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16.1 Review of the South Goulburn Threatened Species Management Plan
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SOUTH GOULBURN THREATENED SPECIES MANAGEMENT PLAN REVIEW

April 2023

Brian Faulkner

BSc (Hons), PhD, BAM Accredited Assessor BAAS21005, MAIH, Registered Horticulturist
Goulburn Mulwaree Council Environment & Biodiversity Assessment Officer

EXECUTIVE SUMMARY

In 2004 Council engaged Ecologist Rodney Falconer to identify and assess the importance of remnant Grassy Box Gum Woodland in the South Goulburn Area. The results of this ecological assessment were summarised and presented as a report to Council (*South Goulburn Endangered/Threatened Species Management Plan November 2004*) and this was adopted by Council on 16th November, 2004 (Minute No. 04/521 Effective from 16 November 2004).

Since Falconer prepared his report in 2004 there have been significant changes to legislation relating to biodiversity and considerable development of the South Goulburn area.

In 2022 Council requested that areas of remnant vegetation identified by Falconer be re-surveyed by Council's Environment and Biodiversity Assessment Officer, and that Falconer's report be reviewed and updated as required following outcomes of the ecological survey and in consideration of legislative changes.

This document provides an overview of the survey work completed and an evaluation of current ecological values of remnant native vegetation areas identified by Falconer.

This report also reviews current biodiversity related legislation and provides recommendations based on Falconer's original report and outcomes of current ecological survey findings.

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INTRODUCTION

Prior to European settlement, the land now identified as the South Goulburn area historically featured a grassy woodland community with a canopy mostly dominated by Yellow Box (*Eucalyptus melliodora*) and Blakely's Red Gum (*Eucalyptus blakelyi*), but typically accompanied by a range of other Eucalypts including Apple Box (*Eucalyptus bridgesiana*), Argyle Apple (*Eucalyptus cinerea*), Broad Leaf Peppermint (*Eucalyptus dives*) and Red Stringybark (*Eucalyptus macrorhyncha*).

Small remnants of the community persist, and there are many remnant Yellow Box, Blakely's Red Gum and Apple Box trees scattered throughout the area.

This ecological community is identified under the NSW BioNet Vegetation Classification as *PCT 3376 Southern Tableland Grassy Box Woodland*.

Parts of the area also support the closely related ecological community identified under the NSW BioNet Vegetation Classification as *PCT 3373 Goulburn Southern Tableland Box-Gum Grassy Forest*, and it is likely that prior to European settlement the area represented a mosaic of the two ecological communities, with the woodland community on higher and drier parts, grading into the forest community on lower sites with deeper soils and higher moisture levels.

Both of these ecological communities also meet criteria for identification as:

"White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions", which is listed under NSW legislation as a Critically Endangered Ecological Community; and as:

"White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland", which is listed under Commonwealth legislation as Critically Endangered.

These ecological communities are commonly referred to as "Box Gum Grassy Woodland" and this term is used hereafter in this report.

The Box Gum Grassy Woodland community is also listed under the NSW BOS (Biodiversity Offsets Scheme) as a SAI entity (at risk of Serious and Irreversible Harm).

It should be noted that a consent authority cannot approve any activity that is likely to have a Serious and Irreversible Impact on a SAI entity, unless the authority considers that this type of impact is outweighed by the social and economic benefits that the development will deliver to the State.

In 2004, Goulburn Mulwaree Council engaged ecologist Rodney Falconer to identify and assess the importance and biodiversity values of the remaining remnant Box Gum Grassy Woodland in the South Goulburn area. His findings were summarised and presented as a report to Council (*South Goulburn Endangered/Threatened Species Management Plan*

November 2004) and this report was adopted by Council on 16th November, 2004 (Minute No. 04/521 Effective from 16 November 2004).

Falconer identified that remnant pockets of open woodland existed but that these were degraded and at risk of further clearing due to on-going development of the area.

The report recommended a number of specific actions, including a Strategic Vegetation Protection Framework advocating the retention and restoration of remnant vegetation and trees where possible, and creation of canopy links to enhance landscape connectivity for arboreal fauna, as shown in Figure 1.

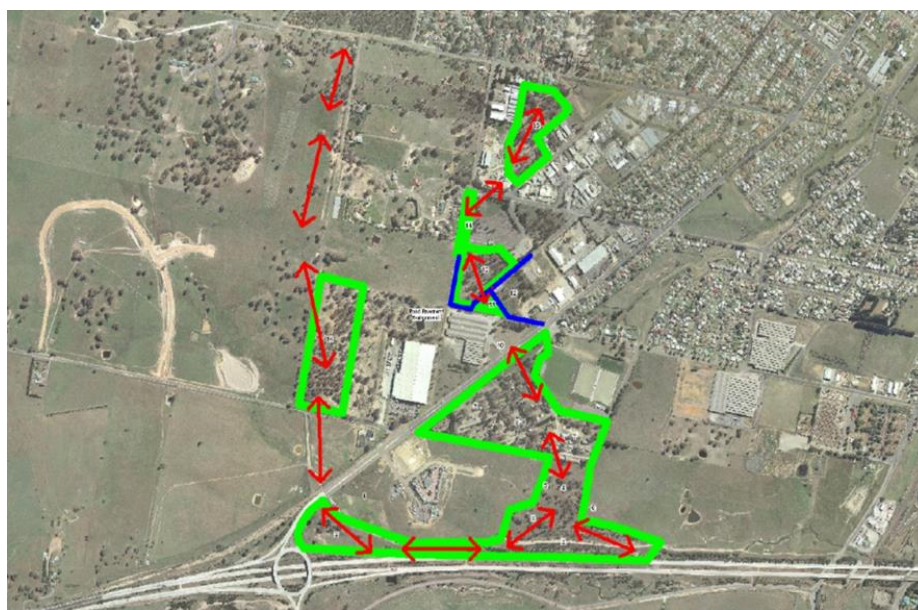


FIGURE 1: Rodney Falconer's Proposed Strategic Vegetation Protection Framework

Falconer identified 16 key areas in *Figure 6 – Strategic Vegetation Protection Framework* of his report and in the accompanying *Action Plan (Canopy Corridor)*, reproduced in Figure 2 (next page).

Although his report was focussed primarily on identifying the locations of key threatened/ecological vegetation communities of the South Goulburn area, Falconer also identified the importance of remnant vegetation at Ridge Street/Mary Street in West Goulburn, and the benefits of creating canopy links from remnant Box Gum Woodland in the South Goulburn area to this locally important reserve, now known as the West Goulburn Bushland Reserve.

The reserve comprises approximately 20 hectares of high biodiversity value dry sclerophyll forest and woodland and provides habitat to a wide variety of flora and fauna species, including the threatened species Hoary Sunray (*Leucochrysum albicans* variety *tricolor*), Scarlet Robin (*Petroica boodang*) and the Varied Sitella (*Daphoenositta chrysoptera*).

FIGURE 2: Significant remnant vegetation areas identified by Rodney Falconer 2004



Falconer's recommendations included both retaining and restoring existing native vegetation, shown in the areas outlined in green in Figure 1 and establishing a vegetation link along Carr Street as shown by the red arrows specifically to link up with the West Goulburn Bushland Reserve.

Since Falconer's report was adopted by Council in 2004, there has been significant development of the South Goulburn area, particularly in the Sowerby and Lockyer Street areas. This has resulted in the loss of remnant trees and native vegetation.

Continuing intense pressure to undertake further clearing and development of the area places Council in a position where the benefits of development to the local community and economy needed to be assessed against the damage to local biodiversity values.

There have also been major changes to legislation since Falconer prepared his report relating to conservation of biodiversity and in particular, to legislation protecting threatened species and ecological communities. These changes are reviewed in chapter 3 of this report.

In 2022 Council requested that areas of remnant vegetation identified by Falconer be re-surveyed by Council's Environment and Biodiversity Assessment Officer, and that Falconer's report be reviewed and updated as required following outcomes of the ecological survey and in consideration of legislative changes.

This review has involved both desktop and field surveys to assess and evaluate biodiversity values of remnant vegetation in the South Goulburn area. Each of the areas identified by Falconer as being of significance has been re-surveyed.

Each site was surveyed by walking transects across the site, recording details of flora and fauna present, and making notes of the general condition of the site.

Following assessment of the outcomes of ecological survey work and review of current legislation, this report also provides recommendations for ongoing management and protection of remnant Box Gum Grassy Woodland in the South Goulburn area.

PURPOSE OF THIS REPORT

This report reviews and documents:

- The main, current National and State legislative instruments that apply to protection of native vegetation, threatened species, ecological communities, populations and their habitats that apply to remnant native vegetation in the South Goulburn area.
- A desktop survey and analysis of threatened species (including ecological communities, plants and animals) predicted to be present in the area, based on the latest available information.
- Results of site assessments/inspections to identify what threatened species are actually present in the area.
- The current status and importance of remnant Box Gum Grassy Woodland in the South Goulburn area.
- The implementation and outcomes of recommendations contained in the *South Goulburn Endangered/Threatened Species Management Plan November 2004* since its adoption by Council.
- Recommendations for future actions to be taken to conserve, protect and restore remaining Box Gum Grassy Woodland in the South Goulburn area

A small patch of remnant Box Gum Grassy Woodland located at the corner of Finlay Road and Robinson Street (Council owned land). (11/01/2023)



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KEY RELEVANT LEGISLATION

This chapter of the report reviews key legislation relating to the management of remnant native vegetation in the South Goulburn Area.

COMMONWEALTH LEGISLATION

Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act)

The EPBC Act protects Matters of National Environmental Significance (MNES), such as threatened species and ecological communities, migratory species (protected under international agreements), and National Heritage places (among others).

A search of the DAWE (Department of Agriculture, Water and the Environment) Protected Matters Search Tool has shown that several MNES are predicted to be present in the South Goulburn area. A summary is presented below:

Listed Threatened Ecological Communities: 2

Listed Threatened Species: 44

Listed Migratory Species: 12

(A full list of MNES predicted to occur in the area is presented in Appendix A of this report).

Some pockets of the remnant native vegetation in the South Goulburn Area have been identified as being likely to meet criteria for identification as the Commonwealth listed Critically Endangered Ecological Community known as *White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland*.

In addition to be a listed MNES in its own right, the community also provides habitat for other MNES including threatened plants and animals.

If an activity such as clearing of native vegetation is determined as being likely to have an impact on any MNES, a referral to the Commonwealth is required.

The purpose of a referral is to determine whether the proposed action will need formal assessment and approval under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). The referral will be the principal basis for the Minister's decision as to whether approval is necessary and, if so, the type of assessment that will be taken.

NEW SOUTH WALES STATE LEGISLATION

NSW Biodiversity Conservation Act 2016 (BC Act)

The Biodiversity Conservation Act 2016 and its supporting Regulations identify and protect threatened species, populations, habitats and ecological communities in NSW.

The overall aim of the BC Act is that there should be no net loss of biodiversity. A key instrument that has been established under the BC Act is the Biodiversity Offsets Scheme (BOS). The BOS is the framework for avoiding, minimising and offsetting impacts on biodiversity from development with biodiversity gains through landholder stewardship agreements.

Under the BOS, proposals that involve clearing of native vegetation must set out how impacts on biodiversity will be avoided and minimised. The remaining residual impacts can be offset by the purchase and/or retirement of biodiversity credits or payment to the Biodiversity Conservation Fund.

There are four triggers for entry into the BOS:

BOS Trigger 1: If the area to be impacted has been declared as an Area of Outstanding Biodiversity Value.

There are currently only four such areas declared for NSW, none of which are to be found in the Goulburn Mulwaree LGA:

1. Gould's Petrel – critical habitat declaration
2. Little penguin population in Sydney's North Harbour – critical habitat declaration
3. Mitchell's Rainforest Snail in Stotts Island Nature Reserve – critical habitat declaration
4. Wollemi Pine – critical habitat declaration

BOS Trigger 2: If the area to be impacted is flagged on the Biodiversity Values Map.

There are no parts of the study area (as defined by Falconer, 2004) that are currently flagged on the Biodiversity Values Map.

BOS Trigger 3: The Area Clearing Threshold.

The amount of native vegetation that can be cleared on a property without triggering entry into the BOS varies according to the lot size of the land, as shown in Table 1.

(Calculation of the area clearing threshold is usually based on the minimum lot size of the land, but if no minimum lot size is allocated, the actual lot size is used).

TABLE 1: BOS AREA CLEARING THRESHOLDS	
Minimum lot size associated with the property	Threshold for clearing, above which the BAM and offsets scheme apply
Less than 1 ha	0.25 ha or more
1 ha to less than 40 ha	0.5 ha or more
40 ha to less than 1000 ha	1 ha or more
1000 ha or more	2 ha or more

BOS Trigger 4: If the proposed activity is likely to have a significant impact on a threatened species (which includes fauna & flora species, ecological communities, populations and habitats) based on the test of significance in section 7.3 of the *Biodiversity Conservation Act 2016*.

7.3 Test for determining whether proposed development or activity likely to significantly affect threatened species or ecological communities, or their habitats

(1) 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,

(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,

(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

(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

(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,*

(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),*

(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.*

Remnant native vegetation in the South Goulburn Area has been identified as meeting criteria for identification as the NSW listed Critically Endangered Ecological Community known as *White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions*.

As very little of the CEEC remains in the South Goulburn Area, any clearing or removal of this CEEC is likely to constitute a significant impact, as the Threatened Species Test of Significance assessment must consider the impact of the clearing on the **local occurrence** of the threatened entity.

Advice received from the NSW Department of Planning and Environment, Biodiversity and Conservation, is that clearing of any area of the identified CEEC in the local area comprises a significant impact and that any such activity will trigger entry into the Biodiversity Offsets Scheme and hence the requirement for a BDAR (Biodiversity Development Assessment Report) to be prepared by a BAM (Biodiversity Assessment Method) Accredited Assessor.

The BOS particularly applies to Part 4 Activities under the *NSW Environmental Planning and Assessment Act 1979*, ie any activity that requires preparation and submission of a Development Application.

For Part 5 Activities, where Council is both the proponent and the consent authority, and where a Development Application is not required, if a significant impact on any threatened entity is likely, the proponent has the option to enter the BOS and prepare a BDAR, or to prepare a Species Impact Statement.

Preparation of a Species Impact Statement to support the proposed activity requires concurrence from the NSW Department of Planning and Environment.

NSW Biosecurity Act 2015

The Biosecurity Act designates local councils as the local control authority for weeds within their Local Government Area.

The definition of a weed under the Biosecurity Act is simply:

“weed means a plant that is a pest..”

However under the Biosecurity Act (and the *Biosecurity Regulation 2017*), weeds are further categorised on the basis of the risk they pose to the environment and the economy.

State Priority Weeds are weeds that have been identified as posing a significant risk to the entire State of NSW. These weeds must be controlled and are regulated through:

- Prohibited Matter
- Control Orders
- Biosecurity Zones
- Mandatory Measures

Regional Priority Weeds are weeds that have been identified as posing a risk to a particular region of the state. Regional priority weeds and the management outcomes that land managers that must achieve for these weeds are determined by Regional Weed Committees and are published in Regional Strategic Weed Management Plans.

As a land owner and manager, and as the designated control authority for weeds in the LGA, Council has a legal obligation to know what weeds are present on Council land and to manage those weeds appropriately.

STATE ENVIRONMENTAL PLANNING POLICY (BIODIVERSITY AND CONSERVATION) 2021

Chapter 2 Vegetation in non-rural areas

The aims of this Chapter are—

- (a) to protect the biodiversity values of trees and other vegetation in non-rural areas of the State, and
- (b) to preserve the amenity of non-rural areas of the State through the preservation of trees and other vegetation.

Chapter 2 of the SEPP applies to land within the following zones under an environmental planning instrument—

Zone RU5 Village, Zone R1 General Residential, Zone R2 Low Density Residential, Zone R3 Medium Density Residential, Zone R4 High Density Residential, Zone R5 Large Lot Residential, Zone B1 Neighbourhood Centre, Zone B2 Local Centre, Zone B3 Commercial Core, Zone B4 Mixed Use, Zone B5 Business Development, Zone B6 Enterprise Corridor, Zone B7 Business Park, Zone B8 Metropolitan Centre, Zone IN1 General Industrial, Zone IN2 Light Industrial, Zone IN3 Heavy Industrial, Zone IN4 Working Waterfront, Zone SP1 Special Activities, Zone SP2 Infrastructure, Zone SP3 Tourist, Zone RE1 Public Recreation, Zone RE2 Private Recreation, Zone E2 Environmental Conservation, Zone E3 Environmental Management, Zone E4 Environmental Living or Zone W3 Working Waterways.

GOULBURN MULWAREE LOCAL ENVIRONMENTAL PLAN 2009

Most of the land containing remnant native vegetation in the South Goulburn Area is zoned under the Goulburn Mulwaree Local Environmental Plan 2009 as non-rural land (B6, C(E)3, C(E)4, IN1, RE1, RE2 & R5), so chapter 2 of the SEPP applies.

The only parcels of land in which this does not apply are either Council owned land or land managed by Transport for NSW (bordering the Hume Highway), which are zoned RU2 Rural Landscape.

GOULBURN MULWAREE DEVELOPMENT CONTROL PLAN 2009**Part 3.9 Tree and vegetation preservation**

All trees and native vegetation are declared under Part 2.3 of the State Environmental Planning Policy (SEPP) Biodiversity and Conservation 2021 (Chapter 2, Vegetation in Non Rural Areas) (the 'Biodiversity and Conservation SEPP').

