

# **ADDENDUM**

to FLORA AND FAUNA ASSESSMENT (13/12/2021)

LOTS 10 & 11 DP 1012641

120-140 BRIDGE STREET, PICTON

PROPOSED REZONING

30<sup>th</sup> January 2023



## Project Team

Name & Role	Tasks performed	Relevant qualifications & experience
Ms Rebecca Hogan Project Manager Lead Ecologist Principal, Hayes Environmental	Project management; Site stratification; Identification of Plant Community Type/s; Fauna habitat evaluation including opportunistic recording of birds and targeted snail searches; GIS & map preparation; Impact assessment; Report preparation.	BSc (environmental biology), UTS Sydney, 1996 MEngMngt, UTS Sydney, 2000 Biodiversity Assessment Method Accredited Assessor (BAAS17090) Executive member, Ecological Consultants Association of NSW Scientific Licence, s132c of the NP&W Act 1974 (SL100778) DPI Animal Care & Ethics Committee Approval (exp. September 2023) 26 years of ecological consulting experience in the greater Sydney, Southern Highlands, and Southern Tablelands regions. Experience across a wide range of development projects, from small private constructions, to significant residential and urban renewal projects, infrastructure projects such as roads, pipelines and telecommunications towers, and mine development and rehabilitation.
Mr Daniel Clark Project Botanist Principal, Arcane Botanica Pty Ltd	Botanical surveys and plant identification; Review and assistance with identification of plant community type/s; Targeted threatened plant surveys.	BSc (Hons) (Botany), University of Sydney, 2010 Cert. IV in General Horticulture, 2005 Cert. II in Bushland Regeneration, 2000 Cert. IV in Workplace Training and Assessment, 2011 Grad. Plant Science Internship, National Herbarium of NSW, Royal Botanic Gardens, 2009 Practicing member, Ecological Consultants Association of NSW Scientific Licence, s132c of the NP&W Act 1974 (SL101495) 22 years of field botanist experience in the Sydney and greater Sydney region, including 10 years as a botanical consultant undertaking surveys for development impact assessment.
Harry Engel Fauna surveyor Lesryk Environmental	Targeted surveys for the Southern Myotis and Cumberland Plain Land Snail.	BMarineSc 8 years of experience carrying out fauna field surveys and biodiversity project management, based in Sydney.

## *Conflict of Interest*

To the best of my knowledge and belief, I, Rebecca Hogan, have no past, present or future relationship to stakeholders or decision-makers connected to this project that might be regarded as an actual, perceived or potential conflict of interest with my professional responsibilities and duties as a consultant.

## *Certification*

This Addendum to the Flora and Fauna Assessment report has been prepared to address a request from Council for further information in relation to biodiversity. To the best of my knowledge it presents true and relevant facts without omission, and draws conclusions from logical and reasonable interpretation of the facts. It is current at the date of issue, being 30<sup>th</sup> January 2023.



Ms Rebecca Hogan  
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BAM Accredited Assessor BAAS17090  
Principal, Hayes Environmental



## *Disclaimer*

There are inherent uncertainties involved in surveying and documenting the natural environment. Some of this information will change over time. This report is also based in part on information provided by the client and by other external organisations. This report is to be used solely for determination of the specified development application. It shall not be replicated or altered without the express written permission of the author. Hayes Environmental does not accept any liability for consequences arising from its use.

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**Figure A**     *Field survey points and paths (aerial photo obtained from Nearmap, dated 18<sup>th</sup> November 2022).*

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to FLORA AND FAUNA ASSESSMENT (13 Dec 2021)  
LOTS 10 & 11 DP 1012641  
120-140 BRIDGE STREET, PICTON  
PROPOSED REZONING  
January 2023

## EXECUTIVE SUMMARY

This Addendum report is to be read in conjunction with the *Flora and Fauna Assessment for proposed rezoning of Lots 10 & 11 DP 1012641, 120-140 Bridge Street, Picton* prepared by Hayes Environmental in December 2021.

The addendum has been prepared in response to a request from Wollondilly Shire Council for further information.

Additional targeted field surveys have been conducted for *Pimelea spicata*, the Southern Myotis *Myotis macropus* and the Cumberland Plain Land Snail *Meridolum corneovirens*.

On the basis of results from the additional field surveys and further consideration of species information held in relevant databases, it appears that none of the three target species (*Pimelea spicata*, Southern Myotis, Cumberland Plain Land Snail) are present on the property or would use the property.

No further assessment under the *NSW Biodiversity Conservation Act 2017* is required.

