Department of Planning and Environment

June 2022

Snowy Strategic Activation Precinct

Biodiversity Assessment of Catalyst Sub-Precincts

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Snowy Strategic Activation Precinct
Biodiversity Assessment of Catalyst Sub-Precincts

Department of Planning and Environment

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WSP acknowledges that every project we work on takes place on First Peoples lands.
We recognise Aboriginal and Torres Strait Islander Peoples as the first scientists and engineers and pay our respects to Elders past and present.

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Glossary

Term	Definition
BAM	Biodiversity Assessment Method 2020
BC Act	NSW Biodiversity Conservation Act 2016
Biodiversity offsets	Management actions that are undertaken to achieve a gain in biodiversity values on areas of land in order to compensate for losses to biodiversity values from the impacts of development.
DPE	NSW Department of Planning and Environment
EPBC Act	Commonwealth Environment Protection and Biodiversity Conservation Act 1999
Ha	Hectares
Habitat	An area or areas occupied, or periodically or occasionally occupied, by a species, population or ecological community, including any biotic or abiotic component.
Hollow bearing tree	A living or dead tree that has at least one hollow. A tree is considered to contain a hollow if: (a) the entrance can be seen; (b) the entrance width is at least 5cm; (c) the hollow appears to have depth (i.e. you cannot see solid wood beyond the entrance); (d) the hollow is at least 1m above the ground.
KNP	Kosciusko National Park
LGA	Local Government Area
Master Plan	Generic term for a Master Plan for each SAP (informed by Structure Plan). The Master Plan is a statutory document prepared at the conclusion of the technical studies.
Monero Ngarigo	Aboriginal linguistic group who traditionally occupied the eastern side of the Kosciuszko plateau and further north towards the Murrumbidgee River. The traditional custodians of the Snowy Mountains are the Monero Ngarigo People.
NPWS	National Parks and Wildlife Service
NSW	New South Wales
Plant community type	NSW plant community type. Plant Community Types are the agreed foundation level for classifying vegetation in NSW and are intended to provide the most ecologically relevant grouping of plant species. Plant Community Types are described in the BioNet Vegetation Classification.
SAP	Special Activation Precinct
Snowy Mountains	The highest mountain range on the continent of mainland Australia, located in southern New South Wales and part of the larger Australian Alps and Great Dividing Range. The mountain range experiences large natural snowfalls every winter
SAP	Special Activation Precinct
Threatened ecological community (TEC)	Means a critically endangered ecological community, an endangered ecological community or a vulnerable ecological community listed in Schedule 2 of the BC Act.

1 Introduction

Special Activation Precincts (SAPs) are dedicated areas in regional NSW identified by the NSW Government to become thriving hubs. The SAP program facilitates job creation and economic development in these areas through infrastructure investment, streamlining planning approvals and investor attraction.

The SAP program adopts a collaborative and integrated whole-of-government approach, bringing together the local Council and a range of other relevant State and local agencies.

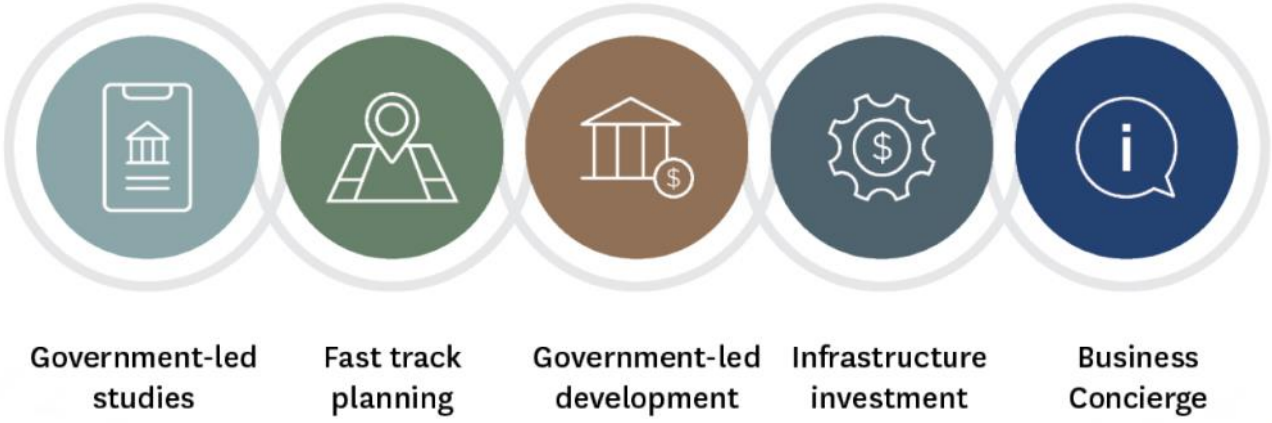
SAPs are unique to regional NSW. By focusing on planning and investment, their goal is to stimulate economic development and create jobs in line with the competitive advantages and economic strengths of a region.

On 15 November 2019, the NSW Government announced its commitment to investigating the Snowy Mountains SAP, to revitalise the Snowy Mountains into a year-round destination and Australia's Alpine Capital, with Jindabyne at its heart. The Snowy Mountains SAP is being delivered through the $4.2-billion Snowy Hydro Legacy Fund.

Different components of each SAP are led by different teams within the NSW Government:

- The **Department of Regional NSW** assesses potential locations for inclusion in the program and considers government investment for essential infrastructure to service the SAPs.
- The **NSW Department of Planning and Environment** (the Department) is responsible for the planning of SAPs. The Department leads the master planning process, including community and stakeholder engagement, the technical studies required to inform the preparation of a master plan and development of the simplified planning framework for each Precinct.
- The **Regional Growth NSW Development Corporation** (Regional Growth NSW) is responsible for delivering and implementing Special Activation Precincts. This includes attracting investment, providing support to businesses, developing enabling infrastructure, and creating strategic partnerships to foster education, training, and collaboration opportunities.

The five core pillars of the Special Activation Precincts are:



The planning framework for each Special Activation Precinct includes three key parts:

State Environmental Planning Policy (Precincts Regional) 2021

- Identifies the Jindabyne Catalyst Precinct.
- Requires that an Activation Precinct Certificate be sought prior to a development application or complying development certificate being issued, to ensure the development is consistent with the Master Plan and Delivery Plan.
- Provides zoning and land use controls for each Precinct.
- Identifies Exempt and Complying Development pathways for certain development.

Special Activation Precinct Master Plans

- Made by the NSW Department of Planning and Environment and approved by the Minister.
- Identifies the Vision, Aspirations and Principles for the Precinct.
- Provides more detailed land use controls where required.
- Identifies Performance Criteria at a Precinct-scale for amenity, environmental performance and infrastructure provision.
- Identifies the matters to be addressed as part of the Delivery Plan.

Special Activation Precinct Delivery Plans

- Prepared by Regional Growth NSW and approved by the Planning Secretary.
- Identifies site-level development controls.
- Provides detailed strategies and plans for:
  - Aboriginal cultural heritage
  - environmental protection and management
  - orotection of amenity
  - infrastructure and services
  - staging.
- Provides procedures for ongoing monitoring and reporting.

1.1 Snowy Mountains SAP

The Snowy Mountains are in the southeast of NSW and the region is one of Australia's most iconic natural environments. In addition to hosting some of Australia's premier alpine destinations, the Snowy Mountains is home to over 35,000 people and Australia's highest peak, Mount Kosciuszko.

The township of Jindabyne situated on Lake Jindabyne provides a hub for the region, with opportunities for tourism and facilities supporting the regional catchment. Jindabyne has evolved into the gateway to the Snowy Mountains and currently services 1.4 million visitors each year who travel to the region to enjoy its unique tourism and recreational offerings (Destination NSW, June 2020 report). There are approximately 35,500 residents of the Snowy Mountains, of which 3,500 residents live in Jindabyne (including Kalkite, East Jindabyne and Tyrolean Village).

The traditional custodians of the Snowy Mountains are the Monero Ngarigo people, in connection with the Walgalu, Ngunnawal and Bidhawal people. European settlers accessed the region in 1823, and between the late 1830s to 1957 the Monaro highland region was grazing by cattle and sheep. The original town of Jindabyne was settled in the 1840s on the banks of the Snowy River where the main river crossing took place. The old town disappeared under Lake Jindabyne in 1967.

1.2 Key objectives of the SAP

The Snowy Mountains region plays a crucial role within the regional and state economy, with its local population swelling with an additional 1.4 million international and domestic visitors each year (Destination NSW, June 2020 report). The region's unique natural environment allows locals and visitors to participate in a diverse array of recreational activities year-round, with many visitors still experiencing the region through the peak winter season.

The broad objectives and priorities for the Snowy Mountains SAP are to capitalise on the unique cultural and environmental attributes which attract 1.4 million visitors annually to the region, revitalise the Snowy Mountains into a year-round destination, and reaffirm Australia's Alpine Capital (Destination NSW, June 2020 report). The revitalisation is to focus on year-round adventure and eco-tourism, improving regional transport connectivity, shifting towards a carbon neutral region, increasing the lifestyle and wellbeing activities on offer, and supporting Jindabyne's growth as Australia's national winter sports training base. The broad conservation objective of the SAP is to avoid, maintain or improve the biodiversity values in the region.

1.3 Investigation area

The Snowy Mountains SAP Investigation Area encompasses 72,211 hectares of land and within this investigation area are several 'development opportunity areas' which were identified around and in Jindabyne, and within the Kosciuszko National Park (KNP).

This report assessed the Catalyst sub-precincts within the Jindabyne region which include:

- Mountain Bike and Adventure Park sub-precinct
- Southern Connector Road sub-precinct
- Sports and Education sub-precinct
- Western Lake Jindabyne sub-precinct.

All these sub-precincts are within the South Eastern Highlands (Monaro subregion) IBRA region and the Jindabyne Plains Mitchell Landscape.

1.4 Purpose of this report

This study has been undertaken to support the SAP in its multidisciplinary approach for strategic planning in ensuring biodiversity constraints and opportunities are realised early in the planning stage to achieve the desired outcomes.

The purpose of this report is to provide detailed analysis of the biodiversity present within each of the catalyst sub-precinct to guide decisions on developable areas and offset requirements as well as provide performance criteria/standards for development in each sub-precinct.

2 Methodology

The following methods have been undertaken in the preparation of this report. As discussed above in Section 1, this report assesses the Catalyst sub-precincts within the Jindabyne region:

- Mountain Bike and Adventure Park sub-precinct.
- Southern Connector Road sub-precinct.
- Sports and Education sub-precinct.
- Western Lake Jindabyne sub-precinct.

This report presents the ecological opportunities and constraints analysis of the Jindabyne Catalyst sub-precincts based on desktop review and biodiversity surveys including:

- Vegetation surveys, including a mixture of Vegetation Integrity Plots according to the method outlined in the Biodiversity Assessment Method 2020, and rapid data points used to aid in vegetation mapping and rapid identification of likely Plant Community Type and condition category.
- Targeted surveys for threatened species of plant.
- Fauna surveys including:
  - habitat assessment
  - diurnal and nocturnal bird surveys
  - remote camera surveys
  - frog and reptile (herpetofauna) searches.

All work was carried out under the appropriate licences, including a scientific licence as required under Part 2 of the BC Act (Licence Number: SL100630) and an Animal Research Authority.

Detailed methods for the assessment are described in the sections below.

2.1 Desktop review

The following information sources were used in the preparation of this report:

- aerial photographic imagery
- NSW Mitchell Landscapes 3.1
- Interim Biogeographic Regionalisation of Australia (IBRA version 7.0) (Department of Environment & Energy, 2016)
- Atlas of Groundwater Dependent Ecosystems (GDE) (Bureau of Meteorology, 2020)
- Directory of Important Wetlands of Australia (Department of Environment & Energy, 2020)
- Register of Declared Areas of Outstanding Biodiversity Value – Critical habitat declarations in NSW (Office of Environment Energy and Science, 2020a)
- BioNet Threatened Species Profile Database (Office of Environment & Heritage 2022)
- Species Profiles and Threats Database (Department of the Environment and Energy 2022)
- PlantNet Database (Royal Botanic Gardens, 2020)
- EPBC Act Protected Matters Search Tool (Department of Agriculture, Water and the Environment, 2021)
- Atlas of Living Australia–interactive map search (Atlas of living Australia 2021).

The following vegetation mapping datasets and reports were reviewed:

- Eastern Bushlands Database VIS_ID 622 (Holme, 1993).
- Remote Sensing Mapping of Grassy Ecosystems in the Monaro VIS_ID 2513 (Walter and Schelling, 2004).
- Grassy ecosystems of the south eastern highlands: technical report: literature review, data audit, information gap analysis and research strategy. Grasslands, Pre-Settlement, South-eastern Highlands VIS_ID 4099 (Rehwinkel, 1997).
- Revision of Monaro Grassland Mapping (Rehwinkel, 2005).
- Monaro Grassland Mapping, 2005. VIS_ID 3915 (State Government of NSW and Department of Planning and Environment, 2013).
- Grasslands, Pre-Settlement, South-eastern Highlands. VIS_ID 4099 (State Government of NSW and Department of Planning, Industry and Environment 2015).
- Native Vegetation of the Southern Forests: South-east Highlands, Australian Alps, South-west Slopes, and SE Corner Bioregions VIS_ID 3858 & 3859 (Gellie, 2005).
- CRAFTI – Floristics and Structure, Southern CRA, Tumut Subregion VIS_ID 4141 and 4160 (Office of Environment and Heritage NSW, 1999).
- South East Local Land Services Biometric Vegetation Map, 2014. VIS_ID 4211 (EcoLogical Australia, 2014)
- CEEC: Monaro and Werriwa Tablelands Cool Temperate Grassy Woodlands v1.4 (State Government of NSW and Department of Planning, Industry and Environment 2019).

2.2 Field surveys

A field survey was undertaken within the Catalyst precinct from 2020 to 2021. The Sports and Education sub-precinct was surveyed on the 17, 18 and 19 November 2020. Part of the Western Lake Jindabyne sub-precinct was surveyed on 26 November 2020. The Mountains Bike and Adventure Park sub-precinct was surveyed on 30 September 2021 and over an eight-day period from 8 to the 15 November 2021. Surveys were undertaken within the Southern Connector Road sub-precinct on 21 November 2020, and 12 and 14 November 2021.

Some limited fauna surveys were also undertaken in some sub-precincts including habitat assessments, remote camera surveys, herpetofauna searches, diurnal bird surveys, and nocturnal bird surveys.

2.2.1 Vegetation mapping

The survey focused on mapping native vegetation type, their condition and assessing the likelihood of threatened species to utilise habitats available within the study area. This was completed using a combination of the following methods:

- random meanders
- rapid point data collection
- BAM vegetation integrity plots.

2.2.1.1 Mapping of native vegetation zones

The vegetation would firstly be assessed to a PCT level and then aligned to a vegetation zone which is defined in the BAM as ‘an area of native vegetation on the study area that is the same PCT and has a similar broad condition state’. A broad condition state infers that the vegetation has a similar tree cover, shrub cover, ground cover, level of weed invasion, or combinations of these attributes which determine vegetation condition. Broad condition state is used for stratifying areas of the same PCT into a vegetation zone. Vegetation zones contain areas of PCTs that are similar to each other, but there is still some variation.

The Vegetation Zone stratification used for this report used the vegetation zone descriptors in Table 2.1.

Table 2.1 Vegetation zone descriptors for PCTs within the Catalyst precinct

Vegetation zone descriptors	Description
Good	Characterised by PCT 1191 (dominated by Snow Gum and/or Candlebark) with all structural layers intact, a species diversity typical of relatively undisturbed examples of the PCT, and limited weed invasion. This vegetation zone is reserved for the best condition patches of PCTs within the precinct.
Moderate	The PCT 1191 (dominated by Snow Gum and/or Candlebark) may have a missing structural layer, lower species diversity, disturbance by tracks or trails, or some weed invasion but overall is still in moderately good condition despite the disturbance.
Poor	PCT 1191 (dominated by Snow Gum and/or Candlebark) that may have missing structural layers, thinned canopy, low species diversity, and/or significant weed invasion.
Ribbon Gum variant_Good	This is PCT 1191 (dominated by Ribbon Gum) with all structural layers intact, a species diversity typical of relatively undisturbed examples of the PCT, and limited weed invasion. This vegetation zone is reserved for the best condition patches of PCTs within the precinct. This vegetation zone has been separated from PCT 1191 (dominated by Snow Gum and/or Candlebark) given the distinctive dominance of Ribbon Gum.
Ribbon Gum variant_Moderate	The PCT 1191 (dominated by Ribbon Gum) may have a missing structural layer, lower species diversity, disturbance by tracks or trails, or some weed invasion but overall is still in moderately good condition despite the disturbance. This vegetation zone has been separated from PCT 1191 (dominated by Snow Gum and/or Candlebark) given the distinctive dominance of Ribbon Gum.
Native dominant grassland	Areas of grassland dominated by native species. Native species have >50% cover as recorded in BAM Plots. These grasslands still contain exotic species, and in some instances may contain a considerable exotic species cover, but native species were dominant at the time of survey.
Exotic dominant grassland	Areas of grassland dominated by exotic species. Exotic species have >50% cover as recorded in BAM Plots. These grasslands still contain native species, but annual or perennial exotic species were dominant at the time of survey.
Shrubland	This Vegetation Zone is a shrubland which is either naturally treeless or where the canopy has been removed (e.g., in easements under transmission lines). The shrublands are dominated by native species and so are classified as a modified shrubland version of the original PCT.
Rocky outcrop	This Vegetation Zone is the result of past clearing reducing the woodland structure to a low native shrubland, or scattered trees, that is persisting around granitoid boulders on the hills. The boulders have provided refuge for native shrubs to establish and grow under grazing pressure and therefore these areas possess a different species compliment and vegetation structure to surrounding grassland or forested areas.
Poa variant_Good	Areas of PCT 1110 dominated by *Poa labillardierei* situated in drainage lines and lower slopes on heavier darker wetter soils. This vegetation zone is in good condition with a suite of grassland species typical of this plant community, dense cover of *Poa labillardierei,* and low levels of weed invasion. Part of the EPBC Act listed Natural Temperate Grassland of the South Eastern Highlands TEC.

Vegetation zone descriptors	Description
Poa variant_Moderate	Areas of PCT 1110 dominated by *Poa labillardierei* situated in drainage lines and lower slopes on heavier darker wetter soils but the cover of *Poa labillardierei* tussocks is sparser. These areas have lower species diversity, disturbance by tracks or trails, or some weed invasion. Generally, still part of the EPBC Act listed Natural Temperate Grassland of the South Eastern Highlands TEC.
Poa variant_Poor	Areas of PCT 1110 dominated by *Poa labillardierei* situated in drainage lines and lower slopes on heavier darker wetter soils but the cover of *Poa labillardierei* tussocks is sparse and weed invasion is significant. This vegetation zone generally does not form part of the EPBC Act listed Natural Temperate Grassland of the South Eastern Highlands TEC due to poor condition of the vegetation.
Themeda variant_Good	Areas of PCT 1110 dominated by *Themeda triandra*, or with *Themeda triandra* as a significant component. The Themeda vegetation zone is in good condition with a suite of grassland species typical of this plant community and low levels of weed invasion. Part of the EPBC Act listed Natural Temperate Grassland of the South Eastern Highlands TEC.

2.2.1.2 Random meander survey

Random meander surveys are a variation of the transect type survey and were completed in accordance with the technique described by Cropper (1993) whereby the recorder walks in a random meander throughout the study area recording dominant and key plant species (e.g., threatened species, priority weeds), boundaries between various vegetation communities and condition of vegetation. The time spent in each vegetation community was proportional to the size of the community and its species richness.

Random meander surveys were conducted to undertake flora and fauna habitat assessments, vegetation mapping and opportunistically search for threatened species within area of suitable habitat. This involved two ecologists driving along the corridor and where habitat was observed to be potentially suitable, ecologists walked throughout these habitat patches looking for threatened species.

2.2.1.3 Rapid point assessment

Rapid point assessments were completed to validate and refine this existing vegetation classification to determine their associated PCT. Variable levels of information were collected at each Rapid Data Point. Data on geology, dominant canopy species, native species richness, vegetation structure, vegetation condition, and boundaries between vegetation types or zones were collected as required to aid in the preparation of the PCT and vegetation zone map. Rapid data point assessments were conducted across the study area and the location of Rapid Data Points collected during the survey are illustrated in Appendix A to Appendix D.

2.2.1.4 BAM vegetation integrity plots

Vegetation integrity plots were completed in accordance with BAM. There have been 96 BAM Plots completed during the survey in the Catalyst precinct (see Table 2.2), including:

- 49 BAM plots in the Mountain Bike and Adventure Park sub-precinct
- 12 BAM plots in the Southern Connector Road sub-precinct
- 17 BAM plots in the Sports and Education sub-precinct
- 18 BAM plots in the West Lake Jindabyne sub-precinct.

The location of the BAM Plots completed within the Catalyst precinct is illustrated in Appendix A to Appendix D. The data from each BAM Plot is provided in Appendix A to Appendix D.

Table 2.2 Summary of BAM Plots undertaken within the Catalyst precinct

Sub-precinct	PCT	Vegetation Zone	Plots	Number of plots
Mountain Bike and Adventure Park sub-precinct	1191	Good	EpaucrubBamPl13, EPAUCRUBBPL3, EPAUCRUBBPL7, MTBSG3, MTBSG6	5
		Moderate	EPAUCWBPL15, EPAUCWBPL16, EPAUCWBPL9, MTBSG2, MTBSG5, MTBSG9, PIMPAUCOSHBPL8	7
		Poor	EPAUCRUBOWBPL10, MTBSG1, MTBSG4, MTBSG8	4
		Ribbon Gum variant_Good	EpaucWBamPl4, EpaucrubBamPl5, EPAUCRUBVIMBPL2, EPAUCRUBWBP13, EPAUCVIMBPL4, EPAUCVIMBPL5, EPAUCVIMRUBWBPL12, EPAUCVIMWBPL19, EVIMGULBPL1, EVIMWBPL18, MTBSG7, MTBSGVim2	12
		Ribbon Gum variant_Moderate	EPAUCVIMRUBBPL6, MTBSGVim1	2
		Exotic dominant grassland	GRASSLANDBPL11, MTBgrass2, MTBGrass3	3
	1110	Themeda variant_Good	MTBGrass9	1
		Poa variant_Good	MTBGrass14, MTBgrass4	2
		Poa variant_Moderate	GRASSLAND BPL14, GRASSLAND BPL20, Mtb grass 15, MTBGrass13	4
		Poa variant_Poor	MTBGrass11, MTBGrass12, MTBGrass5, MTBgrass6, MTBGrass7, MTBshrub1	6
		Exotic dominant grassland	MTBGrass1, MTBGrass10, MTBGrass8	3
	TOTAL			**49**
Southern Connector Road sub-precinct	679	Poor	Estell6	1
	1191	Moderate	ECSG1*	1
		Rocky outcrop	EpaucDNS12	1
		Exotic dominant grassland	SCRGrass3, WCXGrass2	2
	1110	Themeda variant_Good	GrasslandBpl17, SCRGrass1, ECRG1	3
		Poa variant_Poor	SCRGrass7	1
		Exotic dominant grassland	SCRGrass4, SCRGrass5, SCRGrass6	3
	TOTAL			**12**

Sub-precinct	PCT	Vegetation Zone	Plots	Number of plots
Sports and Education sub-precinct	679	Poor	BSM1, Estell7	2
	1191	Moderate	Epauc1, Epauc3, Epauc4, Epauc5, CBarkM1, CbarkBS1	6
		Poor	Epauc2, CBark1, CBark2	3
		Rocky outcrop	RecShrub1	1
		Native dominant grassland	SGMP1	1
		Exotic dominant grassland	CLGrss1, RecGrass1, RecGrass2, RecGrass3	4
	TOTAL			**17**
Western Lake Jindabyne sub-precinct	1191	Moderate	RABSG1, RABSG2, RABSG3, Epauc14	4
		Rocky outcrop	WJB1, Eshrub24, DNG26	3
		Native dominant grassland	WJGrass4*	1
		Exotic dominant grassland	WJGrass1, WJGrass2, WJGrass3, WJGrass5*, WJGrass6, DNG23*, Eshrub25, RabGrass1, RabGrass2, RabGrass3	10
	TOTAL			**18**

Notes: * = Plots done outside of study area.

A schematic diagram illustrating the layout of each vegetation integrity plot is provided in Figure 2.1.

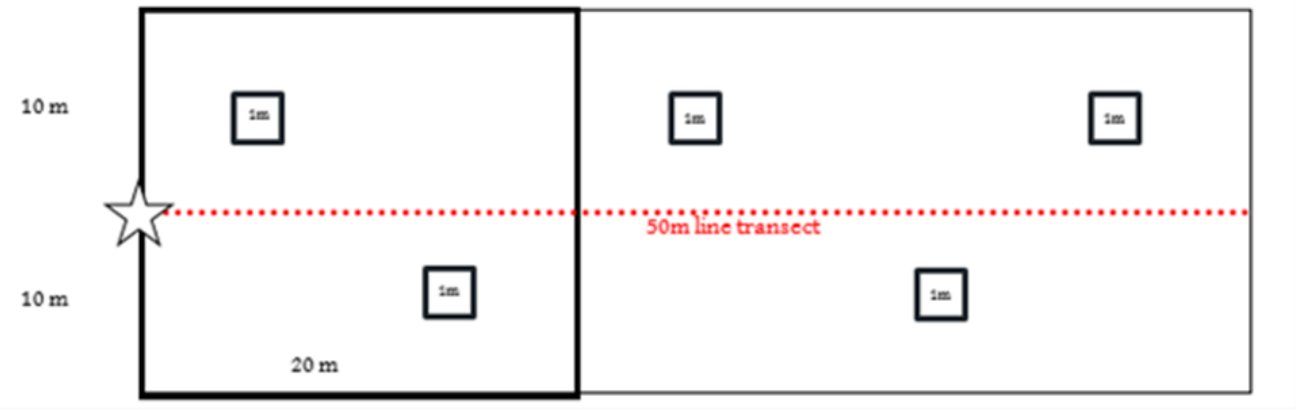


Figure 2.1 Vegetation integrity plot layout

The following site attributes were recorded at each vegetation integrity plot location:

- Location (easting–northing grid type MGA 94, Zone 56).
- Vegetation structure and dominant species and vegetation condition. Vegetation structure was recorded through estimates of percentage foliage cover, average height and height range for each vegetation layer.
- Native and exotic species richness (within a 400-metre squared quadrat): This consisted of recording all species by systematically walking through each 20 metre x 20 metre plot. The cover and abundance (percentage of area of quadrat covered) of each species was estimated. The growth form, stratum/layer and whether each species was native/exotic/high threat weed was also recorded.

