



AEP

ECOLOGY | BIOBANKING | OFFSETS | BUSHFIRE

AEP Ref: 2274.12
Date: 26 August 2022
To Wyee Land Pty Ltd C/- Stevens Group

Attention Lin Armstrong
Via Email lin@stevensgroup.com.au

Dear Lin,

**Re: Ecological Assessment Report for
Rezoning of 482 Bushells Ridge Rd, Wyee NSW
Lot 171 DP 1212974**

Background

Anderson Environment & Planning (AEP) herewith provide this Ecological Assessment to detail the impact of the proposed rezoning from Special Infrastructure - SP2 to Low Density Residential - R2 (the Proposal) that will facilitate the demolition of the existing Water processing infrastructure at 482 Bushells Ridge Road, Wyee NSW.

The Proposal includes the following:

- Demolition or removal of several existing buildings, including buildings, sheds, water storage tanks and associated infrastructure.

The report is specifically intended to identify any impacts on biodiversity as a result of this development application. The information contained within this report has been generated from site inspection and a desktop survey of available information, combined with professional judgement.

Literature Review

Primary information sources reviewed included:

- Aerial Photograph Interpretation (API) of the site and surrounding locality;
- Bell (2016) *Vegetation Mapping of Lake Macquarie LGA*;
- NSW Biodiversity Values Map (DPE). Accessed August 2022 at <https://www.lmbc.nsw.gov.au/Maps/index.html?viewer=BOSETMap>; and
- Important Areas Mapping (DPE). Accessed August 2022.

In addition, database searches were carried out, namely:

- Review of flora and fauna records held by the NSW Department of Planning and Environment (DPE) BioNet Atlas of NSW Wildlife within 10km of the site, accessed August 2022 at <https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity/nsw-bionet>; and
- Protected Matters Search within a 5km radius of the site on Commonwealth Department of Agriculture, Water and Environment (DAWE), accessed August 2022 at <https://www.environment.gov.au/epbc/protected-matters-search-tool>.

Subject Site Description

Table 1 below provides a summary of the site characteristics.

Table 1 – Site Summary

Detail	Comments
Client	Wyee Land Pty Ltd
Address	482 Bushells Ridge Road Wyee, NSW
Titles	Lot 171 DP 1212974 (see Attachment A for Site location).
Proposal	The proposed rezoning application is for the above lot which will involve the demolition of the existing Water processing plant infrastructure.
LGA	Lake Macquarie Council
Subject Site	Comprises the whole of Lot 171comprises approx. 0.5ha.
Zoning	Under the <i>Lake Macquarie Local Environmental Plan 2014</i> (the LEP), the Study Area is zoned SP2 – Special Infrastructure. The rezoning application seeks to rezone the above lot to R2 – Low Density Residential. Land to the west and north is zoned C2 – Environmental Conservation. Land to the north- east, east and south is zoned R2 – Low Density Residential.
Minimum Lot Size	There is no minimum lot size for this location under the LEP.
Site Description	The Subject Site is the site of an existing water processing plant and associated infrastructure.
BOS Clearing Threshold Trigger	All vegetation within the Subject Site is planted and / or managed. No native vegetation communities are present on site (Figure 1), therefore the native vegetation clearing threshold does not apply.
Biodiversity Values (BV) Mapping	The Subject Site does not contain BV mapped land and as such, no BV mapped lands will be impacted by the proposed development. (Refer Attachment B for the BOSET Report).
Resilience and Hazards SEPP	The Subject Site is not mapped as Coastal Environment Area.
Biodiversity and Conservation SEPP	Provisions of Chapter - 4 Koala Habitat Protection apply to the Subject Site.
Water Management Act	There are no mapped hydrolines within or proximate to the Subject Site. Site inspection confirmed this.
Regional Vegetation Mapping	The Subject Site is not mapped as containing native vegetation under the Lake Macquarie Vegetation Mapping, shown in Figure 1 . All vegetation within the Subject Site is planted and / or managed.
Site Vegetation	There is a planted row of <i>Corymbia maculata</i> along the east boundary of the Subject Site with the remaining land occurring as managed grass land.

Flora and Fauna Assessment

Field surveys for the site were prepared and performed with due recognition of the State survey guidelines (DEC 2004; DECC 2009; OEH 2018; DPIE 2020).

The size of the site, the type of native vegetation and habitats remaining, the status of existing and proposed surrounding land use and the level and type of habitat linkages to proximate bushland areas were considered in formulating the methodology employed and described below.