Where a tree or other vegetation is declared a person must not clear the tree or other vegetation without a permit granted by Council (Clause 10(1) of the Biodiversity and Conservation SEPP). This is referred to as 'removal or pruning' in this Section and includes:

- Cutting down, felling, uprooting, killing, poisoning, ringbarking, burning or otherwise destroying the vegetation, or
- Lopping or otherwise removing a substantial part of the vegetation.

This applies to all non-rural land (all zones except RU1, RU2, RU3, RU4 & RU6) as defined in the Biodiversity and Conservation SEPP within the Goulburn Mulwaree (GM) Local Government Area (LGA) and where referred to in the GM Development Control Plan 2009 that applies to the land.

**STATE ENVIRONMENTAL PLANNING POLICY (BIODIVERSITY AND CONSERVATION) 2021
AND POTENTIAL IMPACTS ON KOALAS**

The subject land is located in the Goulburn Mulwaree LGA, which is listed under *Schedule 2 of SEPP (Biodiversity and Conservation) 2021* and therefore relevant chapters pertaining to Koalas need to be considered if impacts are likely on Koalas or Koala habitat. However there are no known records of Koalas in the South Goulburn Area, and the nearest known records are located at Barcham Lane, Bungonia, approximately 18 km to the south east. There is no connectivity between the South Goulburn Area and any known Koala habitat and it is extremely unlikely that Koalas would be present or that any clearing of vegetation would have an impact on Koalas or core Koala habitat.

BOX GUM GRASSY WOODLAND

The South Goulburn Area historically comprised an open grassy woodland, dominated by Yellow Box (*Eucalyptus melliodora*) and Blakely's Red Gum (*Eucalyptus blakelyi*).

This plant community was previously identified under the NSW BioNet Vegetation Classification as:

PCT 1330 Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion

Classification of PCTs (Plant Community Type) has been revised (2022) and PCT 1330 is in the process of being superseded in the BAM (Biodiversity Assessment Method) and replaced by **PCT 3376 Southern Tableland Grassy Box Woodland**. The change of number and name will not substantially alter the legal status of the PCT.

Description: Woodland with a sparse shrub layer and dense grassy groundcover.

Landscape Position: Occurs on loamy soils on undulating terrain between 500 and 900m on the tablelands.

PCT 1330 (PCT 3376) is part of a related group of plant communities that meet criteria for identification as the ecological communities known as:

White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions

Conservation status in NSW: Critically Endangered Ecological Community

The following description is provided by NSW Government, Office of Environment and Heritage profile for the community:

It is an open woodland community (sometimes occurring as a forest formation), in which the most obvious species are one or more of the following: White Box *Eucalyptus albens*, Yellow Box *E. melliodora* and Blakely's Red Gum *E. blakelyi*. Intact sites contain a high diversity of plant species, including the main tree species, additional tree species, some shrub species, several climbing plant species, many grasses and a very high diversity of herbs. The community also includes a range of mammal, bird, reptile, frog and invertebrate fauna species. Intact stands that contain diverse upper and mid-storeys and groundlayers are rare. Modified sites include the following:

- Areas where the main tree species are present ranging from an open woodland formation to a forest structure, and the groundlayer is predominantly composed of exotic species; and
- Sites where the trees have been removed and only the grassy groundlayer and some herbs remain.

It is important to stress that even in highly modified sites, where the groundlayer is predominantly dominated by exotic species, if trees are present and the canopy layer is present, the community still meets criteria for identification as a Critically Endangered Ecological Community under NSW legislation.

Equally, if the canopy trees have been removed and the area comprises derived native grassland, the community still meets criteria for identification as a Critically Endangered Ecological Community under NSW legislation.

White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland

Commonwealth status: Critically Endangered

The following description is provided by Australian Government, Department of Environment and Heritage profile for the community:

This ecological community can occur as either a woodland or a derived grassland (a grassy woodland from which the trees have been removed). It has a ground layer of native tussock grasses and herbs, and a sparse, scattered shrub layer. White Box (*Eucalyptus albens*), Yellow Box (*Eucalyptus melliodora*) or Blakely's Red Gum (*Eucalyptus blakelyi*) dominate the ecological community, where a tree layer still occurs.

In order to be listed as the ecological community, a patch of the vegetation must comprise 0.1 hectares or more and:

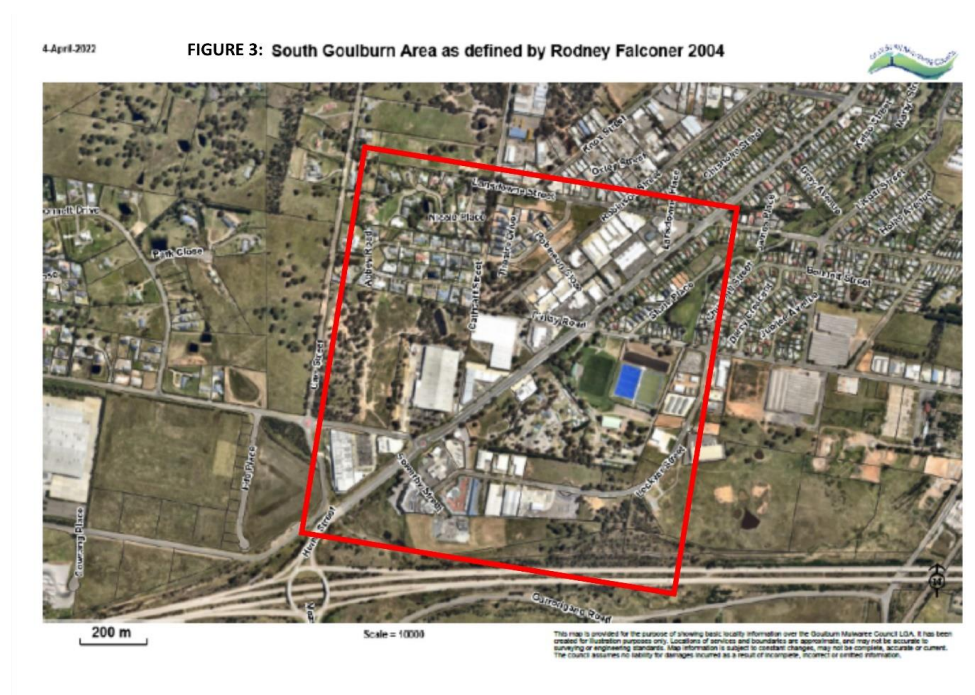
- Have an intact tree layer and a predominantly native ground layer; or
- An intact native ground layer with a high diversity of native plant species but no tree layer. (A high diversity is defined as 12 or more native understory species excluding grasses).

However even degraded areas that do not meet the above criteria for listing as the Critically Endangered community are still considered to be important as they have potential for rehabilitation and can be used to rebuild connections between sites of better quality.

THE STUDY AREA

Falconer defined his study area in Figure 1 of his report as being a square bounded by Carr Street on the western side, Lansdowne Street in the north and the Hume highway to the south. This is shown in Figure 3 below.

However in preparing his Strategic Vegetation Protection Framework, he expanded the area to include land owned by Pejar Land Council (48 & 68 Knox Street), located to the north of his original study area, and included the importance of establishing landscape connectivity to the West Goulburn Bushland Reserve located on the corner of Mary Street and Ridge Street.



For the purposes of this review, the study area has included all 16 land parcels identified by Falconer in his proposed Strategic Vegetation Protection Framework, (as shown in Figure 2).

Table 2 provides a summary of each of the 16 land parcels as described by Falconer in 2004.

TABLE 2 Summary of significant remnant native vegetation identified by Falconer 2004		
Identifier	Site Name	Estimated area of Box Gum Grassy Woodland remnant (hectares)
1	Hume & Sowerby Streets	Nil – recommended BGW be restored
2	By-pass Reserve	8.7
3	McDonalds Land	1
4	Lockyer Street (South Hill Reserve)	0.8
5	Lockyer Street	1
6	Off Finlay Road	Nil –recommended BGW be restored and site be added to South Hill reserve
7	Workers Club Arena	2.4
8	Caravan Park	3.3
9	Camping Ground/Memorial Driveway	1.9
10	Finlay Road West & Hume Street	0.3
11	Robinson Road and Finlay Road West	0.2
12	Robinson Street	0.6
13	Former Drive-In Site	1.2
14	Cathcart Street road reserve	0.5
15	Former DLWC (Department of Land and Water Conservation) land, Knox Street	3.1
16	Mapped (but not identified in plan)	6.2
Estimated area of remnant Box Gum Woodland in the South Goulburn Area (2004)		31.2 hectares

SURVEY METHODOLOGY

DESKTOP SURVEY

Information sources used in preparing this review included relevant databases, regional mapping and previous surveys and reports.

Relevant database searches:

NSW BioNet Atlas

Commonwealth DAWE Protected Matters Search Tool

eBird West Goulburn Bushland Reserve

NSW BioNet Vegetation Classification

Regional mapping:

SEED (Sharing and Enabling Environmental Data) datasets and maps

Previous reports and surveys

Falconer, R. (2002). *Goulburn City Report of Natural Vegetation Area. Goulburn South Caravan Park - Number 20.*

Goulburn Mulwaree Council, (2004). *South Goulburn Endangered/Threatened Species Management Plan.*

Macrozamia Environmental Consulting, (2021). *Biodiversity Assessment – Unformed Southern Section (48m) of Cathcart Street, Goulburn, NSW (To the west of Lots 16 and 17 DP 1247119).*

Strategic Planning, Goulburn Mulwaree Council (2020). *Management Plan for Remnant Box Gum Woodland Species 135 Hume Street (Lot 2 DP 218482) Goulburn NSW 2580*

FIELD SURVEY

Field surveys of remnant patches of Box Gum Woodland identified examining aerial imagery and based on Rodney Falconer's 2004 report were conducted to assess and estimate their extent and condition. Each site with remnant native vegetation was surveyed by walking transects across the site on at least three separate occasions during spring and early summer of 2022, recording details of flora and fauna present, and making notes of the general condition of the site. For sites where significant native vegetation remains, flora and fauna lists are provided in Appendix C.

RESULTS

DESKTOP SURVEY

Searches of the Commonwealth DAWE Protected Matters Search Tool, the NSW Government BioNet Atlas and eBird records found that 2 threatened/MNES listed ecological communities, 21 plants and 47 animals are predicted to occur in the South Goulburn area. A full list is provided in Appendix A.

A likelihood of occurrence analysis has been conducted on threatened entities predicted to be present in the area and is presented in Appendix B.

This section of the report presents a list of threatened or MNES listed entities that have been confirmed to be present or are have been determined to be highly likely to be present in the South Goulburn area.

COMMONWEALTH EPBC ACT LISTED THREATENED SPECIES

The following EPBC Act listed MNES have been recorded or are highly likely to be present in the South Goulburn Area:

Threatened Ecological Communities

White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland.

Confirmed present. (Most parts are degraded to the point that they no longer meet criteria for identification as the Commonwealth Critically Endangered ecological community, but small areas of relatively intact vegetation remain).

(Listed as Critically Endangered under the Commonwealth EPBC Act)

Fauna

Grey Headed Flying Fox *Pteropus poliocephalus* (Vulnerable)

Regularly present in Goulburn during the summer months. (Numerous records in BioNet Atlas, also regularly recorded by WIRES rescuers (Heather Caulfield, Bat Co-ordinator, WIRES Southern Tablelands *personal communication*)).

Gang Gang Cockatoo *Callocephalon fimbriatum* (Endangered)

Recorded at the West Goulburn Bushland Reserve and highly likely to also be utilising remnant woodland vegetation in the South Goulburn Area.

Glossy Black Cockatoo *Calyptorhynchus lathamii* (Vulnerable)

Although this species has not been recorded in the South Goulburn area, suitable foraging habitat is present, especially in the South Hill & Bypass reserves and there are numerous records from other parts of the GMC LGA. It is therefore quite likely that this species would be present in the area on occasion.

Brown Treecreeper (Eastern subspecies) *Climacteris picumnus victoriae* (Vulnerable)

Although this species has not been recorded in the South Goulburn area, suitable foraging habitat is present, especially in the South Hill & Bypass reserves and there are records from other parts of the GMC LGA. It is therefore quite likely that this species would be present in the area on occasion.

Rufous Fantail *Rhipidura rufifrons* (Migratory)

This species has been recorded at the West Goulburn Bushland Reserve and is highly likely also to be present in remnant vegetation in the South Goulburn area on occasion.

Key's Matchstick Grasshopper *Keyacris scurra* (Endangered)

Recorded at nearby Rocky Hill and in derived native grassland adjacent to River Street in similar habitat. While not recorded in current surveys of the South Goulburn area, it is highly likely to be present in at least some remnant vegetation patches in and around the South Hill Reserve area. (Further surveys are recommended).

Striped Legless Lizard *Delma impar* (Vulnerable)

Suitable habitat is present at the South Hill Reserve and the species is known to be present at the Gundary Travelling Stock Reserve. Although there are no records from the South Goulburn area, it is possible that the species is present.

Flora**Hoary Sunray *Leucochrysum albicans* subspecies *tricolor* (Endangered)**

Numerous records locally and confirmed present by current survey.

NSW BC ACT LISTED THREATENED SPECIES

The following threatened species and ecological communities that are listed under the NSW Biodiversity Conservation Act have been recorded or are considered to be highly likely to be present in the South Goulburn area:

NSW BC Act Schedule 2 Threatened Ecological Communities

White Box – Yellow Box – Blakely’s Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions (as described in the notice of, and reasons for, the Final Determination of the Scientific Committee to list the ecological community).

Confirmed present.

(Critically Endangered Ecological Community)

NSW BC Act Schedule 1 Threatened Species

Hoary Sunray (*Leucochrysum albicans* variety *tricolor*) (Endangered)

Brown Treecreeper (*Climacteris picumnus victorae*) (Vulnerable)

Diamond Firetail (*Stagonopleura guttata*) (Vulnerable)

Dusky Woodswallow (*Artamus cyanopterus cyanopterus*) (Vulnerable)

Gang Gang Cockatoo *Callocephalon fimbriatum* (Vulnerable)

Glossy Black Cockatoo (*Calyptorhynchus lathami*) (Vulnerable)

Grey Headed Flying Fox *Pteropus poliocephalus* (Vulnerable)

Key’s Matchstick Grasshopper *Keyacris scurra* (Endangered)

Large Bent-winged Bat *Miniopterus orianae oceanensis* (Vulnerable)

Scarlet Robin *Petroica boodang* (Vulnerable)

Speckled Warbler *Chthonicola sagittata* (Vulnerable)

Speckled Warbler *Cthtonicola sagitatta* (Vulnerable)

Varied Sittella *Daphoenositta chrysoptera* (Vulnerable)

All of these species have been recorded in the Goulburn area (within 5 km of the study area) or are considered to be highly likely to utilise remnant woodland areas.

RESULTS OF FIELD SURVEYS

This section provides a description of the current status of each area identified by Falconer. Detailed flora and fauna lists for areas that still contain significant remnant vegetation are provided in Appendix C of this report.

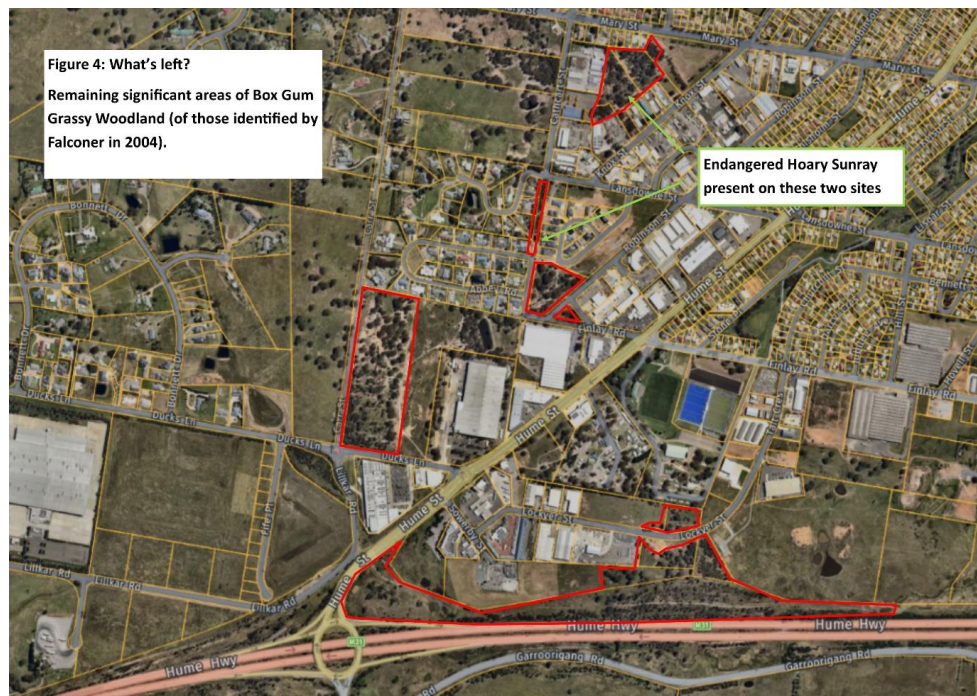
Survey work has found that several sites identified in the 2004 report have since been cleared or are in the process of being cleared. Approximately one quarter of remnant vegetation identified by Falconer as being ecologically important has been removed since 2004. Generally retention of significant areas of remnant vegetation and creation of canopy links has not been implemented. Figure 4 identifies areas that still retain remnant vegetation and Figure 5 identifies areas in Council ownership.

Remnant vegetation to the south of the area is now only tenuously connected to the remnant areas located to the north, as the central area identified by Falconer as being so important has been largely cleared or is in the process of being cleared and developed.