- Number of trees with hollows (1000 metre squared quadrat): This was the frequency of hollows within living and dead trees within each 50 metre x 20 metre plot. A hollow was only recorded if (a) the entrance could be seen: (b) the estimated entrance width was at least 5 centimetres across: (c) the hollow appeared to have depth: (d) the hollow was at least 1 metre above the ground and the (e) the centre of the tree was located within the sampled quadrat.
- Number of large trees and stem size diversity (1000 metre squared quadrat): tree stem size diversity was calculated by measuring the diameter at breast height (DBH) (i.e., 1.3 metre from the ground) of all living trees (>5 centimetre DBH) within each 50 metre x 20 metre plot. For multi-stemmed living trees, only the largest stem was included in the count. Number of large trees was determined by comparing living tree stem DBH against the PCTs benchmarks.
- Total length of fallen logs (1000 metre squared quadrat): This was the cumulative total of logs within each 50 metre x 20 metre plot with a diameter of at least 10 centimetres and a length of at least 0.5 metre.
- Litter cover: This comprised estimating the average percentage groundcover of litter (i.e., leaves, seeds, twigs, branchlets and branches with a diameter <10 centimetre which is detached from a living plant) from within five 1 metre x 1 metre sub-plots spaced evenly either side of the 50-metre central transect.
- Evaluation of regeneration: This was estimated as the presence/absence of overstorey species present at the site that was regenerating (i.e., saplings with a diameter at breast height ≤5 centimetre).

Prior to establishing plot survey locations, vegetation stratification was undertaken to provide a representative vegetation zone for sampling. Stratification involved marking waypoints and bearings randomly to provide a representative assessment of the vegetation integrity of the vegetation zone in the study area and establishing the required number of plots at some of these waypoints.

2.3 Fauna surveys

2.3.1 Fauna habitat assessment

Fauna habitat assessments was undertaken to assess the likelihood of threatened species of animal (those species known or predicted to occur within the locality from the literature and database review) occurring within the investigation area. Fauna habitat assessments were the primary assessment tool in assessing whether threatened species were likely to occur. The fauna habitat characteristics assessed include:

- structure and floristics of the canopy, understorey and ground vegetation, including the presence of flowering and fruiting trees providing potential foraging resources
- presence of mistletoes providing potential foraging resources
- presence of hollow-bearing trees providing roosting and breeding habitat for arboreal mammals, birds and reptiles
- presence of the ground cover vegetation, leaf litter, rock outcrops and fallen timber and potential to provide protection for ground-dwelling mammals, reptiles and amphibians
- presence of waterways (ephemeral or permanent) and water bodies.
- presence of man-made structures (e.g., culverts) for roosting/breeding microchiropteran bats.

The locations of important habitat features were recorded including:

- hollow-bearing trees
- nest trees (large stick-nests created by raptors)
- aquatic habitat
- rock outcrops.

2.3.2 Opportunistic sightings

Opportunistic sightings of animals were recorded including birds, mammals, frogs, and reptiles. Evidence of animal activity, such as scats, diggings, scratch marks, nests/dreys, burrows etc., was also noted. This provided indirect information on animal presence and activity. This was particularly relevant to the consistent sightings of threatened bird species observed during the flora investigations. The results of the fauna surveys are outlined in Appendix E.

2.3.3 Herpetofauna searches

Where habitat was considered suitable for potential of reptiles and amphibians active searches were conducted during the day. This involved looking for active specimens, turning over suitable ground shelter, such as fallen timber, sheets of iron, exposed rocks, raking debris, other debris, and peeling decorticating bark. Nocturnal surveys were also undertaken at watercourses where significant frog activity was observed. Specimens would be either identified visually, by aural recognition of call (frogs only) or were collected and identified. Herpetofauna surveys were completed by one or two persons in conjunction with other surveys and random meanders, with all ground shelter returned to their original position. Frogs and reptiles were also surveyed opportunistically during all other surveys in the investigation area. The results of the fauna surveys are outlined in Appendix E.

2.3.4 Diurnal bird surveys

Although most birds recorded during the surveys were opportunistic sightings, some formal 20-minute diurnal bird searches were completed within the Catalyst precinct area. These were completed by actively walking through the nominated site (transect) over a period of 20 minutes. All birds were identified to the species level, either through direct observation or identification of calls. Diurnal bird surveys were completed during different times of the day, but generally occurred during morning hours or evening. Birds were also recorded opportunistically during other on-site surveys. To aid identification of species, call playbacks were utilised to determine a reaction of a particular individual and assisted in drawing in individuals of threatened species when habitat was deemed suitable for a likelihood of occurrence. The results of the fauna surveys are outlined in Appendix E.

2.3.5 Nocturnal bird surveys

Call playback for Barking Owl was undertaken in the Mountain Bike and Adventure Park sub-precinct over five nights in November 2021. Given the large size of the Mountain Bike and Adventure Park sub-precinct and the extensive area of potential habitat, seven Barking Owl call playback sites were established located approximately 600 m to 1 km apart.

Call playback was undertaken with each site receiving five visits. The method outlined in the *Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities Working Draft* (Department of Environment and Conservation, 2004) was used where at each call playback site an initial listening period of 10 to 15 minutes was undertaken followed by a spotlight search for 10 minutes to detect any animal in the immediate vicinity. The calls of the target species (in this case Barking Owl) were then played intermittently for 5 minutes, followed by a 10-minute listening period. After all the calls have been played, another 10 minutes of spotlighting and listening was conducted in the vicinity to check for birds that may have been attracted by the calls but are not vocalising.

The location of the call playback sites is illustrated in Appendix A. The results of the fauna surveys are outlined in Appendix E.

2.3.6 Remote camera surveys

Within the Mountain Bike and Adventure Park sub-precinct, a remote camera survey was undertaken targeting Eastern Pygmy-possum and Squirrel Glider. The results of the fauna surveys are outlined in Appendix E.

Cameras were mounted to trees between 1.5 metres and two metres from the ground with the camera traps placed pointing toward feeding resources or baits situated between 1.25 metres and three metres from the camera. Bait stations contained rolled oats, peanut butter and honey secured at a height of 1.5 metres to two metres. The tree and surrounding area was sprayed with a mixture of diluted honey water.

The survey effort included 28 remote camera stations situated throughout PCT 1191 in the Mountain Bike and Adventure Park sub-precinct. 14 camera traps were initially established on site on 30 September 2021 collected on 8 November 2021 resulting in the traps being operational for 39 nights. However, note that bait degradation would reduce the effectiveness of the camera traps over time. The cameras were repositioned to different areas of habitat within the Mountain Bike and Adventure Park sub-precinct on the 8 November and collected on the 15 November resulting in the traps being operational for seven nights. The cameras were operational for 644 trap nights in the Mountain Bike and Adventure Park sub-precinct. While the bait station would have degraded within a week during the first deployment in September and into early October 2021, the cameras were passively monitoring during the entire time.

2.4 Targeted surveys for threatened species

Targeted surveys were undertaken for threatened species within the Mountain Bike and Adventure Park and the Southern Collector Road sub-precincts as outlined below.

2.4.1 Threatened flora

A targeted survey for threatened plants specifically targeting *Calotis glandulosa* was undertaken within the Mountain Bike Adventure Park sub-precinct and the Southern Connector Road sub-precinct over an eight-day period from 8 to the 15 November 2021. *Leucochrysum albicans* var. *tricolor* and *Swainsona sericea* have been recorded in similar habitats and occasionally with *Calotis glandulosa* so were also targeted during the survey.

The day prior to the survey, reference sites for *Calotis glandulosa, Leucochrysum albicans* var. *tricolor* and *Swainsona sericea* that are in publicly accessible road reserves were visited. This served to determine whether the target species were in flower at the time of survey and to refresh the observer's mental image of the species. *Calotis glandulosa, Leucochrysum albicans* var. *tricolor* were in flower during the November 2021 survey and were readily detectable at the reference sites. *Swainsona sericea* was not in flower at the reference site in November 2021 and while the species was detectable with careful observation, flowers are needed for an effective survey for this species to be undertaken. *Swainsona sericea* had started to flower in the locality in December 2021.

The survey area within the Mountain Bike and Adventure Park sub-precinct and Southern Connector Road sub-precincts is over 500 ha in size and the majority of this area contains potential habitat for the target species, particularly extensive grassland areas. As such, the survey design for large areas of suitable habitat known as the *two-phase grid-based systematic survey approach for large areas* as outlined in the document *Surveying threatened plants and their habitats NSW survey guide for the Biodiversity Assessment Method* (Department of Planning, Industry and Environment, 2020) was employed. A grid spaced at 100 square metres was nested within the Mountain Bike and Adventure Park sub-precinct and Southern Connector Road sub-precincts using a geographic information system (GIS). Surveys were then undertaken where the 100-square-metre gridlines intersect within suitable habitat for the target species (survey locations were pre-loaded onto GIS software and used in the field to locate survey locations). At each survey location (grid intersect), a 40-metre diameter area (1256-square-metre circular area) was systematically surveyed for the target species. The coverage and time spent surveying each survey location was proportionate to the habitat quality, with more time spent and more coverage undertaken in areas of better-quality habitats.

The extent of the two-phase grid-based systematic survey undertaken with in the Mountain Bike and Adventure Park sub-precinct and Southern Connector Road sub-precincts in November 2021 is illustrated in Appendix A and Appendix B.

A summary of the targeted threatened flora surveys is provided in Table 2.3.

Table 2.3 Summary of targeted flora surveys undertaken within the Catalyst precinct

Common name	Scientific name	BC Act	Seasonal Survey requirements	Survey completed	
				Mountain Bike Adventure Park	Southern Connector Road
Mauve Burr-daisy	*Calotis glandulosa*	Vulnerable	Oct, Nov, Dec, Jan, Feb, Mar	Two phase grid searches in PCT 679, 1191, and 1110. Survey completed in November 2021. A reference site on the Snowy Mountains Highway near Mt Gladstone at Cooma was visited in November 2021 and the plants were in full flower and readily detectable.	
Hoary Sunray	*Leucochrysum albicans* var. *tricolor*		Sept, Oct, Nov, Dec, Jan, Feb, Mar, Apr	Two phase grid searches in PCT 679, 1191, and 1110. Survey completed in November 2021. Plants at a reference site on Big Yard Road at Moonbah were beginning to flower in September 2021. A reference site on Kosciuszko Road at Cootralantra was visited in November 2021 and plants were in full flower and readily detectable.	
Silky Swainsona Pea	*Swainsona sericea*		Sept, Oct, Nov	Two phase grid searches in PCT 679, 1191, and 1110. Survey completed in November 2021. A reference site on Eucumbene Road at Hill Top was visited in November 2021 but species was not in flower. Plants at the Eucumbene Road site began to flower in December 2021. Species not detectable until December.	

2.4.2 Threatened fauna

Targeted fauna surveys were undertaken in Mountain Bike and Adventure Park sub-precinct and the Southern Connector Road sub-precinct and are summarised in Table 2.4.

Table 2.4 Summary of targeted fauna surveys undertaken within the Catalyst precinct

Common name	Scientific name	BC Act	Seasonal Survey requirements	Survey undertaken	
				Mountain Bike Adventure Park	Southern Connector Road
Pink-tailed Legless Lizard	*Aprasia parapulchella*	Vulnerable	September to November	Map rocky areas (habitat constraint) Search rocky areas, turning rocks that can be turned. Surveyed in November 2021.	
Gang-gang Cockatoo (breeding)	*Callocephalon fimbriatum*	Vulnerable	December to January	Identification of presence/absence of habitat constraints. Surveyed in September and November 2021. Outside of breeding season, therefore survey focused on locating potential breeding trees (hollows).	Mapping of habitat constraints: Hollow bearing trees Eucalypt tree species with hollows greater than 9 cm diameter. Surveyed in November 2020 and September and November 2021. Outside of breeding season, therefore survey focused on locating potential breeding trees (hollows).

Common name	Scientific name	BC Act	Seasonal Survey requirements	Survey undertaken	
				Mountain Bike Adventure Park	Southern Connector Road
Eastern Pygmy-possum	*Cercartetus nanus*	Vulnerable	October to March	Camera traps (28 trap locations) Surveyed from 30 Sept, October, and November 2021.	n/a
Little Eagle (breeding)	*Hieraaetus morphnoides*	Vulnerable	August to October	Diurnal bird survey (8 days) Surveyed in September and November 2021. Survey focused on locating potential breeding trees (stick nests).	Diurnal bird survey (2 days) Mapping of nest trees (habitat constraint). Surveyed in November 2020 and November 2021.
Southern Myotis	*Myotis macropus*	Vulnerable	December to March	Mapping of habitat constraints: — Hollow bearing trees within 200 m of riparian zone — Bridges, caves or artificial structures within 200 m of riparian zone/Waterbodies. Surveyed in September and November 2021. Survey focused on locating potential breeding habitat.	
Barking Owl (breeding)	*Ninox connivens*	Vulnerable	May to December	Call playback (5 nights) Mapping of habitat constraint: — Hollow bearing trees — Living or dead trees with hollows greater than 20 cm diameter and greater than 4 m above the ground. Seven call playback sites established, each surveyed for five nights. Potentially suitable hollow bearing trees mapped.	Mapping of habitat constraint: — Hollow bearing trees — Living or dead trees with hollows greater than 20 cm diameter and greater than 4 m above the ground. Survey focused on mapping potential breeding habitat. None was found so call playback not undertaken in this sub-precinct.
Powerful Owl (breeding)	*Ninox strenua*	Vulnerable	May-August	Mapping of habitat constraints: — Hollow bearing trees — Living or dead trees with hollow greater than 20 cm diameter. Potentially suitable hollow bearing trees mapped.	

Common name	Scientific name	BC Act	Seasonal Survey requirements	Survey undertaken	
				Mountain Bike Adventure Park	Southern Connector Road
Pink Robin	*Petroica rodinogaster*	Vulnerable	All year	Opportunistic bird surveys (8 days).	Opportunistic bird surveys (2 days).

2.5 Approach to impact avoidance and minimisation

The general principle to minimise impacts to biodiversity, should in order of consideration, endeavour to:

- avoid impacts on biodiversity through the planning process
- minimise impacts on biodiversity through the planning process
- mitigate impacts on biodiversity though the use of a range of mitigation measures
- offset residual impacts. d

This hierarchy of minimising impact has been considered in the identification of opportunities for development and conservation identified in this report.

Residual impacts to biodiversity would require offsetting. Impacts to biodiversity listed under the EPBC Act would require further assessment including the potential need for a referral to the Commonwealth Department of Agriculture, Water and the Environment if impacts can't be avoided.

To assist with avoidance and minimisation of impacts during the masterplan development phase, the biodiversity values recorded during the site surveys within the investigation area have been mapped and areas of low biodiversity suitable for development have been identified in consultation with DPE BCD.

2.6 Identifying areas of biodiversity constraint

The precinct was divided into areas of biodiversity constraint so that the most important areas of biodiversity could be easily identified, and development can be directed towards areas of lower constraint. This is a key consideration when considering avoidance of biodiversity impacts at the planning stage. The biodiversity constraint categories are explained in Table 2.5.

Table 2.5 Definitions of biodiversity constraint categories

Biodiversity constraint category	Definition
High	The best condition patches of native vegetation that are present in the precinct and are the highest priority for avoidance. This includes: — the native vegetation patches that correspond to the EPBC Act listed Natural Temperate Grassland of the South Eastern Highlands TEC. — the patches of native vegetation which are part of the BC Act listed Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion TEC (a SAII entity) that are in Good condition. These areas appear to be relatively undisturbed or have recovered from disturbance and are dominated by native species. — areas considered likely to provide good habitat for threatened species.

Biodiversity constraint category	Definition
Moderate	Patches of native vegetation that are still representative of TECs but are more disturbed and degraded when compared to the best condition patches found within the precinct. These areas should still be considered for avoidance but are not as high priority compared to areas of high constraint. This includes: — Disturbed versions of native vegetation that correspond to the EPBC Act listed Natural Temperate Grassland of the South Eastern Highlands TEC that are in Moderate to Poor condition and exotic dominant grasslands (dominated by annual weeds) that still meet condition criteria to be part of the TEC based on low percentage cover of perennial weeds and non-grass native species richness. These are the most disturbed patches of the TEC within the precinct and are subject to significant weed invasion. — Disturbed patches of native vegetation which are part of the BC Act listed Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion TEC (a SAII entity) that are in Moderate to Poor condition. This category includes most areas of Rocky outcrop, shrubland, revegetation, and native and exotic dominant grassland versions of PCT 1191. The most disturbed patches of the TEC within the precinct and are subject to significant weed invasion.
Low	This category includes the areas that are most suitable for development. Development should be directed towards these areas of Low biodiversity constraint in order to avoid detrimental biodiversity impacts. This includes: — Disturbed areas that are not consistent with native plant community types (miscellaneous ecosystems, including, exotic plantings and exotic pastures). — Non-native vegetation which is unlikely to provide habitat for Threatened fauna. — Vegetation zones where structure and composition have been significantly altered as a result of ongoing management, for example exotic dominant grasslands that do not meet criteria to be part of the EPBC Act listed Natural Temperate Grassland of the South Eastern Highlands TEC. — Vegetation zones that are in low condition and would not require offsets under the BC Act (have Vegetation Integrity scores of less than 17).

3 Mountain Bike and Adventure Park sub-precinct

3.1 Field surveys

The methodology for these surveys is described in Section 2. Data from BAM plots undertaken within the sub-precinct are provided in Appendix A-1. Mapping of survey locations and results is provided in Appendix A-2.

3.2 Existing environment

The Mountain Bike and Adventure Park sub-precinct is Snowy Hydro owned land with previously grazed agricultural paddocks leading into remnant bushland slopes with a transmission line extending through the site. There is a considerable amount of native vegetation within this sub-precinct including critically endangered TECs in good condition.

The existing environment of the sub-precinct is described in Table 3.1.

Table 3.1 Existing environment in Mountain Bike and Adventure Park sub-precinct

Value	Description
Area (ha)	562.48 ha
General description (topographic setting, geology and soils)	The Mountain Bike and Adventure Park sub-precinct is Snowy Hydro owned land with previously grazed agricultural paddocks leading into remnant bushland slopes with a transmission line extending through the site (see Appendix A). The Mountain Bike and Adventure Park sub-precinct consists of rolling hills with elevation varying from approximately 927 m to 1252 m ASL. Geology changes across the sub-precinct volcanic Mowambah Granodrite (Biotite - Rich Granodiorite) in the western upper hills to volcanic Leesville Granodiorite (Biotite Granodiorite) in the east. Soils include shallow gravelly loams and texture-contrast soils (light textured topsoil overlying a clay subsoil - Chromosols). Geotechnical borehole logs from around the Jindabyne area indicate the soil is sandy silty clay and silty gravelly sand (decomposed granite). Heavier textured wetter soils occur in drainage lines and flat low points between ridges.
IBRA region and subregion	South Eastern Highlands – Monaro subregion
Rivers, streams and estuaries	Widows Creek (a 3rd order stream) runs through the sub-precinct as it flows into Lake Jindabyne north of the investigation area. This includes numerous unnamed first and second order (some ephemeral) streams that flow into Widows creek at various points along the creek line. Casleys Springs Creek (a third order stream) is also present in the west of the sub-precinct and drains to the north into Wollondibby Creek.
Wetlands and important wetlands	No wetlands of international or national importance are present. The edge of Lake Jindabyne is present approximately 400m to the north of the Mountain Bike and Adventure Park sub-precinct.

Value	Description
Habitat connectivity	The habitat within the Mountain Bike and Adventure Park has limited connectivity to the north of the sub-precinct with infrastructure and Kosciuszko Road. However, connectivity exists for species that can utilise grasslands and the stands of trees and shrubs within the broader grassland do provide some functional connectivity to the east. Connectivity is more functional towards the southern boundaries of the sub-precinct with more heavily vegetated bushland increasing towards the Crackenback area in the south-west.
Karst, caves, crevices, cliffs, rocks and other geological features of significance	There are no areas of karst, caves, cliffs, or other geological features of significance in the Mountain Bike and Adventure Park sub-precinct. Rock outcropping is a common feature and provides a significant habitat resource for fauna with large surface boulders providing crevices and shelter sites.
Areas of Outstanding Biodiversity Value	No Areas of Outstanding Biodiversity Value occur within the sub-precinct.
Plant Community Types	PCT 1191: Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion PCT 1110: River Tussock - Tall Sedge - Kangaroo Grass moist grasslands of the South Eastern Highlands Bioregion
Threatened ecological communities BC Act	Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion (Critically Endangered BC Act) Natural Temperate Grassland of the South Eastern Highlands (Critically Endangered EPBC Act)
Threatened species habitats (Species credit species)	Based on the candidate species list (species credit species) returned for PCT 1191 and PCT 1110 by the BAM-C, and the field survey that has been undertaken in this sub-precinct to date, the following threatened species may have habitat in the Mountain Bike and Adventure Park sub-precinct: — Plants including *Calotis glandulosa*, *Leucochrysum albicans* var. *tricolor*, *Prasophyllum petilum*, *Swainsona sericea*, and *Thesium australe*. — Mammals including Eastern Pygmy-possum and Southern Myotis. — Birds including Pink Robin, and potential breeding habitat for species including Gang-gang Cockatoo, Little Eagle, Barking Owl and Powerful Owl. — Reptiles including Pink-tailed Legless Lizard and Striped Legless Lizard.
Serious and irreversible impact entities	Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion (Critically Endangered BC Act). *Calotis glandulosa* (potential habitat).

3.2.1 Plant community types

The type and distribution of the original vegetation that would have occurred in the northern section of the Mountain Bike and Adventure Park sub-precinct is difficult to determine given the years of agricultural use that have occurred which has resulted in considerably modified vegetation. The remainder of the sub-precinct is however largely forested.

Based on the field surveys undertaken to date and comparison of the site's geology, soils, elevation, and topography to similar less disturbed areas in the Jindabyne region, the Mountain Bike and Adventure Park sub-precinct is considered to contain the following two PCTs:

- PCT 1191: Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion.
- PCT 1110: River Tussock - Tall Sedge - Kangaroo Grass moist grasslands of the South Eastern Highlands Bioregion.

The distribution of the PCTs is illustrated in Appendix A. The PCTs and vegetation zones within the sub-precinct are summarised in Table 3.2 and described below.

Table 3.2 Plant community types and vegetation zones within the Mountain Bike and Adventure Park sub-precinct

Vegetation type	Vegetation zone	Area in sub-precinct (ha)
PCT 1191	Native dominant grassland	61.33
	Exotic dominant grassland	49.99
	Good	50.98
	Moderate	98.24
	Poor	21.49
	Ribbon Gum variant_Good	98.06
	Ribbon Gum variant_Moderate	26.5
	Rocky outcrop	3.54
	Shrubland	1.09
	TOTAL	**411.22**
PCT 1110	Native dominant grassland	0.05
	Exotic dominant grassland	27.31
	Poa variant_Good	20.87
	Poa variant_Moderate	45.03
	Poa variant_Poor	40.94
	Themeda variant_Good	14.76
	TOTAL	**148.96**
Total native vegetation		**560.18**

3.2.1.1 PCT 1191: Snow Gum-Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion

Most of the sub-precinct consists of Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion (PCT 1191). The majority of this PCT is present in typical forest or woodland structure but there are also large areas of 'secondary' or 'derived' grasslands.

A summary of the structure and floristics PCT 1191 within the sub-precinct in provided in Table 3.3.

