The University of Newcastle
Proposed Anatomy Building
Flora and Fauna assessment

A report prepared by HUNTER ECO for The University of Newcastle
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1.0 Introduction

The University of Newcastle proposes to construct an Anatomy Building at the Callaghan Campus, Newcastle. This is a report on the ecology of the disturbance area and surrounds with particular emphasis on any flora, fauna or vegetation communities that are listed as threatened in either the NSW *Threatened Species Conservation Act 1995* (TSC Act) or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The proposed building is to be a western extension of the Medical Sciences building, situated in the north-western corner of the campus (**Figure 1**). The proposed development area has 19 trees located in and around the disturbance area (Terras 2010). The land beneath the trees is landscaped managed lawn and gardens (**Figure 2**). An aerial view of the proposed building footprint is shown in **Figure 3**.

2.0 Method

This investigation has been conducted according to the intent of the flora and fauna survey guidelines used by Newcastle City Council (Murray *et al.* 2002), the intent being to find all threatened species and communities that could be impacted by the proposed development. The methods used were adapted to suit the size and condition of the subject site and the likelihood of there being any threatened species present, particularly fauna.

As is required by the NSW *Environment Protection & Planning Act 1979* (EP&A Act), a formal threatened species assessment was conducted by determining the species and communities that might be in the area. The potential for impact on threatened species and communities was assessed through the application of the 7-part test as provided for in the NSW *Threatened Species Conservation Act 1955* (TSC Act).