In sites where Box Gum Grassy Woodland remains, the canopy trees remain and are mostly in good health, but the groundcover layers are highly degraded and weed infested. However there is potential for restoration. Many areas contain significant growth of woody weeds such as African Boxthorn, Firethorn and Blackberry.

On one site, an Aboriginal ring tree was identified and this is now registered on the AHIMS (Aboriginal Heritage Information Management System) database.

Despite the degraded condition of the remnant Box Gum Grassy Woodland in the South Goulburn Area, the vegetation in these areas comprises a Critically Endangered Ecological Community listed under Schedule 2 of the NSW BC Act 2016 (*White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions*).



Falconer number identifier: 1

Falconer Site Name: Hume & Sowerby Streets

Street Address: 2 Sowerby Street

Part of Lot 15 DP 856419

Land ownership: Private

Land Zoning: RE2 Public Recreation



(5/12/2023)

At the time he wrote his report, the land was owned by Council and Falconer advised the site provided opportunities to recreate Yellow Box/Blakely's Red Gum woodland. However the property was sold in 13/10/2015 and is now in private ownership. Partly developed with a motel and bakery. Native vegetation has not been restored on the site. Most of the area is low lying and wet. With the exception of a few trees on the periphery of the land, the vegetation is largely dominated by exotic pasture grasses, especially Phalaris, Yorkshire Fog and Tall Fescue. There are also large patches of Blackberry present on the land. There is a small dam located in the southern corner that provides habitat for fauna including frogs and birds. A selection of Eucalypts has been planted around the car parking area adjacent to Sowerby Street, and these do provide some valuable habitat for native fauna, especially birds. Eucalypts planted around the car park include Snow Gum *Eucalyptus pauciflora*, Black Sallee Gum *Eucalyptus stellulata* and Paddy's River Box *Eucalyptus macarthurii*.

Falconer number identifier: 2

Falconer Site Name: By-pass Reserve

Street Address: Land adjacent corner of Hume Street and Hume Highway, and adjacent to Hume Highway

Part of Lot 52 DP 810226 & Lot 51 DP 810226

Land ownership: Public (TnNSW)

Land Zoning: Part zoned RU1 Primary Production and part RU2 Rural Landscape



(Viewed from the southern side of the Hume Highway). (11/01/2023)

This land contains approximately 9 hectares of dry sclerophyll woodland, some of which is clearly original Box Gum Grassy Woodland. Areas immediately adjacent to South Hill are steeply sloping towards the south (Hume Highway) and have previously been landscaped and terraced, and the trees are mostly relatively small. However this area has significant numbers of Drooping She Oak (*Allocasuarina verticillata*) and some Black She Oak (*Allocasuarina littoralis*), both of which provide key foraging habitat for Glossy Black Cockatoo (*Calyptorhynchus lathami*). Mistletoes are also present, providing habitat for a wide range of fauna, including migratory honeyeaters. A part of the western end is low lying and swampy, and features wetland vegetation such as rushes, sedges and Cumbungi.

Due to the relatively large size of the area, the diversity of vegetation present and the restricted access, this area represents a significant area of ecological value. It provides potential foraging and nesting habitat for a wide diversity of grassy woodland fauna. It is directly adjacent to and contiguous with remnant vegetation on Falconer Sites 3 (McDonalds Land), 4 (South Hill Reserve) and 5 (Council owned land on Lockyer Street).



Above: cones on Drooping She Oak (5/12/2022) and below Drooping Mistletoe (26/09/2023). These plants provide foraging resources for threatened species.



Falconer number identifier: 3

Falconer Site Name: McDonalds Land

Street Address: 7 Sowerby Street

Lot 1 DP 856419

Land ownership: Private

Land Zoning: Part zoned B6 Enterprise Corridor and part RU2 Rural Landscape



(26/09/2022)

The eastern part of this lot contains a small patch of remnant Box Gum Woodland, comprising approximately 0.854 hectares. The canopy contains mature Blakely's Red Gum and Yellow Box Trees, but the groundcover is mostly dominated by exotic pasture grasses and weeds. This land is adjacent to Falconer sites 2, 4 and 5 and as such is contiguous with and part of a much larger area of remnant native vegetation.

The chief value of this site is in the larger trees, which provide foraging and nesting habitat for arboreal fauna. Many of the trees contain nesting hollows. The largest trees would also potentially provide nesting sites for White Bellied Sea Eagles and Little Eagles.

Falconer number identifier: 4

Falconer Site Name: South Hill Reserve

Street Address: 18 Lockyer Street

Lot 3 DP 1238214

Land ownership: Public

Land Zoning: RU2 Rural Landscape



(13/09/2022)

South Hill Reserve is a small reserve, comprising approximately 0.8 hectares. The site is owned by Goulburn Mulwaree Council. The reserve features woodland with a canopy of mostly smaller regenerating Yellow Box and Blakely's Red Gum, with occasional Brittle Gum. The ground layer is heavily degraded and mostly dominated by weeds, including African Love Grass, Serrated Tussock and St John's Wort, especially on the parts adjacent to Lockyer Street.

However the site has good potential for restoration. Higher parts of the reserve are rocky and feature relatively shallow, infertile soil. These areas have some patches that are clearly dominated by native grass species, especially Weeping Grass and Corkscrew Grass. The combination of tussocky grasses and abundant rock provides potential habitat for Striped Legless Lizards and Pink Tailed Worm Lizards.

Falconer number identifier: 5

Falconer Site Name: Lockyer Street

Street Address: 16 Lockyer Street

Lot 4 DP 1238214

Land ownership: Public

Land Zoning: RE1 Public Recreation



(Southern portion, boundary with South Hill Reserve, looking north). (13/09/2022)

This land is owned by Goulburn Mulwaree Council.

It is traversed by Lockyer Street and is divided into a northern part comprising approximately 0.6 hectares and a southern part comprising approximately 1.1 hectares. The southern part is directly adjacent to Falconer sites 1 (TfNSW By-pass reserve), 3 (McDonalds Land) and 4 (South Hill Reserve).



(Northern portion). (13/09/2022)

The land contains a canopy of mature Blakely's Red Gum and Yellow Box trees that provide significant habitat for arboreal fauna. The larger trees provide potential roost and breeding sites for canopy nesting species such as White Bellied Sea Eagles and Little Eagles. However as with other areas of native vegetation in the area, the groundcover is largely dominated by exotic pasture grasses and weeds.

Falconer number identifier: 6

Falconer Site Name: Off Finlay Road

Street Address: 20-24 Lockyer Street

Lot 2 DP 1238214

Land ownership: Private

Land Zoning: RU2 Rural Landscape



(26/09/2022)

Falconer identified that this area located in the south west corner of this land, immediately adjacent to the South Hill Reserve would be suitable for re-vegetation.

Falconer recommended that this area should be added to the South Hill Reserve. However the land has been entirely cleared and a building has been constructed on the site (in the exact area recommended to be added to the South Hill Reserve).

Falconer number identifier: 7

Falconer Site Name: Workers Club Arena

Street Address: 128 Finlay Road

Lot 1 DP 1273543

Land ownership: Public

Land Zoning: RE2 Private Recreation



(11/01/2023)

This land is owned by Goulburn Workers Club. A small amount of remnant Box Gum Grassy Woodland remains on the site, represented by mature Blakely's Red Gum and Yellow Box trees. The groundcover comprises mown turf, mostly dominated by exotic grasses and weeds. The chief value of this site lies in the mature canopy trees. However the lack of shrub and groundcover layers significantly diminishes the ecological values of the site.

Falconer number identifier: 8

Falconer Site Name: Caravan Park

Street Address: 149 Hume Street

Lot 5 DP 1082075

Land ownership: Private

Land Zoning: B6 Enterprise Corridor



(11/01/2023)

Remnant Box Gum Grassy Woodland remains on the site, represented by scattered mature canopy trees comprising Blakely's Red Gum and Yellow Box trees. The groundcover has been almost entirely removed and is represented by mown turf, mostly dominated by exotic grasses and weeds. As a busy caravan park, there is a high level of disturbance on this site.

Falconer number identifier: 9

Falconer Site Name: Camping Ground/Memorial Driveway

Now comprises 3 Lots, all in private ownership. Canopy trees in the centre of this area were identified by Falconer as ecologically significant in a report to Council (Falconer, 2002) and important in providing landscape canopy linkage.

One of Falconer's specific recommendations was: "*Centrally located vegetation stand to be retained in Council ownership.*"

The land containing this vegetation was sold and is now in private ownership.

Street Address: 179-183 Hume Street

Lot 1 DP 1258737

Land Zoning: B6 Enterprise Corridor

Cleared and developed. Two original trees remain.



(11/01/2023)

This lot has been cleared and developed. Two remnant trees have been retained as part of associated gardens.

Street Address: 163-167 Hume Street

Lot 3 DP 1082075

Land Zoning: B6 Enterprise Corridor



(11/01/2023)

A DA for self-storage units has been submitted and approved. A BDAR was required for this, and the proponent has been required to purchase and retire Biodiversity Offset Credits. The land is scheduled to be cleared and developed in the near future. A very small amount of Box-Gum Grassy Woodland will be retained.

Street Address: 169-177 Hume Street

Lot 2 DP 1082075

Land zoning: B6 Enterprise Corridor



(11/01/2023)

This site is subject to preparation and submission of a Development Application to clear and develop the site. Currently contains remnant Box Gum Grassy Woodland with high native groundcover component. Some of the remnant trees on the site appear to have been deliberately (illegally) poisoned. Remaining trees and remnant vegetation likely to be cleared and developed in the near future.

Falconer number identifier: 10

Falconer Site Name: Finlay Road West and Hume Street

Street Address: 128 Hume Street

Lot 422 DP 1051305

Land ownership: Private

Land Zoning: B6 Enterprise Corridor



(11/01/2023)

Entirely cleared and developed.

Falconer number identifier: 11

Falconer Site Name: Robinson Road and Finlay Road West

Street Address: 109 Robinson Street

Lot 2 DP 1045685

Land ownership: Goulburn Mulwaree Council

Land Zoning: B6 Enterprise Corridor



(3/11/2022)

This small area of land comprises approximately 0.2 hectares. The site features some very large, high conservation value remnant canopy trees and there are numerous young saplings growing on the site. As with other remnant Box-Gum Grassy Woodland areas, the groundcover is largely dominated by exotic species. This site is of some concern as there is a significant infestation of African Love Grass, Serrated Tussock and St John's Wort present. There is also a high component of woody weed infestation, especially African Box Thorn. Members of the public have raised concerns over the overgrown, weedy state of the site and that it represents a fire risk.

Falconer number identifier: 12

Falconer Site Name: Robinson Street

Street Address: 99 Robinson Street

Lot 10 DP 1192224

Land ownership: Private

Land Zoning: B6 Enterprise Corridor



(11/01/2023)

Entirely cleared and developed.

Falconer number identifier: 13

Falconer Site Name: Former Drive-in Site

Street Address: 21 Theatre Drive

Lot 28 DP 1247119

Land ownership: Private

Land Zoning: C3 Environmental Management



(11/01/2023)

This site features an area of approximately 1.4 hectares of Remnant Box Gum Grassy Woodland, containing many large canopy trees. Surveys also found that a culturally significant Aboriginal Marked Tree is present in the woodland area and this has been recorded in the AHIMS Register. The trees on this block represent significant habitat for a wide range of arboreal fauna species.

The lot is located between two other areas featuring remnant canopy trees, these being Falconer sites 11 (Robinson Road and Finlay Road West) and 14 (Cathcart Street Road Reserve). There is also good connectivity to Falconer site 16 (13 Ducks Lane) located to the west.

Although the site is heavily weed infested, a significant amount of native ground cover species remain, including a variety of native grasses and forbs. A large number of woody weeds are also present on the site, including Firethorn, African Box Thorn and Blackberry.

During site assessments it was noted that Eastern Grey Kangaroos were present on the site.

The land is privately owned but not fenced off and is used as a recreational area by members of the public, as evidenced by presence of informal paths, bike tracks and children's cubby houses.

As this land is central to the other remnant areas identified, contains large canopy trees and residual native groundcover species, it has high biodiversity conservation values and enormous potential for restoration as a significant example of Box Gum Grassy Woodland in the South Goulburn Area.



(Adjacent to Cathcart Street). (3/11/2022)

Falconer number identifier: 14

Falconer Site Name: Cathcart Street unformed road reserve

Street Address: Cathcart Street between Lansdowne Street and Abbey Road

Land ownership: GMC

Land Zoning: R5



(1/12/2022)

The Cathcart Street unformed road reserve comprises approximately 0.37 hectares, and features Remnant Box Gum Woodland with a canopy of Yellow Box and Blakely's Red Gum trees.

Unfortunately the groundcover layer in the reserve has been repeatedly damaged, particularly in the southern third of the reserve, by a combination of vehicle and plant access, repeated severe mowing and herbicide application. It appears that some of this activity may have been deliberate and motivated by a desire to attempt to obliterate biodiversity values of the area.

Despite this, even in the most degraded parts, in the southern end of the reserve, it was possible during flora surveys to identify a number of native grass species, including Red Stem Grass, Windmill Grass, Hairy Panic, Wallaby Grass and Weeping Grass. Several plants of Hoary Sunray were also found in this part of the reserve. The Hoary Sunray is listed as

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Endangered under both the Commonwealth EPBC Act and the NSW Biodiversity Conservation Act.

This area was assessed in 2021 by an ecological consultant who reported that the groundcover was entirely dominated by exotic grassland and weed species, and who reported that “No flora species were recorded or considered likely to occur that are listed matters under the BC Act for the EPBC Act.” This finding is not supported by the current study.

In less disturbed parts of the reserve a number of other grassland species were recorded, including Blushing Bindweed, Common Woodruff, Corkscrew Grass, Kangaroo Grass, Common Everlasting, Native Bluebells, Wattle Matrush and Bulbine Lily. The northern end of the reserve is particularly heavily weed infested, with significant weeds including Chilean Needle Grass, Serrated Tussock, St John’ Wort, Firethorn and African Box Thorn.

The canopy trees in the reserve provide habitat for a range of arboreal fauna and during the 2022 site surveys, it was found that White Winged Choughs were nesting in a large Blakely’s Red Gum tree. Other birds recorded in the reserve included Superb Fairy Wren, Yellow-rumped Thornbill, Crimson Rosella, Eastern Rosella, Rainbow Lorikeet, Crested Pigeon, Magpie, Noisy Miner, Galah and Sulphur Crested Cockatoo. It is likely that hollow bearing trees in the reserve also provide roosting sites for microbats.



Southern end of Cathcart Street reserve. Several plants of the nationally endangered Hoary Sunray were found in this part of the reserve (close up of one of these next photograph). (1/12/2023)



Above Endangered Hoary Sunray and below Chocolate Lily, photographed in Cathcart Street unformed road reserve. (1/12/2023)



Falconer number identifier: 15

Falconer Site Name: Former DLWC land, Knox Street

Street Address:

48 Knox Street – Lot 410 DP 821783

68 Knox Street – Lot 407 DP 821783

Land ownership: Pejar LALC

Land Zoning: B6 Enterprise Corridor



(14/09/2022)

A significant area of Remnant Box Gum Woodland is present on this land. Dominant canopy trees include Yellow Box, Blakely's Red Gum and Apple Box. There are some very large trees present on the site, which represent significant habitat trees.

Parts of the site have been cleared and feature a BMX track that appears to have been constructed using earth moving equipment. A firepit and yarning circle, and picnic tables have also been installed on parts of the site.

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During site inspections it was found that several Eastern Grey Kangaroos were present and appear to be using this remnant vegetation as their home base.

In most parts the understory and ground cover is dominated by weeds, including African Box Thorn, Firethorn, Privet, African Love Grass, Serrated Tussock and St John's Wort. However there are some small, good quality patches dominated by native grassland species, with a diversity of native grasses, graminoids, forbs and shrubs. These include large patches of the Hoary Sunray (listed as Endangered under both NSW and Commonwealth legislation).



Above and following photograph: an area with native dominant groundcover, with Endangered Hoary Sunray. (14/09/2022)



Below: note Eastern Grey Kangaroo. (14/09/2022)



Falconer number identifier: 16

Falconer Site Name: Not provided

Street Address:

13 Ducks Lane

Lot 1 DP 740066

Land ownership: Private

Land Zoning: C4 Environmental Living



(7/10/2022)

Remnant Box Gum Woodland present. Due to prominent signs on all access points with the wording "PRIVATE PROPERTY KEEP OUT" this area was not directly accessed and was surveyed from the roadside (Ducks Lane and Carr Street). The site contains some large remnant trees with nesting hollows, and there is extensive regrowth of younger trees. Although the site does have a high level of weed infestation, in most parts the groundcover layer appears to be dominated by native species.

DISCUSSION

In his 2004 report to Council, Falconer provided recommendations in part 7 of his report and a table of specific actions for each of the remnant native vegetation areas he identified as being of significance. (Refer to 7. *Action Plan & Action Plan (Canopy Corridor)*, pages 9 to 15 of Falconer's report). These can briefly be summarised as:

- Create a wildlife corridor via Carr and Ridge Streets from Mary Street to Ducks Lane and South Hill.
- Create an overstorey link or "canopy" corridor between Mary Street and the By-pass linking South Hill, Caravan Park/Workers Arena and the Robinson Street Woodlands.
- Protect and retain remnant native trees on all sites.
- Design any future development to avoid impacts on remnant vegetation as far as possible.
- Develop voluntary conservation agreements with private landowners to protect and restore native vegetation, including fencing off significant areas to exclude livestock.
- Develop and implement an Operational Plan of Management for South Hill Reserve.