Table 3.3 Floristic and structural summary of PCT 1191 within the Mountain Bike and Adventure Park sub-precinct

Vegetation layer	Species recorded from the surveys
Tree canopy (upper stratum)	Trees-*Eucalyptus pauciflora, Eucalyptus viminalis, Eucalyptus rubida, Eucalyptus stellulata, Acacia dealbata, Acacia melanoxylon.*
Midstory (mid- stratum)	Shrubs - *Melicytus angustifolius* subsp. *divaricatus, Pimelea pauciflora, Pimelea linifolia subsp. caesia, Leucopogon fletcheri* subsp. *brevisepalus, Acrotriche serrulata, Brachyloma daphnoides, Cassinia longifolia, Cryptandra amara, Exocarpos strictus, Indigofera australis, Mirbelia oxylobioides, Olearia erubescens, Bossiaea buxifolia, Ozothamnus thyrsoideus, Daviesia mimosoides, Acrotriche serrulata, Ozothamnus conditus, Acacia siculiformis, Pimelea curviflora, Olearia phlogopappa*
Groundcovers (ground stratum)	Grass & grass like – *Poa sieberiana* var. *sieberiana, Poa sieberiana* var. *cyanophylla, Poa meionectes, Themeda triandra, Carex breviculmis, Carex inversa, Luzula flaccida, Luzula modesta, Microlaena stipoides, Anthosachne scabra, Echinopogon* sp., *Lomandra longifolia, Carex appressa, Dichelachne* sp., *Panicum effusum, Austrostipa scabra, Rytidosperma* sp., *Poa labillardierei, Lepidosperma* sp., *Eleocharis gracilis, Isolepis* sp., *Juncus* sp. Forbs - *Cymbonotus lawsonianus, Dichondra repens, Gonocarpus tetragynus, Scleranthus biflorus, Asperula conferta, Asperula scoparia, Hovea heterophylla, Cynoglossum suaveolens, Cynoglossum australe, Hypericum gramineum, Acaena ovina, Crassula sieberiana, Euchiton involucratus, Galium gaudichaudii, Geranium potentilloides, Geranium solanderi, Hydrocotyle laxiflora, Poranthera microphylla, Scleranthus diander, Senecio gunnii, Senecio prenanthoides, Senecio quadridentatus Stackhousia monogyna, Stellaria pungens, Viola betonicifolia, Ajuga australis, Coronidium monticola, Mitrasacme serpyllifolia, Oxalis perennans, Chamaesyce drummondii, Hypoxis hygrometrica, Wahlenbergia stricta, Dichondra* sp. A, *Euchiton sphaericus, Senecio pinnatifolius, Acaena novae-zelandiae, Bulbine bulbosa, Epilobium billardierianum, Plantago varia, Microseris lanceolata, Rumex brownii, Veronica gracilis, Vittadinia muelleri, Vittadinia cuneata, Cullen microcephalum, Senecio diaschides, Swainsona monticola, Ranunculus inundatus, Brachyscome aculeata, Hovea linearis, Einadia nutans* Ferns-*Asplenium flabellifolium, Cheilanthes sieberi, Cheilanthes austrotenuifolia.* Other-*Glycine clandestina, Desmodium varians, Clematis leptophylla, Glycine tabacina, Convolvulus erubescens.*
Exotic species	*Verbascum thapsus, Trifolium repens, Trifolium arvense, Hypochaeris radicata, Taraxacum officinale, Plantago lanceolata, Anthoxanthum odoratum, Vulpia myuros, Hypochaeris glabra, Medicago lupulina, Myosotis discolor, Poa annua, Aira elegantissima, Erodium cicutarium, Linaria arvensis, Bromus hordeaceus, Cirsium vulgare, Crepis capillaris, Crataegus monogyna, Onopordum acanthium, Orobanche* sp., *Petrorhagia nanteuilii, Cerastium glomeratum, Hordeum leporinum, Marrubium vulgare, Urtica urens, Echium vulgare, Poa pratensis, Holcus lanatus, Nasturtium officinale, Veronica anagallis-aquatica*
High Threat Weeds	*Acetosella vulgaris, Hypericum perforatum, Rosa rubiginosa, Nassella trichotoma, Bromus diandrus*

Photo 3.1 An example of PCT 1191 in Good condition

Photo 3.2 An example of PCT1191 Ribbon Gum variant in Good condition

Photo 3.3 An example of PCT 1191 in Moderate condition showing canopy trees with exotic dominant ground layer

Photo 3.4 An example of PCT 1191 in Poor condition showing sparse trees with exotic dominant ground layer

Photo 3.5 Typical landscape in the northern section of the MTB Park and SCR showing mixed native and exotic dominant grassland on rolling hills

Photo 3.6 An example of the Exotic dominant grasslands

Photo 3.7 Dense shrubland has formed under power lines in some areas

Photo 3.8 Rocky outcrops contain a suite of species different from surrounding grasslands

PCT 1191 within the Mountain Bike and Adventure Park sub-precinct is quite variable in species composition and structure and as a consequence nine vegetation zones have been assigned:

- PCT 1191 (Good, Moderate, Poor): Areas of vegetation dominated by *Eucalyptus pauciflora* and/or *Eucalyptus rubida* with or without small stands or individual trees of *Eucalyptus stellulata* in Good, Moderate and Poor condition.
- PCT 1191 (Ribbon Gum variant Good, Moderate): Areas of vegetation dominated by *Eucalyptus viminalis* (Ribbon Gum) with sub-dominant trees including *Eucalyptus pauciflora* and/or *Eucalyptus rubida* with or without small stands or individual trees of *Eucalyptus stellulata* in Good and Moderate condition.
- PCT 1191 (Rocky outcrop): Rocky outcrops containing small trees and shrubs distinct from surrounding grassland areas (as is typical in the Jindabyne region) are present.
- PCT 1191 (Shrubland): Shrublands regenerating after disturbances or in power line easements are present.
- PCT 1191 (Native dominant grassland and Exotic dominant grassland): Grassland areas that are considered likely to be 'secondary' or 'derived' grasslands (where the original tree and shrub layers have been cleared in the past).

These PCT 1191 grasslands are divided into Native dominant grassland and Exotic dominant grassland based on dominance of native and exotic species respectively as determined through BAM Plot surveys. These grasslands are disturbed and form the lowest quality patches of vegetation within the Mountain Bike and Adventure Park sub-precinct.

3.2.1.1 PCT 1110: River Tussock – Tall Sedge – Kangaroo Grass moist grasslands of the South Eastern Highlands Bioregion

The Mountain Bike and Adventure Park sub-precinct contains large areas of grassland that are likely to be naturally occurring. As opposed to the grasslands that are likely to be 'secondary' or 'derived' grasslands from PCT 1191 which are also present in the sub-precinct, these natural grasslands are considered most likely to be PCT 1110: River Tussock - Tall Sedge - Kangaroo Grass moist grasslands of the South Eastern Highlands Bioregion. These grassland areas are generally situated on drainage lines, flats and footslopes on wetter heavier soils. However, there are also some examples situated on the shallow gravelly soils on the hills. Different grassland variations occur on different soils and landscape positions. In the absence of any direct evidence to suggest that these areas originally contained a woodland tree layer and based on the floristic composition of these areas they have been assigned to PCT 1110.

A summary of the structure and floristics PCT 1110 within the sub-precinct in provided in Table 3.4.

Table 3.4 Floristic and structural summary of PCT 1110 within the Mountain Bike and Adventure Park sub-precinct

Vegetation layer	species recorded from the surveys
Tree canopy (upper stratum)	Trees–Sparse *Eucalyptus pauciflora, Acacia melanoxylon.*
Midstory (mid- stratum)	Shrubs - *Pimelea pauciflora, Melicytus angustifolius* subsp. *divaricatus, Pimelea curviflora, Leucopogon fletcheri.*
Groundcovers (ground stratum)	Grass & grass like - *Carex inversa, Poa meionectes, Poa labillardierei, Anthosachne scabra, Poa sieberiana* var. *sieberiana, Austrostipa scabra, Carex appressa, Eleocharis acuta, Juncus filicaulis, Juncus phaeanthus, Themeda triandra, Rytidosperma* sp. Forbs - *Dichondra* sp. A, *Acaena ovina, Asperula conferta, Asperula scoparia, Cymbonotus lawsonianus, Euchiton sphaericus, Geranium solanderi, Haloragis heterophylla, Hydrocotyle sibthorpioides, Oxalis perennans, Epilobium billardierianum, Solenogyne gunnii, Swainsona monticola, Vittadinia cuneata, Vittadinia muelleri, Wahlenbergia stricta, Hypoxis hygrometrica, Rumex brownii, Cynoglossum australe, Veronica gracilis, Scleranthus biflorus, Euchiton* sp., *Solenogyne gunnii, Dichondra repens, Chrysocephalum apiculatum, Stellaria* sp., *Crassula sieberiana, Chamaesyce drummondii, Triptilodiscus pygmaeus* Ferns - *Ophioglossum lusitanicum.* Other - *Convolvulus erubescens.*
Exotic species	*Anthoxanthum odoratum, Bromus hordeaceus, Cerastium* sp., *Cirsium vulgare, Hypochaeris glabra, Medicago lupulina, Petrorhagia nanteuilii, Verbascum thapsus, Vulpia myuros, Aira elegantissima, Centaurium erythraea, Echium vulgare, Erodium cicutarium, Trifolium arvense, Onopordum acanthium, Crepis capillaris, Poa pratensis, Myosotis discolor, Holcus lanatus, Trifolium repens, Poa annua, Bromus rubens, Linaria arvensis.*
High Threat Weeds	*Hypericum perforatum, Acetosella vulgaris, Bromus diandrus, Rosa rubiginosa, Nassella trichotoma.*

Photo 3.9 An example of PCT 1110 Poa variant in good condition

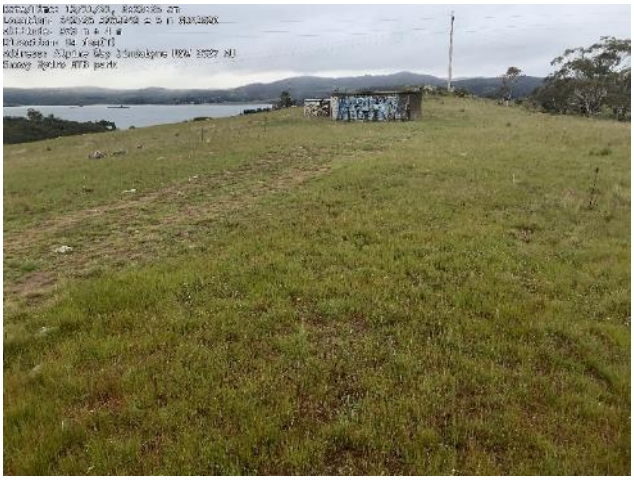


Photo 3.10 An example of PCT 1110 dominated by *Themeda triandra* in the north near the water tank in good condition

Photo 3.11 An example of PCT 1110 Poa variant in poor condition

Photo 3.12 An example of PCT 1110 Poa variant in moderate condition

Six PCT 1110 vegetation zones were mapped within the Mountain Bike and Adventure Park sub-precinct:

- PCT 1110 (Poa variant Good, Moderate and Poor): The Poa variant is distinct in that this vegetation zone is situated in drainage lines and lower slopes on heavier darker wetter soils and is dominated by the species *Poa labillardierei*. The three condition classes have been determined based on aerial photography identifying areas of thick relatively continuous *Poa labillardierei* tussock cover (Good condition), areas where the cover of *Poa labillardierei* tussocks is more sparse (Moderate condition), and areas with considerable weed invasion (Poor condition), combined with on ground surveys. Most of these vegetation zones are considered to be part of the EPBC Act listed Natural Temperate Grassland of the South Eastern Highlands TEC due to the patch being characterised by at least 50 % foliage cover of the ground of *Poa labillardierei*, generally in flats and drainage lines where this threatened ecological community naturally occurs.
- PCT 1110 (Themeda variant Good): The Themeda variant is in good condition with a suite of grassland species typical of this plant community and is situated on flatter and more gently sloping areas and on the top of hills in the north of the sub-precinct near the water tank and the western edge of the sub-precinct adjacent to Alpine Way. The BAM Plots undertaken within this vegetation zone indicate that *Themeda triandra* is either the dominant grass species or is at least highly abundant. This vegetation zone is considered to be part of the EPBC Act listed Natural Temperate Grassland of the South Eastern Highlands TEC due to the patch being characterised by at least 50 % foliage cover of the ground of *Themeda triandra*, or otherwise meeting Condition Thresholds for inclusion as part of the TEC.
- PCT 1191 (Native dominant grassland and Exotic dominant grassland): These areas of grassland are similar to the grassland versions of PCT 1191 but are in overall better condition based off the data collected during the field survey (BAM Plots). Discriminating between a patch of PCT 1191 in 'secondary' or 'derived' grassland form and PCT 1110 is difficult. PCT 1191 and PCT 1110 intergrade and the boundaries between the two PCTs are not often clear, particularly where there has been a long history of human disturbance. Where the data suggests that the grassland was not evidently dominated by *Themeda triandra, Poa labillardierei* or *Carex bichenoviana* but percentage cover of native vascular plants is greater than the percentage cover of perennial exotic species, and the BAM Plot contained at least 8 non-grass native species, the grassland was assigned to PCT 1110 and either Native dominant grassland or Exotic dominant grassland based on cover of native and exotic species (derived from BAM Plot data). Exotic dominant grasslands generally contain a high cover of annual weeds, but perennial weed species are less abundant. These grassland areas are considered to be part of the EPBC Act listed Natural Temperate Grassland of the South Eastern Highlands TEC. This is in line with the advice provided by the Threatened Species Scientific Committee (2016) where they indicate that sites that are difficult to determine as natural or derived grassland should be considered to be part of TEC, if they otherwise meet the Description and Key Diagnostic Characteristics.

3.2.2 Threatened ecological communities

Two threatened ecological communities occur within this sub-precinct (see Table 3.5).

Table 3.5 Threatened ecological communities within Mountain Bike and Adventure Park sub-precinct

Threatened ecological community	EPBC Act	BC Act	Area in sub-precinct (ha)
Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion	Not a TEC	Critically Endangered	411.22 (includes 111.32 ha of 'derived' or 'secondary' grasslands)
Natural Temperate Grassland of the South Eastern Highlands (Critically Endangered)	Critically Endangered	Not a TEC	133.71

3.2.3 Threatened species

BAM candidate species list is provided in Appendix A-3.

3.2.3.1 Threatened flora

Based on the candidate species list (species credit species) returned for PCT 1191 and PCT 1110 by the BAM-C, and the field survey that has been undertaken in this sub-precinct to date, the following threatened species may have habitat in the Mountain Bike and Adventure Park sub-precinct:

- Plants including *Calotis glandulosa*, *Leucochrysum albicans* var. *tricolor*, *Prasophyllum petilum*, *Swainsona sericea*, and *Thesium australe.*

As described in Section 2.5.3, threatened plant species were surveyed for in November 2021 using the survey design for large areas of suitable habitat known as the *two-phase grid-based systematic survey approach for large areas* as outlined in the document *Surveying threatened plants and their habitats NSW survey guide for the Biodiversity Assessment Method* (Department of Planning, Industry and Environment, 2020). The survey targeted *Calotis glandulosa* but as this species is a ground layer forb, other threatened species that also reside in the ground layer could be surveyed for concurrently. As such, the surveys were also targeting *Leucochrysum albicans* var. *tricolor* and *Swainsona sericea* as these species are known from around the Jindabyne area.

None of the target threatened plant species were recorded in the Mountain Bike and Adventure Park sub-precinct during the November 2021 surveys. *Calotis glandulosa* and *Leucochrysum albicans* var. *tricolor* were in full flower during the survey so we can be reasonably confident that these two species were not present during the survey.

Swainsona sericea was not in flower during the November 2021 surveys and as this species is difficult to locate without flowers, we consider that this species would not be at peak detectability in this region until later in summer. The non-threatened species *Swainsona behriana* and *Swainsona monticola* were in flower and were relatively common in the Mountain Bike and Adventure Park sub-precinct during the survey but *Swainsona sericea* was not recorded. Detectability of *Swainsona sericea* was low therefore we cannot discount the presence of this species based on the November 2021 survey. Samples of *Swainsona* sp. collected from the Mountain Bike and Adventure Park sub-precinct during the survey have been sent to the Royal Botanic Gardens for confirmation of identification to ensure that *Swainsona sericea* has not been overlooked (confirmation of species identification is pending).

Thesium australe was not recorded. This species can be surveyed starting in November but from our previous experience the species is easily overlooked, and we consider that this species would not be at peak detectability in this region until later in summer.

Prasophyllum petilum has habitat modelled by the PMST in the Mountain Bike and Adventure Park sub-precinct (species or species habitat may occur). Given the presence of associated habitats in the form of Natural Temperate Grasslands (PCT 1110) and Snow Gum dominated woodlands and forest (PCT 1191) and limited knowledge on the distribution of this species, it may occur. No *Prasophyllum* species were recorded during the November 2021 surveys and orchids were

in very low abundance indicated by the paucity of records from BAM Plots and transects undertaken during the two-phase grid-based survey. Given the extensive grazing by deer, gats and rabbits that is occurring in the Mountain Bike and Adventure Park sub-precinct the chances of finding this species are reduced. However, it is cryptic and a more targeted survey for this species that focuses on the better condition habitats may be warranted.

There are two additional threatened plant species that may have habitat in the Mountain Bike and Adventure Park sub-precinct: *Carex raleighii* and *Glycine latrobeana*.

A small *Carex* sp. was recorded in a BAM Plot during the November 2021 survey in wet grassland habitat (PCT 1110) at an elevation of approximately 1,020 m ASL. Given the similarities between the non-threatened *Carex hebes* and the threatened *Carex raleighii*, samples of this species have been sent to the Royal Botanic Gardens for confirmation of identification to ensure that *Carex raleighii* has not been overlooked (confirmation of species identification is pending).

Glycine latrobeana has habitat modelled by the PMST in the Mountain Bike and Adventure Park sub-precinct (species or species habitat may occur). The distribution and occurrence of *Glycine latrobeana* in NSW is not well known. Given the similarities of the habitat present in the Mountain Bike and Adventure Park sub-precinct to known habitats for *Glycine latrobeana* in Victoria (i.e., *Eucalyptus pauciflora*, *Eucalyptus rubida* and *Eucalyptus viminalis* dominant woodland and forest, *Poa labillardierei* dominant grasslands, and *Themeda triandra* dominant grasslands) there is a possibility that this species could occur. A small *Glycine* species was recorded in PCT 1191 during the two-phase grid-based systematic survey. Given the similarities between the non-threatened *Glycine clandestina* (a highly variable species) and the threatened *Glycine latrobeana*, samples have been sent to the Royal Botanic Gardens for confirmation of identification to ensure that *Glycine latrobeana* has not been overlooked (confirmation of species identification is pending).

3.2.3.2 Threatened fauna

Based on the candidate species list (species credit species) returned for PCT 1191 and PCT 1110 by the BAM-C, and the field survey that has been undertaken in this sub-precinct to date, the following threatened species may have habitat in the Mountain Bike and Adventure Park sub-precinct:

- Mammals including Eastern Pygmy-possum and Southern Myotis.
- Birds including Pink Robin, and potential breeding habitat for species including Gang-gang Cockatoo, Little Eagle, Barking Owl and Powerful Owl.
- Reptiles including Pink-tailed Legless Lizard and Striped Legless Lizard.

The Mountain Bike and Adventure Park sub-precinct contains a range of habitat features that make the sub-precinct suitable as habitat for threatened fauna species. There are large areas of good condition PCT 1191 that retain typical vegetation structure with all layers intact, and typical floristic compliment (see PCT 1191 Good and PCT 1191 Ribbon Gum variant Good on the map in Appendix A). These vegetation zones are relatively high-quality habits given the disturbances that have occurred in the Mountain Bike and Adventure Park sub-precinct and provide an abundance of flowering and fruiting trees providing potential foraging resources. The dense ground cover vegetation, leaf litter, rock outcrops and fallen timber within the good condition patches of PCT 1191 and PCT 1110 have the potential to provide protection for ground-dwelling mammals, Reptiles and Amphibians.

The areas of rocky outcrop with and without trees are likely to provide an important habitat resource for fauna. Species including Cunningham's Skink were frequently found inhabiting these areas of boulders. There were few opportunities to overturn rocks as most boulders were large or heavily embedded, so the success of active reptile searches was limited. The grassland areas, particularly PCT 1110 and areas of native and exotic grassland forms of PCT 1191 may provide suitable habitat for threatened reptiles including Pink-tailed Legless Lizard and Striped Legless Lizard.

The vegetation quality and structure suggest that habitats for Pink Robin is present within the Mountain Bike and Adventure Park sub-precinct. A range of threatened birds listed under the BC Act were recorded during the surveys including Dusky Woodswallow, Gang-gang Cockatoo, Varied Sittella, Little Eagle, and Flame Robin. There were also EPBC Act listed Migratory birds including Satin Flycatcher and Rufous Fantail recorded within the sub-precinct during the survey. This range of threatened bird species suggests that the habitats are varied and in relatively good condition.

A large stick nest that may be attributed to Little Eagle was located during the survey, but the nest appeared to be unused, and no Little Eagle individuals were observed visiting the nest.

Hollow-bearing trees that are potentially suitable for threatened species including Gang-gang Cockatoo and Barking Owl are present within the Mountain Bike and Adventure Park sub-precinct (see the maps in Appendix A) but in general the majority of trees within this sub-precinct are young or stunted slow growing mature trees that lack hollows or lack hollows of a suitably large size to be used by Gang-gang Cockatoo or Barking Owl for nesting. The smaller hollows would be suitable for a range of arboreal mammals (however, the remote camera and spotlighting results indicate that arboreal mammals were not abundant during the survey).

There are two main waterways within the Mountain Bike and Adventure Park sub-precinct: Casleys Springs Creek and Widows Creek which are both 3rd order streams. These streams contain areas of pools and riffles and during periods of rainfall get significant flow. Heavy rain during the November 2021 survey period saw these waterways swell and become rapidly flowing. The waterways flow through forested and grassland areas and provide a range of habitats for fauna. There may be a chance of habitat for Alpine Tree Frog (*Litoria verreauxii alpina*) in the higher elevation areas of the sub-precinct. The opportunistic frog surveys undertaken during the November 2021 surveys recorded Whistling Tree Frog (*Litoria verreauxii verreauxii*) in Widows Creek at approximately 980 m ASL. The streams above 1,000 m ASL may be suitable for Alpine Tree Frog.

There were no man-made structures (e.g., culverts) suitable to be used for roosting/breeding by microchiropteran bats found during the surveys. The Mountain Bike and Adventure Park sub-precinct has few dams that would be suitable as foraging habitat for Southern Myotis, and the waterways appear to be largely ephemeral and fast flowing during high rainfall events which may limit the potential for these areas to be used as foraging habitat by Southern Myotis.

3.3 Planned development

Planned development for the Mountain Bike and Adventure Park sub-precinct consists of new development on currently undeveloped land which will consist of construction of a range of tourism attractions at a defined key development area (mid-station), mountain bike trails, gondola and access.

3.4 Opportunities and constraints

This sub-precinct has been subject to long history of agricultural grazing and as a result contains degraded areas. The vegetation is currently under high grazing pressure from feral animals including Deer, Goats and Rabbits. This in conjunction with location close to Jindabyne town centre provides opportunities for development. While there are opportunities for development, there are areas of high biodiversity value including good condition stands of PCT 1191 and PCT 1110 that provide an opportunity for conservation.

The area most suitable for development are the grasslands in the northern section (Lot 10 DP1241336). This is a disturbed landscape with small patches of PCT 1191 and rocky outcrops, surrounded by Exotic dominant grassland and Native dominant grassland subject to significant invasion by several High Threat Weeds. This area does contain examples of PCT 1110, but the condition of this vegetation is generally poor. There is a mixture of grassland areas on Lot 10 DP1241336 that do and do not meet the criteria to be part of the EPBC Act listed Natural Temperate Grassland of the South Eastern Highlands TEC. There are few areas of high constraint on Lot 10 DP1241336.

The remaining lots in the Mountain Bike and Adventure Park sub-precinct to the south of Lot 10 DP1241336 possess vegetation of greater biodiversity value in terms of condition and potential habitat for threatened species and as such contain more areas of high constraint. Generally, there is more limited scope for any large developments in this area south of Lot 10 DP1241336 without potentially significant biodiversity impacts. This area contains some relatively large examples of BC Act and EPBC Act listed TECs in Good to Moderate condition.

Although the Mountain Bike and Adventure Park sub-precinct contains TECs in various forms, careful planning could limit impacts to areas of high biodiversity value. Avoiding impact to TECs is not possible in this sub-precinct given the

broad definition of the BC Act listed Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion which includes 'secondary' or 'derived' grasslands and the presence of the EPBC Act listed Natural Temperate Grassland of the South Eastern Highlands community. However, avoiding impact to the areas of highest biodiversity value in terms of TECs in good to moderate condition and focussing developments such as ancillary facilities and gondola/chair lift stations in the PCT 1191 Exotic dominant grasslands and Native Dominant grasslands, and where necessary areas of Rocky outcrop, the biodiversity impacts in this sub-precinct can be minimised. The sub-precinct does provide an opportunity to develop a world-class mountain bike and adventure tourism hub near Jindabyne that could have positive outcomes for biodiversity if there is a design focus on retaining the largest and best patches of Natural Temperate Grassland (PCT 1110) and PCT 1191 while targeting development to the disturbed areas.

Development of mountain bike trails through the forested areas will cause a biodiversity impact. However, the ground layer in most areas is relatively disturbed with dominance of annual weeds and perennial grasses particularly *Anthoxanthum odoratum*. Future trails should be carefully designed and sited to avoid removing large trees, be as narrow as possible, avoid impacts to hydrology, and be constructed using the lowest impact techniques (i.e., no large machinery or large-scale vegetation removal). Existing vehicle tracks should be used and upgraded where possible to minimise the need to construct new roads.

In summary the constraints and opportunities in this sub-precinct include:

- Constraints – Areas of Natural Temperate Grassland of the South Eastern Highlands TEC (Poa and Themeda variants). Areas of PCT 1191 (Good, Moderate) which are the highest quality components of the BC Act listed Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion TEC in the sub-precinct. These areas are largely located in the south east of the sub-precinct adjacent to Barry Way and south of the Southern Connector Road alignment.
- Opportunities – Areas of Native dominant grassland and Exotic dominant grassland and PCT 1191 in Poor or otherwise modified condition classes are suitable for future development. Mountain bike trails will cause a biodiversity impact but if carefully designed and constructed with low impact methods, and subject to a fully funded biodiversity management plan, could be done in areas of high constraint.

Constraints mapping for the sub-precinct is provided in Figure 3.1.

wsp

Snowy SAP - Biodiversity Constraints

Figure 3.1

Mountain Bike and Adventure Park Sub-precinct
Catalyst Precinct

Legend

- Precinct Boundary
- Cadastre
- Waterbodies
- Watercourse
- Roads

Threatened Flora Species

- *Carex sp.*
- *Eucalyptus nicholii*
- *Glycine sp.*
- *Swainsona sericea* (recorded 2017)

Biodiversity Constraints

- High
- Moderate
- Low

0 0.4 0.8 km

Coordinate system: GDA 1994 MGA Zone 55

Scale ratio correct when printed at A3

1:16,000 Date: 4/04/2022

Data sources: - NSWSS, Geoscience Australia, DPIE, Metromap

4 Southern Connector Road sub-precinct

4.1 Field surveys

The methodology for these surveys is described in Section 2. Data from BAM plots undertaken within the sub-precinct are provided in Appendix B-1. Mapping of survey locations and results is provided in Appendix B-2.

4.2 Existing environment

The Southern Connector Road is proposed to provide alternate access between the eastern and western extents of Jindabyne via Barry Way and enable public realm improvements in Jindabyne (via an upgraded reduced traffic Kosciuszko Road). The landscape of the Southern Connector Road sub-precinct is largely grassland on rolling hills, with areas of scattered trees and small stands of trees (*Eucalyptus pauciflora, Acacia melanoxylon, Acacia dealbata*) on hill tops, and areas of rocky granite outcrops.

The existing environment of the sub-precinct is described in Table 4.1.