# 1 INTRODUCTION

## 1.1 Context

This Addendum report is to be read in conjunction with the *Flora and Fauna Assessment for proposed rezoning of Lots 10 & 11 DP 1012641, 120-140 Bridge Street, Picton* prepared by Hayes Environmental in December 2021.

The Flora and Fauna Assessment report (Hayes Env, Dec 2021) was submitted to Wollondilly Shire Council in December 2021 to support a Planning Proposal for the property.

Wollondilly Shire Council issued a request for further information in August 2022, as follows:

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<i>Biodiversity</i>	<i>A need for further work has been identified to inform the planning proposal. This work involves updating the Flora and Fauna Assessment to accommodate targeted surveys for the threatened species identified<sup>1</sup> in the report, including:</i> <ul style="list-style-type: none"><li>• <i>Pimelea spicata</i></li><li>• <i>Southern Myotis (Myotis aelleni)<sup>2</sup></i></li><li>• <i>Cumberland Plain Land Snail (Meridolum corneovirens)</i></li></ul>
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## 1.2 Objectives of this Report

The objectives of this Addendum report are to:

- \* document the results of additional targeted surveys conducted for the three threatened species listed by Wollondilly Shire Council as being of concern (*Pimelea spicata*, *Myotis macropus*, *Meridolum corneovirens*);
- \* if applicable, assess the potential impacts of the proposed rezoning upon these species, in accordance with requirements of the *NSW Biodiversity Conservation Act 2016* (BC Act).

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<sup>1</sup> It is noted that none of these three species were identified in the Hayes Env (Dec 2021) report as being present, or likely to be present, within the property.

<sup>2</sup> Hayes Environmental have assumed that Council is referring to *Myotis macropus*, a locally occurring species listed as Vulnerable under the *NSW Biodiversity Conservation Act 2017*, rather than *Myotis aelleni* which is native to (and only known from) Argentina.

## 2 RESEARCH & FIELD SURVEYS

### 2.1 Information Sources

Relevant legislation and policies include:

- \* *Commonwealth Environment Protection & Biodiversity Conservation Act 1999* (EPBC Act)
- \* *NSW Biodiversity Conservation Act 2016* (BC Act)
- \* *NSW Biodiversity Conservation Regulation 2017* (BC Reg)
- \* *NSW Biodiversity Assessment Method Order 2020* (BAM)
- \* *Wollondilly Local Environmental Plan 2011* (WLEP)

Relevant guidelines include:

- \* *Surveying threatened plants and their habitats. NSW survey guide for the Biodiversity Assessment Method (2020).* Department of Planning, Industry & Environment (2020).
- \* *Flora species with specific survey requirements.* NSW Office of Environment & Heritage.
- \* *NSW survey guide – ‘Species credit’ threatened bats and their habitats (2018).*

Data sources and reports accessed include:

- \* NSW Bionet ([www.bionet.nsw.gov.au](http://www.bionet.nsw.gov.au)): Threatened Biodiversity Data Collection (TBDC), and Atlas Sightings.
- \* *Flora and Fauna Assessment for proposed rezoning of Lots 10 & 11 DP 1012641, 120-140 Bridge Street, Picton.* (Hayes Environmental, December 2021).

## 2.2 Targeted survey for *Pimelea spicata*

Survey requirements and advice		Response
TBDC constraints	None	n/a
TBDC Notes	None relevant to survey.	n/a
TBDC Months of Survey	Throughout year	Targeted surveys were conducted on 6 <sup>th</sup> September 2021 and 9 <sup>th</sup> November 2022
TBDC Survey Comments	Use flowers to locate and identify as species is inconspicuous. Flowering is unpredictable and rain dependent. Survey 4 weeks after at least a 30 mm rainfall event. In drier times plants are often not visible above ground unless soils remain moist. Multiple surveys may be required. Survey at least 3 times, each at least a month apart unless found.	<p>This species is a small shrub to 50cm tall. The TBDC survey comments relate to flowering as the plant is difficult to detect when not flowering due to its inconspicuous form in its natural habitat. However, the species can still be found when not flowering.</p> <p>It is noted that the property has been significantly disturbed, such that areas of potential habitat for this species are extremely small and sparse, making detection of usually inconspicuous plants more reliable. It is further noted that the surveyor is an experienced field-based senior botanist with excellent local knowledge.</p> <p>The survey of 6<sup>th</sup> Sep 2021 was conducted 2 weeks after a ~40mm rainfall event (BOM records from Camden and Cawdor), during a generally wet year when plants would be expected to be visible and able to be detected, even if not flowering. The parallel traverse method<sup>3</sup> was used, with the GPS track shown on Figure A.</p> <p>The survey of 9<sup>th</sup> Nov 2022 was conducted 4 weeks after a 63mm rainfall event (BOM records from Menangle Bridge). It was difficult to employ the parallel traverse method due to obstacles around the property. The GPS track for the survey is shown on Figure A.</p> <p>A third survey is not considered warranted given the condition of the site, the experience of the surveyor, and the excellent seasonal conditions for this species over the last few years.</p>