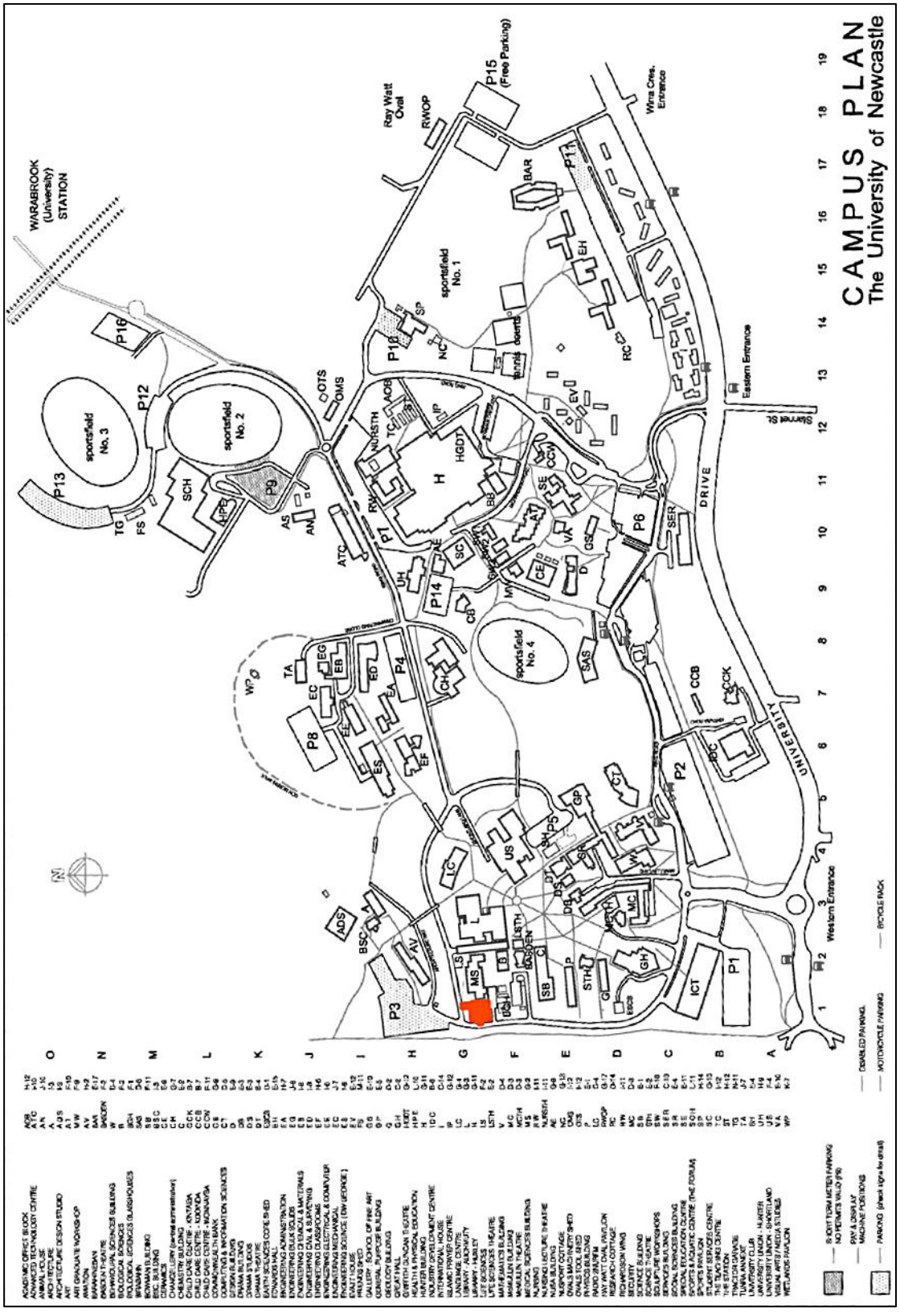

Figure 1 The location of the proposed Anatomy Building (red) on the University campus.

Figure 2 The location of the proposed Anatomy Building with the Medical Sciences building at the left of the picture

Figure 3 An aerial view of the proposed Anatomy building footprint

3.0 Threatened species assessment

In order to determine the threatened species that might occur in and around the subject site data was obtained from the NPWS Atlas of NSW Wildlife for an area within a 5km radius of the subject site. Each species was then assessed as to the likelihood of occurring on and around the subject site based on available information as to their habitat requirements (DECC 2008).

3.1 Flora

Table 1 lists the one terrestrial threatened flora species recorded within a 5km radius of the subject site.

Table 1 Flora species recorded from within a 5km radius of the subject site (March 2011)

Family	Scientific Name	Common Name	Status
Elaeocarpaceae	*Tetratheca juncea*	Black-eyed Susan	V

3.2 Fauna

Table 2 lists the threatened fauna species recorded within a 5km radius of the subject site. The 5km radius takes in wetland and marine habitat that do not occur on or near the subject site so any species that were specialists in that habitat were not included in **Table 3**.

Table 2 Fauna species recorded from within a 5km radius of the subject site (March 2011)

Family	Scientific Name	Common Name	Status
Birds			
Acanthizidae	*Pyrrholaemus saggitatus*	Speckled Warbler	V
Accipitridae	*Circus assimilis*	Spotted Harrier	V
Accipitridae	*Hieraaetus morphnoides*	Little Eagle	V
Cacatuidae	*Callocephalon fimbriatum*	Gang-gang Cockatoo	V
Cacatuidae	*Calyptorhynchus lathami*	Glossy Black-Cockatoo	V
Columbidae	*Ptilinopus magnificus*	Wompoo Fruit-Dove	V
Columbidae	*Ptilinopus regina*	Rose-crowned Fruit-Dove	V
Columbidae	*Ptilinopus superbus*	Superb Fruit-Dove	V
Meliphagidae	*Anthochaera phrygia*	Regent Honeyeater	E4A
Neosittidae	*Daphoenositta chrysoptera*	Varied Sittella	V
Petroicidae	*Petroica boodang*	Scarlet Robin	V
Psittacidae	*Lathamus discolor*	Swift Parrot	E1
Strigidae	*Ninox connivens*	Barking Owl	V
Strigidae	*Ninox strenua*	Powerful Owl	V
Tytonidae	*Tyto novaehollandiae*	Masked Owl	V
Marsupials			
Petauridae	*Petaurus norfolcensis*	Squirrel Glider	V
Phascolarctidae	*Phascolarctos cinereus*	Koala	V
Megachiropteran Bats			
Pteropodidae	*Pteropus poliocephalus*	Grey-headed Flying-fox	V
Microchiropteran Bats			
Vespertilionidae	*Miniopterus schreibersii oceanensis*	Eastern Bentwing-bat	V
Vespertilionidae	*Falsistrellus tasmaniensis*	Eastern False Pipistrelle	V
Molossidae	*Mormopterus norfolkensis*	Eastern Freetail-bat	V
Vespertilionidae	*Scoteanax rueppellii*	Greater Broad-nosed Bat	V
Vespertilionidae	*Miniopterus australis*	Little Bentwing-bat	V
Vespertilionidae	*Myotis macropus*	Southern Myotis	V

The depauperate state of the vegetation on the subject site would mean that there was little to no chance of any of these species using the habitat as part of a home range or intinerate foraging area. There would be insufficient resources for the maintenance of a food pyramid to support faunal diversity.