Unfortunately, despite the report being adopted by Council (16th November, 2004), this review has found that the recommendations made by Falconer were not implemented. As shown in Figure 6, Falconer's vision has not been fulfilled.

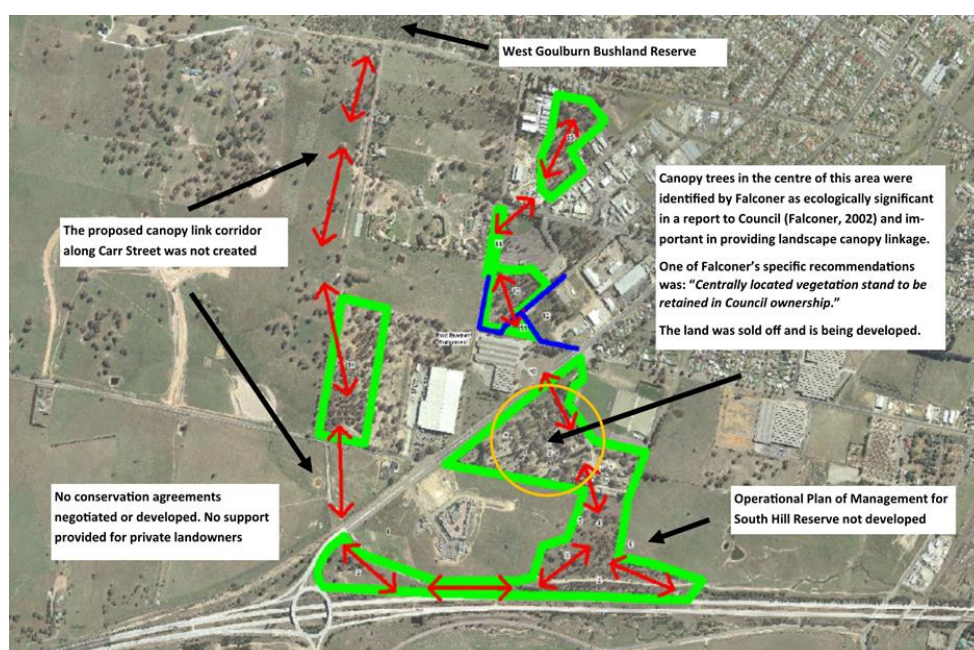


FIGURE 6: Outcomes of Rodney Falconer's proposed Action Plan

Areas that Falconer recommended should be restored and revegetated to provide canopy connectivity have not been revegetated.

Some parcels of land that were in Council ownership at that time have since been sold and have been cleared or are proposed to be cleared. At the present time (2023), only approximately 2.6 hectares of remnant vegetation is owned by Council.

The proposed creation of a vegetation corridor along Carr Street has not been implemented. A strip of land adjacent to either side of Carr Street between Ducks Lane and Mary Street has been rezoned to C4 Environmental Living, and this does provide some protection from further development and vegetation clearing, but beyond this there appears to have been no on-ground effort to establish and maintain a vegetation corridor.

This review has found that although significant areas of remnant Box Gum Grassy Woodland are present in the South Goulburn area, both the extent and quality of these remnant areas have declined significantly since 2004, and this decline will continue unless active protection measures are implemented.

The few remnant areas of Box Gum Grassy Woodland left are of local significance and their protection would be justified on this ground alone. Box Gum Grassy Woodland is historically part of Goulburn's heritage, and the remnant trees and associated wildlife are arguably as worthy of conservation as any other culturally significant places or items of the locality.

However this is not the only reason to protect these areas.

Box Gum Grassy Woodland is listed as a Critically Endangered Ecological Community under Schedule 2 Part 1 of the NSW *Biodiversity Conservation Act 2016*. This has significant implications for Council.

The community is defined as an open woodland community (sometimes occurring as a forest formation), in which the most obvious species are one or more of the following: White Box *Eucalyptus albens*, Yellow Box *E. melliodora* and Blakely's Red Gum *E. blakelyi*.

The community is characterised by the presence or prior occurrence of White Box, Yellow Box and/or Blakely's Red Gum and a generally grassy understorey.

The trees may occur as pure stands, mixtures of the three species or in mixtures with other trees, including wattles.

It is important to note that even if the groundcover layer are predominantly composed of exotic species, if the canopy is dominated by Yellow Box and/or Blakely's Red Gum, the ecological community is still considered to be Critically Endangered Ecological Community.

As well as being identified as a Critically Endangered Ecological Community, the remnant Box Gum Grassy Woodland areas provide habitat for a number of threatened species.

1 Threatened ecological communities, flora and fauna are protected under part 2.4 of the Biodiversity Conservation Act:*2.4 Damaging habitat of threatened species or ecological community**(1) A person—**(a) who damages any habitat of a threatened species or threatened ecological community, and**(b) who knows that it is the habitat of any such species or community, is guilty of an offence.**Maximum penalty—Tier 1 monetary penalty or imprisonment for 2 years, or both.*

Council is therefore obliged to ensure that no damage or harm arises to any areas of this ecological community that are present on Council owned or managed land.

From a pragmatic point of view, it is in Council's best interests to identify and protect any areas of the identified ecological community from harm as a failure to do so may result in a significant risk of prosecution.

2 Requirement to comply with the Biodiversity Offsets Scheme

Any proposed Development Application that will involve impacts on Box Gum Grassy Woodland must include a Threatened Species Test of Significance. If the Threatened Species Test of Significance shows that a significant impact is likely, the proponent must engage a BAM accredited assessor to prepare a BDAR (Biodiversity Development Assessment Report). The Threatened Species Test of Significance must assess impacts on the local occurrence of the threatened ecological community.

Advice received from the Department of Planning and Environment, Biodiversity & Conservation, is that any impact on this community is likely to be a significant impact on the local occurrence of the threatened entity and that a BDAR will automatically be required.

This must be taken into consideration by Council officers when assessing any Development Applications applicable to areas known to contain Box Gum Grassy Woodland.

For Part 5 Activities under the Planning Act, Council will be required to either engage a BAM accredited assessor to prepare a BDAR, or prepare a Species Impact Statement and obtain concurrence from the NSW Department of Planning and Environment. Advice from NSW DPE is that preparation of a BDAR is the preferred option.

3 SAIL Entities

The Box Gum Grassy Woodland ecological community is also listed as a SAIL Entity (At risk of Serious and Irreversible Harm). This requires that Council as the consent authority must consider if any proposed activity is likely to have a serious and irreversible impact on the local occurrence of the community.

For activities that fall under Part 4 of the *NSW Environment and Planning Assessment Act 1979*, the approval authority must **not** grant approval if they determine the proposal is likely to have a serious and irreversible impact on biodiversity values.

For activities that fall under Part 5 of the *NSW Environment and Planning Assessment Act 1979*, consent can be given but only if the consent authority considers that the impact is outweighed by the social and economic benefits that the development will deliver.

The approval authority must take all likely impacts into consideration and determine whether there are any additional and appropriate measures that will minimise those impacts if approval is to be granted.

Requirements of the Commonwealth Environment and Biodiversity Conservation Act 1999

Box Gum Grassy Woodland is listed as Critically Endangered and a Matter of National Environmental Significance under the EPBC Act.

The criteria for identification as the critically endangered community are more stringent than those applied under NSW legislation, and are as follows:

In order to be the listed ecological community, an understorey patch, in the absence of overstorey trees, must have a high level of native floral species diversity, but only needs to be 0.1 hectares or greater in size. A patch in which the perennial vegetation of the ground layer is dominated by native species, and which contains at least 12 native, non-grass understorey species (such as forbs, shrubs, ferns, grasses and sedges) is considered to have a sufficiently high level of native diversity to be the listed ecological community. At least one of the understorey species should be an important species (e.g. grazing-sensitive, regionally significant or uncommon species; such as Kangaroo Grass or orchids) in order to indicate a reasonable condition.

Areas with both an overstorey and understorey present are also considered of sufficiently good condition to be part of the listed ecological community if the understorey meets any of the conditions above, or if they have a predominantly native understorey, are two hectares or above in size, and have either natural regeneration of the overstorey species or 20 or more mature trees per hectare.

Due to the highly degraded nature of much of the remnant Box Gum Grassy Woodland in the South Goulburn area no longer meets the criteria for definition as the EPBC Act listed community. However some high quality patches do remain, and these are strictly protected under Commonwealth legislation.

As with the NSW BC Act, the listing of any areas of remnant vegetation as a Critically Endangered ecological community under the EPBC has significant implications for Council.

If any activity is likely to have a significant impact on a Matter of National Environmental Significance, such as Box Gum Grassy Woodland, the activity must be referred to the Minister for the Environment for approval.

Significant civil and criminal penalties may apply for failure to refer the action for the approval of the Minister for the Environment:

- *Individuals: civil penalties are the equivalent of 5,000 penalty units. A conviction under the EPBC Act could result in imprisonment for a period of up to seven years, a fine of up to 420 penalty units, or both.*
- *Body corporates: face fines of 50,000 penalty units. A conviction under the EPBC Act could result in a fine of up to 2,100 penalty units.*
- *A director (or other executive officer) of a company could be held individually liable (for either criminal offences or civil penalties) where the company breaches the legislation in relation to matters of National Environmental Significance (NES).*

Obligations under the NSW Biosecurity Act 2015

Site assessments conducted as part of this review have found that a variety of weeds, including several regionally significant weeds, are present on all sites containing remnant native vegetation, including those in Council ownership.

Regionally significant weeds found to be common include African Love Grass (*Eragrostis curvula*), African Box Thorn (*Lycium ferocissimum*), Blackberry (*Rubus fruticosus* aggregate) and Serrated Tussock (*Nassella trichotoma*). Council has an obligation under the Biosecurity Act to actively manage these and other weeds appropriately.

"Councils are responsible for knowing whether they have weeds on their lands that create a biosecurity risk. They must take action to prevent, eliminate or minimise those risks."

(Source: NSW Department of Primary Industries: *Weeds and the Biosecurity Act – A handbook for local councils and councillors in NSW*).

At present it seems that weed management on the areas assessed is minimal, and confined to occasionally slashing the vegetation in response to complaints from nearby residents about fire risks, harbour for vermin and likelihood of snakes being present. It should be noted that an obligation to control weeds under the Biosecurity Act is not a defence for harming threatened species.

Prior to issuing a control order that may impact on native flora or fauna, the Minister for the Environment must be consulted:

NSW Biosecurity Act 2015 Clause 71 (1):

- (1) A control order in relation to or affecting native flora or fauna may only be made after consultation with the Minister for the Environment.*

Secondly, Commonwealth legislation takes precedence over State legislation, and if threatened species listed under the Commonwealth EPBC Act are present on a site, any weed control activities that are likely to impact on these threatened entities will require approval from the Commonwealth.

CONCLUSION

This review has found that:

- Several sites identified in Falconer's 2004 report have since been cleared or are in the process of being cleared. Approximately one quarter of remnant vegetation identified by Falconer as being ecologically important has been removed since 2004.
- Retention of significant areas of remnant vegetation and creation of canopy links as recommended by Falconer has not been implemented.
- In sites where Box Gum Grassy Woodland remains, the canopy trees remain and are mostly in good health, but the groundcover layers are mostly highly degraded and weed infested. However there is potential for restoration of these sites.
- At the present time (2023), only approximately 2.6 hectares of remnant Box Gum Grassy Woodland vegetation in the South Goulburn area is owned by Council.
- The Hoary Sunray, listed as Endangered under both the Commonwealth EPBC Act and the NSW Biodiversity Conservation Act, was found to be present on two sites, including the Cathcart Street Road Reserve.
- Remnant native vegetation provides habitat for several threatened fauna species.
- On one site, an Aboriginal Marked Tree was identified and this is now registered on the AHIMS (Aboriginal Heritage Information Management System) database.
- Despite the degraded condition of the remnant Box Gum Grassy Woodland in the South Goulburn Area, the vegetation in these areas comprises a Critically Endangered Ecological Community listed under Schedule 2 of the NSW BC Act 2016 (*White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions*).
- Advice from Department of Planning and Environment - Biodiversity and Conservation is that removal of any areas of this CEEC constitutes a significant impact on the local occurrence of the ecological community and that this will require preparation of a BDAR (Biodiversity Development Assessment Report) by a BAM (Biodiversity Assessment Method) accredited assessor.

RECOMMENDATIONS

It is recommended that Council:

- Implement measures to identify and protect remnant Box Gum Grassy Woodland in the South Goulburn area, as far as is reasonably practicable.
- Develop and implement a management plan for remnant Box Gum Grassy Woodland on Council owned land.
- Implement a program to raise community awareness of the conservation value and significance of remnant Box Gum Grassy Woodland in the South Goulburn area, and in the LGA as a whole.
- Encourage the use of locally occurring native plant species representative of the Box Gum Grassy Woodland ecological community in landscaping projects in the local area.
- Ensure that all decision makers involved in development of the area are advised of the presence of the Critically Endangered Ecological Community and the threatened species it sustains, and the legislative requirements to protect these.
- Continue to liaise with and seek advice from NSW Department of Planning and Environment, Biodiversity and Conservation, with regard to protection and management of remnant Box Gum Grassy Woodland.
- Continue to monitor extent and condition of remnant Box Gum Grassy Woodland in the South Goulburn area.
- Ensure that this report is reviewed and updated regularly, and with no more than 5 year intervals between reviews.

REFERENCES/SOURCES OF INFORMATION

Australian Government Department of Climate Change, Energy, the Environment and Water
Protected Matters Search Tool:

<https://pmst.awe.gov.au/#/map?lng=131.52832031250003&lat=-28.671310915880834&zoom=5&baseLayers=Imagery,ImageryLabels>

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Australian Government. (2013). *Matters of National Significance – Significant impact guidelines 1.1 Environment Protection and Biodiversity Conservation Act 1999*. Australian Government – Department of Agriculture, Water and the Environment.

eBird West Goulburn Bushland Reserve species list:

<https://ebird.org/hotspot/L2970478?yr=all&m=>

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Falconer, R. (2002). *Goulburn City Report of Natural Vegetation Area. Goulburn South Caravan Park - Number 20*.

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Goulburn Mulwaree Council, (2004). *South Goulburn Endangered/Threatened Species Management Plan*.

NSW Government. (2019). *Guidance to assist a decision maker to determine a serious and irreversible impact*. NSW Department of Planning, Industry & Environment

NSW Government. (2020). *Weeds and the Biosecurity Act – A handbook for local councils and councilors in NSW*. NSW Department of Primary Industries

NSW Government. (2017). *South East Regional Strategic Weed Management Plan 2017 – 2022*. South East Local Land Services

Macrozamia Environmental Consulting, (2021). *Biodiversity Assessment – Unformed Southern Section (48m) of Cathcart Street, Goulburn, NSW (To the west of Lots 16 and 17 DP 1247119)*.

NSW Biosecurity Act 2015

<https://legislation.nsw.gov.au/view/html/inforce/current/act-2015-024#sec.7>

NSW Biodiversity Conservation Act 2016

<https://legislation.nsw.gov.au/view/html/inforce/current/act-2016-063#sch.2>

NSW Government BioNet Atlas:

https://www.environment.nsw.gov.au/atlaspublicapp/ui_modules/atlas_/atlassearch.aspx

NSW Government. (2022). *White Box – Yellow Box – Blakely’s Red Gum Grassy Woodland and Derived Native Grassland profile*

<https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10837>

APPENDICES

APPENDIX A: THREATENED SPECIES WITH POTENTIAL TO BE PRESENT IN THE SOUTH GOULBURN AREA

This table has been compiled from information derived from the Commonwealth DAWE Protected Matters Search Tool, the NSW Government BioNet Atlas and local eBird records.

This table has not included DAWE (EPBC Act) PMST listed aquatic and marine species as the South Goulburn Area does not contain significant areas of suitable habitats for these species.

BioNet records are derived from a search area comprising a 10 x 10 km grid laid over the approximate centre of the South Goulburn area. (This is the smallest size search area that can be utilized in the BioNet Atlas).