Table 4.1 Existing environment in Southern Connector Road sub-precinct

Value	Description
Area (ha)	35.44 ha
General description (topographic setting, geology, and soils)	The Southern Connector Road sub-precinct is the planned connector road passing south-west of Jindabyne town from near Alpine way, crossing Barry Way and connecting with Kosciuszko Rd south of town. The alignment is situated on nearly entirely previously disturbed grazed paddocks (see Appendix B). The Southern Connector Road sub-precinct runs through undulating hills of varying topography with the crest west of Barry way at 1011 m ASL and lowest near both ends of the Kosciuszko Rd intersections at 930 m ASL. Geology is volcanic Leesville Granodiorite (Biotite Granodiorite) in the western third of the sub-precinct with Jindabyne Tonalite (Hornblende – Biotite Tonalite) in the east. Soils include shallow gravelly loams and texture-contrast soils (light textured topsoil overlying a clay subsoil - Chromosols). Geotechnical borehole logs from around the Jindabyne area indicate the soil is sandy silty clay and silty gravelly sand (decomposed granite). Heavier textured wetter soils occur in drainage lines and flat low points between ridges.
IBRA region and subregion	South Eastern Highlands–Monaro subregion
Rivers, streams and estuaries	The Southern Connector Road sub-precinct crosses Lees Creek (as a 2nd order steam) and continues to follow closely nearby where the creek becomes a third order stream before passing under Kosciuszko Rd and flows into Lake Jindabyne. Also Widows Creek (3rd order stream) passes within 200 m of the sub-precinct and one unnamed first order stream (ephemeral) originates within the sub-precinct and flows into Widows Creek.
Wetlands and important wetlands	No wetlands of international or national importance are present. The edge of Lake Jindabyne is present approximately 400m past both ends of the sub-precinct to the north-east and south-east.

Value	Description
Habitat connectivity	The habitat within the Southern Connector Road sub-precinct has limited physical connectivity to other habitats. However, connectivity exists for species that can utilise grasslands and the some stands of trees and shrubs within the broader grassland do provide some functional connectivity from Lake Jindabyne in the south-east to the more heavily vegetated areas on the Mountain Bike and Adventure Park sub-precinct and the vegetation to the north of the Aerodrome.
Karst, caves, crevices, cliffs, rocks and other geological features of significance	There are no areas of karst, caves, cliffs, or other geological features of significance in the Southern Connector Road sub-precinct. Rock outcropping is a common feature and provides a significant habitat resource for fauna with large surface boulders providing crevices and shelter sites.
Areas of Outstanding Biodiversity Value	No Areas of Outstanding Biodiversity Value occur within the sub-precinct.
Plant Community Types	PCT 679: Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion PCT 1191: Snow Gum-Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion PCT 1110: River Tussock-Tall Sedge-Kangaroo Grass moist grasslands of the South Eastern Highlands Bioregion
Threatened ecological communities BC Act	Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion (Critically Endangered BC Act) Natural Temperate Grassland of the South Eastern Highlands (Critically Endangered EPBC Act)
Threatened species habitats (Species credit species)	Based on the candidate species list (species credit species) returned for PCT 1191 and PCT 1110 by the BAM-C, and the limited field survey that has been undertaken in this sub-precinct to date, the following threatened species may have habitat in the Southern Connector Road sub-precinct: — Plants including *Calotis glandulosa*, *Leucochrysum albicans* var. *tricolor*, *Prasophyllum petilum, Swainsona sericea,* and *Thesium australe*. — Mammals including Eastern Pygmy-possum and Southern Myotis. — Birds including Pink Robin. — Reptiles including Pink-tailed Legless Lizard and Striped Legless Lizard.
Serious and irreversible impact entities	Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion (Critically Endangered BC Act). *Calotis glandulosa* (potential habitat).

4.2.1 Plant community types

The type and distribution of the original vegetation that would have occurred in the sub-precinct is difficult to determine given the years of agricultural use that have occurred which has resulted in considerably modified vegetation. Based on the field surveys undertaken to date and comparison of the site's geology, soils, elevation, and topography to similar less disturbed areas in the Jindabyne region, the Southern Connector Road sub-precinct is considered to contain the following three PCTs:

— PCT 679: Black Sallee-Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion.

- PCT 1191: Snow Gum-Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion.
- PCT 1110: River Tussock-Tall Sedge-Kangaroo Grass moist grasslands of the South Eastern Highlands Bioregion.

The distribution of the PCTs is illustrated in Appendix B-2. The PCTs and vegetation zones within the sub-precinct are summarised in Table 4.2 and described below.

Table 4.2 Plant community types and vegetation zones within the Southern Connector Road sub-precinct

Vegetation type	Vegetation zone	Area in sub-precinct (ha)
PCT 679	Poor	1.87
	TOTAL	**1.87**
PCT 1191	Native dominant grassland	0.44
	Exotic dominant grassland	8.78
	Moderate	1.21
	Poor	0.31
	Rocky outcrop	4.98
	TOTAL	**15.72**
PCT 1110	Native dominant grassland	0.03
	Exotic dominant grassland	7.61
	Poa variant_Poor	0.81
	Themeda variant_Good	5.31
	TOTAL	**13.76**
Total native vegetation		**31.35**

4.2.1.1 PCT 679: Black Sallee – Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion

The Southern Connector Road sub-precinct contains patches of Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion (PCT 679) to the east of Barry Way. The PCT is present in poor condition along the banks of Lees Creek.

A summary of the structure and floristics PCT 679 within the sub-precinct in provided in Table 4.3.

Table 4.3 Floristic and structural summary of PCT 679 within the Southern Connector Road sub-precinct

Vegetation layer	species recorded from the surveys
Tree canopy (upper stratum)	Trees-*Eucalyptus stellulata.*
Midstory (mid- stratum)	Shrubs-*Pimelea pauciflora, Melicytus angustifolius* subsp. *divaricatus.*
Groundcovers (ground stratum)	Grass & grass like–*Carex appressa, Poa labillardierei, Themeda triandra.* Forbs-*Hydrocotyle laxiflora, Geranium solanderi, Pelargonium inodorum, Dichondra repens, Acaena ovina, Rumex brownii, Bulbine bulbosa, Asperula conferta.*
Exotic species	*Crataegus monogyna, Dactylis glomerata, Vulpia myuros, Medicago lupulina, Trifolium arvense, Taraxacum officinale, Bromus hordeaceus, Plantago lanceolata, Poa pratensis, Trifolium repens, Cirsium vulgare, Hypochaeris radicata, Echium vulgare, Verbascum thapsus, Gamochaeta* sp., *Holcus lanatus.*
High Threat Weeds	*Rosa rubiginosa, Bromus diandrus, Acetosella vulgaris, Pyracantha* sp.

Photo 4.1 An example of PCT 679 in Poor condition within the Southern Connector Road alignment

Photo 4.2 Typical example of PCT 679 in Poor condition along a tributary of Lees Creek

PCT 679 within the Southern Connector Road sub-precinct is consistent in composition and structure and consequently only one vegetation zone has been assigned:

- PCT 679 (Poor): Areas of vegetation dominated by *Eucalyptus stellulata* with small areas of *Eucalyptus rubida* and/or *Eucalyptus pauciflora* in Poor condition due to past clearing, small size of patches, and significant weed invasion in the ground layer.

4.2.1.2 PCT 1191: Snow Gum – Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion

Most of the sub-precinct consists of Snow Gum – Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion (PCT 1191). The majority of this PCT is present in 'secondary' or 'derived' grassland form. However, there are small areas of PCT 1191 in typical forest or woodland structure and areas of rocky outcrop.

A summary of the structure and floristics of PCT 1191 within the sub-precinct in provided in Table 4.4.

Table 4.4 Floristic and structural summary of PCT 1191 within the Southern Connector Road sub-precinct

Vegetation layer	species recorded from the surveys
Tree canopy (upper stratum)	Trees-*Eucalyptus pauciflora.*
Midstory (mid- stratum)	Shrubs-*Pimelea pauciflora.*
Groundcovers (ground stratum)	Grass & grass like–*Poa sieberiana, Lomandra longifolia, Poa labillardierei, Anthosachne scabra, Carex inversa, Rytidosperma tenuius.* Forbs - *Acaena ovina, Senecio quadridentatus, Geranium solanderi, Hydrocotyle laxiflora, Dichondra* sp. A, *Oxalis perennans, Wahlenbergia communis.* Other-*Clematis leptophylla.*
Exotic species	*Trifolium arvense, Hypochaeris radicata, Poa pratensis, Cirsium vulgare, Avena* sp., *Bromus hordeaceus, Vulpia myuros, Dactylis glomerata, Lolium perenne, Petrorhagia nanteuilii, Lactuca serriola, Verbascum thapsus, Sonchus oleraceus, Taraxacum officinale.*
High Threat Weeds	*Pyracantha* sp., *Rosa rubiginosa, Bromus diandrus, Acetosella vulgaris.*

Photo 4.3 An example of PCT 1191 in Moderate condition within the Southern Connector Road alignment

Photo 4.4 An example of PCT 1191 Moderate condition within the Southern Connector Road alignment

Photo 4.5 Some parts of the grassland in the Southern Connector Road are dominated by native species

Photo 4.6 An example of the Exotic dominant grassland in the Southern Connector Road alignment

Photo 4.7 Exotic dominant grassland in the Southern Connector Road alignment near the electrical substation

Photo 4.8 Typical landscape in the Southern Connector Road alignment

PCT 1191 within the Southern Connector Road sub-precinct contains five vegetation zones:

- PCT 1191 (Moderate, Poor): Areas of vegetation dominated by *Eucalyptus pauciflora* and/or *Eucalyptus rubida* in Moderate and Poor condition.
- PCT 1191 (Rocky outcrop): Rocky outcrops containing small trees and shrubs distinct from surrounding grassland areas (as is typical in the Jindabyne region) are present.
- PCT 1191 (Native dominant grassland and Exotic dominant grassland): Grassland areas that are considered likely to be 'secondary' or 'derived' grasslands (where the original tree and shrub layers have been cleared in the past). These PCT 1191 grasslands are divided into Native dominant grassland and Exotic dominant grassland based on dominance of native and exotic species respectively as determined through BAM Plot surveys. These grasslands are disturbed and form the lowest quality patches of vegetation within the Southern Connector Road sub-precinct.

4.2.1.3 PCT 1110: River Tussock – Tall Sedge – Kangaroo Grass moist grasslands of the South Eastern Highlands Bioregion

The Southern Connector Road sub-precinct contains large areas of grassland that are likely to be naturally occurring. As opposed to the grasslands that are likely to be 'secondary' or 'derived' grasslands from PCT 1191 which are also present in the sub-precinct, these natural grasslands are considered most likely to be PCT 1110: River Tussock-Tall Sedge- Kangaroo Grass moist grasslands of the South Eastern Highlands Bioregion. These grassland areas are generally situated on flats and foot slopes. However, there are also some examples situated on the shallow gravelly soils on the hills. Different grassland variations occur on different soils and landscape positions. In the absence of any direct evidence to suggest that these areas originally contained a woodland tree layer and based on the floristic composition of these areas they have been assigned to PCT 1110.

A summary of the structure and floristics PCT 1110 within the sub-precinct in provided in Table 3.4.

Table 4.5 Floristic and structural summary of PCT 1110 within the Southern Connector Road sub-precinct

Vegetation layer	species recorded from the surveys
Tree canopy (upper stratum)	Trees–Scattered *Eucalyptus pauciflora.*
Midstory (mid- stratum)	Shrubs-*Hakea microcarpa, Leucopogon fletcheri* subsp. *brevisepalus, Melicytus angustifolius* subsp. *divaricatus, Pimelea pauciflora, Mirbelia oxylobioides.*
Groundcovers (ground stratum)	Grass & grass like–*Anthosachne scabra, Austrostipa scabra, Themeda triandra, Poa sieberiana* var. *sieberiana, Poa* sp., *Poa labillardierei.* Forbs - *Ammobium alatum, Geranium solanderi, Hypoxis hygrometrica, Acaena novae-zelandiae, Senecio quadridentatus, Acaena ovina, Euchiton* sp., *Senecio prenanthoides, Vittadinia muelleri, Epilobium billardierianum, Geranium solanderi, Hydrocotyle laxiflora, Oxalis perennans, Vittadinia cuneata, Dichondra* sp. A, *Acaena ovina, Asperula conferta, Solenogyne gunnii, Persicaria prostrata, Rumex brownii* Ferns - *Cheilanthes austrotenuifolia.* Other - *Desmodium varians, Convolvulus erubescens.*
Exotic species	*Centaurium erythraea, Aira elegantissima, Avena sativa, Bromus rubens, Bromus hordeaceus, Crepis capillaris, Crataegus monogyna, Holcus lanatus, Hypochaeris glabra, Trifolium* sp., *Medicago lupulina, Petrorhagia nanteuilii, Plantago lanceolata, Salvia coccinea, Trifolium arvense, Verbascum thapsus, Vulpia myuros, Linaria arvensis, Poa annua, Rumex crispus, Potentilla recta, Poa pratensis, Crepis capillaris, Echium vulgare, Erodium cicutarium.*
High Threat Weeds	*Hypericum perforatum, Acetosella vulgaris, Bromus diandrus, Pyracantha* sp., *Rosa rubiginosa.*

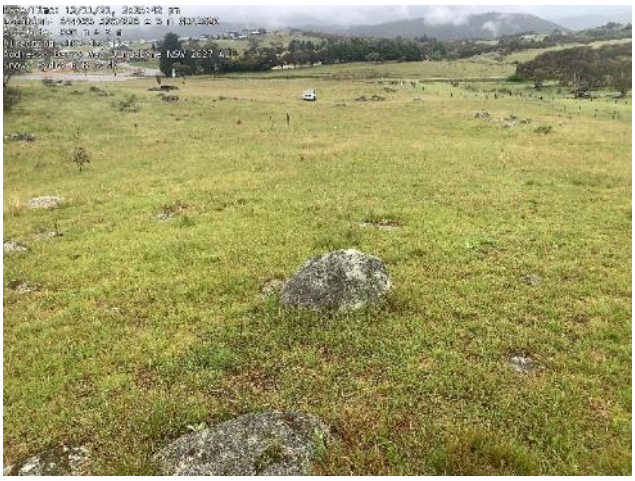


Photo 4.9 An example of PCT 1110 Themeda variant in good condition adjacent to Barry Way

Photo 4.10 An example of PCT 1110 Themeda variant in good condition adjacent to Kosciuszko Road

Photo 4.11 Typical view of the grasslands on rolling hills in the Southern Connector Road sub-precinct looking to the lake

Photo 4.12 Typical view of the grasslands on rolling hills in the Southern Connector Road sub-precinct

Four PCT 1110 vegetation zones were mapped within the Southern Connector Road sub-precinct:

- PCT 1110 (Poa variant Poor): The Poa variant is distinct in that this vegetation zone is situated in drainage lines and lower slopes on heavier darker wetter soils and is dominated by the species *Poa labillardierei*. This vegetation zone is characterised by areas where the cover of *Poa labillardierei* tussocks is sparse and there is considerable weed invasion. The BAM Plot data indicates that this vegetation zone would be considered part of the EPBC Act listed Natural Temperate Grassland of the South Eastern Highlands TEC due to meeting condition thresholds.
- PCT 1110 (Themeda variant Good): The Themeda variant is in good condition with a suite of grassland species typical of this plant community and is situated on flatter and more gently sloping areas in the east of the sub-precinct near Barry Way. The BAM Plots undertaken within this vegetation zone indicate that *Themeda triandra* is either the dominant grass species or is at least highly abundant. This vegetation zone is considered to be part of the EPBC Act listed Natural Temperate Grassland of the South Eastern Highlands TEC due to the patch being characterised by at least 50 % foliage cover of the ground of *Themeda triandra*, or otherwise meeting Condition Thresholds for inclusion as part of the TEC.
- PCT 1191 (Native dominant grassland and Exotic dominant grassland): These areas of grassland are similar to the grassland versions of PCT 1191 but are in overall better condition based off the data collected during the field survey (BAM Plots). Discriminating between a patch of PCT 1191 in ‘secondary’ or ‘derived’ grassland form and

PCT 1110 is difficult. PCT 1191 and PCT 1110 intergrade and the boundaries between the two PCTs are not often clear, particularly where there has been a long history of human disturbance. Where the data suggests that the grassland was not evidently dominated by *Themeda triandra*, *Poa labillardierei* or *Carex bichenoviana* but percentage cover of native vascular plants is greater than the percentage cover of perennial exotic species, and the BAM Plot contained at least 8 non-grass native species, the grassland was assigned to PCT 1110 and either Native dominant grassland or Exotic dominant grassland based on cover of native and exotic species (derived from BAM Plot data). Exotic dominant grasslands generally contain a high cover of annual weeds, but perennial weed species are less abundant. These grassland areas are considered to be part of the EPBC Act listed Natural Temperate Grassland of the South Eastern Highlands TEC. This is in line with the advice provided by the Threatened Species Scientific Committee (2016) where they indicate that sites that are difficult to determine as natural or derived grassland should be considered to be part of TEC, if they otherwise meet the Description and Key Diagnostic Characteristics.

4.2.2 Threatened ecological communities

Two threatened ecological communities occur within this sub-precinct (Table 4.6).

Table 4.6 Threatened ecological communities within Southern Connector Road sub-precinct

Threatened ecological community	EPBC Act	BC Act	Area in sub-precinct (ha)
Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion	Not a TEC	Critically Endangered	17.59 (includes 9.22 ha of 'derived' or 'secondary' grasslands)
Natural Temperate Grassland of the South Eastern Highlands (Critically Endangered)	Critically Endangered	Not a TEC	13.76

4.2.3 Threatened species

BAM candidate species list for the sub-precinct is provided in Appendix B-3.

4.2.3.1 Threatened flora

Based on the candidate species list (species credit species) returned for PCT 1191 and PCT 1110 by the BAM-C, and the field survey that has been undertaken in this sub-precinct to date, the following threatened species may have habitat in the Southern Connector Road sub-precinct:

- Plants including *Calotis glandulosa*, *Leucochrysum albicans* var. *tricolor*, *Prasophyllum petilum*, *Swainsona sericea*, and *Thesium australe.*

As described in Section 2.5.3, threatened plant species were surveyed for in November 2021 using the survey design for large areas of suitable habitat known as the *two-phase grid-based systematic survey approach for large areas* as outlined in the document *Surveying threatened plants and their habitats NSW survey guide for the Biodiversity Assessment Method* (Department of Planning, Industry and Environment, 2020). The survey targeted *Calotis glandulosa* but as this species is a ground layer forb, other threatened species that also reside in the ground layer could be surveyed for concurrently. As such, the surveys were also targeting *Leucochrysum albicans* var. *tricolor* and *Swainsona sericea* as these species are known from around the Jindabyne area.

None of the target threatened plant species were recorded in the Southern Connector Road sub-precinct during the November 2021 surveys. *Calotis glandulosa* and *Leucochrysum albicans* var. *tricolor* were in full flower during the survey so we can be reasonably confident that these two species were not present during the survey.

Swainsona sericea was not in flower during the November 2021 surveys and as this species is difficult to locate without flowers, we consider that this species would not be at peak detectability in this region until later in summer. The non-threatened species *Swainsona behriana* and *Swainsona monticola* were in flower and could be found in the Southern

Connector Road sub-precinct during the survey but not commonly. *Swainsona sericea* was not recorded but detectability of *Swainsona sericea* was low therefore we cannot discount the presence of this species based on the November 2021 survey.

Thesium australe was not recorded. This species can be surveyed starting in November but from our previous experience the species is easily overlooked, and we consider that this species would not be at peak detectability in this region until later in summer.

Prasophyllum petilum has habitat modelled by the PMST in the Southern Connector Road sub-precinct (species or species habitat may occur). Given the presence of associated habitats in the form of Natural Temperate Grasslands (PCT 1110) and Snow Gum dominated woodlands and forest (PCT 1191) and limited knowledge on the distribution of this species, it may occur. No *Prasophyllum* species were recorded during the November 2021 surveys and orchids were in very low abundance indicated by the paucity of records from BAM Plots and transects undertaken during the two-phase grid-based survey. Given the extensive grazing by deer, gats and rabbits that is occurring the chances of finding this species are reduced. However, it is cryptic and a more targeted survey for this species that focuses on the better condition habitats may be warranted.

4.2.3.2 Threatened fauna

Based on the candidate species list (species credit species) returned for PCT 1191 and PCT 1110 by the BAM-C, and the field survey that has been undertaken in this sub-precinct to date, the following threatened species may have habitat in the Southern Connector Road sub-precinct:

- Mammals including Eastern Pygmy-possum and Southern Myotis.
- Birds including Pink Robin, and potential breeding habitat for species including Gang-gang Cockatoo, Little Eagle, Barking Owl and Powerful Owl.
- Reptiles including Pink-tailed Legless Lizard and Striped Legless Lizard.

The Southern Connector Road sub-precinct is dominated by grasslands with small patches of relatively young trees. Structurally, the PCT 1191 habitats have been significantly modified and there is significant weed invasion. The small areas of PCT 1191 that retain trees are in moderate condition and do provide some flowering and fruiting resources. The stands of trees have a moderately dense ground cover vegetation, leaf litter, rock outcrops and fallen timber that have the potential to provide protection for ground-dwelling mammals, reptiles and amphibians. However, given the isolation of these habitats within the grassland the habitat value of these areas is reduced when compared to the larger areas of habitat in the adjacent Mountain Bike and Adventure Park sub-precinct.

The areas of rocky outcrop with and without trees are likely to provide an important habitat resource for fauna. Species including Cunningham's Skink were frequently found inhabiting these areas of boulders. There were few opportunities to overturn rocks as most boulders were large or heavily embedded, so the success of active reptile searches was limited. The grassland areas, particulalry PCT 1110 and areas of native and exotic grassland forms of PCT 1191 may provide suitable habitat for threatened reptiles including Pink-tailed Legless Lizard and Striped Legless Lizard.

Habitat for Pink Robin cannot be discounted but is not likely to be as high quality as the larger areas of habitat in the adjacent Mountain Bike and Adventure Park sub-precinct. The Dusky Woodswallow was the only threatened bird that was recorded during the surveys in this sub-precinct, once again suggesting that the habitat quality in the Southern Connector Road sub-precinct is more limited.

Repeat visits to survey a large stick nest located in a large *Eucalyptus rubida* tree located on Lot 1 DP204602 during the surveys in September 2021 resulted in observations of a pair of Little Eagles undertaking mating behaviours on the nest. Observations were made from publicly accessible areas on Barry Way. The nest is situated outside of the Southern Connector Road sub-precinct but is adjacent to it. As such, portions of the Southern Connector Road sub-precinct around Barry Way form part of the breeding habitat of a pair of Little Eagles.

No hollow-bearing trees suitable for use by Gang-gang Cockatoo or Barking Owl were recorded as present within the Southern Connector Road sub-precinct during the survey. The trees are either young or stunted slow growing mature trees that lack hollows or lack hollows of a suitably large size to be used by Gang-gang Cockatoo or Barking Owl for nesting.

There is one main waterway within the Southern Connector Road sub-precinct which is Lees Creek (a 3rd order stream). Lees Creek is relatively disturbed but contains areas of pools and riffles and during periods of rainfall gets significant flow. Heavy rain during the November 2021 survey period saw the creek swell and become rapidly flowing. Lees Creek flows through forested and grassland areas and provides a range of habitats for fauna. Due to the lower elevation, there is unlikely to be habitat for Alpine Tree Frog (*Litoria verreauxii alpina*).

There were no man-made structures (e.g., culverts) suitable to be used for roosting/breeding by microchiropteran bats found during the surveys. The Southern Connector Road sub-precinct does not have any dams that would be suitable as foraging habitat for Southern Myotis, and the waterways appear to be largely ephemeral and fast flowing during high rainfall events which may limit the potential for these areas to be used as foraging habitat by Southern Myotis.

4.3 Planned development

Planned development for the Southern Connector Road sub-precinct consists of new development on currently undeveloped land which will consist of construction of a two lane road with shared path.

4.4 Opportunities and constraints

The Southern Connector Road sub-precinct contains TECs in various forms and development of the road will result in unavoidable biodiversity impacts. With the current alignment there is no scope to avoid impact to TECs, including the better condition stands of Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion (PCT 1191) and the Natural Temperate Grassland of the South Eastern Highlands to the west of Barry Way. Likewise, impacts to the stand of Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion (PCT 679) along Lees Creek to the east of Barry Way, and the areas of Natural Temperate Grassland of the South Eastern Highlands that are present either side of the Kosciuszko Road where the Southern Connector Road would join would appear to be unavoidable with this alignment.

Impact on the PCT 1191 Exotic dominant grasslands and Native Dominant grasslands, and where necessary areas of Rocky outcrop would be a lesser concern from a biodiversity perspective. These areas contain a high abundance and cover of High Threat weed species (particularly *Rosa rubiginosa, Bromus diandrus, Pyracantha* sp., *Acetosella vulgaris, Nassella trichotoma,* and *Hypericum perforatum*).

In summary, the opportunities to avoid biodiversity impacts within the Southern Connector Road sub-precinct would appear to be limited given the narrow linear nature of the sub-precinct and need to construct a major road within this footprint. However, the constraints and opportunities in this sub-precinct include:

- Constraints – Areas of potential Natural Temperate Grassland of the South Eastern Highlands TEC. Areas of PCT 1191 with stands of trees which are components of the BC Act listed Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion.
- Opportunities – Areas of Native dominant grassland and Exotic dominant grassland and PCT 1191 Rocky outcrop would pose little constraint to development.

Constraints mapping for the sub-precinct is provided in Figure 4.1.

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wsp

Snowy SAP - Biodiversity Constraints

Figure 4.1

Southern Connector Road
Catalyst Precinct

Legend

- Precinct Boundary
- Cadastre
- Waterbodies
- Watercourse
- Roads

Threatened Flora Species

- *Eucalyptus nicholii*
- *Swainsona sericea* (recorded 2017)

Biodiversity Constraints

- High
- Moderate
- Low

0 0.25 0.5 km

Coordinate system: GDA 1994 MGA Zone 55

Scale ratio correct when printed at A3

1:11,000 Date: 4/04/2022

Data sources: - NSWSS, Geoscience Australia, DPIE, Metromap

5 Sports and Education sub-precinct

5.1 Field surveys

The methodology for these surveys is described in Section 2. Data from BAM plots undertaken within the sub-precinct are provided in Appendix C-1. Mapping of survey locations and results is provided in Appendix C-2.

5.2 Existing environment

The Sports and Education Sub-Precinct covers currently contains the Jindabyne Sport and Recreation Centre with a smaller area of Crown Land in the north. The sub-precinct is located 1.3 kilometres from the town centre and will form an important community hub for Jindabyne. The existing environment of the Sports and Education sub-precinct is described in Table 5.1.