The assessment approach was tailored to undertake sufficient works to ensure that legislative requirements were met relating to threatened species and native species in general for the proposed

specific development. Where any potential doubt remained over species impact, presence within the site was assumed to ensure that a conservative approach was adopted.

Given that no native ecological communities will be impacted by the Proposal, the below surveys were considered appropriate to fully understand the biodiversity of the Subject Site.

Table 2 – Survey Effort

Survey	Target Species	Methodology used	Survey Date
Fauna	<i>Crinia tinnula</i>	Random meander, habitat assessment, and incidental survey by two AEP Ecologists	12/08/2022
	<i>Chalinobolus dwyeri</i> <i>Myotis macropus</i> <i>Scoteanax rueppellii</i> <i>Miniopterus australis</i> <i>Miniopterus orianae oceanensis</i>	Random meander, habitat assessment, heat sensor and incidental survey by two AEP Ecologists	12/08/2022

Database Searches

Searches were undertaken of databases within a 10km radius of the Subject Site for BC Act listings and 5km radius for EPBC Act listings. Note that any records considered erroneous, historic or obviously of no relevance to the site in regards to habitat (e.g., seabirds, shorebirds, etc.) were omitted.

The potential for listed threatened species to occur within the site was considered. Detailed ecological profiles of threatened species can be found at

<https://www.environment.nsw.gov.au/threatenedspeciesapp/>.

Subject Species

As the proposed development will impact 0.5ha which contains a planted row of *Corymbia maculata* and managed grassland, potential impacts to threatened species are considered to be negligible. Given the condition of the site, marginal habitat therein and the fact that no threatened species were detected during site surveys, it is considered highly unlikely that any threatened species would utilise the site to any notable degree or be impacted by the proposed development.

Targeted habitat survey for *Crinia tinnula* (Wallum froglet) revealed a small patch (approx. 10m²) of marginal habitat occurred onsite (see **Attachment C**). The site is not immediately connected to suitable habitat however more suitable habitat does occur within approx. 30ha zoned Environmental Conservation – C2 land to the north and east along Mannering Creek and an unnamed watercourse.

One exception to the above is the potential of the existing buildings proposed for removal to provide habitat for Microbat species. Some potential habitat was identified during site surveys however, no evidence of Microbat usage, including faeces or heat signatures from thermal image camera were detected.

BioNet Atlas records exist for the following threatened species within 10km of the Subject Site:

- *Chalinobolus dwyeri*;
- *Chalinobolus gouldii*;
- *Chalinobolus morio*;
- *Falsistrellus tasmaniensis*;
- *Micronomus norfolcensis*;
- *Miniopterus australis*;
- *Miniopterus orianae oceanensis*;
- *Myotis macropus*;
- *Phoniscus papuensis*;
- *Saccolaimus flaviventris*; and
- *Scoteanax rueppellii*.

Presence of Microbat species listed in **Table 3** have been assessed by AEP via habitat assessment and heat sensor detection within the Subject Site.

Table 3 – Microbat Likelihood of Occurrence Analysis

Key Habitat Feature	Likelihood of Occurrence
Breeding/Roosting	<p>There is potential for the following species to utilise the existing buildings for roosting habitat:</p> <ul style="list-style-type: none"> • <i>Chalinobolus dwyeri</i>; • <i>Myotis macropus</i>; • <i>Scoteanax rueppellii</i>; • <i>Miniopterus australis</i>; and • <i>Miniopterus orianae oceanensis</i>. <p><i>Chalinobolus dwyeri</i> are known to roost in bottle-shaped mud nests of the Fairy Martin (<i>Petrochelidon ariel</i>) (Schulz, M. (1998) <i>Bats and Other Fauna in Disused Fairy Martin Hirundo ariel Nests</i>, <i>Emu - Austral Ornithology</i>, 98:3, 184-191)</p> <p><i>H. ariel</i> nests were identified onsite (see Attachment C) however, no evidence of faeces or heat signatures were recorded during surveys.</p> <p>Other marginal habitat observed within the Subject Site included pipes and roofing areas (see Attachment C). Suitable habitat within surrounding lands managed under the existing Vegetation Management Plan (VMP 2020, AEP) where 52 Microbat nest boxes have been installed and are being monitored and maintained by AEP until 2025 within nearby retained C2 lands.</p>

5 - Part Test Assessment

Section 7.3 of the BC Act lists five factors that must be taken into account in determining the significance of potential impacts of proposed activities on threatened species, populations, ecological communities and/or their habitats as listed within the BC Act.