4.0 Results

The field inspection was conducted on 19 June 2011. The weather was clear and cool with a slight breeze.

4.1 Flora and vegetation

The dominant canopy species was Spotted Gum (*Corymbia maculata)* with Grey Gum (*Eucalyptus punctata*), Red Ironbark (*Eucalyptus fibrosa*) and Grey Ironbark (*Eucalyptus siderophloia*) also present.

The ground cover was managed lawn with planted native shrubs such as *Pittosporum undulatum*, *Banksia integrifolia* and *Banksia spinulosa*.

The canopy trees can give an indication of the undisturbed vegetation community that was once present. The combination of Spotted Gum, Grey Gum and grey Ironbark suggest *Hunter Valley Moist Forest*, Map Unit 12 of the NPWS (2000) classification. This community is not listed as endangered at either the State or Commonwealth level. None of the planted shrub or ground species present were characteristic of this community. To place the current species numbers in context, the NPWS (2000) classification reports a species richness of just over 50 species present in a 20x20 metre sample plot; at the subject site there would be 4 species typical of this community.

4.2 Fauna

Because of the open and disturbed character of the site, fauna trapping and spotlighting would be unproductive and so was not done. Furthermore, none of the trees had any potential fauna habitat hollows.

5.0 The 7-part test

Section 5A of the NSW EP&A Act and Section 94 of the TSC Act require that a 7-part test of significance and impact be applied to any flora, fauna or vegetation communities that are found, or considered likely to be found, in the area of a proposed development.

5.1 Flora

Tetratheca juncea

(a) in the case of a threatened species, whether the action proposed 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,

Tetratheca juncea is a terrestrial sub-shrub. All native ground cover in the proposed disturbance area has been replaced with managed lawn and gardens. Furthermore, the species is unlikely to occur in the MU12 vegetation community even in an undisturbed condition (Driscoll 2003). No viable local population of *Tetratheca juncea* would be placed at risk of extinction.

(b) in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,
No endangered population of this species has been listed.

(c) in the case of an endangered ecological community, whether the action proposed:

(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
Not applicable in consideration of an individual species.

(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 in consideration of an individual species.

(d) in relation to the habitat of a threatened species, population or ecological community:

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

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

(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality,
No *Tetratheca juncea* habitat would be removed by the proposed development. No habitat fragmentation would occur.

(e) whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),
No critical habitat was present.

(f) whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,
The proposed development is consistent with recovery plan and threat abatement principles in that it will be located in already disturbed habitat.

(g) whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.
The Clearing of Native Vegetation is a key threatening process however this clearing would involve vegetation that is already disturbed at the location of the proposed building.

5.2 Fauna

This is a formal generic application of the 7-part test applied to cover the fauna species listed in Table 2 above. A generic test is appropriate because the site is disturbed and has no suitable habitat for any of the listed species.

(a) in the case of a threatened species, whether the action proposed 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,

Because no suitable threatened fauna habitat was present no viable local population of any threatened fauna species would be placed at risk of extinction.

(b) in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,
No endangered population of this species has been listed.

(c) in the case of an endangered ecological community, whether the action proposed:

(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
Not applicable in consideration of an individual species.

(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 in consideration of an individual species.

(d) in relation to the habitat of a threatened species, population or ecological community:

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

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

(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality,
No threatened fauna species' habitat would be removed by the proposed development. No habitat fragmentation would occur.

(e) whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),
No critical habitat was present.

(f) whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,
The proposed development is consistent with recovery plan and threat abatement principles in that it will be located in already disturbed habitat.

(g) whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.
The Clearing of Native Vegetation is a key threatening process however this clearing would mostly involve vegetation that is already disturbed at the location of the proposed building.

6.0 Conclusion

This investigation has shown that the vegetation present in the disturbance area was a depauperate remnant of what once would have been present. There was no native ground or shrub cover with the original vegetation represented by a handful of canopy tree species. As such the overall vegetation provided little or no suitable habitat for threatened fauna to occupy or forage through.

The conclusion of the 7-part tests was that there would be no impact by the proposed construction of the Anatomy building on any threatened species of flora or fauna or on any endangered ecological communities.

7.0 References

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