Table 5.1 Existing environment in Sports and Education sub-precinct

Value	Description
Area (ha)	96.65 ha
General description (topographic setting, geology and soils)	The Sports and Education sub-precinct is partially developed land and partially previously disturbed agricultural land on the southern outskirts of the continued expansion of Jindabyne town. (Appendix A) The sub-precinct sits on an east facing slope on the eastern side of Barry Way and has a topography ranging from 1030 m ASL at its crest at the southern border and its lowest point at 957 m ASL along the depression of Lees Creek. Geology is mostly Jindabyne Tonalite (Hornblende–Biotite Tonalite) in the east with volcanic Leesville Granodiorite (Biotite Granodiorite) present in the south-west. Soils include shallow gravelly loams and texture-contrast soils (light textured topsoil overlying a clay subsoil - Chromosols). Geotechnical borehole logs from around the Jindabyne area indicate the soil is sandy silty clay and silty gravelly sand (decomposed granite). Heavier textured wetter soils occur in drainage lines and flat low points between ridges.
IBRA region and subregion	South Eastern Highlands–Monaro subregion
Rivers, streams and estuaries	Lees Creek (2nd order stream) flows through a substantial area of the sub-precinct and in the north includes a first order stream (ephemeral) that passes within the Sports and Education sub-precinct before flowing into Lees Creek immediately outside the sub-precinct.
Wetlands and important wetlands	No wetlands of international or national importance are present. The edge of Lake Jindabyne is present approximately 800 m to the east of the Sports and Education sub-precinct.
Habitat connectivity	The habitat within the Sports and Education sub-precinct has limited physical connectivity to other habitats. However, connectivity exists for species that can utilise grasslands and the stands of trees and shrubs within the broader grassland do provide some functional connectivity from Lake Jindabyne in the east to the similar habitat present in the Jindabyne West and Aerodrome sub-precincts.

Value	Description
Karst, caves, crevices, cliffs, rocks and other geological features of significance	There are no areas of karst, caves, cliffs, or other geological features of significance in the Sports and Education sub-precinct. Rock outcropping is a common feature and provides a significant habitat resource for fauna with large surface boulders providing crevices and shelter sites.
Areas of Outstanding Biodiversity Value	No Areas of Outstanding Biodiversity Value occur within the Sports and Education sub-precinct.
Plant Community Types	PCT 679: Black Sallee-Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion PCT 1191: Snow Gum-Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
Threatened ecological communities BC Act	Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion (Critically Endangered BC Act)
Threatened species habitats (Species credit species)	A Threatened species *Eucalyptus nicholii*, listed under the BC Act and EPBC Act, was recorded in the sub-precinct during the field surveys. This species only naturally occurs on the Northern Tablelands. This species was popular in landscaping. The plants recorded are plantings and are not naturally occurring. Based on the candidate species list (species credit species) returned for PCT 1191 and PCT 1110 by the BAM-C, and the limited field survey that has been undertaken in this sub-precinct to date, the following threatened species may have habitat in the Sports and Education sub-precinct: — Plants including *Calotis glandulosa*, *Leucochrysum albicans var. tricolor*, *Prasophyllum petilum*, *Swainsona sericea*, and *Thesium australe*. — Mammals including Eastern Pygmy-possum and Southern Myotis. — Birds including Pink Robin. — Reptiles including Pink-tailed Legless Lizard and Striped Legless Lizard.
Serious and irreversible impact entities	Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion (Critically Endangered BC Act). *Calotis glandulosa* (potential habitat).

5.2.1 Plant community types

The type and distribution of the original vegetation that would have occurred in this sub-precinct is difficult to determine given the years of agricultural use that have occurred which has resulted in considerably modified vegetation. Based on the field surveys undertaken to date and comparison of the site's geology, soils, elevation, and topography to similar less disturbed areas in the Jindabyne region, the Sports and Education sub-precinct is considered to contain the following two PCTs:

- PCT 679: Black Sallee – Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion.
- PCT 1191: Snow Gum – Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion.

The distribution of the PCTs is illustrated in in Appendix C. The PCTs and vegetation zones within the sub-precinct are summarised in Table 5.2 and described below.

Table 5.2 Plant community types and vegetation zones within the Sports and Education sub-precinct

Vegetation type	Vegetation zone	Area in sub-precinct (ha)
PCT 679	Poor	1.17
	TOTAL	**1.17**
PCT 1191	Native dominant grassland	4.01
	Exotic dominant grassland	47.32
	Moderate	11.47
	Poor	6.4
	Rocky outcrop	4.91
	TOTAL	**74.11**
Total native vegetation		**75.28**

5.2.1.1 PCT 679: Black Sallee – Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion

The Sports and Education sub-precinct contains patches of Black Sallee-Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion (PCT 679) in the north on the area of Crown Land adjacent to the Southern Connector Road sub-precinct that is present in poor condition.

A summary of the structure and floristics PCT 679 within the sub-precinct in provided in Table 5.3.

Table 5.3 Floristic and structural summary of PCT 679 within the Sports and Education sub-precinct

Vegetation layer	species recorded from the surveys
Tree canopy (upper stratum)	Trees - *Eucalyptus stellulata, Eucalyptus pauciflora*.
Midstory (mid- stratum)	Shrubs - *Pimelea pauciflora*.
Groundcovers (ground stratum)	Grass & grass like – *Anthosachne scabra, Poa sieberiana* var. *sieberiana, Poa* sp., *Carex inversa, Austrostipa scabra, Themeda triandra, Rytidosperma tenuius.* Forbs - *Chrysocephalum semipapposum, Hydrocotyle laxiflora, Oxalis perennans, Asperula conferta, Acaena ovina, Swainsona monticola, Geranium solanderi, Dichondra repens, Plantago varia, Ajuga australis, Einadia nutans* Other - *Convolvulus erubescens*
Exotic species	*Onopordum acanthium, Trifolium arvense, Hirschfeldia incana, Vulpia myuros, Poa pratensis, Medicago lupulina, Avena barbata, Erodium cicutarium, Plantago lanceolata, Bromus hordeaceus, Marrubium vulgare, Verbascum thapsus, Taraxacum officinale, Petrorhagia nanteuilii, Echium vulgare.*
High Threat Weeds	*Rosa rubiginosa, Bromus diandrus, Hypericum perforatum, Pyracantha* sp., *Acetosella vulgaris.*

Photo 5.1 An example of PCT 679 in Poor condition within the Sports and Education sub-precinct

Photo 5.2 Typical example of PCT 679 within the Sports and Education sub-precinct, a small stand of trees in a paddock

PCT 679 within the Sports and Education sub-precinct is consistent in composition and structure and consequently only one vegetation zone has been assigned:

- PCT 679 (Poor): Areas of vegetation dominated by *Eucalyptus stellulata* with small areas of *Eucalyptus rubida* and/or *Eucalyptus pauciflora* in Poor condition due to past clearing, small size of patches, and significant weed invasion in the ground layer.

5.2.1.2 PCT 1191: Snow Gum – Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion

Most of the sub-precinct consists of Snow Gum-Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion (PCT 1191). There are also large areas of 'secondary' or 'derived' grasslands and smaller areas with a typical forest or woodland structure.

A summary of the structure and floristics PCT 1191 within the sub-precinct in provided in Table 5.4.

Table 5.4 Floristic and structural summary of PCT 1191 within the Sports and Education sub-precinct

Vegetation layer	species recorded from the surveys
Tree canopy (upper stratum)	Trees - *Eucalyptus pauciflora, Acacia melanoxylon, Acacia dealbata, Eucalyptus rubida*
Midstory (mid- stratum)	Shrubs - *Pimelea pauciflora, Melicytus angustifolius* subsp. *divaricatus, Daviesia mimosoides, Mirbelia oxylobioides, Brachyloma daphnoides, Pimelea linifolia, Bossiaea buxifolia, Cassinia longifolia, Acacia rubida, Ozothamnus rosmarinifolius.*
Groundcovers (ground stratum)	Grass & grass like–*Poa sieberiana* var. *sieberiana, Themeda triandra, Lomandra longifolia, Poa meionectes, Anthosachne scabra, Austrostipa scabra, Lomandra filiformis, Carex inversa, Cynodon dactylon, Panicum effusum, Dichelachne crinita, Microlaena stipoides, Rytidosperma tenuius, Poa sieberiana* var. *cyanophylla*. Forbs-*Chrysocephalum apiculatum, Chrysocephalum semipapposum, Wahlenbergia communis, Cullen microcephalum, Oxalis perennans, Bulbine bulbosa, Hydrocotyle laxiflora, Senecio quadridentatus, Acaena ovina, Dichondra* sp. A, *Geranium solanderi* var. *solanderi, Rumex brownii, Crassula sieberiana, Pelargonium inodorum, Dianella longifolia, Einadia nutans, Swainsona behriana, Vittadinia muelleri, Swainsona monticola, Acaena novae-zelandiae, Acaena ovina, Dichondra repens, Craspedia variabilis, Plantago varia, Asperula conferta, Brachyscome scapigera, Cymbonotus lawsonianus, Ajuga australis, Hovea heterophylla, Cynoglossum suaveolens, Galium* sp., *Calotis scabiosifolia, Gonocarpus tetragynus, Calotis anthemoides* Ferns–*Cheilanthes austrotenuifolia, Asplenium flabellifolium.* Other-*Glycine clandestina, Glycine tabacina, Convolvulus erubescens.*
Exotic species	*Avena barbata, Vulpia myuros, Petrorhagia nanteuilii, Verbascum thapsus, Trifolium arvense, Medicago lupulina, Echium vulgare, Taraxacum officinale, Bromus hordeaceus, Linaria arvensis, Cirsium vulgare, Salvia coccinea, Hirschfeldia incana, Arenaria leptoclados, Marrubium vulgare, Salvia coccinea, Lolium perenne, Potentilla recta, Hordeum leporinum, Erodium cicutarium, Plantago lanceolata, Crataegus monogyna, Vulpia myuros, Gamochaeta* sp., *Malus pumila.*
High Threat Weeds	*Hypericum perforatum, Bromus diandrus, Pyracantha* sp., *Rosa rubiginosa, Acetosella vulgaris.*

Photo 5.3 An example of PCT 1191 in Moderate condition within the Sports and Education sub-precinct

Photo 5.4 An example of PCT 1191 Poor condition in the Sports and Education sub-precinct

Photo 5.5 An example of PCT 1191 Rocky outcrop in the Sports and Education sub-precinct

Photo 5.6 An example of PCT 1191 Exotic dominant grassland in the Sports and Education sub-precinct

PCT 1191 within the Sports and Education sub-precinct is quite variable in species composition and structure and as a consequence five vegetation zones have been assigned:

- PCT 1191 (Moderate, Poor): Areas of vegetation dominated by *Eucalyptus pauciflora* and/or *Eucalyptus rubida* with or without small stands or individual trees of *Eucalyptus stellulata* in Moderate and Poor condition.
- PCT 1191 (Rocky outcrop): Rocky outcrops containing small trees and shrubs distinct from surrounding grassland areas (as is typical in the Jindabyne region) are present.
- PCT 1191 (Native dominant grassland and Exotic dominant grassland): Grassland areas that are considered likely to be 'secondary' or 'derived' grasslands (where the original tree and shrub layers have been cleared in the past). These PCT 1191 grasslands are divided into Native dominant grassland and Exotic dominant grassland based on dominance of native and exotic species respectively as determined through BAM Plot surveys. These grasslands are disturbed and form the lowest quality patches of vegetation within the Sports and Education sub-precinct.

5.2.2 Threatened ecological communities

One threatened ecological community occurs within this sub-precinct (Table 5.5).

Table 5.5 Threatened ecological communities within Sports and Education sub-precinct

Threatened ecological community	EPBC Act	BC Act	Area in sub-precinct (ha)
Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion	Not a TEC	Critically Endangered	75.28 (includes 51.33 ha of 'derived' or 'secondary' grasslands)

5.2.3 Threatened species

BAM candidate species list for the sub-precinct is provided in Appendix C-3.

5.2.3.1 Threatened flora

Based on the candidate species list (species credit species) returned for PCT 1191 and PCT 1110 by the BAM-C, and the field survey that has been undertaken in this sub-precinct to date, the following threatened species may have habitat in the Sports and Education sub-precinct:

- Plants including *Calotis glandulosa*, *Leucochrysum albicans* var. *tricolor*, *Prasophyllum petilum*, *Swainsona sericea*, and *Thesium australe.*

Eucalyptus nicholii, listed as Vulnerable under the EPBC Act and BC Act was recorded within the sub-precinct. However, this species naturally occurs in northern NSW and has been planted within this sub-precinct as part of the landscaping.

No targeted threatened plant species surveys have been undertaken within the Sports and Education sub-precinct to date. The habitats within the Sports and Education sub-precinct, including grassland areas, appear to be at least moderately suitable for the species listed above so targeted surveys for these species would be needed in order to be able to find these species or to be able to discount their occurrence within this sub-precinct.

5.2.3.2 Threatened fauna

Based on the candidate species list (species credit species) returned for PCT 1191 and PCT 1110 by the BAM-C, and the field survey that has been undertaken in this sub-precinct to date, the following threatened species may have habitat in the Sports and Education sub-precinct:

- Mammals including Eastern Pygmy-possum and Southern Myotis.
- Birds including Pink Robin.
- Reptiles including Pink-tailed Legless Lizard and Striped Legless Lizard.

No targeted threatened animal species surveys have been undertaken within the Sports and Education sub-precinct to date. The habitats within the Sports and Education sub-precinct, including grassland areas, appear to be at least moderately suitable for the species listed above so targeted surveys for these species would be needed in order to be able to find these species or to be able to discount their occurrence within this sub-precinct.

The Little Eagle nest located on Lot 1 DP204602 is situated outside of the Sports and Education sub-precinct but is adjacent to it. As such, portions of the Sports and Education sub-precinct around Barry Way form part of the breeding habitat of a pair of Little Eagles.

5.3 Planned development

Planned development for the Sports and Education sub-precinct consists of new development on undeveloped land and redevelopment/renewal of existing built form. The development will consist of a range of redevelopment and new development for sports and educational uses including community and high performance sports facilities, accommodation and upgraded access.

5.4 Opportunities and constraints

The Sports and Education sub-precinct has been subject to long history of agricultural grazing and subsequent development of the Sports and education centre and as a result contains extensive degraded grassland areas, particularly to the south of the main access road off Barry Way. This in conjunction with location close to Jindabyne town centre provides opportunities for development. There are however some areas of higher biodiversity value in the Sports and

Education sub-precinct including stands of large trees particularly on the western bank of Lees Creek and careful planning could retain areas of high biodiversity value.

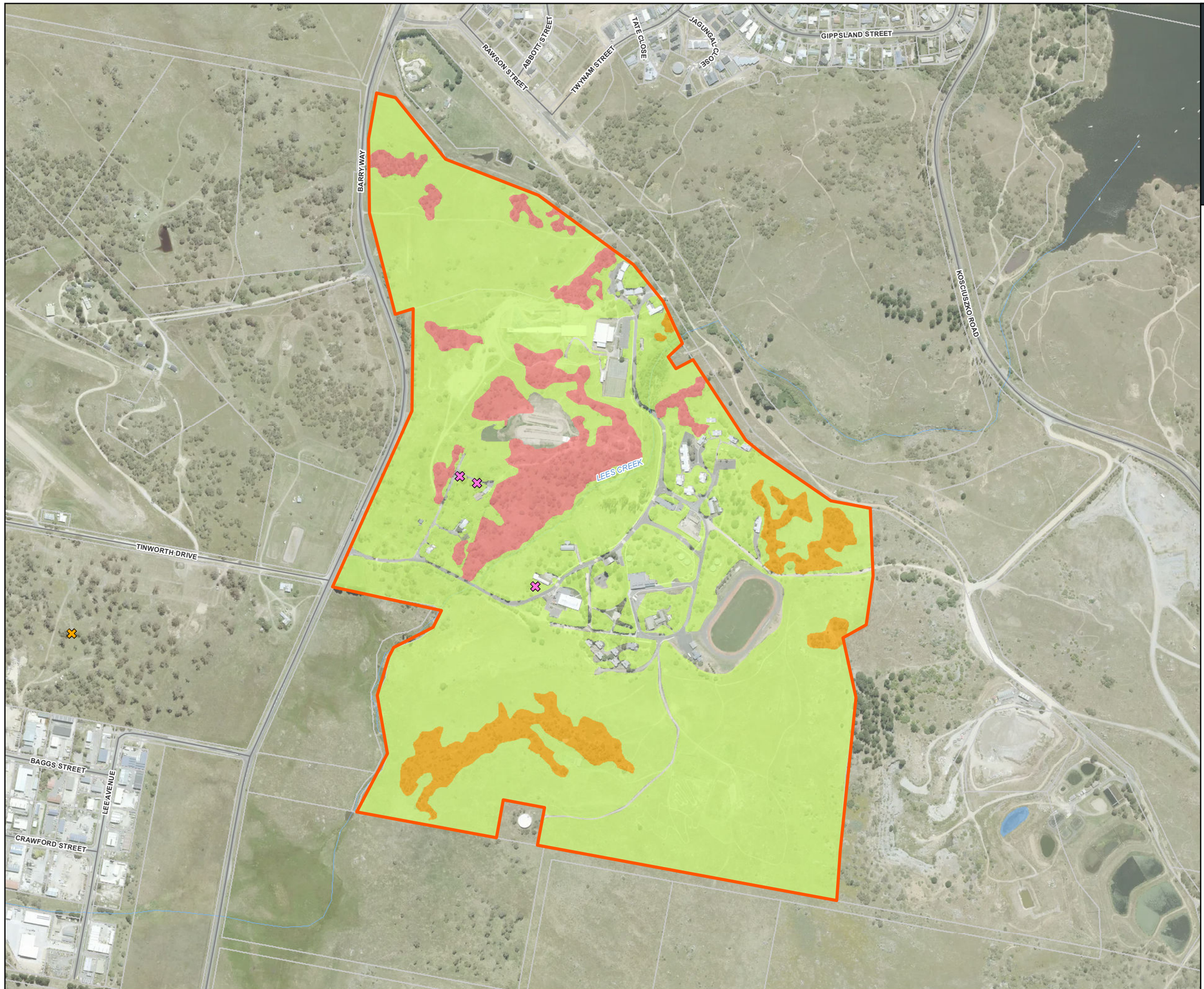
Despite the disturbance that has occurred, the Sports and Education sub-precinct contains a large area of the Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion TEC in various forms. As such, avoiding impact to TECs is not possible in this sub-precinct given the broad definition of the BC Act listed Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion which includes 'secondary' or 'derived' grasslands.

Impact on the PCT 1191 Exotic dominant grasslands and Native Dominant grasslands, and where necessary areas of Rocky outcrop would be a lesser concern from a biodiversity perspective. These areas contain a high abundance and cover of High Threat weed species (particularly *Rosa rubiginosa, Bromus diandrus, Pyracantha* sp., *Acetosella vulgaris, Nassella trichotoma,* and *Hypericum perforatum*).

In summary, the constraints and opportunities in this sub-precinct include:

- Constraints – Areas of PCT 1191 with stands of trees, particulalry the stands along Lees Creek, which are components of the BC Act listed Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion TEC.
- Opportunities – Areas of Native dominant grassland and Exotic dominant grassland and PCT 1191 Rocky outcrop would pose little constraint to development.

Constraints mapping for the sub-precinct is provided in Figure 5.1.



Snowy SAP - Biodiversity Constraints

Figure 5.1

Sports and Education Sub-precinct
Catalyst Precinct

Legend

- Precinct Boundary
- Cadastre
- Waterbodies
- Watercourse
- Roads

Threatened Flora Species

- *Eucalyptus nicholii*
- *Swainsona sericea* (recorded 2017)

Biodiversity Constraints

- High
- Moderate
- Low

0 0.15 0.3 km

Coordinate system: GDA 1994 MGA Zone 55

Scale ratio correct when printed at A3

1:7,000 Date: 4/04/2022

Data sources: - NSWSS, Geoscience Australia, DPIE, Metromap

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6 Western Lake Jindabyne sub-precinct

6.1 Field surveys

The methodology for these surveys is described in Section 2. Data from BAM plots undertaken within the sub-precinct are provided in Appendix D-1. Mapping of survey locations and results is provided in Appendix D-2.

6.2 Existing environment

The Western Lake Jindabyne sub-precinct consists of land between Kosciuszko Road and Lake Jindabyne north of the intersection with Alpine Way up to and including Hatchery Bay and Hayshed Bay. The site lies within the Lake Jindabyne Scenic Protection Area requiring future development to limit visual impact on the scenic quality of the area. The landscape of the Western Lake Jindabyne sub-precinct is largely grassland on rolling hills, with areas of scattered trees and some larger stands of trees on hill tops and slopes, and areas of rocky granite outcrops. The existing environment of the sub-precinct is described in Table 6.1.

Table 6.1 Existing environment in the Western Lake Jindabyne sub-precinct

Value	Description
Area (ha)	398.74 ha
General description (topographic setting, geology and soils)	The Western Lake Jindabyne sub-precinct is undeveloped land to the west of Lake Jindabyne that currently has limited development associated with existing rural residential and agricultural use. The Western Lake Jindabyne sub-precinct consists of rolling hills with elevation varying from approximately 900 m to 1,020 m ASL. Geology is volcanic Leesville Granodiorite (Biotite Granodiorite) at 'Rabbits Corner' with an area mapped as Jindabyne Tonalite (Hornblende–Biotite Tonalite) directly to the east. The majority of this sub-precinct is mapped as Gaden Tonalite (Hornblende and Biotite Tonalite). Soils include shallow gravelly loams and texture-contrast soils (light textured topsoil overlying a clay subsoil - Chromosols). Geotechnical borehole logs from around the Jindabyne area indicate the soil is sandy silty clay and silty gravelly sand (decomposed granite). Heavier textured wetter soils occur in drainage lines and flat low points between ridges.
IBRA region and subregion	South Eastern Highlands–Monaro subregion
Rivers, streams and estuaries	Wollondibby Creek is present in the Western Lake Jindabyne sub-precinct.
Wetlands and important wetlands	No wetlands of international or national importance are present. The edge of Lake Jindabyne is directly adjacent to the Western Lake Jindabyne sub-precinct.

Value	Description
Habitat connectivity	The habitat within the majority of the Western Lake Jindabyne sub-precinct has limited physical connectivity to other habitats. However, connectivity exists for species that can utilise grasslands and the stands of trees and shrubs within the broader grassland do provide some functional connectivity. The vegetated areas at 'Rabbits Corner' are connected to the larger expanse of vegetation to the west through some more open woodland areas.
Karst, caves, crevices, cliffs, rocks and other geological features of significance	There are no areas of karst, caves, cliffs, or other geological features of significance in the Western Lake Jindabyne sub-precinct. Rock outcropping is a common feature and provides a significant habitat resource for fauna with large surface boulders providing crevices and shelter sites.
Areas of Outstanding Biodiversity Value	No Areas of Outstanding Biodiversity Value occur within the Western Lake Jindabyne sub-precinct.
Plant Community Types	PCT 1191: Snow Gum-Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
Threatened ecological communities BC Act	Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion (Critically Endangered BC Act)
Threatened species habitats (Species credit species)	Based on the candidate species list (species credit species) returned for PCT 1191 and PCT 1110 by the BAM-C, and the limited field survey that has been undertaken in this sub-precinct to date, the following threatened species may have habitat in the Western Lake Jindabyne sub-precinct: — Plants including *Calotis glandulosa*, *Leucochrysum albicans var. tricolor*, *Prasophyllum petilum*, *Swainsona sericea*, and *Thesium australe*. — Mammals including Eastern Pygmy-possum and Southern Myotis. — Birds including Pink Robin. — Reptiles including Pink-tailed Legless Lizard and Striped Legless Lizard.
Serious and irreversible impact entities	Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion (Critically Endangered BC Act). *Calotis glandulosa* (potential habitat).

6.2.1 Plant community types

The type and distribution of the original vegetation that would have occurred in the Western Lake Jindabyne sub-precinct is difficult to determine given the years of agricultural use that have occurred which has resulted in considerably modified vegetation. The majority of the sub-precinct is disturbed farming land. Based on the field surveys undertaken to date and comparison of the site's geology, soils, elevation, and topography to similar less disturbed areas in the Jindabyne region, the Western Lake Jindabyne sub-precinct is considered to contain the following PCT:

- PCT 1191: Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion.

It is possible that some areas of the Western Lake Jindabyne sub-precinct that have not yet been surveyed may contain areas of grassland that could be attributed to PCT 1110.

The distribution of the PCTs is illustrated in in Appendix C. The PCTs and vegetation zones within the sub-precinct are summarised in Table 5.2 and described below.

Table 6.2 Plant community types and vegetation zones within the Western Lake Jindabyne sub-precinct

Vegetation type	Vegetation zone	Area in sub-precinct (ha)
PCT 1191	Native dominant grassland	0.01
	Exotic dominant grassland	64.02
	Moderate	6.88
	Poor	1.73
	Rocky outcrop	15.11
Total native vegetation		**87.75**

6.2.1.1 PCT 1191: Snow Gum – Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion

The majority of the sub-precinct consists of Snow Gum-Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion (PCT 1191). The majority of this PCT is present large areas of 'secondary' or 'derived' grasslands but there are some forested areas at 'Rabbits Corner'.

A summary of the structure and floristics PCT 1191 within the sub-precinct in provided in Table 3.3.