The 5-part test is used to determine whether there is likely to be a significant impact, and thus whether the Biodiversity Offsets Scheme (BOS) is triggered.

Table 4 – 5 Part Test; Section 7.3 of the BC Act

Clause	Requirement	Assessment
a)	<i>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</i>	There is some potential for Microbat species to utilise the existing buildings for breeding/roosting habitat. A roost search and habitat assessment were completed recording no threatened Microbat species within the Subject Site.
b)	<p><i>in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:</i></p> <p>i) <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</i></p> <p>ii) <i>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</i></p>	No native vegetation communities were observed in the Subject Site (Figure 1).

Clause	Requirement	Assessment
c)	<i>in relation to the habitat of a threatened species or ecological community:</i>	<p>There is some potential for Microbats to utilise the existing buildings for breeding/roosting habitat. These buildings are proposed for removal.</p> <p>The removal of these buildings will not fragment or isolate any area of habitat as built structures that may provide habitat for Microbat species are plentiful within this location including 52 Microbat nest boxes previously installed under the existing VMP in C2 retained lands to the north, east, west and south of the Subject Site.</p> <p>It is not considered that removal of these structures will impact the long-term survival of any Microbat species.</p>
	<i>i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and</i>	
	<i>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</i>	
	<i>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</i>	
d)	<i>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)</i>	The Study Area is not classified as an Area of Outstanding Biodiversity Value.
e)	<i>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 (KTP)</i>	The vegetation to be removed on site is minimal and impacts to KTPs such as Anthropogenic Climate Change and Native Vegetation clearing are considered to be negligible.

5 - Part Test Conclusion

No threatened Microbat species were recorded within the Subject Site. Targeted habitat searches of all buildings and associated infrastructure failed to detect any Microbat activity around any of the buildings.

Given this, it is considered unlikely that the buildings onsite are utilised for roosting or breeding to any notable degree, and instead the site might be utilised as foraging habitat which will remain post development. It is therefore concluded that the proposed development is unlikely to have any significant impact upon any threatened Microbat species or any other threatened entity.

State Environment Planning Policies

State Environmental Planning Policy (Resilience and Hazards) 2021

The Subject Site is not mapped as Coastal Environment Area therefore no further assessment is required.

State Environmental Planning Policy (Biodiversity and Conservation) 2021

Chapter 4 – Koala Habitat Protection applies to this site. However, further assessment is not required as the land area concerning this application is less than 1ha.

EPBC Act Assessment

A search was conducted in August 2022 of Matters of National Environmental Significance (MNES) as relevant to the *Environment Protection & Biodiversity Conservation Act 1999* (EPBC Act). The following MNES are considered in this assessment.

World Heritage Properties:

The site is not a World Heritage area and is not in close proximity to any such area.

National Heritage Places:

The site is not a National Heritage Place and does not contain any matters of national heritage.

Wetlands of International Significance (declared Ramsar wetlands):

The site does not contain Ramsar wetlands.

Great Barrier Reef Marine Park:

The site is not part of, or within close proximity to, the Great Barrier Reef Marine Park.

Commonwealth Marine Areas:

The site is not part of, or within close proximity to, any Commonwealth Marine Area.

Threatened Ecological Communities:

Four (4) Threatened Ecological Communities (TECS) are listed as potentially present within 5km of the site;

- EEC - Coastal Swamp Oak (*Casuarina glauca*) Forest of New South Wales and South East Queensland ecological community;
- EEC – Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland;
- CEEC - River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria; and
- Vulnerable – Subtropical and Temperate Coastal Saltmarsh.

Vegetation on site is managed with planted species and does not match any of the above TECs.

Threatened Species:

No threatened flora or fauna species within the EPBC Act have been identified on site.

Migratory Species:

There is low potential for some of the migratory terrestrial species listed in the EPBC Act to visit the site on an irregular basis. However, it is considered that the Proposal is highly unlikely to significantly affect the availability of potential habitat for such mobile species, or disrupt migratory patterns.

EPBC Act Assessment Conclusion:

Consideration of the EPBC Act revealed that it is unlikely that significant impacts on Matters of National Environmental Significance will occur as a result of the Proposal. As such a referral is not considered necessary.

Recommended Mitigation Measures

This assessment has considered the proposed development and determined that the Proposal to rezone 0.5ha and facilitate the demolition of the existing water processing facility will be highly unlikely to have significant impacts on threatened ecological communities and threatened species that do or may occur on site. The following recommendations are made to mitigate potential impacts on local biodiversity as a result of the development of the site.