Threatened/ Endangered Ecological Communities with potential to occur in the South Goulburn Area		
Threatened Ecological Community Name	NSW Status	Commonwealth Status
Natural Temperate Grassland of the South Eastern Highlands		Critically Endangered
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland		Critically Endangered
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions	Critically Endangered	

Threatened Flora Species with potential to occur in the South Goulburn Area V = Vulnerable, E = Endangered, CE = Critically Endangered					
Scientific Name	Common Name	NSW Status	EPBC Status	BioNet Record (13/04/2023)	EPBC Act PMST (13/04/2023)
Acacia bynoeana	Bynoe's Wattle	E	V		Yes
Amphibromus fluitans	Floating Swamp Wallaby Grass	V	V		Yes
Bossiaea oligosperma	Few Seeded Bossiaea	V	V	Yes	
Calotis glandulosa	Mauve Burr-daisy	V	V		Yes
Commersonia prostrata	Dwarf Kerrawang	E	E		Yes
Diuris aequalis	Buttercup Doubletail Orchid	E	V	Yes	Yes
Dodonaea procumbens	Creeping Hop Bush	V	V		Yes
Eucalyptus aggregata	Black Gum	V	V		Yes

Lepidium aschersonii	Spiny Pepper-cress	V	V		Yes
Lepidium hyssopifolium	Aromatic Pepper-cress	E	E		Yes
Leucochrysum albicans tricolor	Hoary Sunray	E	E	Yes	Yes
Persoonia oxycoccoides	Cranberry Geebung	E		Yes	
Pomaderris cotoneaster	Cotoneaster Pomaderris	E	E		Yes
Pomaderris delicata	Delicate Pomaderris	E	CE	Yes	Yes
Pomaderris pallida	Pale Pomaderris	V	V		Yes
Prasophyllum petilum	Tarengo Leek Orchid	E	E		Yes
Rhizanthella slateri	Eastern Underground Orchid	V	E		Yes
Rutidosis leptorhynchoides	Button Wrinklewort	E	E	Yes	Yes
Senecio macrocarpus	Large Fruit Fireweed		V		Yes
Swainsona recta	Small Purple Pea	E	E		Yes
Thesium australe	Austral Toadflax	V	V		Yes

Threatened Fauna Species with potential to occur in the South Goulburn Area V = Vulnerable, E = Endangered, CE = Critically Endangered, M = Migratory (EPBC Act)						
Scientific Name	Common Name	NSW Status	EPBC Status	BioNet Record	EPBC Act PMST	eBird
BIRDS						
Actitis hypoleucos	Common Sandpiper		M		Yes	
Anthochaera phrygia	Regent Honeyeater	E	CE		Yes	

Aphelocephala leucopsis	Southern Whiteface		V		Yes	
Apus pacificus	Fork-tailed Swift		M		Yes	
Artamus cyanopterus cyanopterus	Dusky Woodswallow	V		Yes		
Botaurus poiciloptilus	Australasian Bittern	E	E		Yes	
Calidris acuminata	Sharp-tailed Sandpiper		M		Yes	
Calidris ferruginea	Curlew Sandpiper	E	CE		Yes	
Calidris melanotos	Pectoral Sandpiper		M		Yes	
Calocephalon fimbriatum	Gang Gang Cockatoo	V	E		Yes	Yes
Calyptorhynchus lathami lathami	Glossy Black Cockatoo	V	V		Yes	
Chthonicola sagittata	Speckled Warbler	V				Yes
Climacteris picumnus victoriae	Brown Treecreeper	V	V		Yes	
Daphoenositta chrysoptera	Varied Sittella	V				Yes
Ephippiorhynchus asiaticus	Black Necked Stork	E		Yes		
Falco hypoleucos	Grey Falcon	E			Yes	
Gallinoga hardwickii	Latham's Snipe		M	Yes	Yes	
Grantiella picta	Painted Honeyeater	V	V		Yes	
Haliaeetus leucogaster	White Bellied Sea Eagle	V		Yes		
Hieraaetus morphnoides	Little Eagle	V		Yes		
Hirundapus caudacutus	White-throated Needletail		V, M		Yes	
Lathamus discolor	Swift Parrot	E	CE		Yes	
Melanodryas cucullata cucullata	Hooded Robin	V	E		Yes	
Monarcha melanopsis	Black Faced Monarch		M		Yes	

Motacilla flava	Yellow Wagtail		M		Yes	
Myiagra cyanoleuca	Satin Flycatcher		M		Yes	
Neophema chrysostoma	Blue-winged Parrot		V		Yes	
Numenius madagascariensis	Eastern Curlew		CE, M		Yes	
Petroica boodang	Scarlet Robin	V				Yes
Polytelis swainsonii	Superb Parrot	V	V		Yes	
Pycnoptilus floccosus	Pilot Bird		V		Yes	
Rhipidura rufifrons	Rufous Fantail		M		Yes	Yes
Rostratula australis	Australian Painted Snipe	E	E		Yes	
Stagonopleura guttata	Diamond Firetail	V		Yes		
FROGS						
Litoria aurea	Green and Golden Bell Frog	E	V	Yes		N/A
INSECTS						
Keyacris scurra	Key's Matchstick Grasshopper	E	E	Yes	Yes	N/A
Synemon plana	Golden Sun Moth	E	CE		Yes	N/A
MAMMALS						
Chalinolobus dwyeri	Large-eared Pied Bat	V	V		Yes	N/A
Dasyurus maculatus maculatus	Spotted Tail Quoll	V	E		Yes	N/A
Miniopterus orianae oceanensis	Large Bent-winged Bat	V		Yes		N/A
Petaurus australis	Yellow Bellied Glider	V	V		Yes	N/A
Petauroides volans	Greater Glider	E	E		Yes	N/A
Petrogale penicillata	Brush-tailed Rock Wallaby	E	V		Yes	N/A
Phascolarctos cinereus	Koala	E	E		Yes	N/A

Pteropus poliocephalus	Grey Headed Flying Fox	V	V	Yes	Yes	N/A
REPTILES						
Aprasia parapulchella	Pink Tailed Worm Lizard	V	V		Yes	N/A
Delma impar	Striped Legless Lizard	V	V	Yes	Yes	N/A

APPENDIX B: THREATENED SPECIES LIKELIHOOD OF OCCURRENCE ASSESSMENT			
ECOLOGICAL COMMUNITIES			
Name	NSW Status	Commonwealth Status	Likelihood of Occurrence
Natural Temperate Grassland of the South Eastern Highlands		CE	Not present in the study area.
White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland	CEEC	CE	Confirmed present in the study area. (Most patches too degraded to meet criteria for identification as the Commonwealth listed community).

PLANTS				
Scientific Name	Common Name	NSW Status	Commonwealth Status	Likelihood of Occurrence
Acacia bynoeana	Bynoe's Wattle	E	V	Not likely. No nearby records and not detected during surveys.
Amphibromus fluitans	Floating Swamp Wallaby Grass	V	V	Not likely. No nearby records and not detected during surveys. Mostly found in swamps and wetlands.
Bossiaea oligosperma	Few Seeded Bossiaea	V	V	Not likely. There is one record in the BioNet Atlas for Goulburn, but this species was not detected during surveys.
Calotis glandulosa	Mauve Burr Daisy	V	V	Not likely. No nearby records and not detected during surveys.
Commersonia prostrata	Dwarf Kerrawang	E	E	Not likely. No nearby records and not detected during surveys. Suitable habitat is not present.
Diuris aequalis	Buttercup Doubletail Orchid	E	V	Not likely. No nearby records and not detected during surveys. Suitable habitat is not present.
Dodonaea procumbens	Creeping Hop Bush		V	No nearby records. Although suitable habitat is present (it often occurs on roadside batters in areas where it is present) survey has confirmed it is absent.
Eucalyptus aggregata	Black Gum	V	V	No nearby records, suitable habitat is not present and survey has confirmed it is absent.
Lepidium aschersonii	Spiny Peppergrass	V	V	Not likely. No nearby records and not detected during surveys.

Lepidium hyssopifolium	Aromatic Peppergrass	E	E	Not likely. No nearby records and not detected during surveys.
Leucochrysum albicans tricolor	Hoary Sunray	E	E	Numerous previous records in the Goulburn area and confirmed present on two sites.
Persoonia oxycoccoides	Cranberry Geebung	E		There is a record of this species in Goulburn, but within the LGA is otherwise only known from Tallong. Not detected during surveys and unlikely to be present.
Pomaderris cotoneaster	Cotoneaster Pomaderris	E	E	No records within 10 km of site and survey has shown it is not present in the study area.
Pomaderris delicata	Delicate Pomaderris	E	CE	One record for Goulburn, although this is known from the Mountain Ash Road. However site surveys have shown it is not present any of the remnant woodland areas surveyed.
Pomaderris pallida	Pale Pomaderris	V	V	Not likely. No nearby records and not detected during surveys.
Prasophyllum petilum	Tarengo Leek Orchid	E	E	Suitable habitat is present in the local area (grassy woodlands) but there are no local records and it was not detected during surveys. Unlikely to be present.
Rhizanthella slateri	Eastern Underground Orchid	V	E	No nearby records and survey results suggest suitable habitat is not present in the areas to be impacted. Not detected during surveys.
Rutidosia leptorhynchoides	Button Wrinklewort	E	E	Suitable habitat is present and there are nearby records. However not detected during surveys. Possibly present in remnant grassy woodland sites, but considered unlikely to be present.
Senecio macrocarpus	Large Fruited Fireweed		V	Suitable habitat is present, but there are no local records. This species is found in the southern parts of NSW, Victoria, South Australia and Tasmania. Not detected during surveys and considered unlikely to be present in the Goulburn area.
Swainsona recta	Small Purple Pea	E	E	Potential habitat is present, but there are no local records and this species was not detected during surveys. Unlikely to be present.
Thesium australe	Austral Toadflax	V	V	No nearby records and survey has shown that the species is not present in the study area.

BIRDS				
Scientific Name	Common Name	NSW Status	Commonwealth Status	Likelihood of Occurrence
Actitis hypoleucos	Common Sandpiper		M	Unlikely to be present as suitable habitat (extensive wetland areas) for this species is not present within the study area.
Apus pacificus	Fork Tailed Swift		M	This is a migratory species that does not breed in Australia. It migrates from breeding grounds in the Northern Hemisphere, being found in NSW from December to March. It spends the majority of its time in flight. Widely distributed and likely to forage over the local area.
Anthochaera phrygia	Regent Honeyeater	E	CE	Unlikely. No suitable nesting habitat present, but may utilise canopy trees in parts of the study area for foraging on occasion. If present, would be most likely to utilise South Hill and the Bypass Reserve area.
Aphelocephala leucopsis	Southern Whiteface		V	Has been recorded in the GMC LGA, although no records in the immediate vicinity of Goulburn. Inhabits shrubby woodlands and grasslands, so may occasionally be present in the local area.
Artamus cyanopterus cyanopterus	Dusky Woodswallow	V		Has been recorded locally and likely to be present in remnant grassy woodland areas in the South Goulburn Area.

<i>Botaurus poiciloptilus</i>	Australasian Bittern	E	E	Unlikely to be present as suitable habitat (extensive wetland areas) for this species is not present within the study area.
<i>Calidris acuminata</i>	Sharp Tailed Sandpiper		M	Unlikely to be present as suitable habitat (extensive wetland areas) for this species is not present within the study area.
<i>Calidris ferruginea</i>	Curlew Sandpiper	E	CE, M	Unlikely to be present as suitable habitat (extensive wetland areas) for this species is not present within the study area.
<i>Calidris melanotos</i>	Pectoral Sandpiper		M	Unlikely to be present as suitable habitat (extensive wetland areas) for this species is not present within the study area.
<i>Calocephalon fimbriatum</i>	Gang Gang Cockatoo	V	E	Has been recorded in the local area and suitable foraging habitat is present. Highly likely to utilise the South Hill Reserve and adjoining highway Bypass reserve.
<i>Calyptorhynchus lathamii</i>	Glossy Black Cockatoo	V	V	Possibly present. Recorded from the Gundry, Boxers Creek and Bungonia areas which are not far away. Suitable foraging habitat is present. Quite likely to utilise the South Hill Reserve and adjoining highway Bypass reserve.
<i>Chthonicola sagittata</i>	Speckled Warbler	V		Highly likely to be present in remnant grassy woodland areas. Has been recorded in the local area and suitable foraging habitat is present.

<i>Climacteris picumnus victoriae</i>	Brown Treecreeper (Eastern subspecies)	V	V	Possibly present in remnant woodland areas. Has been recorded in the GMC LGA and suitable foraging habitat is present.
<i>Daphoenositta chrysoptera</i>	Varied Sitella	V		Highly likely to be present in remnant grassy woodland areas. Has been recorded in the local area and suitable foraging habitat is present.
<i>Ephippiorhynchus asiaticus</i>	Black Necked Stork	E		Black-necked Storks build large nests high in tall trees close to water. Possibly may utilise taller trees in the area but considered unlikely to be present in the South Goulburn area.
<i>Falco hypoleucos</i>	Grey Falcon	E		Unlikely to be present. No nearby records and not known from the area.
<i>Gallinago hardwickii</i>	Latham's Snipe		M	Unlikely as this is a wetland species and limited suitable habitat is present in the study area.
<i>Grantiella picta</i>	Painted Honeyeater	V	V	Unlikely to be present, as no nearby records, and neither suitable breeding nor foraging habitat is present in the study area as this species is a specialist feeder on mistletoes, which are present, but are not abundant in the area. If present, most likely to utilized South Hill and the Bypass reserve.
<i>Haliaeetus leucogaster</i>	White Bellied Sea Eagle	V		Has been recorded in the Goulburn area. Nests in the crowns of tall trees, so may be present, most likely to be found utilising taller trees in and adjacent to the South Hill Reserve.

Hieraaetus morphnoides	Little Eagle	V		Has been recorded in the Goulburn area. Nests in the crowns of tall trees, so may be present, most likely to be found utilising taller trees in and adjacent to the South Hill Reserve.
Hirundapus caudacutus	White-throated Needletail		V, M	No nearby records and not likely to be present in the local area.
Lathamus discolor	Swift Parrot	E	CE	Only breeds in Tasmania. May occasionally be present in the study area as foraging habitat is present, but is not likely to be a long term resident.
Melanodryas cucullata cucullata	Hooded Robin	V	E	No records in Goulburn, but has been recorded elsewhere in the GMC LGA. Inhabits open woodland areas and may be present in the area.
Monarcha melanopsis	Black Faced Monarch		M	Low. Unlikely to be present as the preferred habitat is wet forest and rainforest, which is not present on the subject site.
Motacilla flava	Yellow Wagtail		M	Low. Unlikely to be present as the preferred habitat is open country adjacent to wetlands, which are not present in significant amounts in the South Goulburn area.
Myiagra cyanoleuca	Satin Flycatcher		M	Low. Unlikely to be present as the preferred habitat is heavily forested areas which are not present in the study area.
Neophema chrysostoma	Blue-winged Parrot		V	Not known to be present in the GMC LGA and considered unlikely to be present in the South Goulburn area.

<i>Numenius madagascariensis</i>	Eastern Curlew		CE, M	Unlikely to be present as suitable habitat (extensive wetland areas) for this species is not present within the study area.
<i>Petroica boodang</i>	Scarlet Robin	V		Has been recorded in the local area, and some suitable habitat is present. The Scarlet Robin lives in dry eucalypt forests and woodlands, usually with an open and grassy understorey with few scattered shrubs. This species lives in both mature and regrowth vegetation and is highly likely to utilise remnant vegetation in the South Goulburn area.
<i>Polytelis swainsonii</i>	Superb Parrot	V	V	Unlikely as there are no local records. Mostly found in inland areas west of the Great Dividing Range.
<i>Pycnoptilus floccosus</i>	Pilot Bird		V	The Pilot Bird prefers wet forested areas and heathlands. This habitat is not present in the study area. There are no nearby records. It is unlikely to be present in the local area.
<i>Rhipidura rufifrons</i>	Rufous Fantail		M	Possible. This species has a preference for wet sclerophyll and rainforest habitats, which are not present in the study area, however it has been recorded at the West Goulburn Bushland Reserve.
<i>Rostratula australis</i>	Australian Painted Snipe	E	E	Unlikely as suitable habitat for this species (extensive wetland areas) is not present.

Stagonopleura guttata	Diamond Firetail	V		Found in grassy eucalypt woodlands, including Box-Gum Woodlands. Also occurs in open forest and in secondary grassland. Feeds exclusively on the ground, on ripe and partly-ripe grass and herb seeds and green leaves, and on insects (especially in the breeding season). Has been recorded locally and is highly likely to be present.
FROGS				
Litoria aurea	Green and Golden Bell Frog	E	V	There is one record for this species in the BioNet Atlas, dating back to 1975. There have been no other local records since that time and it is extremely unlikely that this species is present in the local area.
INSECTS				
Keyacris scurra	Key's Matchstick Grasshopper	E	E	There are recent records for this species in the local area and suitable habitat is present. Although it was not detected during surveys, it is considered highly likely to be present in parts of the South Goulburn area that retain native groundcover.
Synemon plana	Golden Sun Moth	E	CE	There are no local records and Goulburn is outside the generally accepted range for this species. It was not detected during surveys and while it is possible that it is present as suitable habitat is available, it is considered unlikely to be present.

MAMMALS				
Chalinolobus dwyeri	Large-eared Pied Bat	V	V	Unlikely to be present. No significant rocky areas containing caves, overhangs, escarpments outcrops or crevices are present.
Dasyurus maculatus maculatus	Spotted Tail Quoll	V	E	Highly unlikely to be present. No nearby records and suitable breeding habitat is not present on the subject site. Needs extensive areas of bushland for foraging and breeding.
Miniopterus orianae oceanensis	Large Bent-winged Bat	V		Caves are the primary roosting habitat, but also use derelict mines, storm-water tunnels, buildings and other man-made structures. These are not present in the study area. Hunt in forested areas, catching moths and other flying insects above the tree tops, and has been recorded in the local area, so likely to utilise remnant woodland for foraging.
Petaurus australis	Yellow Bellied Glideer	V	V	Unlikely. The preferred habitat comprises extensive areas of tall eucalypt forest which is not present.
Petauroides volans	Greater Glider	E	E	Unlikely. The preferred habitat comprises extensive areas of tall eucalypt forest which is not present.
Petrogale penicillata	Brush-tailed Rock Wallaby	E	V	Unlikely to be present as this species requires extensive areas of bushland featuring rocky escarpments and cliffs, so suitable habitat is not present.

Phascolarctos cinereus	Koala	V	V	Unlikely. Although a small amount of habitat is present, this is highly fragmented and not sufficiently extensive enough to support a viable population of Koalas. No recent records and survey has failed to find any evidence (scratch marks on trees, scats, sounds or sightings).
Pteropus poliocephalus	Grey Headed Flying Fox	V	V	Regularly present in Goulburn during the summer months. (Numerous records in BioNet Atlas, also regularly recorded by WIRES rescuers (Heather Caulfield, Bat Co-ordinator, WIRES Southern Tablelands <i>personal communication</i>)).
REPTILES				
Aprasia parapulchella	Pink Tailed Worm Lizard	V	V	No nearby records. Some potential habitat is present, at the South Hill Reserve and highway by-pass. Needs open grassland with rocky outcrops. Possibly present but unlikely.
Delma impar	Striped Legless Lizard	V	V	Has been recorded locally. The preferred habitat is open grasslands dominated by tussocky native grasses, with loose surface rock. Possibly present in the South Hill Reserve and adjacent areas.

