtail Bat (<i>Saccolaimus flaviventris</i>)	Vulnerable	Vulnerable	No impact as development site not suitable habitat for roosting (hollows, or man-made structures.
Large-eared Pied Bat (<i>Chalinolobus dwyeri</i>)	Vulnerable	-	No impact as development site not

			suitable habitat for roosting (caves).
Greater Broad-nosed Bat (<i>Scoteanax ruepilli</i>)	Vulnerable	-	No impact as development site not suitable habitat for roosting (hollows, buildings).
Large Bent-winged Bat (<i>Miniopterus oriane oceanensis</i>)	Vulnerable	-	No impact as development site not suitable habitat for roosting (hollows, buildings).
Southern Myotis (<i>Myotis macropus</i>)	Vulnerable	-	No impact as development site not suitable habitat for roosting (hollows, caves, or man-made structures such as bridges). Potential foraging habitat of Nepean River not part of development site and development not negatively impacting on water quality.
Powerful Owl (<i>Ninox strenua</i>)	Vulnerable		Council has been made aware of the presence of nesting birds in a hollow in a large remnant Eucalypt in close proximity to the project site, and of a male Powerful Owl guarding the nest by roosting in a dense grove of Privet downstream from the project site. The breeding season extends from March to October and during this time a buffer should be observed to minimise / avoid interruption.
White-bellied Sea Eagle (<i>Haliaeetus leucogaster</i>)	Vulnerable	-	No impact as woody weeds to be removed not suitable habitat for roosting and foraging.

Red Knot (<i>Calidris canutus</i>)	-	Endangered	No impact as site not suitable habitat.
Australasian Bittern (<i>Botaurus poiciloptulilus</i>)	Endangered		No impact as site not suitable habitat
Cumberland Plain Land Snail (<i>Meridolum corneovirens</i>)	Endangered		No impact as site not suitable habitat
Swift Parrot (<i>Lathamus discolor</i>)	Endangered		No impact as site not suitable habitat

4. Endangered Ecological Community

River-flat Eucalypt Forest on Coastal Floodplains (RFEF) – The site is mapped as part of RFEF that occurs along the riparian corridor of the Nepean River shown as alluvial woodland in purple in Figure 2, and as Riparian Forest / Woody Weeds in pink.

Cumberland Plain Woodland (CPW) – The site is also mapped as CPW with transition between RFEF and CPW across the project site as Shale Plains Woodland in hatched yellow and Shale Hills Woodland in hatched teal in Figure 2.

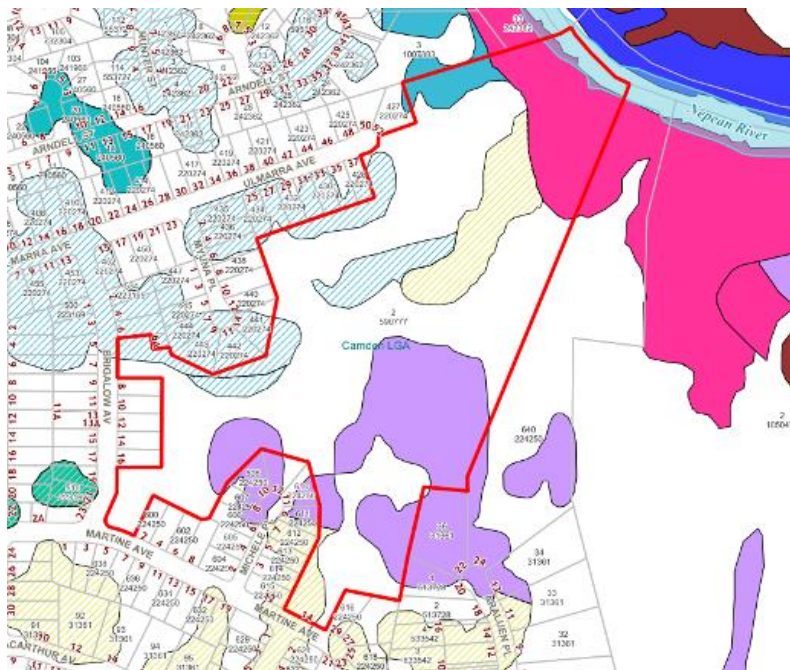


Figure 4 – Environmentally Sensitive Land Map

A number of site inspections were undertaken and the above mapped ecological communities were identified to not occur at the project site to be cleared of woody weeds. The vegetation was comprised of woody weeds except for a few remnant native trees and some planted *Casuarina cunninghamiana*, which in effect do not comprise a native vegetation community. It was therefore determined that no native vegetation communities (including Endangered Ecological Communities) will be impacted.