Protection and management:

- A Wildlife Management Plan be developed to mitigate against impacts of the Proposal on native fauna welfare;
- Demolition of existing buildings and associated infrastructure are to be supervised by an appointed Project Ecologist;
- Building structures deemed possible habitat locations including pipes and roofing are to be inspected by the Project Ecologist;
- Pre-demolition dusk-to-nocturnal survey to be undertaken by the Project Ecologist;
- Sectional dismantling of potential nesting or roosting structures to occur where possible;

- Appropriate fencing between the proposed development and the remnant vegetation to east, west and north;
- Landscaping should utilise endemic native species where practical; and
- Establish and maintain appropriate erosion and sediment controls during construction.

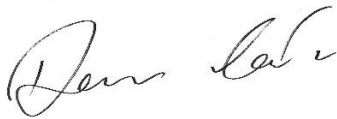
Conclusion

Consideration has been given to the Biodiversity Conservation Act, EPBC Act and other applicable legislation. Given the nature of the proposed development, it is considered that there will be negligible impacts associated with the proposed development.

We trust this information satisfies Council requirements. Should you require any further details or clarification, please contact the writer.

Yours faithfully,

Anderson Environment & Planning



Dennis Neader
Senior Ecologist
0412 495 803

Attachment A: Location Figure

Attachment B: BOSET Report

Attachment C: Site Photos

Disclaimer: While all reasonable care has been taken to ensure the information shown on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.