APPENDIX C: FLORA AND FAUNA LISTS FOR AREAS WITH REMNANT NATIVE VEGETATION

Site number	Site Name
2	TfNSW By-Pass Reserve Street Address: Land adjacent corner of Hume Street and Hume Highway, and adjacent to Hume Highway Part of Lot 52 DP 810226 & Lot 51 DP 810226
3	McDonalds Land Street Address: 7 Sowerby Street Lot 1 DP 856419
4 & 5	Lockyer Street and South Hill Reserve & Lockyer Street Street Address: 18 Lockyer Street Lot 3 DP 1238214 Street Address: 16 Lockyer Street Lot 4 DP 1238214
11	Corner Robinson Road and Finlay Road West Street Address: 109 Robinson Street Lot 2 DP 1045685
13	Former Drive-in Site Street Address: 21 Theatre Drive Lot 28 DP 1247119
14	Cathcart Street Unformed Road Reserve Cathcart Street between Lansdowne Street and Abbey Road
15	Former DLWC land, Knox Street Street Address: 48 Knox Street – Lot 410 DP 821783 68 Knox Street – Lot 407 DP 821783
16	13 Ducks Lane Lot 1 DP 740066

NATIVE FLORA RECORDED SITE 2: TfNSW BY-PASS RESERVE 13/09/2022, 26/09/2022 & 5/12/2022	
Scientific name	Common name
<i>Acacia decurrens</i>	Early Black Wattle
<i>Acacia implexa</i>	Hickory Wattle
<i>Acacia mearnsii</i>	Late Black Wattle
<i>Acacia verniciflua</i>	Varnish Wattle
<i>Allocasuarina littoralis</i>	Black She Oak
<i>Allocasuarina verticillata</i>	Drooping She Oak
<i>Amyema pendula</i>	Drooping Mistletoe
<i>Aristida</i> sp.	Kerosene Grass
<i>Austrostipa bigeniculata</i>	Tall Spear Grass
<i>Austrostipa scabra</i>	Corkscrew Grass
<i>Banksia marginata</i>	Silver Banksia
<i>Bothriochloa macra</i>	Red Stem Grass
<i>Bursaria spinosa</i>	Native Blackthorn
<i>Calotis lappulacea</i>	Yellow Burr Daisy
<i>Carex appressa</i>	Tall Sedge
<i>Cassinia sifton</i>	Sifton Bush
<i>Chrysocephalum apiculatum</i>	Common Everlasting
<i>Cynodon dactylon</i>	Couch
<i>Einadia nutans</i>	Climbing Saltbush
<i>Eleocharis acuta</i>	Common Spike Rush
<i>Eucalyptus blakelyi</i>	Blakely's Red Gum
<i>Eucalyptus bridgesiana</i>	Apple Box

<i>Eucalyptus cinerea</i>	Argyle Apple
<i>Eucalyptus dives</i>	Broad Leaf Peppermint
<i>Eucalyptus globoidea</i>	White Stringybark
<i>Eucalyptus mannifera</i>	Brittle Gum
<i>Eucalyptus melliodora</i>	Yellow Box
<i>Juncus usitatus</i>	Common Sedge
<i>Leptospermum polygalifolium</i>	Jelly Bush
<i>Lomandra filiformis coriacea</i>	Wattle Mat Rush
<i>Lomandra longifolia</i>	Spiney Headed Mat Rush
<i>Microlaena stipoides</i>	Weeping Grass
<i>Poa sieberiana</i>	Snow Grass
<i>Rytidosperma pilosum</i>	Smooth Flowered Wallaby Grass
<i>Rytidosperma carphoides</i>	Short Wallaby Grass
<i>Rytidosperma laeve</i>	Smooth Wallaby Grass
<i>Rytidosperma pallidum</i>	Red Anther Wallaby Grass
<i>Rytidosperma</i> spp.	Wallaby Grass
<i>Typha</i> sp.	Cumbungi
<i>Senecio quadridentatus</i>	Cotton Fireweed
<i>Vittadinia cuneata</i>	Fuzzy New Holland Daisy

EXOTIC FLORA RECORDED SITE 2: TfNSW BY-PASS RESERVE 13/09/2022, 26/09/2022 & 5/12/2022				
Scientific name	Common name	BAM Weed status	WONS	Regional Priority Weeds

<i>Arctotheca calendula</i>	Capeweed			
<i>Carduus nutans</i>	Nodding Thistle			
<i>Cirsium vulgare</i>	Spear Thistle			
<i>Conyza</i> sp.	Fleabane			
<i>Dactylis glomerata</i>	Cock's Foot Grass			
<i>Echium plantagineum</i>	Paterson's Curse			
<i>Eragrostis curvula</i>	African Love Grass	High Threat Exotic		Regional Priority Weed
<i>Hirschfeldia incana</i>	Buchan Weed			
<i>Hypericum perforatum</i>	St John's Wort	High Threat Exotic		
<i>Hypochaeris radicata</i>	Catsear			
<i>Lycium ferocissimum</i>	African Box Thorn	High Threat Exotic	WONS	Regional Priority Weed
<i>Malva parviflora</i>	Small Flowered Mallow			
<i>Marrubium vulgare</i>	White Horehound			
<i>Nassella neesiana</i>	Chilean Needle Grass	High Threat Exotic	WONS	Regional Priority Weed
<i>Nassella trichotoma</i>	Serrated Tussock	High Threat Exotic		Regional Priority Weed
<i>Onopordum acanthium</i>	Scotch Thistle			
<i>Oxalis corniculatus</i>	Creeping Oxalis			
<i>Paspalum dilatatum</i>	Paspalum	High Threat Exotic		
<i>Phalaris aquatica</i>	Phalaris			

<i>Plantago lanceolata</i>	Ribwort			
<i>Poa annua</i>	Winter Grass			
<i>Romulea rosea</i>	Onion Grass	High Threat Exotic		
<i>Rubus fruticosus</i> aggregate	Blackberry	High Threat Exotic	WONS	Regional Priority Weed
<i>Solanum chenopodioides</i>	White Tip Nightshade			
<i>Sonchus oleraceus</i>	Sowthistle			
<i>Trifolium subterraneum</i>	Sub Clover			

FAUNA RECORDED SITE 2: TfNSW BY-PASS RESERVE 13/09/2022, 26/09/2022 & 5/12/2022			
Scientific name	Common name	Native/Exotic	Comment
<i>Acanthiza chrysorrhoa</i>	Yellow Rumped Thornbill	N	Heard calling
<i>Cacatua galerita</i>	Sulphur Crested Cockatoo	N	Sighted
<i>Colluricincla harmonica</i>	Grey Shrike Thrush	N	Heard calling
<i>Coracina novaehollandiae</i>	Black Faced Cuckoo Shrike	N	Sighted
<i>Corcorax melanorhamphos</i>	White Winged Chough	N	Sighted
<i>Corvus coronoides</i>	Australian Raven	N	Sighted
<i>Dacelo novaeguineae</i>	Laughing Kookaburra	N	Sighted
<i>Eolophus roseicapilla</i>	Galah	N	Sighted
<i>Gymnorhina tibicen</i>	Australian Magpie	N	Sighted
<i>Hirundo neoxena</i>	Welcome Swallow	N	Sighted

<i>Lampropholis delicata</i>	Dark-flecked Garden Sunskink	N	Sighted
<i>Lampropholis guichenotii</i>	Pale-flecked Garden Sunskink	N	Sighted
<i>Macropus giganteus</i>	Eastern Grey Kangaroo	N	Sighted
<i>Malurus cyaneus</i>	Superb Fairy Wren	N	Sighted
<i>Manorina melanocephala</i>	Noisy Miner	N	Sighted
<i>Ocyphaps lophotes</i>	Crested Pigeon	N	Sighted
<i>Oryctolagus cuniculus</i>	Rabbit	E	Scats
<i>Philemon corniculatus</i>	Noisy Friarbird	N	Sighted
<i>Platycercus elegans</i>	Crimson Rosella	N	Sighted
<i>Platycercus eximius</i>	Eastern Rosella	N	Sighted
<i>Psephotus haematonotus</i>	Red Rumped Parrot	N	Sighted
<i>Rhipidura leucophrys</i>	Willie Wagtail	N	Sighted
<i>Stepera graculina</i>	Pied Currawong	N	Sighted
<i>Sturnus vulgaris</i>	Common Starling	E	Sighted
<i>Trichoglossus moluccanus</i>	Rainbow Lorikeet	N	Sighted
<i>Turdus merula</i>	English Blackbird	E	Sighted
<i>Wallabia bicolor</i>	Swamp Wallaby	N	Sighted

NATIVE FLORA RECORDED SITE 3: MCDONALDS LAND 13/09/2022, 26/09/2022 & 5/12/2022	
Scientific name	Common name
<i>Acacia mearnsii</i>	Late Black Wattle

<i>Acacia verniciflua</i>	Varnish Wattle
<i>Aristida</i> sp.	Kerosene Grass
<i>Austrostipa bigeniculata</i>	Tall Spear Grass
<i>Austrostipa scabra</i>	Corkscrew Grass
<i>Bothriochloa macra</i>	Red Stem Grass
<i>Cassinia sifton</i>	Sifton Bush
<i>Chrysocephalum apiculatum</i>	Common Everlasting
<i>Cynodon dactylon</i>	Couch
<i>Daucus glochidiatus</i>	Native Carrot
<i>Einadia nutans</i>	Climbing Saltbush
<i>Erodium crinitum</i>	Blue Stork's Bill
<i>Eucalyptus blakelyi</i>	Blakely's Red Gum
<i>Eucalyptus melliodora</i>	Yellow Box
<i>Juncus usitatus</i>	Common Rush
<i>Lomandra filiformis coriacea</i>	Wattle Mat Rush
<i>Microlaena stipoides</i>	Weeping Grass
<i>Pseudognaphalium luteoalbum</i>	Jersey Cudweed
<i>Rytidosperma pallidum</i>	Red Anther Wallaby Grass
<i>Rytidosperma</i> spp.	Wallaby Grass
<i>Senecio quadridentatus</i>	Cotton Fireweed

EXOTIC FLORA RECORDED SITE 3: MCDONALDS LAND 13/09/2022, 26/09/2022 & 5/12/2022				
Scientific name	Common name	BAM Weed status	WONS	Regional Priority Weeds
<i>Arctotheca calendula</i>	Capeweed			
<i>Avena sp.</i>	Oats			
<i>Cirsium vulgare</i>	Spear Thistle			
<i>Conyza sp.</i>	Fleabane			
<i>Dactylis glomerata</i>	Cock's Foot Grass			
<i>Echium plantagineum</i>	Paterson's Curse			
<i>Eragrostis curvula</i>	African Love Grass	High Threat Exotic		Regional Priority Weed
<i>Hirschfieldia incana</i>	Buchan Weed			
<i>Hordeum sp.</i>	Barley Grass			
<i>Hypericum perforatum</i>	St John's Wort	High Threat Exotic		
<i>Hypochaeris radicata</i>	Catsear			
<i>Lycium ferocissimum</i>	African Box Thorn	High Threat Exotic	WONS	Regional Priority Weed
<i>Malva parviflora</i>	Small Flowered Mallow			
<i>Marrubium vulgare</i>	White Horehound			
<i>Medicago lupulina</i>	Black Medic			
<i>Modiola caroliniana</i>	Creeping Mallow			
<i>Nassella neesiana</i>	Chilean Needle Grass	High Threat Exotic	WONS	Regional Priority Weed

<i>Nassella trichotoma</i>	Serrated Tussock	High Threat Exotic		Regional Priority Weed
<i>Onopordum acanthium</i>	Scotch Thistle			
<i>Oxalis corniculatus</i>	Creeping Oxalis			
<i>Paspalum dilatatum</i>	Paspalum	High Threat Exotic		
<i>Phalaris aquatica</i>	Phalaris			
<i>Plantago lanceolata</i>	Ribwort			
<i>Poa annua</i>	Winter Grass			
<i>Prunus cerasifera</i>	Cherry Plum			
<i>Pseudognaphalium luteoalbum</i>	Jersey Cudweed			
<i>Romulea rosea</i>	Onion Grass	High Threat Exotic		
<i>Rubus fruticosus</i> aggregate	Blackberry	High Threat Exotic	WONS	Regional Priority Weed
<i>Rumex acetosella</i>	Sheep's Sorrel			
<i>Rumex crispus</i>	Curled Dock			
<i>Solanum chenopodioides</i>	White Tip Nightshade			
<i>Sonchus oleraceus</i>	Sowthistle			
<i>Taraxacum officinale</i>	Dandelion			
<i>Trifolium subterraneum</i>	Sub Clover			
<i>Vulpia</i> sp.	Rat's Tail Fescue			

FAUNA RECORDED SITE 3: MCDONALDS LAND

13/09/2022, 26/09/2022 & 5/12/2022			
Scientific name	Common name	Native/Exotic	Comment
<i>Acanthiza chrysorrhoa</i>	Yellow Rumped Thornbill	N	Heard calling
<i>Acridotheres tristis</i>	Indian Mynah	E	Sighted
<i>Anthochaera carunculata</i>	Red Wattle Bird	N	Heard calling
<i>Cacatua galerita</i>	Sulphur Crested Cockatoo	N	Sighted
<i>Corvus coronoides</i>	Australian Raven	N	Sighted
<i>Gymnorhina tibicen</i>	Australian Magpie	N	Sighted
<i>Macropus giganteus</i>	Eastern Grey Kangaroo	N	Sighted
<i>Malurus cyaneus</i>	Superb Fairy Wren	N	Sighted
<i>Manorina melanocephala</i>	Noisy Miner	N	Sighted
<i>Platycercus elegans</i>	Crimson Rosella	N	Sighted
<i>Stepera graculina</i>	Pied Currawong	N	Sighted
<i>Sturnus vulgaris</i>	Starling	E	Sighted
<i>Trichoglossus haematodus</i>	Rainbow Lorikeet	N	Sighted

NATIVE FLORA RECORDED SITES 4 & 5 SOUTH HILL & LOCKYER STREET COUNCIL LAND 13/09/2022, 26/09/2022 & 5/12/2022	
Scientific name	Common name
<i>Acacia baileyana</i>	Cootamundra Wattle (Garden escape)
<i>Acacia decurrens</i>	Early Black Wattle
<i>Acacia falciformis</i>	Broad Leaf Hickory Wattle
<i>Acacia verniciflua</i>	Varnish Wattle
<i>Aristida</i> sp.	Kerosene Grass
<i>Austrostipa bigeniculata</i>	Tall Spear Grass

<i>Austrostipa scabra</i>	Corkscrew Grass
<i>Bothriochloa macra</i>	Red Stem Grass
<i>Cassinia sifton</i>	Sifton Bush
<i>Chrysocephalum apiculatum</i>	Common Everlasting
<i>Einadia nutans</i>	Climbing Saltbush
<i>Eryngium ovinum</i>	Blue Devil
<i>Eucalyptus blakelyi</i>	Blakely's Red Gum
<i>Eucalyptus bridgesiana</i>	Apple Box
<i>Eucalyptus mannifera</i>	Brittle Gum
<i>Eucalyptus melliodora</i>	Yellow Box
<i>Eucalyptus nicholii</i>	Narrow Leaf Peppermint (planted)
<i>Lomandra filiformis coriacea</i>	Wattle Mat Rush
<i>Lomandra longifolia</i>	Spiney Headed Mat Rush
<i>Lomandra multiflora</i>	Many Flowered Mat Rush
<i>Microlaena stipoides</i>	Weeping Grass
<i>Poa sieberiana</i>	Snow Grass
<i>Rytidosperma pallidum</i>	Red Anther Wallaby Grass
<i>Rytidosperma</i> spp.	Wallaby Grass
<i>Senecio quadridentatus</i>	Cotton Fireweed
<i>Vittadinia cuneata</i>	Fuzzy New Holland Daisy
<i>Vittadinia muelleri</i>	Narrow Leaf New Holland Daisy
<i>Wahlenbergia communis</i>	Tufted Bluebell

EXOTIC FLORA RECORDED SITES 4 & 5 SOUTH HILL & LOCKYER STREET COUNCIL LAND 13/09/2022, 26/09/2022 & 5/12/2022				
Scientific name	Common name	BAM Weed status	WONS	Regional Priority Weeds
<i>Arctotheca calendula</i>	Capeweed			
<i>Cirsium vulgare</i>	Spear Thistle			
<i>Conyza</i> sp.	Fleabane			
<i>Dactylis glomerata</i>	Cock's Foot Grass			
<i>Echium plantagineum</i>	Paterson's Curse			
<i>Eragrostis curvula</i>	African Love Grass	High Threat Exotic		Regional Priority Weed
<i>Hirschfieldia incana</i>	Buchan Weed			
<i>Hypericum perforatum</i>	St John's Wort	High Threat Exotic		
<i>Hypochaeris radicata</i>	Catsear			
<i>Lycium ferocissimum</i>	African Box Thorn	High Threat Exotic	WONS	Regional Priority Weed
<i>Malva parviflora</i>	Small Flowered Mallow			
<i>Marrubium vulgare</i>	White Horehound			
<i>Nassella neesiana</i>	Chilean Needle Grass	High Threat Exotic	WONS	Regional Priority Weed
<i>Nassella trichotoma</i>	Serrated Tussock	High Threat Exotic		Regional Priority Weed
<i>Onopordum acanthium</i>	Scotch Thistle			
<i>Oxalis corniculatus</i>	Creeping Oxalis			