It is not proposed to remove any native vegetation as part of this project. The few native trees that are located close to or within the project areas will be tagged for retention.

5. Endangered populations

Population	Potential to Occur	Potential Impact
Marsdenia viridiflora (Marsdenia viridiflora)	Does not occur at the project site.	No direct impact.

6. Powerful Owl – Assessment of Significance of the Impact of the Proposed Activity

Council was advised on 23 June 2023 of the presence of a pair of nesting Powerful Owls within close proximity of the project site. An assessment of significance on the Powerful Owl addressing the impact of the project is outlined below.

Test for determining whether proposed development or activity likely to significantly affect threatened species or ecological communities, or their habitats as per S7.3 of the Biodiversity Act NSW 2016.

The following is to be taken into account for the purposes of determining whether a proposed development or activity is likely to significantly affect threatened species or ecological communities, or their habitats—

(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,

The proposed activity is unlikely to have an adverse effect on the life cycle of the Powerful Owl.

As per advice from BirdLife Australia through the Powerful Owl Project, best practice is to avoid noisy work or vegetation cutting within 100 metres of nests and 50 metres of hollow-guarding roosts during the breeding season which extends from March through to October.

As the project work will be undertaken during the breeding season exclusion zones will be established within the project site to ensure that no noisy works or vegetation clearing is undertaken within these zones. The GPS location of hollow-guarding roosts and nests was provided to Council by BirdLife Australia on 24 June 2023.

A revision has been made to the Review of Environmental Factors to reflect the changed project area after inclusion of these buffer zones as shown in Figure 2. The red polygons show areas where woody weed removal has been completed, while the orange polygon is a revised area that incorporates the required buffers to minimise impacts and disturbance for the Powerful Owl.

(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity—

(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or

(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction.

Not applicable as this test of significance relates to a threatened species, not an endangered or critically endangered ecological community.

(c) in relation to the habitat of a threatened species or ecological community—

(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and

The revised project will mean approximately 4,750m² of the main dense grove of Privet and other woody weeds within close proximity to the roosting habitat of the Powerful Owl will be removed. Additional areas of 393m² and 937m² of woody weeds in the reserve but located well away from roosting habitat will also be removed.

(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and

The proposed activity will not fragment the roosting habitat of the Powerful Owl and potentially owlets along the creek tributary of the Nepean River.

(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality.

The original woody weed area of 7,206 m² has been reduced to 4,750 m². This will allow the BirdLife Australia recommended buffers to be employed. This habitat is not considered to be important in the long-term survival of the Powerful Owl as the site where the woody weeds are to be removed does not form part of the roosting habitat and is adequately buffered from the current nest of the breeding Powerful Owl.

(d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly).

The area is not a declared area of outstanding biodiversity value (AOBV) and no AOBV would be directly or indirectly impacted.

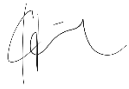
(e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

The proposed activity is not part of a key threatening process or likely to increase the impact of a key threatening process as vegetation clearance is not occurring in the location of roosting Powerful Owl and potentially owlets.

www.environment.nsw.gov.au/threatenedSpeciesApp/threats.aspx

Certification

This Addendum to the REF and Test of Significance provides a true and fair review of the proposal in relation to its potential effects on the environment. It addresses to the fullest extent possible all matters affecting or likely to affect the environment as a result of the proposal.



Name: Carmel Hamilton
Position: Team Leader Sustainability
Organisation: Camden Council
Date: 28/06/2023

I certify that I have reviewed and endorsed the contents of this REF document and, to the best of my knowledge, it is in accordance with the EP&A Act, the EP&A Regulation and the Guidelines approved under clause 170 of the EP&A Regulation, and the information it contains is neither false nor misleading.



Name: Robert Corby
Position: Natural Resource Officer
Organisation: Camden Council
Date: 28/06/2023