Legend



Site Boundary

LMCC Vegetation Communities



Alluvial Bluegum-Spotted Gum Moist Forest



Coastal Plains Scribbly Gum Woodland



Swamp Mahogany - Paperbark Forest



Cadastre



AEP

Title: Figure 1 - Site Location

Location: 482 Bushells Ridge Rd Wyee

Date: August 2022

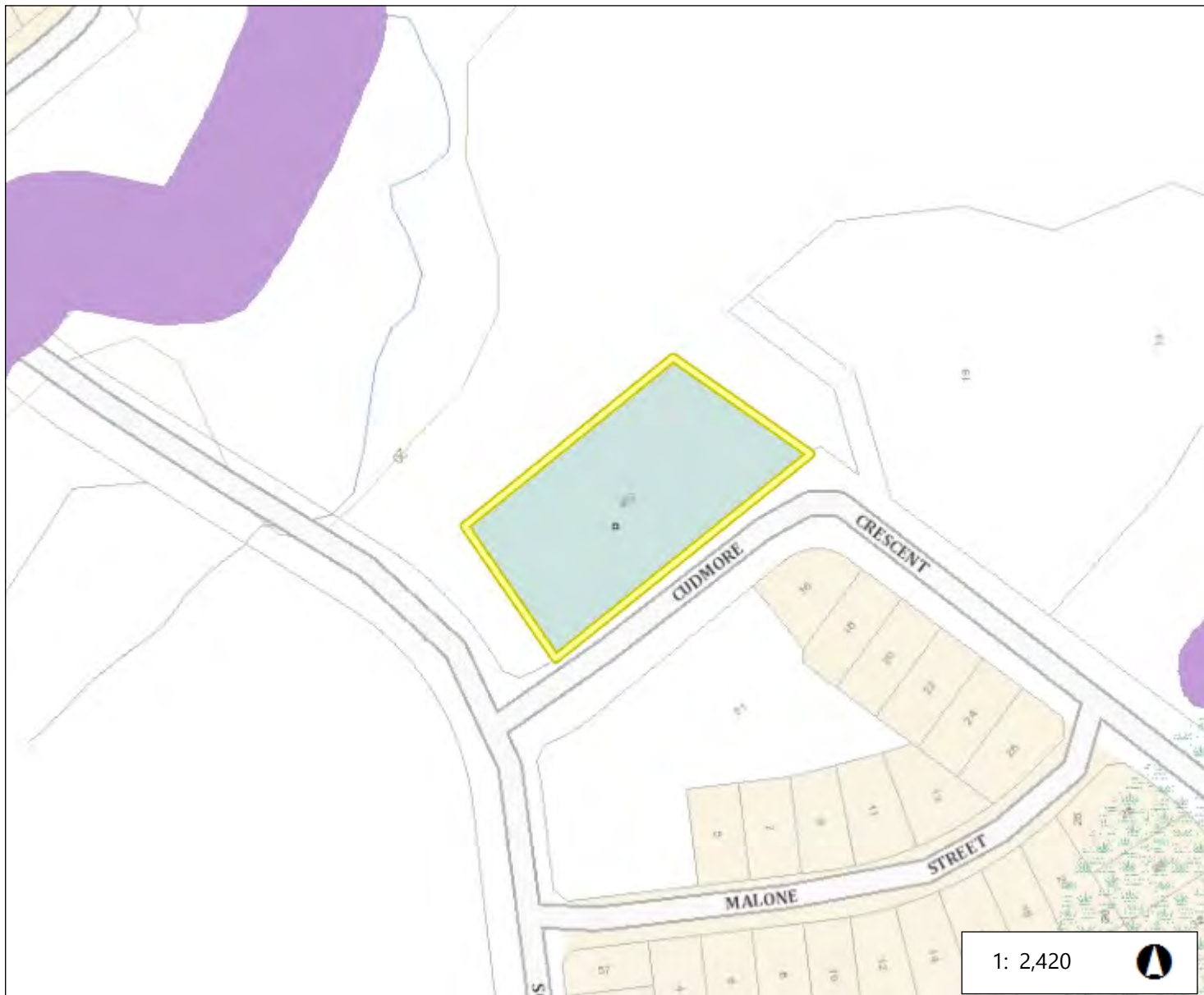
Client: Wyee Land Pty Ltd

AEP ref: 2274.12



Attachment B: BOSET Report

Biodiversity Values Map



1: 2,420



123.0 0 61.48 123.0 Metres

WGS_1984_Web_Mercator_Auxiliary_Sphere

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

Legend

- Biodiversity Values that have been mapped for more than 90 days
- Biodiversity Values added within last 90 days

Notes

© NSW Department of Planning and Environment

Biodiversity Values Map and Threshold Report

Results Summary

Date of Calculation	22/08/2022 4:12 PM	BDAR Required*
Total Digitised Area	4,999.8 sqm	
Minimum Lot Size Method	Lot size	
Minimum Lot Size 10,000sqm = 1ha	5,070 sqm	
Area Clearing Threshold 10,000sqm = 1ha	2,500 sqm	
Area clearing trigger Area of native vegetation cleared	Unknown [#]	Unknown [#]
Biodiversity values map trigger Impact on biodiversity values map(not including values added within the last 90 days)?	no	no
Date of the 90 day Expiry	N/A	

*If BDAR required has:

- at least one 'Yes': you have exceeded the BOS threshold. You are now required to submit a Biodiversity Development Assessment Report with your development application. Go to <https://customer.lmbc.nsw.gov.au/assessment/AccreditedAssessor> to access a list of assessors who are accredited to apply the Biodiversity Assessment Method and write a Biodiversity Development Assessment Report
- 'No': you have not exceeded the BOS threshold. You may still require a permit from local council. Review the development control plan and consult with council. You may still be required to assess whether the development is "likely to significantly affect threatened species" as determined under the test in s. 7.3 of the Biodiversity Conservation Act 2016. You may still be required to review the area where no vegetation mapping is available.

Where the area of impact occurs on land with no vegetation mapping available, the tool cannot determine the area of native vegetation cleared and if this exceeds the Area Threshold. You will need to work out the area of native vegetation cleared - refer to the BMAT user guide for how to do this.

On and after the 90 day expiry date a BDAR will be required.

Disclaimer

This results summary and map can be used as guidance material only. This results summary and map is not guaranteed to be free from error or omission. The State of NSW and Department of Planning and Environment and its employees disclaim liability for any act done on the information in the results summary or map and any consequences of such acts or omissions. It remains the responsibility of the proponent to ensure that their development application complies with all aspects of the *Biodiversity Conservation Act 2016*.

The mapping provided in this tool has been done with the best available mapping and knowledge of species habitat requirements. This map is valid for a period of 30 days from the date of calculation (above).

Acknowledgement

I as the applicant for this development, submit that I have correctly depicted the area that will be impacted or likely to be impacted as a result of the proposed development.

Signature _____ Date: 22/08/2022 04:12 PM



Attachment C: Site Photos



Photos 1 and 2: Marginal habitat for *Crinia tinnula* within managed grasslands along north boundary within the Subject Site.





Photos 3 & 4: Potential Microbat habitat surveyed by AEP Ecologists.





5 above: *Petrochelidon ariel* mud nests surveyed for Microbat usage.

6 below: Potential Microbat habitat.





AEP



7: Potential Microbat habitat surveyed by AEP Ecologists.