Table 6.3 Floristic and structural summary of PCT 1191 within the Western Lake Jindabyne sub-precinct

Vegetation layer	species recorded from the surveys
Tree canopy (upper stratum)	Trees-*Eucalyptus pauciflora, Eucalyptus rubida, Acacia dealbata, Acacia melanoxylon.*
Midstory (mid- stratum)	Shrubs-*Melicytus angustifolius* subsp. *divaricatus, Pimelea pauciflora, Kunzea ericoides, Brachyloma daphnoides, Bossiaea buxifolia.*
Groundcovers (ground stratum)	Grass & grass like – *Poa sieberiana* var. *sieberiana, Poa sieberiana* var. *cyanophylla Austrostipa scabra, Carex inversa, Poa labillardierei, Anthosachne scabra, Rytidosperma tenuius, Poa labillardierei, Panicum effusum, Dichelachne crinita, Luzula flaccida, Bothriochloa macra, Austrostipa bigeniculata, Enneapogon nigricans.* Forbs-*Acaena ovina, Plantago varia, Hydrocotyle laxiflora, Oxalis perennans, Geranium solanderi, Asperula conferta, Crassula sieberiana, Dichondra sp. A., Cynoglossum suaveolens, Wahlenbergia gracilis, Myosotis australis, Einadia nutans, Viola betonicifolia, Ajuga australis, Hydrocotyle sibthorpioides, Dichondra repens, Scleranthus biflorus, Wahlenbergia multicaulis, Chamaesyce dallachyana, Vittadinia muelleri, Swainsona monticola, Wahlenbergia communis, Cymbonotus lawsonianus, Senecio quadridentatus.* Ferns–*Asplenium flabellifolium*. Other-*Desmodium varians, Convolvulus erubescens.*
Exotic species	*Verbascum thapsus, Aira elegantissima, Medicago lupulina, Petrorhagia nanteuilii, Vulpia myuros, Erodium cicutarium, Trifolium arvense, Linaria arvensis, Hypochaeris radicata, Hordeum leporinum, Taraxacum officinale, Malva rotundifolia, Marrubium vulgare, Onopordum acanthium, Crataegus monogyna, Echium vulgare, Trifolium arvense, Bromus hordeaceus, Poa pratensis, Sonchus oleraceus, Hypochaeris radicata, Acer pseudoplatanus, Holcus lanatus, Medicago lupulina, Conyza bonariensis, Lolium perenne, Hirschfeldia incana, Anthoxanthum odoratum, Bromus rubens, Bromus catharticus, Salvia coccinea, Malva neglecta, Capsella bursa-pastoris, Polygonum* sp., *Arenaria leptoclados, Rumex crispus, Reseda luteola, Trifolium subterraneum, Tragopogon dubius, Sambucus nigra.*

Vegetation layer	species recorded from the surveys
High Threat Weeds	*Rosa rubiginosa, Bromus diandrus, Acetosella vulgaris, Hypericum perforatum, Rosa rubiginosa, Nassella trichotoma, Rubus fruticosus* sp. agg.

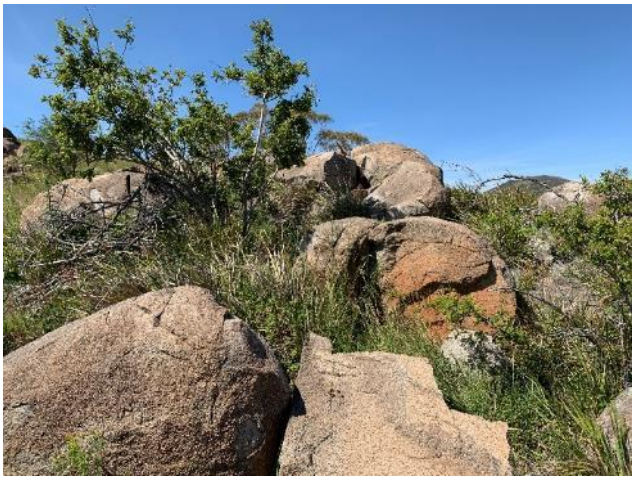


Photo 6.1 An example of PCT 1191 Rocky outcrop within the Western Lake Jindabyne sub-precinct

Photo 6.2 An example of PCT 1191 Exotic dominant grassland in the Western Lake Jindabyne sub-precinct

Photo 6.3 PCT 1191 Moderate at 'Rabbits Corner' within the Western Lake Jindabyne sub-precinct

Photo 6.4 An example of PCT 1191 Exotic dominant grassland at 'Rabbits Corner' in the Western Lake Jindabyne sub-precinct

PCT 1191 within the Western Lake Jindabyne sub-has been separated into five vegetation zones:

- PCT 1191 (Moderate, Poor): Areas of vegetation dominated by *Eucalyptus pauciflora* and/or *Eucalyptus rubida* with or without small stands or individual trees of *Eucalyptus stellulata* in Moderate and Poor condition.
- PCT 1191 (Rocky outcrop): Rocky outcrops containing small trees and shrubs distinct from surrounding grassland areas (as is typical in the Jindabyne region) are present.
- PCT 1191 (Native dominant grassland and Exotic dominant grassland): Grassland areas that are considered likely to be 'secondary' or 'derived' grasslands (where the original tree and shrub layers have been cleared in the past). These PCT 1191 grasslands are divided into Native dominant grassland and Exotic dominant grassland based on dominance of native and exotic species respectively as determined through BAM Plot surveys. These grasslands are disturbed and form the lowest quality patches of vegetation within the Western Lake Jindabyne sub-precinct.

6.2.2 Threatened ecological communities

One threatened ecological community occurs within this sub-precinct (Table 6.4).

Table 6.4 Threatened ecological communities within Western Lake Jindabyne sub-precinct

Threatened ecological community	EPBC Act	BC Act	Area in sub-precinct (ha)
Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion	Not a TEC	Critically Endangered	87.75 (includes 64.03 ha of 'derived' or 'secondary' grasslands)

6.2.3 Threatened species

BAM candidate species list for the sub-precinct is provided in Appendix D-3.

6.2.3.1 Threatened flora

Based on the candidate species list (species credit species) returned for PCT 1191 and PCT 1110 by the BAM-C, and the field survey that has been undertaken in this sub-precinct to date, the following threatened species may have habitat in the Western Lake Jindabyne sub-precinct:

- Plants including *Calotis glandulosa*, *Leucochrysum albicans* var. *tricolor*, *Prasophyllum petilum*, *Swainsona sericea*, and *Thesium australe.*

No targeted threatened plant species surveys have been undertaken within the Western Lake Jindabyne sub-precinct to date. Some habitats within the Western Lake Jindabyne sub-precinct, including grassland areas, appear to be at least moderately suitable for the species listed above so targeted surveys for these species would be needed in order to be able to find these species or to be able to discount their occurrence within this sub-precinct.

6.2.3.2 Threatened fauna

Based on the candidate species list (species credit species) returned for PCT 1191 and PCT 1110 by the BAM-C, and the field survey that has been undertaken in this sub-precinct to date, the following threatened species may have habitat in the Western Lake Jindabyne sub-precinct:

- Mammals including Eastern Pygmy-possum and Southern Myotis.
- Birds including Pink Robin.
- Reptiles including Pink-tailed Legless Lizard and Striped Legless Lizard.

No targeted threatened animal species surveys have been undertaken within the Western Lake Jindabyne sub-precinct to date. Some habitats within the Western Lake Jindabyne sub-precinct, including grassland areas, appear to be at least moderately suitable for the species listed above so targeted surveys for these species would be needed in order to be able to find these species or to be able to discount their occurrence within this sub-precinct.

There were stick nests found within the Western Lake Jindabyne. Survey would be required to determine if the nest is active and whether it belongs to Little Eagle.

6.3 Planned development

Planned development for the Western Lake Jindabyne sub-precinct consists of new development on undeveloped land consisting of a range of new developments focussed on tourism attractions and accommodation including eco-resort, holiday park, golf club and tourist accommodation.

6.4 Opportunities and constraints

The Western Lake Jindabyne sub-precinct has been subject to long history of agricultural grazing which is continuing to the present day. As a result, the majority of the sub-precinct is farmland. There are however some areas of higher biodiversity value including stands of trees in moderate condition at 'Rabbits Corner'. Only a small area of the Western Lake Jindabyne sub-precinct has been surveyed to date so the opportunities and constraints presented here may not be applicable to the sub-precinct as a whole but will be useful to guide decision making.

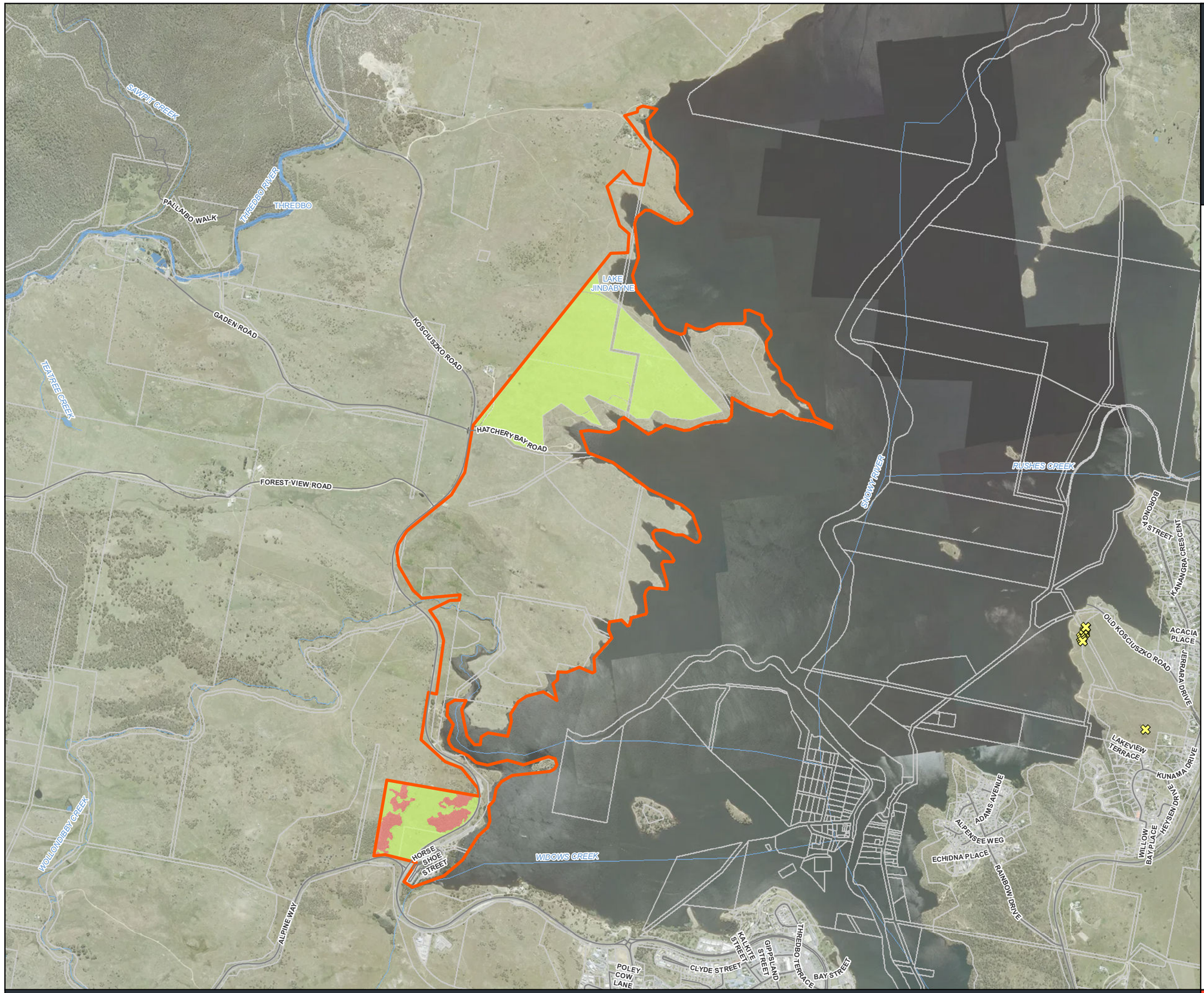
The areas of the Western Lake Jindabyne sub-precinct that have been surveyed appear to be dominated by PCT 1191 Exotic dominant grassland that is subject to significant invasion by a number of High Threat Weeds. These grasslands are considered to be 'secondary' or 'derived' grasslands and are generally dominated by exotic perennial and annual grasses and herbs. These grassland areas contain a high abundance and cover of High Threat weed species (particularly *Rosa rubiginosa, Bromus diandrus, Acetosella vulgaris, Nassella trichotoma,* and *Hypericum perforatum*) but do still retain a low level of native species richness and cover. As such, given the broad definition of the BC Act listed Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion which includes 'secondary' or 'derived' grasslands these grasslands are considered to be part of the TEC (albeit a significantly degraded form). Avoiding impact to the TEC is not possible in this sub-precinct but the impact would primarily be to degraded grassland forms.

The best outcome for biodiversity in this sub-precinct is to avoid impact to the areas of highest biodiversity value in terms of PCTs in moderate condition and focus development on the PCT 1191 Exotic dominant grasslands and Native dominant grasslands, and where necessary areas of Rocky outcrop. The entirety of this sub-precinct has not been surveyed and as such there could also be some grasslands that could be assigned to PCT 1110 which could be potential EPBC Act listed Natural Temperate Grassland of the South Eastern Highlands TEC. Future surveys of the sub-precinct would determine this.

In summary the constraints and opportunities in this sub-precinct include:

- Constraints – Areas of PCT 1191 (Moderate) at 'Rabbits Corner' which are the best quality components of the BC Act listed Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion TEC in the sub-precinct.
- Opportunities – Areas of Native dominant grassland and Exotic dominant grassland and PCT 1191 Rocky outcrop or otherwise modified condition classes are the most suitable for future development.

Constraints mapping for the sub-precinct is provided in Figure 6.1.



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Snowy SAP - Biodiversity Constraints

Figure 6.1

Western Lake Jindabyne Sub-precinct
Catalyst Precinct

Legend

- Precinct Boundary
- Cadastre
- Waterbodies
- Watercourse
- Roads

Threatened Flora Species

- *Swainsona sericea (potential)*

Biodiversity Constraints

- High
- Low

0 0.55 1.1 km

Coordinate system: GDA 1994 MGA Zone 55

Scale ratio correct when printed at A3

1:23,000 Date: 4/04/2022

Data sources: - NSWSS, Geoscience Australia, DPIE, Metromap

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7 Planning considerations

7.1 EPBC Act referral

The Catalyst precinct contains some areas of native vegetation that are part of the Natural Temperate Grassland of the South Eastern Highlands critically endangered ecological community listed under the EPBC Act. This TEC is present in the Mountain Bike Adventure Park and Southern Connector Road sub-precincts.

The EPBC Act listed tree species *Eucalyptus nicholii* was recorded during the field survey, but these are planted trees outside of their natural distribution. Listed Migratory species including Satin Flycatcher and Rufous Fantail were also recorded within the Catalyst precinct during the surveys.

The Catalyst precinct also provides potential habitat for EPBC Act listed threatened species including *Calotis glandulosa, Leucochrysum albicans* var. *tricolor, Prasophyllum petilum, Swainsona sericea*, and *Thesium australe*. Habitat for these species is present in the form of PCT 1191 and PCT 1110. *Glycine latrobeana* has habitat modelled by the PMST in the Mountain Bike and Adventure Park sub-precinct (species or species habitat may occur). Given the similarities of the habitat present in the Mountain Bike and Adventure Park sub-precinct to known habitats for *Glycine latrobeana* in Victoria there is a possibility that this species could occur.

These listed TECs, threatened species and Migratory species are Matters of National Environmental Significance. A person must not take an action that has, will have, or is likely to have a significant impact on any Matters of National Environmental Significance without approval from the Australian Government Minister for the Environment. If a development within the Catalyst precinct is likely to have a significant impact on a matter of national environmental significance such as the Natural Temperate Grassland of the South Eastern Highlands critically endangered ecological community, an EPBC Act listed threatened species, or listed Migratory species, the action needs to be referred to determine whether or not a proposed action will need formal assessment and approval under the EPBC Act. If the Minister decides that significant impacts are likely, then the action requires approval under the EPBC Act. The action is then referred to as a controlled action.

There is a key opportunity in the Masterplanning process to avoid potential impacts to Matters of National Environmental significance in the form of the Natural Temperate Grassland of the South Eastern Highlands critically endangered ecological community, and potetntial habitat for EPBC Act listed threatened species including *Calotis glandulosa, Leucochrysum albicans* var. *tricolor, Prasophyllum petilum, Swainsona sericea*, *Thesium australe* and (potentially) *Glycine latrobeana* (i.e. PCT 1191 and PCT 1110) and listed Migratory species.

7.2 Biodiversity offset scheme

Entry to the Biodiversity Offset Scheme (BOS) is triggered by developments, projects and activities that meet certain thresholds for significant impacts on biodiversity, or on an opt-in basis. The BOS applies to a local development assessed under Part 4 of the *Environmental Planning and Assessment Act 1979* that triggers the BOS threshold or is likely to significantly affect threatened species based on the test of significance in section 7.3 of the BC Act. Future development within the Catalyst precinct would require assessment against the BOS thresholds to determine whether the BOS would apply to the particular development at the development application stage.

Under the BOS, applications for development or clearing approvals must set out how impacts on biodiversity will be avoided and minimised. Residual impacts can be offset by the purchase and/or retirement of biodiversity credits or payment to the Biodiversity Conservation Fund.

Impact to areas identified as High biodiversity constraint would require significant offsets. As such, avoidance of these areas should be considered in this early stage. Areas identified as Moderate constraint would likely require less offsets,

while the areas identified as Low constraint may not require any offsets at all (note that this needs to be determined on an individual basis for a development).

The presence of serious and irreversible impact (SAII) entities within the Catalyst precinct means that for Part 4 development (that is not State Significant Development or State Significant Infrastructure), the approval authority must not grant approval if they determine the proposal is likely to have a serious and irreversible impact on biodiversity values. This is discussed further in Section 7.3. Due to the presence of SAII entities in the Catalyst precinct, Biodiversity Certification may be the best process for biodiversity assessment. Biodiversity Certification offers a streamlined biodiversity assessment process for areas of land that are proposed for development that identifies areas that can be developed after they are certified, and measures implemented to offset the impacts of development. Where land is certified, development may proceed without the need for future site by site assessment. Biocertification is most appropriate to use in strategic land use planning at the landscape scale and as the consent authority must not grant approval if they determine the proposal is likely to have a serious and irreversible impact on biodiversity values may be a viable option for the Catalyst precinct.

7.3 Serious and irreversible impact entities

The Biodiversity Offsets Scheme recognises that there are some types of serious and irreversible impacts that the community expects will not occur except where the consent authority considers that this type of impact is outweighed by the social and economic benefits that the development will deliver to the State. The approval authority is responsible for deciding whether an impact is serious and irreversible. This decision is made in accordance with principles set out in clause 6.7 of the Biodiversity Conservation Regulation 2017. Table 7.1 sets out the effect of a serious and irreversible impact for different types of development and activities if assessment is required under the Biodiversity Offsets Scheme.

The decision maker determines if a proposal is likely to have a serious and irreversible impact by:

- Identifying the relevant entity at risk of a SAII:
  - In this case Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion and *Calotis glandulosa*.
- Evaluating the extinction risk of the SAII entity to be impacted:
  - Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion is listed as Critically Endangered under the BC Act so is facing an extremely high risk of extinction in Australia in the immediate future.
  - *Calotis glandulosa* is listed as Vulnerable under the BC Act and is facing a high risk of extinction in New South Wales in the medium-term future.
- Considering the measures taken to avoid, minimise and mitigate impacts on the entity:
  - Avoiding impacts at the planning stage is the most effective.
- Evaluating the serious and irreversible impact:
  - Where a proposed impact has been identified as potentially serious and irreversible the decision-maker must review the additional information provided for all entities at risk of a SAII by the assessor in the BAR that is prepared for the individual development. The decision-maker will use the impact assessment information to decide if the proposal is likely to increase the extinction risk of any of the relevant entities and whether impacts/losses/declines are likely to be serious and irreversible.
- Decision making:
  - Where the decision-maker is of the opinion that a proposal is likely to have a serious and irreversible impact on biodiversity values, the BC Act and the LLS Act set out the following requirements (outlined in Table 7.1; see also Section 7.2) in relation to any approval or consent of the proposal.

Serious and irreversible impacts are important to consider for the Catalyst precinct. For Part 4 developments, the approval authority must not grant approval if they determine the proposal is likely to have a serious and irreversible impact on biodiversity values. This makes avoiding impacts to SAII entities an important consideration.

Table 7.1 Effect of a serious and irreversible impact

Type of development or activity	Effect of serious and irreversible impacts
— Part 4 development (that is not State Significant Development or State Significant Infrastructure) — Clearing proposals (LLS Act and State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017)	The approval authority must not grant approval if they determine the proposal is likely to have a serious and irreversible impact on biodiversity values.
— State Significant Development — State Significant Infrastructure — Part 5 activities (where a proponent chooses to opt in to the Biodiversity Offsets Scheme) — Biodiversity Certification	The approval authority can approve a proposal which is likely to have serious and irreversible impacts. The approval authority must take those impacts into consideration and determine whether there are any additional and appropriate measures that will minimise those impacts if approval is to be granted.

The list of species (including endangered populations) and threatened ecological communities that are at risk of a serious and irreversible impact is generally updated biannually. The list of threatened ecological communities that are at risk of a serious and irreversible impact includes:

- Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion which is found throughout the Catalyst precinct. PCTs consistent with this TEC that are located in the Catalyst precinct include PCT 1191: Snow Gum – Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion.
- *Calotis glandulosa*, a species that is considered likely to have suitable habitat in the Catalyst precinct based on the presence of an associated PCT (in the form of PCT 1191) is included on the list of species that are at risk of a serious and irreversible impact.

Sections 3 to 7 provide a summary for each sub-precinct on the presence and extent of SAII entities Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion. This community also provides the potential habitat for *Calotis glandulosa*.

8 Masterplanning

An evidenced based approach should be adopted to determine the best outcome and to provide a clear pathway for the right types of future development, in the right locations. This process should seek to avoid and minimise impacts to biodiversity with a focus on mapping areas best suited to future development and expansion. This includes already disturbed areas of existing development, cleared areas, and areas supporting exotic vegetation. Areas of good condition vegetation have the highest biodiversity values and development in these areas should be avoided or minimised.

The following recommendations are provided to guide the master planning for the project.

When considering the development location and impacts it is important to consider all the elements required including associated infrastructure (e.g., roads, utilities) as well as asset protection zones.

With a focus on avoiding and minimising impacts on biodiversity, development is therefore best suited to areas that are already disturbed including areas of existing development, cleared areas, and areas supporting exotic vegetation. It is acknowledged however that some disturbed areas may still contain constraints such as threatened fauna habitat and hydrological functions important for surrounding vegetation communities which may require avoidance or minimisation/mitigation.

The following considerations should be made to minimise impacts to biodiversity as far as reasonably practicable:

- development within areas of high conservation value (natural temperate grassland and good condition vegetation) is avoided or minimised and offset
- focussing or keeping development within already disturbed areas as far as possible
- locating development nearby existing infrastructure to limit the need for additional impacts associated with creation of infrastructure and services (e.g., roads and utilities)
- maintaining a buffer between high ecological constraints and development. A buffer of 30 m should be applied, or for specific species as specified in the Threatened Species Database.
- co-locating (and infill) developments as to minimise the spread of impacts on biodiversity values.

8.1 Aims

The aim of the SAP should be to avoid, conserve and enhance biodiversity values of the region. Specifically, the aims should be to:

- preserve the Precinct's landscape, cultural, heritage and biodiversity values
- avoid or minimise impacts to threatened ecological communities
- minimise the removal of remnant vegetation wherever possible
- preserve and rehabilitate natural waterways, which contribute to the area's character and biodiversity
- prioritise new development in areas of low ecological value
- maintain and improve green connections across the Precinct, including strategic revegetation to connect wildlife habitats and provide steppingstone linkages for mobile fauna
- improve water quality and reduce stormwater run-off through passive landscape design
- minimise impacts to important habitats such as rocky outcropping.

8.2 Performance criteria

1. Areas of high ecological constraint should not be removed. Development may occur in these areas if it is for essential infrastructure or where it can be demonstrated that impacts are minimal and will be appropriately offset.
2. Development may allow for the removal of some areas of high ecological constraint. Development planning should consider the future uses of land and how biodiversity values can be retained. This may include the provision of vegetation links, the enhancement of riparian corridors and the retention and integration of smaller remnant vegetation areas and paddock trees with green infrastructure and active transport connections. Development should be designed to ensure connectivity through the landscape including corridors linking the lake foreshore with areas of high altitude.
3. Development should be designed to be sympathetic to the biodiversity constraints.
4. Development should be designed to ensure connectivity through the landscape including corridors linking the lake foreshore with areas of high altitude.
5. Development should be concentrated in and around already disturbed areas. Co-locating (and infill) developments to minimise the spread of impacts on biodiversity values
6. Where possible, development should provide a suitable buffer between areas of high ecological values and buildings and structures.
7. Development should be focused on colocation and infill development to minimise the spread of impacts on biodiversity values.
8. Development should minimise the clearing of vegetation, such as existing native vegetation and paddock trees, and important habitat areas, such as rocky outcrops.
9. Tree plantings of endemic local species is encouraged to create green networks that support wildlife corridors and vegetation steppingstones for fauna movement. These species should be from a genetic source (usually seed) that have been assessed as being able to grow comfortably in the conditions projected from the present day to the end of the life of the tree.
10. Riparian corridors must be preserved and revegetated where possible. Setbacks to the corridors are to be provided in accordance with the Guidelines for Controlled Activities on Waterfront Land (2018, NRAR).

8.3 Supporting provisions to be developed

1. Development to avoid impacts to high ecological constraint by altering the development proposal. A suitable buffer around these areas must be provided to ensure its protection both during the short-term construction phase of development and in the long-term use of the area.
2. Further assessment for threatened biodiversity should be undertaken when specific impacts are known for sites that have not been surveyed and/or where there is potential habitat for threatened species.
3. A Management Plan that incorporates the biodiversity aims should be developed as part of the Delivery Plan or DCP. This plan should address:

    a. The retention and maintenance of existing native vegetation and areas of high ecological areas (high constraint).
    b. Additional planting and the creation of connections, wildlife corridors and vegetation steppingstones, where possible.
    c. Areas for new public open spaces, publicly accessible areas or paths, including appropriate management strategies for these areas.
    d. Riparian corridors, setbacks and design objectives for development interfacing with watercourses.
    e. Plantings along road reserves that address visual amenity, public amenity considerations and road safety.
    f. Client ready species which are locally endemic to the Region.
    g. The mitigation of urban heat island impacts, particularly in the Town Centre.
    h. Connection and Return to Connection, including through, but not limited to, landscape design.
    i. Site-based setbacks, landscaping and public domain requirements.
    j. How vegetation clearing and biodiversity offsets will be managed (either across Precincts, Sub-Precincts or on a development-by-development basis).