<sup>3</sup> *Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method (DPIE 2020). Application of Table 1 of the guide – a 10m distance between traverses was used. The species is a small shrub but similar to a herb in habit. The vegetation is open.*



## 2.3 Targeted Survey for the Southern Myotis *Myotis macropus*

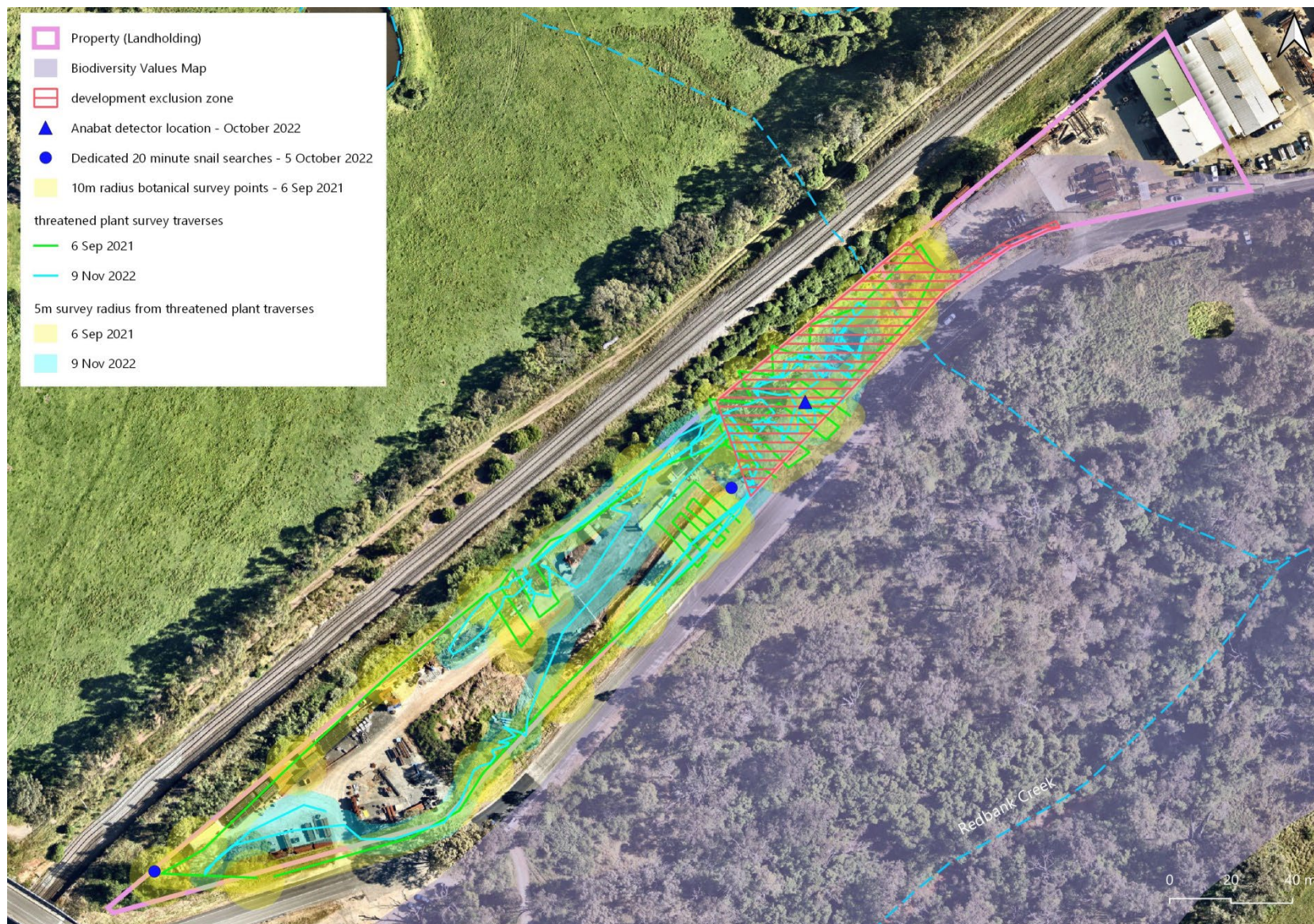
Survey requirements		Response
TBDC constraints	Habitat Constraint: Waterbodies with permanent pools/stretches 3m or wider, including rivers, large creeks, billabongs, lagoons, estuaries, dams and other waterbodies, on or within 200m of the site.	The property does not contain waterbodies with pools/stretches 3m or wider (permanent or otherwise). The whole of the property is within 100-200m of Redbank Creek, which contains pools greater than 3m wide.
TBDC Notes	The species was allocated to species credit because it is dependent on waterways with pools of 3m wide or greater for foraging (which will be protected under legislation). Habitat surrounding waterways is used for breeding and roosting.  Descriptive text - Generally roost in groups of 10 - 15 close to water in caves, mine shafts, hollow-bearing trees, storm water channels, buildings, under bridges and in dense foliage.	The property does not contain foraging habitat for this species.  The property does not contain caves, notable hollow-bearing trees, or structures suitable for roosting.  Dense infestation of Privet <i>Ligustrum lucidum</i> along the ephemeral tributary within the property provides theoretical roosting habitat.
TBDC Months of Survey	October to March	Targeted surveys were conducted from 5 <sup>th</sup> to 21 <sup>st</sup> October 2022.
TBDC Survey Comments	Refer to the 'Species credit' threatened bats and their habitats - NSW survey guide for the Biodiversity Assessment Method' for information on targeted survey requirements and mapping species polygons.  The survey guide recommends (where potential habitat is <2.5km of riparian length): Harp trap or mist net: <ul style="list-style-type: none"> <li>- Survey period - October to March</li> <li>- Total effort – 16</li> <li>- Min. no. of nights/time searching – 4</li> <li>- placed in areas of potential habitat. For larger water bodies mist nets may be necessary. Traps or nets should be set beside or preferably over pools of water along creeks or rivers, particularly in flat or areas of low relief if present. Traps can be set under bridges or culverts, or overhanging branches. The survey may use only mist nets, or a combination of harp traps and mist nets.</li> </ul>	There are no pools within the property to enable recommended application of mist nests.  There are no suitable structures or areas of vegetation within the property to enable practicable use of harp traps.