<i>Paspalum dilatatum</i>	Paspalum	High Threat Exotic		
<i>Phalaris aquatica</i>	Phalaris			
<i>Plantago lanceolata</i>	Ribwort			
<i>Poa annua</i>	Winter Grass			
<i>Romulea rosea</i>	Onion Grass	High Threat Exotic		
<i>Rubus fruticosus</i> aggregate	Blackberry	High Threat Exotic	WONS	Regional Priority Weed
<i>Solanum chenopodioides</i>	White Tip Nightshade			
<i>Solanum pseudocapsicum</i>	Christmas Cherry			
<i>Sonchus oleraceus</i>	Sowthistle			
<i>Trifolium subterraneum</i>	Sub Clover			

FAUNA RECORDED SITES 4 & 5 SOUTH HILL & LOCKYER STREET COUNCIL LAND 13/09/2022, 26/09/2022 & 5/12/2022			
Scientific name	Common name	Native/Exotic	Comment
<i>Acanthiza chrysorrhoa</i>	Yellow Rumped Thornbill	N	Heard calling
<i>Acridotheres tristis</i>	Common Mynah	E	Sighted
<i>Anthochaera carunculata</i>	Red Wattle Bird	N	Heard calling
<i>Cacatua galerita</i>	Sulphur Crested Cockatoo	N	Sighted
<i>Colluricincla harmonica</i>	Grey Shrike Thrush	N	Heard calling
<i>Corvus coronoides</i>	Australian Raven	N	Sighted

<i>Corcorax melanorhamphos</i>	White Winged Chough		Sighted
<i>Crinia signifera</i>	Common Eastern Froglet	N	Heard calling from drainage depression
<i>Eolophus roseicapilla</i>	Galah	N	Sighted
<i>Gymnorhina tibicen</i>	Australian Magpie	N	Sighted
<i>Lampropholis delicata</i>	Dark-flecked Garden Sunskink	N	Sighted
<i>Lampropholis guichenotii</i>	Pale-flecked Garden Sunskink	N	Sighted
<i>Macropus giganteus</i>	Eastern Grey Kangaroo	N	Sighted
<i>Malurus cyaneus</i>	Superb Fairy Wren	N	Sighted
<i>Manorina melanocephala</i>	Noisy Miner	N	Sighted
<i>Platycercus elegans</i>	Crimson Rosella	N	Sighted
<i>Platycercus eximius</i>	Eastern Rosella	N	Sighted
<i>Pseudonaja textilis</i>	Eastern Brown Snake	N	Sighted
<i>Rhipidura albiscapa</i>	Grey Fantail	N	Sighted
<i>Rhipidura leucophrys</i>	Willy Wagtail	N	Sighted
<i>Stepera graculina</i>	Pied Currawong	N	Sighted
<i>Wallabia bicolor</i>	Swamp Wallaby	N	Sighted

**NATIVE FLORA RECORDED SITE 11: ROBINSON ROAD AND FINLAY ROAD WEST
14/09/2022, 26/09/2022, 6/10/2022 & 1/12/2022**

Scientific name	Common name
<i>Acacia baileyana</i>	Cootamundra Wattle (Garden escape)

<i>Acaena ovina</i>	Sheep's Burr
<i>Aristida</i> sp.	Kerosene Grass
<i>Austrostipa bigeniculata</i>	Tall Spear Grass
<i>Austrostipa scabra</i>	Corkscrew Grass
<i>Bothriochloa macra</i>	Red Stem Grass
<i>Bulbine bulbosa</i>	Bulbine Lily
<i>Cassinia sifton</i>	Sifton Bush
<i>Chrysocephalum apiculatum</i>	Common Everlasting
<i>Cynodon dactylon</i>	Couch
<i>Einadia nutans</i>	Climbing Saltbush
<i>Eucalyptus blakelyi</i>	Blakely's Red Gum
<i>Eucalyptus bridgesiana</i>	Apple Box
<i>Eucalyptus mannifera</i>	Brittle Gum
<i>Eucalyptus melliodora</i>	Yellow Box
<i>Oxalis perennans</i>	Grassland Wood Sorrel
<i>Panicum effusum</i>	Hairy Panic
<i>Rytidosperma</i> spp.	Wallaby Grass

EXOTIC FLORA RECORDED SITE 11: ROBINSON ROAD AND FINLAY ROAD WEST 14/09/2022, 26/09/2022, 6/10/2022 & 1/12/2022				
Scientific name	Common name	BAM Weed status	WONS	Regional Priority Weeds
<i>Arctotheca calendula</i>	Capeweed			
<i>Bromus catharticus</i>	Prairie Grass			

<i>Cerastium glomeratum</i>	Mouse Ear Chickweed			
<i>Cirsium vulgare</i>	Spear Thistle			
<i>Crataegus monogyna</i>	Hawthorn			
<i>Conyza</i> sp.	Fleabane			
<i>Dactylis glomerata</i>	Cock's Foot Grass			
<i>Echium plantagineum</i>	Paterson's Curse			
<i>Eragrostis curvula</i>	African Love Grass	High Threat Exotic		Regional Priority Weed
<i>Hirschfieldia incana</i>	Buchan Weed			
<i>Hypericum perforatum</i>	St John's Wort	High Threat Exotic		
<i>Hypochaeris glabra</i>	Smooth Catsear			
<i>Hypochaeris radicata</i>	Catsear			
<i>Lycium ferocissimum</i>	African Box Thorn	High Threat Exotic	WONS	Regional Priority Weed
<i>Malus pumila</i>	Apple			
<i>Medicago polymorpha</i>	Burr Medic			
<i>Nassella neesiana</i>	Chilean Needle Grass	High Threat Exotic	WONS	Regional Priority Weed
<i>Nassella trichotoma</i>	Serrated Tussock	High Threat Exotic		Regional Priority Weed
<i>Paspalum dilatatum</i>	Paspalum	High Threat Exotic		
<i>Phalaris aquatica</i>	Phalaris			
<i>Plantago lanceolata</i>	Ribwort			

<i>Poa annua</i>	Winter Grass			
<i>Prunus cerasifera</i>	Cherry Plum			
<i>Pyracantha angustifolia</i>	Firethorn	High Threat Exotic		
<i>Rhamnus alaternus</i>	Italian Buckthorn			
<i>Romulea rosea</i>	Onion Grass	High Threat Exotic		
<i>Rosa rubiginosa</i>	Sweet Briar	High Threat Exotic		
<i>Rubus fruticosus</i> aggregate	Blackberry	High Threat Exotic	WONS	Regional Priority Weed
<i>Salvia verbenaca</i>	Verbain			
<i>Sonchus oleraceus</i>	Sowthistle			
<i>Taraxacum officinale</i>	Dandelion			
<i>Trifolium arvense</i>	Hare's Foot Clover			
<i>Trifolium subterraneum</i>	Sub Clover			

FAUNA RECORDED SITE 11: ROBINSON ROAD AND FINLAY ROAD WEST 14/09/2022, 26/09/2022, 6/10/2022 & 1/12/2022			
Scientific name	Common name	Native/Exotic	Comment
<i>Corvus coronoides</i>	Australian Raven	N	Sighted
<i>Crinia signifera</i>	Common Eastern Froglet	N	Heard calling
<i>Grallina cyanoleuca</i>	Magpie Lark	N	Sighted
<i>Gymnorhina tibicen</i>	Australian Magpie	N	Sighted
<i>Malurus cyaneus</i>	Superb Fairy Wren	N	Sighted

<i>Manorina melanocephala</i>	Noisy Miner	N	Sighted
<i>Platycercus elegans</i>	Crimson Rosella	N	Sighted

NATIVE FLORA RECORDED SITE 13: 21 THEATRE DRIVE 14/09/2022, 26/09/2022, 6/10/2022, 3/11/2022 & 1/12/2022	
Scientific name	Common name
<i>Acacia baileyana</i>	Cootamundra Wattle (Garden escape)
<i>Acacia decurrens</i>	Early Black Wattle
<i>Amyema pendula</i>	Drooping Mistletoe
<i>Aristida</i> sp.	Kerosene Grass
<i>Arthropodium fimbriatum</i>	Chocolate Lily
<i>Asperula conferta</i>	Common Woodruff
<i>Atriplex semibaccata</i>	Berry Saltbush
<i>Austrostipa bigeniculata</i>	Tall Spear Grass
<i>Austrostipa scabra</i>	Corkscrew Grass
<i>Bothriochloa macra</i>	Red Stem Grass
<i>Bulbine bulbosa</i>	Bulbine Lily
<i>Carex breviculmis</i>	Short Sedge
<i>Cassinia sifton</i>	Sifton Bush
<i>Chrysocephalum apiculatum</i>	Common Everlasting
<i>Crassula sieberiana</i>	Austral Stonecrop
<i>Dianella revoluta</i>	Black Anther Flax Lily
<i>Einadia nutans</i>	Climbing Saltbush
<i>Eucalyptus blakelyi</i>	Blakely's Red Gum
<i>Eucalyptus bridgesiana</i>	Apple Box

<i>Eucalyptus melliodora</i>	Yellow Box
<i>Goodenia hederacea</i>	Ivy Goodenia
<i>Goodenia pinnatifida</i>	Scrambled Eggs
<i>Hardenbergia violacea</i>	Purple Coral Pea
<i>Indigofera australis</i>	Australian Indigo
<i>Lomandra filiformis coriacea</i>	Wattle Mat Rush
<i>Lomandra longifolia</i>	Spiney Headed Mat Rush
<i>Lomandra multiflora</i>	Many Flowered Mat Rush
<i>Microlaena stipoides</i>	Weeping Grass
<i>Poa sieberiana</i>	Snow Grass
<i>Rytidosperma</i> spp.	Wallaby Grass
<i>Wahlenbergia communis</i>	Tufted Bluebell
<i>Wahlenbergia stricta</i>	Tall Bluebell

EXOTIC FLORA RECORDED SITE 13: 21 THEATRE DRIVE 14/09/2022, 26/09/2022, 6/10/2022, 3/11/2022 & 1/12/2022				
Scientific name	Common name	BAM Weed status	WONS	Regional Priority Weeds
<i>Arctotheca calendula</i>	Capeweed			
<i>Cirsium vulgare</i>	Spear Thistle			
<i>Conyza</i> sp.	Fleabane			
<i>Dactylis glomerata</i>	Cock's Foot Grass			
<i>Echium plantagineum</i>	Paterson's Curse			

<i>Eragrostis curvula</i>	African Love Grass	High Threat Exotic		Regional Priority Weed
<i>Hirschfieldia incana</i>	Buchan Weed			
<i>Hypericum perforatum</i>	St John's Wort	High Threat Exotic		
<i>Hypochaeris radicata</i>	Catsear			
<i>Ligustrum lucidum</i>	Large Leaf Privet	High Threat Exotic		
<i>Lycium ferocissimum</i>	African Box Thorn	High Threat Exotic	WONS	Regional Priority Weed
<i>Marrubium vulgare</i>	White Horehound			
<i>Nassella neesiana</i>	Chilean Needle Grass	High Threat Exotic	WONS	Regional Priority Weed
<i>Nassella trichotoma</i>	Serrated Tussock	High Threat Exotic		Regional Priority Weed
<i>Onopordum acanthium</i>	Scotch Thistle			
<i>Oxalis corniculatus</i>	Creeping Oxalis			
<i>Paspalum dilatatum</i>	Paspalum	High Threat Exotic		
<i>Phalaris aquatica</i>	Phalaris			
<i>Plantago lanceolata</i>	Ribwort			
<i>Poa annua</i>	Winter Grass			
<i>Prunus cerasifera</i>	Cherry Plum			
<i>Pyracantha angustifolia</i>	Firethorn	High Threat Exotic		
<i>Romulea rosea</i>	Onion Grass	High Threat Exotic		
<i>Rubus fruticosus</i> aggregate	Blackberry	High Threat Exotic	WONS	Regional Priority Weed

<i>Solanum chenopodioides</i>	White Tip Nightshade			
<i>Sonchus oleraceus</i>	Sowthistle			
<i>Trifolium subterraneum</i>	Sub Clover			

FAUNA RECORDED SITE 13: 21 THEATRE DRIVE 14/09/2022, 26/09/2022, 6/10/2022, 3/11/2022 & 1/12/2022			
Scientific name	Common name	Native/Exotic	Comment
<i>Acanthiza chrysorrhoa</i>	Yellow Rumped Thornbill	N	Sighted
<i>Anthochaera carunculata</i>	Red Wattle Bird	N	Sighted
<i>Cacatua galerita</i>	Sulphur Crested Cockatoo	N	Sighted
<i>Corvus coronoides</i>	Australian Raven	N	Sighted
<i>Gymnorhina tibicen</i>	Australian Magpie	N	Sighted
<i>Macropus giganteus</i>	Eastern Grey Kangaroo	N	Sighted
<i>Malurus cyaneus</i>	Superb Fairy Wren	N	Sighted
<i>Manorina melanocephala</i>	Noisy Miner	N	Sighted
<i>Ocyphaps lophotes</i>	Crested Pigeon	N	Sighted
<i>Platycercus elegans</i>	Crimson Rosella	N	Sighted
<i>Stepera graculina</i>	Pied Currawong	N	Sighted
<i>Turdus merula</i>	English Blackbird	E	Sighted

NATIVE FLORA RECORDED SITE 14: CATHCART STREET UNFORMED ROAD RESERVE 15/03/2022, 14/09/2022, 26/09/2022, 6/10/2022 & 1/12/2022	
Scientific Name	Common Name
<i>Acacia baileyana</i>	Cootamundra Wattle
<i>Acaena ovina</i>	Sheep's Burr
<i>Arthropodium fimbriatus</i>	Chocolate Lily
<i>Asperula conferta</i>	Common Woodruff
<i>Austrostipa bigeniculata</i>	Spear Grass
<i>Austrostipa scabra</i>	Corkscrew Grass
<i>Bothriochloa macra</i>	Red Stem Grass
<i>Bulbine bulbosa</i>	Bulbine Lily
<i>Callitris</i> sp.	Callitris
<i>Chloris truncata</i>	Windmill Grass
<i>Chrysocephalum apiculatum</i>	Common Everlasting
<i>Convolvulus angustissimus</i>	Blushing Bindweed
<i>Cotula australis</i>	Common Cotula
<i>Crassula sieberiana</i>	Austral Stonecrop
<i>Cynodon dactylon</i>	Couch
<i>Dianella revoluta</i>	Black Anther Flax Lily
<i>Euchiton sphaericus</i>	Star Cudweed
<i>Eucalyptus blakelyi</i>	Blakely's Red Gum
<i>Eucalyptus melliodora</i>	Yellow Box
<i>Eucalyptus nicholii</i> (planted)	Narrow Leaf Peppermint
<i>Euphorbia drummondii</i>	Caustic Weed
<i>Leucochrysum albicans</i> variety <i>tricolor</i>	Hoary Sunray

<i>Lomandra filiformis coriacea</i>	Wattle Matrush
<i>Microlaena stipoides</i>	Weeping Grass
<i>Rumex brownii</i>	Swamp Dock
<i>Rytidosperma carphoides</i>	Short Wallaby Grass
<i>Rytidosperma laeve</i>	Smooth Wallaby Grass
<i>Rytidosperma racemosum</i>	Wallaby Grass
<i>Rytidosperma</i> sp.	Wallaby Grass
<i>Themeda triandra</i>	Kangaroo Grass
<i>Wahlenbergia gracilis</i>	Sprawling Bluebell
<i>Wahlenbergia stricta</i>	Tall Bluebell

EXOTIC FLORA RECORDED SITE 14: CATHCART STREET UNFORMED ROAD RESERVE 15/03/2022, 14/09/2022, 26/09/2022, 6/10/2022 & 1/12/2022				
Scientific name	Common name	BAM Weed status	WONS	Regional Priority Weeds
<i>Amaryllis belladonna</i>	Naked Ladies			
<i>Arctotheca calendula</i>	Capeweed			
<i>Bromus catharticus</i>	Prairie Grass			
<i>Bromus diandrus</i>	Great Brome			
<i>Cirsium vulgare</i>	Spear Thistle			
<i>Cenchrus clandestinus</i>	Kikuyu			
<i>Cerastium glomeratum</i>	Mouse Ear Chickweed			

<i>Cirsium vulgare</i>	Spear Thistle			
<i>Conyza</i> sp.	Fleabane			
<i>Cylindropuntia imbricata</i>	Devils Rope Cactus	High Threat Exotic	WONS	Regional Priority Weed
<i>Dactylis glomerata</i>	Cock's Foot Grass			
<i>Echium plantagineum</i>	Paterson's Curse			
<i>Ehrharta erecta</i>	Panic Veldt Grass			
<i>Eragrostis curvula</i>	African Love Grass	High Threat Exotic		Regional Priority Weed
<i>Euphorbia oblongata</i>	Oblong Spurge			
<i>Foeniculum vulgare</i>	Fennel			
<i>Fumaria muralis</i>	Fumitory			
<i>Gamochaeta</i> sp.	Cudweed			
<i>Gazania</i> sp.	Treasure Flower			
<i>Hedera helix</i>	English Ivy			
<i>Hirschfeldia incana</i>	Buchan Weed			
<i>Hypericum perforatum</i>	St John's Wort	High Threat Exotic		
<i>Hypochaeris radicata</i>	Catsear (Flatweed)			
<i>Lactuca serriola</i>	Compass Weed			
<i>Lepidium africanum</i>	African Peppergrass			
<i>Ligustrum lucidum</i>	Large Leaf Privet	High Threat Exotic		
<i>Lolium</i> sp.	Rye Grass			