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9.5 Field survey limitations

No sampling technique can eliminate the possibility that a species is present on a site. For example, some species of plant may be present in the soil seed bank and some fauna species use habitats on a sporadic or seasonal basis and may not be present on-site during surveys. The conclusions in this report are based upon previous studies, data acquired for the site and the biodiversity field surveys and are, therefore, merely indicative of the environmental condition of the site at the time of preparing the report, including the presence or otherwise of species. Also, it should be recognised that site conditions, including the presence of threatened species, can change with time.

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Appendix A

Mountain Bike and Adventure Park sub-precinct

APPENDIX A-1
Mountain Bike and Adventure Park sub-precinct flora survey data

Veg Zone = PCT1191 Good			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: EpaucrubBamPl13			**46**	**37**	2	5	10	19	1	0	**9**	3
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			127	**124**	45	4.7	68.9	5.2	0.2	0	**3**	0.7
Asplenium flabellifolium	0.2	20	EG						0.2			
Verbascum thapsus	1	50	EX								1	
Trifolium spp.	0.3	500	EX								0.3	
Hypochaeris radicata	0.3	100	EX								0.3	
Trifolium repens	0.2	50	EX								0.2	
Taraxacum officinale	0.2	20	EX								0.2	
Plantago lanceolata	0.3	30	EX								0.3	
Cymbonotus spp.	0.2	20	FG					0.2				
Geranium spp.	0.3	150	FG					0.3				
Senecio spp. 1	0.3	20	FG					0.3				
Senecio spp. 2	1	50	FG					1				
Dichondra repens	0.3	200	FG					0.3				
Acaena spp.	0.3	100	FG					0.3				
Euchiton spp.	1	500	FG					1				
Hydrocotyle spp.	0.3	50	FG					0.3				
Gonocarpus tetragynus	0.2	30	FG					0.2				
Scleranthus biflorus	0.1	3	FG					0.1				
Galium spp.	0.1	2	FG					0.1				
Asperula conferta	0.2	20	FG					0.2				
Plantago spp.	0.2	30	FG					0.2				
tiny basal tuft - poss. Coronidium? - inadequate material for ID	0.1	1	FG					0.1				
Hovea heterophylla	0.2	4	FG					0.2				
Brachyscome spp.	0.1	2	FG					0.1				
basal tuft - poss. Craspedia - - inadequate material for ID	0.1	1	FG					0.1				
Cynoglossum suaveolens	0.1	2	FG					0.1				
Hypericum gramineum	0.1	3	FG					0.1				
Poa sieberiana	40	1000	GG				40					
Poa spp.	10	300	GG				10					
Poa spp.	5	100	GG				5					
Themeda triandra	10	300	GG				10					
Carex breviculmis	0.3	30	GG				0.3					
Carex inversa	0.1	2	GG				0.1					
Luzula flaccida	0.2	20	GG				0.2					
Microlaena stipoides	0.2	10	GG				0.2					
Elymus scaber	3	50	GG				3					
Echinopogon spp.	0.1	1	GG				0.1					
Acetosella vulgaris	0.3	50	HT									0.3
Hypericum perforatum	0.3	20	HT									0.3
Rosa rubiginosa	0.1	2	HT									0.1
Melicytus angustifolius subsp. divaricatus	1	6	SG			1						
Mirbelia oxylobioides	3	30	SG			3						
Pimelea pauciflora	0.5	10	SG			0.5						
Pimelea linifolia subsp. caesia	0.1	1	SG			0.1						
Leucopogon fletcheri subsp. brevisepalus	0.1	3	SG			0.1						
Eucalyptus pauciflora	40	20	TG		40							
Acacia dealbata	5	14	TG		5							

Veg Zone = PCT1191 Good			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: Epaurubbpl3			**45**	**39**	4	9	6	19	1	0	**5**	1
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			166.7	**143.2**	63.5	18	52.7	8.8	0.2	0	**23**	2
Asplenium flabellifolium	0.2	10	EG						0.2			
Anthoxanthum odoratum	20	1000	EX								20	
Hypochaeris radicata	0.5	20	EX								0.5	
Plantago lanceolata	0.2	2	EX								0.2	
Verbascum thapsus	0.5	20	EX									
Vulpia myuros	0.3	10	EX								0.3	
Acaena spp.	0.5	30	FG					0.5				
Asperula scoparia	0.3	30	FG					0.3				
Crassula sieberiana	0.1	3	FG					0.1				
Cymbonotus spp.	0.2	4	FG					0.2				
Cynoglossum suaveolens	0.1	2	FG					0.1				
Dichondra repens	0.2	50	FG					0.2				
Euchiton involucratus	0.2	4	FG					0.2				
Galium gaudichaudii	0.2	20	FG					0.2				
Geranium potentilloides	0.3	20	FG					0.3				
Gonocarpus tetragynus	0.5	20	FG					0.5				
Hydrocotyle laxiflora	1	200	FG					1				
Poranthera microphylla	0.5	30	FG					0.5				
Scleranthus diander	0.1	2	FG					0.1				
Senecio gunnii	1	30	FG					1				
Senecio prenanthoides	1	30	FG					1				
Senecio quadridentatus	0.2	4	FG					0.2				
Stackhousia monogyna	0.2	4	FG					0.2				
Stellaria pungens	2	50	FG					2				
Viola betonicifolia	0.2	6	FG					0.2				
Carex inversa	0.3	30	GG				0.3					
Echinopogon spp.	0.1	1	GG				0.1					
Lomandra longifolia	1	30	GG				1					
Poa sieberiana var. cyanophylla	0.3	10	GG				0.3					
Poa sieberiana var. sieberiana	50	500	GG				50					
Themeda triandra	1	20	GG				1					
Acetosella vulgaris	2	200	HT									2
Acrotriche serrulata	0.5	8	SG			0.5						
Brachyloma daphnoides	1	6	SG			1						
Cassinia longifolia	0.1	1	SG			0.1						
Cryptandra amara	0.3	8	SG			0.3						
Exocarpos strictus	0.3	2	SG			0.3						
Indigofera australis	0.1	1	SG			0.1						
Mirbelia oxylobioides	15	100	SG			15						
Olearia erubescens	0.5	3	SG			0.5						
Pimelea latifolia	0.2	4	SG			0.2						
Acacia dealbata	3	20	TG		3							
Acacia melanoxylon	0.5	1	TG		0.5							
Eucalyptus pauciflora	50	22	TG		50							
Eucalyptus rubida	10	12	TG		10							

Veg Zone = PCT1191 Good			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: Epaucrubbpl7			**51**	**38**	4	5	12	17	0	0	**13**	3
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			142.5	**83.1**	62	1.2	15.2	4.7	0	0	**59.4**	5.6
Anthoxanthum odoratum	50	1000	EX								50	
Hypochaeris glabra	0.1	3	EX								0.1	
Hypochaeris radicata	0.3	20	EX								0.3	
Medicago lupulina	0.2	20	EX								0.2	
Myosotis discolor	0.2	20	EX								0.2	
Poa annua	0.2	10	EX								0.2	
Taraxacum officinale	0.3	10	EX								0.3	
Trifolium arvense	0.3	20	EX								0.3	
Verbascum thapsus	0.2	4	EX								0.2	
Vulpia myuros	2	50	EX								2	
Acaena ovina	0.5	30	FG					0.5				
Ajuga australis	0.2	3	FG					0.2				
Asperula scoparia	0.2	6	FG					0.2				
Coronidium monticola	0.1	2	FG					0.1				
Dichondra repens	0.2	30	FG					0.2				
Galium gaudichaudii	0.2	10	FG					0.2				
Geranium solanderi	0.5	50	FG					0.5				
Gonocarpus tetragynus	0.2	4	FG					0.2				
Hydrocotyle laxiflora	0.5	50	FG					0.5				
Mitrasacme serpyllifolia	0.2	4	FG					0.2				
Oxalis perennans	0.1	10	FG					0.1				
Poranthera microphylla	0.1	2	FG					0.1				
Rumex spp.	0.1	1	FG					0.1				
Senecio gunnii	0.5	10	FG					0.5				
Senecio prenanthoides	0.5	20	FG					0.5				
Senecio quadridentatus	0.3	6	FG					0.3				
Stellaria pungens	0.3	10	FG					0.3				
Bromus spp.	0.5	20	GG				0.5					
Carex appressa	0.1	1	GG				0.1					
Carex inversa	0.1	1	GG				0.1					
Dichelachne spp.	0.1	1	GG				0.1					
Echinopogon spp.	0.2	3	GG				0.2					
Elymus scaber	0.2	3	GG				0.2					
Luzula flaccida	0.2	4	GG				0.2					
Panicum spp.	0.2	4	GG				0.2					
Poa meionectes	10	100	GG				10					
Poa sieberiana var. cyanophylla	0.1	2	GG				0.1					
Poa sieberiana var. sieberiana	3	50	GG				3					
Themeda triandra	0.5	10	GG				0.5					
Acetosella vulgaris	5	300	HT									5
Hypericum perforatum	0.3	20	HT									0.3
Rosa rubiginosa	0.3	3	HT									0.3
Cassinia longifolia	0.1	1	SG			0.1						
Leucopogon fletcheri subsp. brevisepalus	0.2	4	SG			0.2						
Melicytus angustifolius subsp. divaricatus	0.5	2	SG			0.5						
Mirbelia oxylobioides	0.3	2	SG			0.3						
Olearia erubescens	0.1	1	SG			0.1						

Veg Zone = PCT1191 Good			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: Epaucrubbpl7			**51**	**38**	4	5	12	17	0	0	**13**	3
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			142.5	**83.1**	62	1.2	15.2	4.7	0	0	**59.4**	5.6
Acacia dealbata	5	10	TG		5							
Acacia melanoxylon	2	1	TG		2							
Eucalyptus pauciflora	40	22	TG		40							
Eucalyptus rubida	15	12	TG		15							

Veg Zone = PCT1191 Good			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: Mtbsg3			**38**	**27**	2	6	6	10	1	2	**11**	2
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			87.2	**39.2**	25	6.1	4.2	3.5	0.2	0.2	**48**	3
Cheilanthes sieberi	0.2	20	EG						0.2			
Aira elegantissima	0.4	100	EX								0.4	
Anthoxanthum odoratum	0.1	1	EX								0.1	
Erodium cicutarium	0.1	1	EX								0.1	
Hypochaeris glabra	0.2	2	EX								0.2	
Linaria arvensis	1	20	EX								1	
Medicago lupulina	0.2	20	EX								0.2	
Petrorhagia nanteuilii	2	2000	EX								2	
Trifolium arvense	40	2000	EX								40	
Verbascum thapsus	1	100	EX								1	
Chamaesyce drummondii	0.1	10	FG					0.1				
Gonocarpus tetragynus	2	25	FG					2				
Crassula sieberiana	0.2	50	FG					0.2				
Cymbonotus lawsonianus	0.1	10	FG					0.1				
Galium gaudichaudii	0.4	25	FG					0.4				
Hydrocotyle laxiflora	0.2	25	FG					0.2				
Hypericum gramineum	0.1	10	FG					0.1				
Hypoxis hygrometrica	0.2	20	FG					0.2				
Oxalis perennans	0.1	10	FG					0.1				
Wahlenbergia stricta	0.1	10	FG					0.1				
Elymus scaber	2	100	GG				2					
Austrostipa scabra	0.1	10	GG				0.1					
Panicum effusum	0.1	1	GG				0.1					
Poa meionectes	0.5	20	GG				0.5					
Rytidosperma sp.	0.5	50	GG				0.5					
Themeda triandra	1	50	GG				1					
Hypericum perforatum	1	50	HT									1
Acetosella vulgaris	2	500	HT									2
Desmodium varians	0.1	10	OG							0.1		
Glycine clandestina	0.1	1	OG							0.1		
Bossiaea buxifolia	0.1	1	SG			0.1						
Brachyloma daphnoides	0.5	5	SG			0.5						
Cassinia longifolia	5	20	SG			5						
Melicytus angustifolius subsp. *divaricatus*	0.2	2	SG			0.2						
Mirbelia oxylobioides	0.1	1	SG			0.1						
Pimelea pauciflora	0.2	2	SG			0.2						
Acacia dealbata	5	10	TG		5							
Eucalyptus pauciflora	20	10	TG		20							

Veg Zone = PCT1191 Good			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
	MTBSG6		**# spp**	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: Mtbsg6			**44**	**27**	1	6	6	13	0	1	**17**	2
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			136.6	**84.9**	40	30.5	11.8	2.2	0	0.4	**51.7**	1.2
Aira elegantissima	0.1	10	EX								0.1	
Bromus hordeaceus	40	2000	EX								40	
Caryophyllaceae sp.	0.2	50	EX								0.2	
Cirsium vulgare	0.2	10	EX								0.2	
Crepis capillaris	0.1	2	EX								0.1	
Crataegus monogyna	0.2	1	EX								0.2	
Hypochaeris radicata	0.7	2	EX								0.7	
Medicago lupulina	1	500	EX								1	
Myosotis discolor	0.2	50	EX								0.2	
Onopordum acanthium	0.1	1	EX								0.1	
Orobanche sp.	0.1	1	EX								0.1	
Petrorhagia nanteuilii	0.1	1	EX								0.1	
Trifolium arvense	5	1000	EX								5	
Verbascum Thapsus	0.5	20	EX								0.5	
Vulpia myuros	2	1000	EX								2	
Dichondra sp. A	0.2	10	FG					0.2				
Acaena ovina	0.2	20	FG					0.2				
Ajuga Australis	0.1	10	FG					0.1				
Asperula Scoparia	0.2	5	FG					0.2				
Crassula sieberiana	0.1	10	FG					0.1				
Cymbonotus lawsonianus	0.1	1	FG					0.1				
Euchiton sphaericus	0.1	10	FG					0.1				
Geranium sp.	0.2	10	FG					0.2				
Geranium solanderi	0.2	10	FG					0.2				
Hydrocotyle laxiflora	0.4	25	FG					0.4				
Hypericum gramineum	0.1	10	FG					0.1				
Oxalis perennans	0.2	20	FG					0.2				
Senecio pinnatifolius	0.1	1	FG					0.1				
Austrostipa scabra	0.2	10	GG				0.2					
Carex inversa	0.1	5	GG				0.1					
Lomandra longifolia	1	10	GG				1					
Poa sieberiana	10	100	GG				10					
Poa sieberiana var. cyanophylla	0.1	1	GG				0.1					
Themeda triandra	0.4	20	GG				0.4					
Rosa rubiginosa	0.2	2	HT									0.2
Acetosella vulgaris	1	500	HT									1
Clematis leptophylla	0.4	10	OG							0.4		
Bossiaea buxifolia	0.1	1	SG			0.1						
Brachyloma daphnoides	0.1	1	SG			0.1						
Melicytus angustifolius subsp. *divaricatus*	0.1	1	SG			0.1						
Ozothamnus thyrsoideus	30	20	SG			30						
Pimelea Linifolia	0.1	1	SG			0.1						
Pimelea pauciflora	0.1	2	SG			0.1						
Eucalyptus pauciflora	40	20	TG		40							

Veg Zone = PCT1191 Moderate			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: PIMPAUCOSHBPL8			**29**	**11**	2	2	2	5	0	0	**18**	3
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			129.6	**24.7**	5	15.5	3	1.2	0	0	**104.9**	5.4
Aira elegantissima	0.2	6	EX								0.2	
Anthoxanthum odoratum	3	50	EX								3	
Bromus hordeaceus	3	150	EX								3	
Cerastium glomeratum	1	50	EX								1	
Cirsium vulgare	0.5	10	EX								0.5	
Erodium cicutarium	0.2	20	EX								0.2	
Hordeum leporinum	2	30	EX								2	
Marrubium vulgare	2	10	EX								2	
Medicago lupulina	5	500	EX								5	
Taraxacum officinale	0.3	20	EX								0.3	
Trifolium arvense	60	2000	EX								60	
Asteraceae sp. (exotic)	0.3	20	EX								0.3	
Urtica urens	1	10	EX								1	
Verbascum thapsus	20	200	EX								20	
Vulpia myuros	1	30	EX								1	
Acaena ovina	0.2	10	FG					0.2				
Dichondra repens	0.2	20	FG					0.2				
Geranium solanderi	0.3	50	FG					0.3				
Mitrasacme serpyllifolia	0.2	20	FG					0.2				
Oxalis perennans	0.3	50	FG					0.3				
Poa sp.? meionectes	1	10	GG				1					
Poa sieberiana var. sieberiana	2	50	GG				2					
Acetosella vulgaris	5	300	HT									5
Hypericum perforatum	0.3	10	HT									0.3
Nassella trichotoma	0.1	3	HT									0.1
Cassinia longifolia	0.5	1	SG			0.5						
Pimelea pauciflora	15	30	SG			15						
Acacia melanoxylon	2	1	TG		2							
Eucalyptus viminalis	3	1	TG		3							

Veg Zone = PCT1191 Moderate			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: EpaucWBPl9			**41**	**26**	2	3	8	12	0	1	**15**	4
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			119.8	**55**	42	3.3	7.1	2.5	0	0.1	**64.8**	2.1
Aira elegantissima	0.1	2	EX								0.1	
Anthoxanthum odoratum	60	2000	EX								60	
Cerastium glomeratum	0.2	10	EX								0.2	
Cirsium vulgare	0.2	6	EX								0.2	
Hypochaeris radicata	0.3	20	EX								0.3	
Medicago lupulina	0.3	50	EX								0.3	
Myosotis discolor	0.1	2	EX								0.1	
Taraxacum officinale	0.2	10	EX								0.2	
Trifolium arvense	1	50	EX								1	
Trifolium repens	0.2	20	EX								0.2	
Verbascum thapsus	0.1	1	EX								0.1	
Acaena novae-zelandiae	0.5	20	FG					0.5				
Acaena ovina	0.2	10	FG					0.2				
Asperula scoparia	0.3	30	FG					0.3				
Bulbine bulbosa	0.1	3	FG					0.1				
Dichondra repens	0.3	30	FG					0.3				
Geranium solanderi	0.2	10	FG					0.2				
Oxalis spp.	0.1	4	FG					0.1				
Poranthera microphylla	0.2	10	FG					0.2				
Senecio gunnii	0.1	1	FG					0.1				
Senecio prenanthoides	0.1	2	FG					0.1				
Senecio quadridentatus	0.2	2	FG					0.2				
Viola betonicifolia	0.2	5	FG					0.2				
Bromus spp.	0.2	10	GG				0.2					
Carex appressa	0.1	1	GG				0.1					
Juncus spp.	0.1	2	GG				0.1					
Luzula flaccida	0.1	3	GG				0.1					
Luzula modesta	0.1	1	GG				0.1					
Poa labillardierei	0.5	6	GG				0.5					
Poa meionectes	5	50	GG				5					
Poa sieberiana var. sieberiana	1	20	GG				1					
Acetosella vulgaris	1	100	HT									1
Hypericum perforatum	0.3	4	HT									0.3
Nassella trichotoma	0.5	6	HT									0.5
Rosa rubiginosa	0.3	2	HT									0.3
Glycine tabacina	0.1	1	OG							0.1		
Melicytus angustifolius subsp. divaricatus	1	4	SG			1						
Mirbelia oxylobioides	0.3	1	SG			0.3						
Pimelea pauciflora	2	8	SG			2						
Acacia melanoxylon	2	1	TG		2							
Eucalyptus pauciflora	40	20	TG		40							

Veg Zone = PCT1191 Moderate			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: EpaucWBPl16			**55**	**37**	1	5	7	21	2	1	**18**	5
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			132.9	**89.3**	40	13.1	31.3	4.5	0.3	0.1	**43.6**	31.3
Asplenium flabellifolium	0.2	10	EG						0.2			
Cheilanthes austrotenuifolia	0.1	2	EG						0.1			
Aira elegantissima	0.3	10	EX								0.3	
Bromus hordeaceus	3	50	EX								3	
Cerastium glomeratum	0.1	1	EX								0.1	
Cirsium vulgare	0.2	4	EX								0.2	
Echium vulgare	0.1	1	EX								0.1	
Hypochaeris glabra	0.1	6	EX								0.1	
Hypochaeris radicata	0.5	30	EX								0.5	
Linaria arvensis	0.1	2	EX								0.1	
Medicago lupulina	0.5	50	EX								0.5	
Petrorhagia nanteuilii	0.2	4	EX								0.2	
Taraxacum officinale	0.2	20	EX								0.2	
Trifolium arvense	5	1000	EX								5	
Verbascum thapsus	2	30	EX								2	
Acaena ovina	0.3	10	FG					0.3				
Ajuga australis	0.1	2	FG					0.1				
Asperula scoparia	0.2	5	FG					0.2				
Cynoglossum australe	0.1	1	FG					0.1				
Dichondra repens	0.2	4	FG					0.2				
Epilobium billardierianum	0.1	1	FG					0.1				
Euchiton spp.	0.3	20	FG					0.3				
Galium gaudichaudii	0.5	4	FG					0.5				
Geranium spp.	0.5	50	FG					0.5				
Gonocarpus tetragynus	0.5	6	FG					0.5				
Hydrocotyle laxiflora	0.1	3	FG					0.1				
Hypericum gramineum	0.1	2	FG					0.1				
Mitrasacme serpyllifolia	0.2	2	FG					0.2				
Oxalis spp.	0.2	6	FG					0.2				
Plantago varia	0.2	10	FG					0.2				
Scleranthus diander	0.3	2	FG					0.3				
Scleranthus biflorus	0.1	1	FG					0.1				
Senecio prenanthoides	0.1	1	FG					0.1				
Senecio quadridentatus	0.1	2	FG					0.1				
Solenogyne gunnii	0.1	2	FG					0.1				
Viola betonicifolia	0.2	6	FG					0.2				
Austrostipa spp.	0.2	4	GG				0.2					
Elymus scaber	0.1	1	GG				0.1					
Lomandra longifolia	0.2	1	GG				0.2					
Poa meionectes	0.5	6	GG				0.5					
Poa sieberiana var. cyanophylla	10	50	GG				10					
Poa sieberiana var. sieberiana	20	200	GG				20					
Themeda triandra	0.3	4	GG				0.3					
Acetosella vulgaris	15	1000	HT									15
Bromus diandrus	10	300	HT									10
Holcus lanatus	5	100	HT									5
Hypericum perforatum	1	20	HT									1

Veg Zone = PCT1191 Moderate			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: EpaucWBPl16			**55**	**37**	1	5	7	21	2	1	**18**	5
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			132.9	**89.3**	40	13.1	31.3	4.5	0.3	0.1	**43.6**	31.3
Rosa rubiginosa	0.3	3	HT									0.3
Desmodium varians	0.1	2	OG							0.1		
Daviesia mimosoides	2	2	SG			2						
Melicytus angustifolius subsp. divaricatus	0.3	2	SG			0.3						
Mirbelia oxylobioides	10	20	SG			10						
Pimelea linifolia subsp. caesia	0.3	6	SG			0.3						
Pimelea pauciflora	0.5	2	SG			0.5						
Eucalyptus pauciflora	40	18	TG		40							

Veg Zone = PCT1191 Moderate			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: EpaucWBPl15			**46**	**30**	3	5	3	17	0	2	**16**	5
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			105.8	**63.7**	31.3	3	25.1	4	0	0.3	**42.1**	8.9
Aira elegantissima	0.1	3	EX								0.1	
Bromus hordeaceus	20	500	EX								20	
Cirsium vulgare	1	20	EX								1	
Hypochaeris glabra	0.1	2	EX								0.1	
Hypochaeris radicata	0.3	20	EX								0.3	
Medicago lupulina	0.2	10	EX								0.2	
Poa annua	1	50	EX								1	
Taraxacum officinale	0.3	10	EX								0.3	
Trifolium arvense	5	500	EX								5	
Verbascum thapsus	0.2	6	EX								0.2	
Vulpia myuros	5	200	EX								5	
Acaena ovina	0.5	20	FG					0.5				
Ajuga australis	1	30	FG					1				
Asperula scoparia	0.3	20	FG					0.3				
Cynoglossum australe	0.1	1	FG					0.1				
Cynoglossum suaveolens	0.1	2	FG					0.1				
Euchiton spp.	0.2	4	FG					0.2				
Galium gaudichaudii	0.1	1	FG					0.1				
Geranium spp.	0.3	50	FG					0.3				
Hypericum gramineum	0.2	6	FG					0.2				
Oxalis spp.	0.1	4	FG					0.1				
Plantago varia	0.2	10	FG					0.2				
Poranthera microphylla	0.1	3	FG					0.1				
Senecio prenanthoides	0.3	4	FG					0.3				
Senecio quadridentatus	0.1	2	FG					0.1				
Stackhousia monogyna	0.1	1	FG					0.1				
Stellaria pungens	0.2	10	FG					0.2				
Viola betonicifolia	0.1	2	FG					0.1				
Poa sieberiana var. cyanophylla	5	30	GG				5					
Poa sieberiana var. sieberiana	20	200	GG				20					
Themeda triandra	0.1	1	GG				0.1					
Acetosella vulgaris	3	200	HT									3
Bromus diandrus	5	150	HT									5
Holcus lanatus	0.5	10	HT									0.5
Hypericum perforatum	0.2	2	HT									0.2
Rosa rubiginosa	0.2	1	HT									0.2
Clematis leptophylla	0.2	2	OG							0.2		
Desmodium varians	0.1	4	OG							0.1		
Melicytus angustifolius subsp. divaricatus	0.2	1	SG			0.2						
Mirbelia oxylobioides	2	6	SG			2						
Pimelea linifolia subsp. caesia	0.1	2	SG			0.1						
Pimelea pauciflora	0.5	2	SG			0.5						
Rubus parvifolius	0.2	2	SG			0.2						
Acacia dealbata	0.3	1	TG		0.3							
Acacia melanoxylon	1	1	TG		1							
Eucalyptus pauciflora	30	10	TG		30							