Survey requirements		Response
Survey comments cont.	<p>Roost search:</p> <ul style="list-style-type: none"> <li>- Survey period - October to March</li> <li>- Total effort – 1 per structure</li> <li>- Min. no. of nights/time searching – 30mins per feature</li> <li>- Any bridges, tunnels, culverts or other structures identified as potential breeding habitat should be searched for bats or signs of bats (guano etc). A torch should be used and attention paid to inspecting cracks or seams in the roof. A handheld bat detector can alert the searcher to ultrasonic calls. If bats or signs of bats are observed, the bats may need to be captured to identify species and breeding status using traps, nets or other methods.</li> </ul> <p>Acoustic detection:</p> <ul style="list-style-type: none"> <li>- Survey period - October to March</li> <li>- Total effort – 16</li> <li>- Min. no. of nights/time searching - 4</li> </ul>	<p>There are no potential roost features within the property that could feasibly be searched.</p> <p>An acoustic detector was deployed for 16 nights (5<sup>th</sup> to 21<sup>st</sup> October 2022).</p> <p>The detector was placed at a height of approximately 4m above ground adjacent to the riparian corridor on the property, in an area deemed most likely to be a flyway. It was set to nocturnal recording only and was confirmed to still be working when collected.</p> <p>Calls were analysed by Lesryk Environmental using Anabat 6.3 software.</p> <p>Species recorded (all four are common, non-threatened bats):</p> <ul style="list-style-type: none"> <li>- <i>Chalinolobus gouldii</i></li> <li>- <i>Chalinolobus morio</i></li> <li>- <i>Scotorepens orion</i></li> <li>- <i>Vespadelus vulturnus</i></li> </ul>