<i>Lycium ferocissimum</i>	African Box Thorn	High Threat Exotic	WONS	Regional Priority Weed
<i>Malva parviflora</i>	Small Flowered Mallow			
<i>Medicago polymorpha</i>	Burr Medic			
<i>Modiola caroliniana</i>	Creeping Mallow			
<i>Nassella neesiana</i>	Chilean Needle Grass	High Threat Exotic	WONS	Regional Priority Weed
<i>Nassella trichotoma</i>	Serrated Tussock	High Threat Exotic		Regional Priority Weed
<i>Onopordum acanthium</i>	Scotch Thistle			
<i>Oxalis corniculatus</i>	Creeping Oxalis			
<i>Paspalum dilatatum</i>	Paspalum	High Threat Exotic		
<i>Phalaris aquatica</i>	Phalaris			
<i>Plantago lanceolata</i>	Ribwort			
<i>Poa annua</i>	Winter Grass			
<i>Poa pratense</i>	Kentucky Blue Grass			
<i>Polycarpon tetraphyllum</i>	Four Leaf Allseed			
<i>Prunus cerasifera</i>	Cherry Plum			
<i>Pyracantha angustifolia</i>	Firethorn	High Threat Exotic		
<i>Romulea rosea</i>	Onion Grass	High Threat Exotic		
<i>Rosa rubiginosa</i>	Sweet Briar	High Threat Exotic		

<i>Rubus fruticosus</i> aggregate	Blackberry	High Threat Exotic	WONS	Regional Priority Weed
<i>Rumex acetosella</i>	Sheep's Sorrel			
<i>Rumex crispus</i>	Curled Dock			
<i>Solanum nigrum</i>	Black Nightshade			
<i>Sonchus oleraceus</i>	Sowthistle			
<i>Stellaria media</i>	Chickweed			
<i>Tragopogon porrifolius</i>	Salsify			
<i>Trifolium repens</i>	White Clover			
<i>Trifolium subterraneum</i>	Sub Clover			

FAUNA RECORDED SITE 14: CATHCART STREET UNFORMED ROAD RESERVE 15/03/2022, 14/09/2022, 26/09/2022, 6/10/2022 & 1/12/2022			
Scientific name	Common name	Native/Exotic	Comment
<i>Acanthiza chrysorrhoa</i>	Yellow Rumped Thornbill	N	Sighted
<i>Anthochaera carunculata</i>	Red Wattle Bird	N	Sighted
<i>Cacatua galerita</i>	Sulphur Crested Cockatoo	N	Sighted
<i>Cacatua sanguinea</i>	Little Corella	N	Sighted
<i>Corcorax melanorhamphos</i>	White Winged Chough	N	Sighted
<i>Corvus coronoides</i>	Australian Raven	N	Sighted
<i>Eolophus reoseicapilla</i>	Galah	N	Sighted
<i>Gymnorhina tibicen</i>	Australian Magpie	N	Sighted
<i>Malurus cyaneus</i>	Superb Fairy Wren	N	Sighted
<i>Manorina melanocephala</i>	Noisy Miner	N	Sighted

<i>Ocyphaps lophotes</i>	Crested Pigeon	N	Sighted
<i>Philemon corniculatus</i>	Noisy Friarbird	N	Heard
<i>Platycercus eximius</i>	Eastern Rosella	N	Sighted
<i>Platycercus elegans</i>	Crimson Rosella	N	Sighted
<i>Psephotus haematonotus</i>	Red-rumped Parrot	N	Sighted
<i>Rhipidura albiscapa</i>	Grey Fantail	N	Sighted
<i>Stepera graculina</i>	Pied Currawong	N	Sighted
<i>Trichoglossus haematodus</i>	Rainbow Lorikeet	N	Sighted

NATIVE FLORA RECORDED SITE 15: 48 & 68 Knox Street 14/09/2022, 7/10/2022 & 1/12/2022	
Scientific name	Common name
<i>Acacia baileyana</i>	Cootamundra Wattle
<i>Acacia decurrens</i>	Early Black Wattle
<i>Acacia fimbriata</i>	Fringed Wattle
<i>Aristida</i> sp.	Kerosene Grass
<i>Austrostipa bigeniculata</i>	Tall Spear Grass
<i>Austrostipa scabra</i>	Corkscrew Grass
<i>Bothriochloa macra</i>	Red Stem Grass
<i>Bulbine bulbosa</i>	Bulbine Lily
<i>Cassinia sifton</i>	Sifton Bush
<i>Chrysocephalum apiculatum</i>	Common Everlasting
<i>Daviesia acicularis</i>	Sharp Bitter Pea
<i>Dianella revoluta</i>	Black Anther Flax Lily
<i>Einadia nutans</i>	Climbing Saltbush

<i>Eucalyptus blakelyi</i>	Blakely's Red Gum
<i>Eucalyptus bridgesiana</i>	Apple Box
<i>Eucalyptus melliodora</i>	Yellow Box
<i>Grevillea rosmarinifolia</i>	Rosemary Grevillea (planted/garden escape)
<i>Hardenbergia violacea</i>	Purple Coral Pea
<i>Indigofera australis</i>	Australian Indigo
<i>Leucochrysum albicans tricolor</i>	Hoary Sunray
<i>Lomandra filiformis coriacea</i>	Wattle Mat Rush
<i>Lomandra longifolia</i>	Spiney Headed Mat Rush
<i>Lomandra multiflora</i>	Many Flowered Mat Rush
<i>Microlaena stipoides</i>	Weeping Grass
<i>Poa sieberiana</i>	Snow Grass
<i>Rytidosperma</i> spp.	Wallaby Grass
<i>Wahlenbergia communis</i>	Tufted Bluebell

EXOTIC FLORA RECORDED SITE 15: 48 & 68 Knox Street 14/09/2022, 7/10/2022 & 1/12/2022				
Scientific name	Common name	BAM Weed status	WONS	Regional Priority Weeds
<i>Arctotheca calendula</i>	Capeweed			
<i>Cirsium vulgare</i>	Spear Thistle			
<i>Conyza</i> sp.	Fleabane			
<i>Dactylis glomerata</i>	Cock's Foot Grass			

<i>Echium plantagineum</i>	Paterson's Curse			
<i>Eragrostis curvula</i>	African Love Grass	High Threat Exotic		Regional Priority Weed
<i>Hirschfieldia incana</i>	Buchan Weed			
<i>Hypericum perforatum</i>	St John's Wort	High Threat Exotic		
<i>Hypochaeris radicata</i>	Catsear			
<i>Ligustrum lucidum</i>	Large Leaf Privet	High Threat Exotic		
<i>Lycium ferocissimum</i>	African Box Thorn	High Threat Exotic	WONS	Regional Priority Weed
<i>Marrubium vulgare</i>	White Horehound			
<i>Nassella neesiana</i>	Chilean Needle Grass	High Threat Exotic	WONS	Regional Priority Weed
<i>Nassella trichotoma</i>	Serrated Tussock	High Threat Exotic		Regional Priority Weed
<i>Onopordum acanthium</i>	Scotch Thistle			
<i>Oxalis corniculatus</i>	Creeping Oxalis			
<i>Paspalum dilatatum</i>	Paspalum	High Threat Exotic		
<i>Phalaris aquatica</i>	Phalaris			
<i>Plantago lanceolata</i>	Ribwort			
<i>Poa annua</i>	Winter Grass			
<i>Prunus cerasifera</i>	Cherry Plum			
<i>Pyracantha angustifolia</i>	Firethorn	High Threat Exotic		
<i>Romulea rosea</i>	Onion Grass	High Threat Exotic		

<i>Rubus fruticosus</i> aggregate	Blackberry	High Threat Exotic	WONS	Regional Priority Weed
<i>Solanum chenopodioides</i>	White Tip Nightshade			
<i>Sonchus oleraceus</i>	Sowthistle			
<i>Trifolium subterraneum</i>	Sub Clover			

FAUNA RECORDED SITE 15: 48 & 68 Knox Street 14/09/2022, 7/10/2022 & 1/12/2022			
Scientific name	Common name	Native/Exotic	Comment
<i>Corvus coronoides</i>	Australian Raven	N	Sighted
<i>Gymnorhina tibicen</i>	Australian Magpie	N	Sighted
<i>Macropus giganteus</i>	Eastern Grey Kangaroo	N	Sighted
<i>Malurus cyaneus</i>	Superb Fairy Wren	N	Sighted
<i>Manorina melanocephala</i>	Noisy Miner	N	Sighted
<i>Platycercus elegans</i>	Crimson Rosella	N	Sighted
<i>Stepera graculina</i>	Pied Currawong	N	Sighted

NATIVE FLORA RECORDED SITE 16: 13 DUCKS LANE 14/09/2022, 7/10/2022, 26/10/2022 & 3/11/2022	
Scientific name	Common name
<i>Acacia decurrens</i>	Early Black Wattle
<i>Acacia mearnsii</i>	Late Black Wattle
<i>Amyema pendula</i> subspecies <i>pendula</i>	Drooping Mistletoe

<i>Aristida</i> sp.	Kerosene Grass
<i>Asperula conferta</i>	Common Woodruff
<i>Austrostipa bigeniculata</i>	Tall Spear Grass
<i>Austrostipa scabra</i>	Corkscrew Grass
<i>Bothriochloa macra</i>	Red Stem Grass
<i>Cassinia sifton</i>	Sifton Bush
<i>Chrysocephalum apiculatum</i>	Common Everlasting
<i>Daviesia latifolia</i>	Hop Bitter Pea
<i>Dianella revoluta</i>	Black Anther Flax Lily
<i>Eucalyptus blakelyi</i>	Blakely's Red Gum
<i>Eucalyptus bridgesiana</i>	Apple Box
<i>Eucalyptus dives</i>	Broad Leaf Peppermint
<i>Eucalyptus mannifera</i>	Brittle Gum
<i>Eucalyptus melliodora</i>	Yellow Box
<i>Eucalyptus rossii</i>	Inland Scribbly Gum
<i>Gonocarpus tetragynus</i>	Common Raspwort
<i>Goodenia hederacea</i>	Ivy Leaf Goodenia
<i>Hardenbergia violacea</i>	Purple Coral Pea
<i>Indigofera australis</i>	Australian Indigo
<i>Lissanthe strigosa</i>	Peach Heath
<i>Lomandra filiformis coriacea</i>	Wattle Mat Rush
<i>Lomandra multiflora</i>	Many Flowered Mat Rush
<i>Microlaena stipoides</i>	Weeping Grass
<i>Panicum effusum</i>	Hairy Panic
<i>Plantago gaudichaudii</i>	Narrow Leaf Plantain

<i>Poa sieberiana</i>	Snow Grass
<i>Rytidosperma pallidum</i>	Red Anther Wallaby Grass
<i>Rytidosperma</i> spp.	Wallaby Grass
<i>Themeda triandra</i>	Kangaroo Grass

EXOTIC FLORA RECORDED SITE 16: 13 DUCKS LANE 14/09/2022, 7/10/2022, 26/10/2022 & 3/11/2022				
Scientific name	Common name	BAM Weed status	WONS	Regional Priority Weeds
<i>Arctotheca calendula</i>	Capeweed			
<i>Cirsium vulgare</i>	Spear Thistle			
<i>Conyza</i> sp.	Fleabane			
<i>Dactylis glomerata</i>	Cock's Foot Grass			
<i>Echium plantagineum</i>	Paterson's Curse			
<i>Eragrostis curvula</i>	African Love Grass	High Threat Exotic		Regional Priority Weed
<i>Hirschfieldia incana</i>	Buchan Weed			
<i>Hypericum perforatum</i>	St John's Wort	High Threat Exotic		
<i>Hypochaeris radicata</i>	Catsear			
<i>Lycium ferocissimum</i>	African Box Thorn	High Threat Exotic	WONS	Regional Priority Weed
<i>Nassella neesiana</i>	Chilean Needle Grass	High Threat Exotic	WONS	Regional Priority Weed

<i>Nassella trichotoma</i>	Serrated Tussock	High Threat Exotic		Regional Priority Weed
<i>Onopordum acanthium</i>	Scotch Thistle			
<i>Paspalum dilatatum</i>	Paspalum	High Threat Exotic		
<i>Petrorhagia nanteuillii</i>	Proliferous Pink			
<i>Phalaris aquatica</i>	Phalaris			
<i>Plantago lanceolata</i>	Ribwort			
<i>Romulea rosea</i>	Onion Grass	High Threat Exotic		
<i>Rubus fruticosus</i> aggregate	Blackberry	High Threat Exotic	WONS	Regional Priority Weed
<i>Rumex acetosella</i>	Sheep's Sorrel	High Threat Exotic		
<i>Sonchus oleraceus</i>	Sowthistle			
<i>Trifolium subterraneum</i>	Sub Clover			

FAUNA RECORDED SITE 16: 13 DUCKS LANE 14/09/2022, 7/10/2022, 26/10/2022 & 3/11/2022			
Scientific name	Common name	Native/Exotic	Comment
<i>Acanthiza chrysorrhoa</i>	Yellow Rumped Thornbill	N	Sighted
<i>Anthochaera carunculata</i>	Red Wattle Bird	N	Heard calling
<i>Cacatua galerita</i>	Sulphur Crested Cockatoo	N	Sighted
<i>Colluricincla harmonica</i>	Grey Shrike Thrush	N	Heard calling

<i>Corvus coronoides</i>	Australian Raven	N	Sighted
<i>Eolophus roseicapilla</i>	Galah	N	Sighted
<i>Grallina cyanoleuca</i>	Magpie Lark	N	Sighted
<i>Gymnorhina tibicen</i>	Australian Magpie	N	Sighted
<i>Macropus giganteus</i>	Eastern Grey Kangaroo	N	Sighted
<i>Malurus cyaneus</i>	Superb Fairy Wren	N	Sighted
<i>Manorina melanocephala</i>	Noisy Miner	N	Sighted
<i>Oryctolagus cuniculus</i>	Rabbit	E	Scats
<i>Platycercus elegans</i>	Crimson Rosella	N	Sighted
<i>Stepera graculina</i>	Pied Currawong	N	Heard callling
<i>Sturnus vulgaris</i>	Common Starling	E	Sighted

APPENDIX D: ADDITIONAL PHOTOGRAPHS

SITE 2: TfNSW BY-PASS RESERVE

SITE 3: MCDONALDS LAND (7 SOWERBY STREET)

SITE 4: SOUTH HILL RESERVE (18 LOCKYER STREET)

SITE 5 LOCKYER STREET (16 LOCKYER STREET)

SITE 11: CORNER ROBINSON ROAD AND FINLAY ROAD WEST

SITE 13: 21 THEATRE DRIVE

SITE 14: CATHCART STREET UNFORMED ROAD RESERVE

SITE 15: 48 & 68 KNOX STREET

SITE 16: 13 DUCKS LANE

SITE 2 - TfNSWBYPASS RESERVE



(26/09/2022)



(5/12/2022)



(26/09/2022)



Vittadinea cuneata By-Pass Reserve 5/12/2022



***Calotis lappulacea* By-Pass Reserve 5/12/2022**



***Rytidosperma* spp. & *Microlaena stipoides* By-Pass Reserve 5/12/2022**

SITE 3 - MCDONALDS LAND – SOWERBY STREET



(5/12/2022)



(26/09/2022)



(26/09/2022)



(26/09/2022)

SITE 4 SOUTH HILL RESERVE – 18 LOCKYER STREET



(13/09/2022)



(13/09/2022)



(13/09/2022)



(13/09/2022)



(13/09/2022)



(13/09/2022)

SITE 5 - 16 LOCKYER STREET



(13/09/2022)



(13/09/2022)



Acacia verniciflua 13/09/2022 Site 5 (Lockyer Street)



(13/09/2022)

SITE 11 - CORNER ROBINSON ROAD AND FINLAY ROAD WEST



(6/10/2022)

SITE 13 – 21 THEATRE DRIVE



(6/10/2022)



***Bulbine bulbosa* Site 13- 21 Theatre Drive (6/10/2022)**



Above and below: *Goodenia pinnatifida* Site 13- 21 Theatre Drive (3/11/2022)



SITE 14 - CATHCART STREET UNFORMED ROAD RESERVE



(26/09/2022)



(26/09/2022)



Asperula conferta (26/09/2022)



Austrostipa scabra (1/12/2022)



Convolvulus angustissimus (1/12/2022)



Bulbine bulbosa (1/12/2022)



Chrysocephalum apiculatum (1/12/2022)



Glycine tabacina (1/12/2022)



Wahlenbergia stricta above and below (1/12/2022)





Above and below: *Ryttidosperma racemosum*. (1/12/2022)





Cotula australis (26/09/2022)



Chloris ventricosa (1/12/2022)



Euchiton sphaericus (1/12/2022)



(26/09/2022)

SITE 15 – 48 & 68 KNOX STREET



(14/09/2022)



(14/09/2022)



(14/09/2022)



Indigofera australis Site 15 (14/09/2022)



Daviesia acicularis Site 15 (14/09/2022)



(1/12/2022)

SITE 16 – 13 DUCKS LANE



(7/10/2022)



(7/10/2022)



(7/10/2022)



(7/10/2022)



(7/10/2022)



Note Abundant Mistletoe *Amyema pendula* (7/10/2022)