## 2.4 Targeted survey for the Cumberland Plain Land Snail *Meridolum corneovirens*

Survey requirements		Response
TBDC constraints	none	n/a
TBDC Notes	Predation by rats and mice are a key threat, but they do not have the impact on this species to the same extent that these rodents have on other species such as the Dural Woodland Snail. The species is reliant on a good cover of coarse woody debris, and uses soil cracks for shelter.	The property does not contain cover of coarse woody debris.
TBDC Months of Survey	Throughout year	Surveys conducted on 26th October 2021 and 5 <sup>th</sup> October 2022.
TBDC Survey Comments	Identification of live specimens is required early morning or in the evening during or after rain, while the ground and vegetation surfaces are still wet from the rain. Presence of snail shells and can be detected all year round. Note for the purpose of survey, the presence of CPLS shells equals the presence of this species. It can occasionally be found around paddock trees, but rare.	<p>All surveys were based on searches for snail shells in addition to live individuals.</p> <p>Opportunistic searches of leaf litter at the base of trees was conducted during damp conditions on 26<sup>th</sup> October 2021.</p> <p>Additional targeted surveys including 20 minute dedicated searches in two areas considered to support potential habitat were conducted on 5<sup>th</sup> October 2022.</p> <p>No individuals or shells of this species were found.</p>





**Figure A** Field survey points and paths (aerial photo obtained from Nearmap, dated 18<sup>th</sup> November 2022).



## 3 COMMENTARY

### 3.1 *Pimelea spicata*

*Pimelea spicata* is an inconspicuous shrub to approximately 50cm tall. It can be difficult to detect in its natural habitat when not flowering, but can be identified at other times.

There are several small patches of native grassland around fringes of the property and bordering the riparian corridor which provide potential habitat for this species. These areas appear to be regrowth from previous clearing and land modification rather than remnants of habitat. The TBDC descriptive text states that disturbance from mowing, grazing, spraying or other types of similar habitat modification are a threat to the species.

Targeted surveys were conducted for this species in October 2021 and October 2022. Both surveys were conducted by an experienced senior botanist with excellent local knowledge, during wet years and following good rainfall.

The extent of field surveys conducted on this property are considered sufficient to determine that *Pimelea spicata* is not likely to be present, given that:

- \* the areas of potential habitat are very small, with low and sparse understorey vegetation making detection of cryptic species more reliable;
- \* surveys were conducted by an experienced senior botanist with excellent local knowledge;
- \* surveys have been conducted on two occasions in separate years, with one occasion meeting the specific rainfall criteria set out in the TBDC, and both occasions being during suitable seasonal conditions;
- \* the property appears to be too degraded for this species to persist;
- \* there are no historical records for the species on the property (Bionet Sightings).

It is further noted that the TBDC descriptive text describes the distribution of *Pimelea spicata* as being across two disjunct areas; the Cumberland Plain south to Narellan and Douglas Park, and the Illawarra. The subject property is south of Picton and marginally south of Douglas Park, with the nearest records of *Pimelea spicata* being approximately 10km to the north and northeast. The property appears to be just beyond the known distribution of this species.

### 3.2 Southern Myotis *Myotis macropus*

The Southern Myotis is known to occur in the locality. This species is reliant on waterbodies that are greater than 3m wide for foraging, and roosts near to these features, usually in caves, culverts, under bridges, and in hollow-bearing trees. This species can also roost in dense foliage.

The property does not contain foraging habitat for this species.

Roosting habitat within the property is theoretical, being limited to the infestation of Privet along the riparian corridor, or the possibility of very small hollows in the uppermost canopy of remnant eucalypts.

An acoustic survey was conducted over 16 nights in October 2022. This species was not recorded. There are no historical records for the species on the property (Bionet Sightings).

The Southern Myotis does not appear to be resident on the property and would not be expected to use the property.

### 3.3 Cumberland Plain Land Snail *Meridolum corneovirens*

The Cumberland Plain Land Snail is known to occur in the locality. This species can persist in small fragments of vegetation, including in leaf litter and woody debris at the base of larger eucalypts.

Surveys have been conducted for this species across the property on two occasions during suitable seasonal conditions, without finding evidence of individuals, shells or identifiable shell fragments. There are no historical records for the species on the property (Bionet Sightings).

The property is in use as industrial land and is highly disturbed, including up to the base of trees. There are several small patches of native grassland around fringes of the property and bordering the riparian corridor. These areas, however, appear to be regrowth from previous clearing and land modification rather than remnants of habitat.

The Cumberland Plain Land Snail does not appear to be present on the property, and would not be expected to occur on the property.

## 4 CONCLUSIONS

On the basis of additional field surveys and further consideration of species information held in relevant databases, it appears that none of the three target species (*Pimelea spicata*, Southern Myotis, Cumberland Plain Land Snail) are present on the property or would use the property.

No further assessment under the *NSW Biodiversity Conservation Act 2017* is required.