Veg Zone = PCT1191 Moderate			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: MTBSG2			**33**	**17**	2	2	4	9	0	0	**16**	2
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			108.6	**57.7**	30.5	1.4	23.1	2.7	0	0	**50.9**	5.4
Anthoxanthum odoratum	1	50	EX								1	
Bromus hordeaceus	40	2000	EX								40	
Caryophyllaceae sp.	0.1	10	EX								0.1	
Cirsium vulgare	0.2	10	EX								0.2	
Crepis capillaris	0.1	10	EX								0.1	
Echium vulgare	0.2	20	EX								0.2	
Erodium cicutarium	0.1	20	EX								0.1	
Holcus lanatus	0.1	1	EX								0.1	
Medicago lupulina	0.4	25	EX								0.4	
Onopordum acanthium	0.1	2	EX								0.1	
Poa pratensis	0.1	5	EX								0.1	
Taraxacum officinale	0.1	1	EX								0.1	
Trifolium arvense	2	200	EX								2	
Verbascum thapsus	1	100	EX								1	
Acaena ovina	1	100	FG					1				
Asperula conferta	0.1	10	FG					0.1				
Cymbonotus lawsonianus	0.1	5	FG					0.1				
Dichondra sp. A	0.7	1	FG					0.7				
Geranium solanderi	0.4	50	FG					0.4				
Hydrocotyle laxiflora	0.1	10	FG					0.1				
Microseris lanceolata	0.1	1	FG					0.1				
Rumex brownii	0.1	10	FG					0.1				
Senecio quadridentatus	0.1	1	FG					0.1				
Elymus scaber	20	2000	GG				20					
Austrostipa sp.	1	50	GG				1					
Carex appressa	0.1	2	GG				0.1					
Poa sieberiana var. sieberiana	2	20	GG				2					
Acetosella vulgaris	5	500	HT									5
Nassella trichotoma	0.4	20	HT									0.4
Melicytus angustifolius subsp. *divaricatus*	0.4	5	SG			0.4						
Pimelea pauciflora	1	30	SG			1						
Acacia dealbata	0.5	2	TG		0.5							
Eucalyptus pauciflora	30	10	TG		30							

Veg Zone = PCT1191 Moderate			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: MTBSG5			**30**	**13**	1	2	3	5	0	2	**16**	4
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			118.8	**#REF!**	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	**#REF!**	#REF!
Dichondra sp. A	0.2	10	#REF!		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Aira elegantissima	0.1	10	EX								0.1	
Anthoxanthum odoratum	5	100	EX								5	
Bromus hordeaceus	60	2000	EX								60	
Caryophyllaceae sp.	0.2	50	EX								0.2	
Echium vulgare	0.2	5	EX								0.2	
Hypochaeris radicata	0.2	25	EX								0.2	
Marrubium vulgare	0.1	1	EX								0.1	
Medicago lupulina	0.4	20	EX								0.4	
Petrorhagia nanteuilii	0.2	25	EX								0.2	
Poa pratensis	0.2	5	EX								0.2	
Trifolium arvense	20	2000	EX								20	
Verbascum thapsus	2	50	EX								2	
Acaena ovina	0.2	25	FG					0.2				
Asperula conferta	0.4	50	FG					0.4				
Geranium sp.	0.2	10	FG					0.2				
Hydrocotyle laxiflora	0.2	20	FG					0.2				
Oxalis perennans	0.1	10	FG					0.1				
Elymus scaber	1	50	GG				1					
Carex inversa	0.1	1	GG				0.1					
Poa sieberiana	5	50	GG				5					
Hypericum perforatum	0.4	25	HT									0.4
Rosa rubiginosa	0.4	10	HT									0.4
Acetosella vulgaris	1	100	HT									1
Nassella trichotoma	0.5	20	HT									0.5
Convolvulus erubescens	0.2	10	OG							0.2		
Desmodium varians	0.1	10	OG							0.1		
Melicytus angustifolius subsp. *divaricatus*	0.2	2	SG			0.2						
Pimelea pauciflora	5	15	SG			5						
Eucalyptus pauciflora	15	7	TG		15							

Veg Zone = PCT1191 Moderate			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: MTBSG9			**34**	**21**	2	2	7	10	0	0	**13**	2
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			149.7	**56.4**	40	6	3.2	7.2	0	0	**93.3**	5.4
Aira elegantissima	0.2	25	EX								0.2	
Anthoxanthum odoratum	60	5000	EX								60	
Bromus hordeaceus	20	2000	EX								20	
Cerastium spp.	2	10	EX								2	
Cirsium vulgare	0.2	10	EX								0.2	
Holcus lanatus	2	100	EX								2	
Medicago lupulina	1	1000	EX								1	
Poa pratensis	1	500	EX								1	
Trifolium arvense	0.4	50	EX								0.4	
Trifolium repens	1	500	EX								1	
Verbascum Thapsus	0.1	1	EX								0.1	
Acaena ovina	0.2	25	FG					0.2				
Asperula scoparia	0.1	10	FG					0.1				
Cymbonotus lawsonianus	0.1	10	FG					0.1				
Dichondra sp. A	5	1000	FG					5				
Geranium solanderi	0.4	50	FG					0.4				
Geranium spp.	0.4	40	FG					0.4				
Oxalis perennans	0.4	100	FG					0.4				
Stellaria pungens	0.4	20	FG					0.4				
Veronica gracilis	0.1	10	FG					0.1				
Viola betonicifolia	0.1	10	FG					0.1				
Carex appressa	0.2	5	GG				0.2					
Carex breviculmis	2	25	GG				2					
Dichelachne spp.	0.2	20	GG				0.2					
Elymus scaber	0.1	10	GG				0.1					
Lomandra longifolia	0.1	1	GG				0.1					
Poa sieberiana var. sieberiana	0.5	50	GG				0.5					
Themeda triandra	0.1	5	GG				0.1					
Acetosella vulgaris	5	1000	HT									5
Rosa rubiginosa	0.4	2	HT									0.4
Melicytus angustifolius subsp. *divaricatus*	1	10	SG			1						
Pimelea pauciflora	5	25	SG			5						
Eucalyptus pauciflora	30	25	TG		30							
Eucalyptus stellulata	10	2	TG		10							

Veg Zone = PCT1191 Poor			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: EpaucrubOWBPl10			**49**	**33**	3	4	9	13	2	2	**16**	4
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			122.2	**43.9**	25	4.6	8	5.7	0.4	0.2	**78.3**	5.9
Asplenium flabellifolium	0.2	10	EG						0.2			
Cheilanthes austrotenuifolia	0.2	20	EG						0.2			
Aira elegantissima	2	150	EX								2	
Anthoxanthum odoratum	60	2000	EX								60	
Asteraceae spp. exotic	0.1	4	EX								0.1	
Bromus hordeaceus	0.3	20	EX								0.3	
Echium vulgare	0.1	2	EX								0.1	
Erodium cicutarium	0.5	100	EX								0.5	
Linaria arvensis	0.1	2	EX								0.1	
Myosotis discolor	0.1	2	EX								0.1	
Petrorhagia nanteuilii	0.2	20	EX								0.2	
Taraxacum officinale	1	100	EX								1	
Trifolium arvense	5	500	EX								5	
Verbascum thapsus	3	30	EX								3	
Acaena novae-zelandiae	0.5	30	FG					0.5				
Acaena ovina	0.5	30	FG					0.5				
Asperula scoparia	0.1	3	FG					0.1				
Euchiton sphaericus	0.2	10	FG					0.2				
Geranium solanderi	0.5	100	FG					0.5				
Gonocarpus tetragynus	0.1	1	FG					0.1				
Hydrocotyle laxiflora	0.3	50	FG					0.3				
Mitrasacme serpyllifolia	0.2	30	FG					0.2				
Oxalis perennans	0.2	20	FG					0.2				
Senecio quadridentatus	2	30	FG					2				
Viola betonicifolia	0.5	50	FG					0.5				
Vittadinia muelleri	0.5	10	FG					0.5				
Wahlenbergia stricta	0.1	3	FG					0.1				
Austrostipa spp.	0.2	6	GG				0.2					
Dichelachne spp.	0.1	1	GG				0.1					
Echinopogon spp.	0.1	2	GG				0.1					
Elymus scaber	0.1	1	GG				0.1					
Lepidosperma spp.	0.1	1	GG				0.1					
Lomandra longifolia	5	20	GG				5					
Panicum spp.	0.1	2	GG				0.1					
Poa sp. meionectes?	2	30	GG				2					
Themeda triandra	0.3	3	GG				0.3					
Acetosella vulgaris	5	1000	HT									5
Bromus diandrus	0.2	10	HT									0.2
Hypericum perforatum	0.5	20	HT									0.5
Rosa rubiginosa	0.2	1	HT									0.2
Convolvulus erubescens	0.1	1	OG							0.1		
Desmodium varians	0.1	2	OG							0.1		
Cassinia longifolia	0.3	2	SG			0.3						
Melicytus angustifolius subsp. divaricatus	1	10	SG			1						
Mirbelia oxylobioides	0.3	2	SG			0.3						
Pimelea pauciflora	3	20	SG			3						
Acacia dealbata	10	18	TG		10							

Veg Zone = PCT1191 Poor			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: EpaucrubOWBPl10			**49**	**33**	3	4	9	13	2	2	**16**	4
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			122.2	**43.9**	25	4.6	8	5.7	0.4	0.2	**78.3**	5.9
Eucalyptus pauciflora	10	2	TG		10							
Eucalyptus rubida	5	2	TG		5							

Veg Zone = PCT1191 Poor			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: MTBSG1			**30**	**13**	1	2	3	7	0	0	**17**	2
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			109.3	**30.8**	10	6	12.1	2.7	0	0	**78.5**	2.1
Anthoxanthum odoratum	0.4	100	EX								0.4	
Bromus hordeaceus	20	2000	EX								20	
Echium vulgare	0.2	20	EX								0.2	
Erodium cicutarium	0.2	20	EX								0.2	
Crataegus monogyna	2	1	EX								2	
Hordeum sp.	0.1	10	EX								0.1	
Marrubium vulgare	2	200	EX								2	
Medicago lupulina	0.1	10	EX								0.1	
Onopordum acanthium	0.2	10	EX								0.2	
Petrorhagia nanteuilii	0.1	10	EX								0.1	
Trifolium spp.	1	500	EX								1	
Taraxacum officinale	0.1	1	EX								0.1	
Trifolium arvense	20	2000	EX								20	
Trifolium repens	20	2000	EX								20	
Verbascum thapsus	10	500	EX								10	
Ammobium alatum	0.1	10	FG					0.1				
crassula sieberiana	0.1	10	FG					0.1				
Einadia nutans	0.1	10	FG					0.1				
Geranium solanderi	2	500	FG					2				
Rumex brownii	0.1	10	FG					0.1				
Scleranthus sp.	0.1	1	FG					0.1				
Senecio quadridentatus	0.2	5	FG					0.2				
Elymus scaber	10	500	GG				10					
Carex inversa	0.1	10	GG				0.1					
Poa sieberiana var. sieberiana	2	25	GG				2					
Hypericum perforatum	0.1	10	HT									0.1
Acetosella vulgaris	2	500	HT									2
Melicytus angustifolius subsp. *divaricatus*	1	5	SG			1						
Pimelea pauciflora	5	20	SG			5						
Eucalyptus pauciflora	10	2	TG		10							

Veg Zone = PCT1191 Poor			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: MTBSG4			**26**	**12**	1	2	6	3	0	0	**14**	3
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			114.9	**17**	10	3	2.4	1.6	0	0	**97.9**	5.5
Aira elegantissima	0.4	50	EX								0.4	
Bromus hordeaceus	20	2000	EX								20	
Crepis capillaris	0.1	5	EX								0.1	
Echium vulgare	0.2	20	EX								0.2	
Erodium cicutarium	2	10	EX								2	
Hypochaeris glabra	0.5	50	EX								0.5	
Medicago lupulina	0.2	10	EX								0.2	
Poa pratensis	2	20	EX								2	
Trifolium arvense	25	2000	EX								25	
Verbascum thapsus	2	25	EX								2	
Vulpia myuros	40	2000	EX								40	
Acaena ovina	0.2	20	FG					0.2				
Crassula sieberiana	1	20	FG					1				
Geranium solanderi	0.4	50	FG					0.4				
Austrostipa scabra	0.4	50	GG				0.4					
Carex breviculmis	0.1	20	GG				0.1					
Carex inversa	1	70	GG				1					
Poa labillardierei	0.2	3	GG				0.2					
Poa meionectes	0.4	15	GG				0.4					
Poa sieberiana	0.3	20	GG				0.3					
Rosa rubiginosa	0.1	1	HT									0.1
Acetosella vulgaris	5	500	HT									5
Nassella trichotoma	0.4	20	HT									0.4
Melicytus angustifolius subsp. *divaricatus*	1	5	SG			1						
Pimelea pauciflora	2	20	SG			2						
Eucalyptus pauciflora	10	5	TG		10							

Veg Zone = PCT1191 Poor			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: MTBSG8			**31**	**14**	3	2	3	6	0	0	**17**	3
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			114.5	**34.5**	17	12	1.7	3.8	0	0	**80**	1.5
Aira elegantissima	0.4	200	EX								0.4	
Anthoxanthum odoratum	40	2000	EX								40	
Bromus hordeaceus	10	1000	EX								10	
Caryophyllaceae spp.	0.1	10	EX								0.1	
Cerastium spp.	0.2	20	EX								0.2	
Cirsium vulgare	0.1	1	EX								0.1	
Crepis capillaris	0.2	20	EX								0.2	
Erodium cicutarium	0.1	10	EX								0.1	
Hypochaeris glabra	0.2	20	EX								0.2	
Myosotis discolor	0.1	20	EX								0.1	
Onopordum acanthium	0.1	5	EX								0.1	
Trifolium arvense	1	1000	EX								1	
Verbascum Thapsus	1	50	EX								1	
Vulpia myuros	25	2000	EX								25	
Acaena ovina	0.5	50	FG					0.5				
Crassula sieberiana	0.4	500	FG					0.4				
Cymbonotus lawsonianus	2	20	FG					2				
Geranium solanderi	0.4	50	FG					0.4				
Oxalis perennans	0.4	50	FG					0.4				
Stellaria pungens	0.1	2	FG					0.1				
Elymus scaber	0.2	25	GG				0.2					
Lomandra longifolia	0.5	5	GG				0.5					
Poa sieberiana var. sieberiana	1	10	GG				1					
Acetosella vulgaris	1	100	HT									1
Hypericum perforatum	0.2	20	HT									0.2
Rosa rubiginosa	0.3	1	HT									0.3
Melicytus angustifolius subsp. *divaricatus*	10	20	SG			10						
Pimelea pauciflora	2	10	SG			2						
Acacia dealbata	10	10	TG		10							
Acacia melanoxylon	2	1	TG		2							
Eucalyptus pauciflora	5	1	TG		5							

Veg Zone = PCT1191 Ribbon Gum variant_Good			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: EvimBamPl14			**40**	**30**	4	8	5	14	0	0	**10**	3
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			118.2	**112.4**	55.2	3	51.2	3	0	0	**5.8**	3.2
Trifolium spp.	0.5	1000	EX								0.5	
Cirsium vulgare	0.2	30	EX								0.2	
Taraxacum officinale	0.3	30	EX								0.3	
Verbascum thapsus	0.2	10	EX								0.2	
Hypochaeris radicata	1	200	EX								1	
Plantago lanceolata	0.3	100	EX								0.3	
Trifolium repens	0.1	10	EX								0.1	
Hydrocotyle spp.	0.3	200	FG					0.3				
Acaena spp.	0.3	150	FG					0.3				
Dichondra repens	0.3	500	FG					0.3				
Oxalis spp.	0.1	20	FG					0.1				
Cymbonotus spp.	0.2	30	FG					0.2				
Hovea heterophylla	0.2	10	FG					0.2				
Geranium spp.	0.3	50	FG					0.3				
Euchiton spp.	0.2	50	FG					0.2				
Senecio spp. 1	0.3	6	FG					0.3				
Plantago spp.	0.1	3	FG					0.1				
Senecio spp. 2	0.3	5	FG					0.3				
Scleranthus biflorus	0.1	1	FG					0.1				
Scleranthus diander	0.1	1	FG					0.1				
Dianella spp.	0.2	3	FG					0.2				
Poa sieberiana	5	50	GG				5					
Poa spp.	40	1000	GG				40					
Themeda triandra	5	200	GG				5					
Elymus scaber	1	50	GG				1					
Carex breviculmis	0.2	30	GG				0.2					
Rosa rubiginosa	0.1	2	HT									0.1
Acetosella vulgaris	3	50	HT									3
Hypericum perforatum	0.1	5	HT									0.1
Pimelea pauciflora	1	20	SG			1						
Mirbelia oxylobioides	0.5	10	SG			0.5						
Melicytus angustifolius subsp. divaricatus	0.3	2	SG			0.3						
Astroloma spp.	0.2	2	SG			0.2						
Daviesia ulicifolia	0.2	1	SG			0.2						
Olearia spp.	0.2	1	SG			0.2						
Leucopogon fletcheri subsp. brevisepalus	0.1	2	SG			0.1						
Cassinia longifolia	0.5	1	SG			0.5						
Eucalyptus viminalis	50	15	TG		50							
Eucalyptus pauciflora	5	20	TG		5							
Acacia dealbata	0.2	1	TG		0.2							

Veg Zone = PCT1191 Ribbon Gum variant_Good			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: EvimBamPl15			**44**	**34**	4	7	9	13	1	0	**10**	1
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			120.8	**115.2**	65.5	2.5	40.4	6.6	0.2	0	**5.6**	2
Asplenium flabellifolium	0.2	30	EG						0.2			
Trifolium arvense	1	500	EX								1	
Verbascum thapsus	0.3	20	EX								0.3	
Petrorhagia nanteuilii	0.1	2	EX								0.1	
basal tuft - Asteraceae - inadequate material for ID	0.2	20	EX								0.2	
Cerastium glomeratum	0.3	100	EX								0.3	
Hypochaeris radicata	0.3	50	EX								0.3	
Taraxacum officinale	0.3	30	EX								0.3	
Poaceae spp. - inadequate material for ID	1	50	EX								1	
Erodium spp.	0.1	1	EX								0.1	
Senecio spp. 1	2	150	FG					2				
Senecio spp. 2	2	100	FG					2				
Geranium spp.	0.5	150	FG					0.5				
Hydrocotyle spp.	0.3	150	FG					0.3				
Acaena spp.	0.3	50	FG					0.3				
Euchiton spp.	0.5	200	FG					0.5				
Scleranthus spp.	0.1	1	FG					0.1				
Crassula sieberiana	0.1	3	FG					0.1				
Oxalis spp.	0.1	4	FG					0.1				
Scleranthus spp.	0.1	1	FG					0.1				
Gonocarpus tetragynus	0.2	10	FG					0.2				
Hovea heterophylla	0.3	10	FG					0.3				
Dianella spp.	0.1	3	FG					0.1				
Poa spp.	20	500	GG				20					
Poa sieberiana	10	300	GG				10					
Lomandra longifolia	3	30	GG				3					
Elymus scaber	3	100	GG				3					
Dichelachne spp.	0.1	1	GG				0.1					
Carex breviculmis	0.2	20	GG				0.2					
Luzula flaccida	0.1	2	GG				0.1					
Themeda triandra	3	50	GG				3					
Poa spp.	1	30	GG				1					
Acetosella vulgaris	2	1000	HT									2
Melicytus angustifolius subsp. divaricatus	0.2	1	SG			0.2						
Cassinia longifolia	1	3	SG			1						
Pimelea spp.	0.3	10	SG			0.3						
Acrotriche serrulata	0.3	3	SG			0.3						
Leucopogon fletcheri subsp. brevisepalus	0.2	3	SG			0.2						
Exocarpos strictus	0.2	1	SG			0.2						
Mirbelia oxylobioides	0.3	5	SG			0.3						
Eucalyptus viminalis	40	6	TG		40							
Eucalyptus pauciflora	5	2	TG		5							
Acacia dealbata	20	400	TG		20							
Acacia melanoxylon	0.5	1	TG		0.5							

Veg Zone = PCT1191 Ribbon Gum variant_Good			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: EVIMGULBPL1			**51**	**38**	4	1	10	22	0	1	**12**	4
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			163.8	**127.4**	55.3	0.3	49.5	22.2	0	0.1	**33.4**	14.2
Anthoxanthum odoratum	3	50	EX									
Bromus hordeaceus	2	100	EX								2	
Cirsium vulgare	3	20	EX								3	
Hypochaeris radicata	3	50	EX								3	
Medicago lupulina	3	500	EX								3	
Nasturtium officinale	5	150	EX								5	
Trifolium arvense	2	300	EX								2	
Verbascum thapsus	1	10	EX								1	
Veronica anagallis-aquatica	0.2	2	EX								0.2	
Acaena novae-zelandiae	2	30	FG					2				
Acaena ovina	2	50	FG					2				
Brachyscome sp. (likely multifida)	0.5	10	FG					0.5				
Crassula sieberiana	0.2	3	FG					0.2				
Cullen microcephalum	0.2	10	FG					0.2				
Cynoglossum australe	0.5	30	FG					0.5				
Dichondra repens	0.5	50	FG					0.5				
Epilobium billardierianum	5	50	FG					5				
Euchiton spp.	0.3	20	FG					0.3				
Galium gaudichaudii	0.5	20	FG					0.5				
Geranium potentilloides	2	30	FG					2				
Geranium solanderi	2	30	FG					2				
Gonocarpus tetragynus	0.3	10	FG					0.3				
Hydrocotyle laxiflora	1	50	FG					1				
Hypericum gramineum	0.1	1	FG					0.1				
Oxalis perennans	0.5	100	FG					0.5				
Plantago varia	0.3	10	FG					0.3				
Ranunculus inundatus	2	50	FG					2				
Senecio diaschides	1	6	FG					1				
Senecio gunnii	1	6	FG					1				
Senecio quadridentatus	0.1	2	FG					0.1				
Swainsona monticola	0.2	3	FG					0.2				
Carex appressa	1	4	GG				1					
Carex inversa	0.2	4	GG				0.2					
Eleocharis gracilis	0.3	3	GG				0.3					
Elymus scaber	2	10	GG				2					
Isolepis spp.	0.3	10	GG				0.3					
Juncus spp.	2	50	GG				2					
Poa labillardierei	40	300	GG				40					
Poa meionectes	0.2	2	GG				0.2					
Poa sieberiana var. sieberiana	0.5	6	GG				0.5					
Themeda triandra	3	30	GG				3					
Acetosella vulgaris	10	2000	HT									10
Holcus lanatus	1	10	HT									1
Hypericum perforatum	0.2	2	HT									0.2
Rosa rubiginosa	3	10	HT									3
Desmodium varians	0.1	3	OG							0.1		
Melicytus angustifolius subsp. divaricatus	0.3	1	SG			0.3						

Veg Zone = PCT1191 Ribbon Gum variant_Good			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: EVIMGULBPL1			**51**	**38**	4	1	10	22	0	1	**12**	4
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			163.8	**127.4**	55.3	0.3	49.5	22.2	0	0.1	**33.4**	14.2
Acacia dealbata	0.3	1	TG		0.3							
Acacia melanoxylon	20	8	TG		20							
Eucalyptus pauciflora	5	4	TG		5							
Eucalyptus viminalis	30	8	TG		30							

Veg Zone = PCT1191 Ribbon Gum variant_Good			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: EPAUCRUBVIMBPL2			**50**	**39**	4	8	6	18	2	1	**11**	1
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			124	**111.2**	43	29.8	26.6	11.1	0.5	0.2	**12.8**	3
Asplenium flabellifolium	0.2	20	EG						0.2			
Cheilanthes austrotenuifolia	0.3	10	EG						0.3			
Cerastium glomeratum	0.3	20	EX								0.3	
Hypochaeris radicata	1	30	EX								1	
Linaria arvensis	0.3	10	EX								0.3	
Medicago lupulina	0.5	50	EX								0.5	
Petrorhagia nanteuilii	1	30	EX								1	
Poa annua	0.2	4	EX								0.2	
Taraxacum officinale	0.5	10	EX								0.5	
Trifolium arvense	5	200	EX								5	
Verbascum thapsus	0.5	10	EX								0.5	
Vulpia myuros	0.5	20	EX								0.5	
Acaena ovina	1	30	FG					1				
Crassula sieberiana	0.1	3	FG					0.1				
Cymbonotus spp.	0.2	3	FG					0.2				
Dichondra repens	0.3	50	FG					0.3				
Galium gaudichaudii	0.3	50	FG					0.3				
Geranium solanderi	2	100	FG					2				
Gonocarpus tetragynus	0.5	20	FG					0.5				
Hydrocotyle laxiflora	0.5	50	FG					0.5				
Hypericum gramineum	0.1	1	FG					0.1				
Mitrasacme serpyllifolia	1	50	FG					1				
Oxalis perennans	2	100	FG					2				
Scleranthus biflorus	0.3	2	FG					0.3				
Scleranthus diander	0.5	4	FG					0.5				
Senecio prenanthoides	1	10	FG					1				
Viola betonicifolia	0.5	20	FG					0.5				
Vittadinia cuneata	0.3	4	FG					0.3				
Vittadinia muelleri	0.2	2	FG					0.2				
Wahlenbergia stricta	0.3	20	FG					0.3				
Austrostipa scabra	1	30	GG				1					
Echinopogon spp.	0.1	2	GG				0.1					
Elymus scaber	2	50	GG				2					
Lomandra longifolia	3	50	GG				3					
Poa sieberiana var. sieberiana	20	300	GG				20					
Themeda triandra	0.5	6	GG				0.5					
Acetosella vulgaris	3	100	HT									3
Desmodium varians	0.2	10	OG							0.2		
Acrotriche serrulata	0.5	2	SG			0.5						
Bossiaea buxifolia	0.5	6	SG			0.5						
Cassinia longifolia	25	30	SG			25						
Exocarpos strictus	0.2	1	SG			0.2						
Leucopogon fletcheri subsp. brevisepalus	0.2	2	SG			0.2						
Melicytus angustifolius subsp. divaricatus	0.2	1	SG			0.2						
Mirbelia oxylobioides	3	15	SG			3						
Ozothamnus conditus	0.2	2	SG			0.2						
Acacia dealbata	3	8	TG		3							

Veg Zone = PCT1191 Ribbon Gum variant_Good			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: EPAUCRUBVIMBPL2			**50**	**39**	4	8	6	18	2	1	**11**	1
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			124	**111.2**	43	29.8	26.6	11.1	0.5	0.2	**12.8**	3
Eucalyptus pauciflora	20	6	TG		20							
Eucalyptus rubida	15	12	TG		15							
Eucalyptus viminalis	5	3	TG		5							

Veg Zone = PCT1191 Ribbon Gum variant_Good			Covers	Native	Trees	Shrubs	Grass	Forb	Fern	Other	Exotic	HighThreat
			# spp	Count	Count	Count	Count	Count	Count	Count	Count	Count
BAM Plot: EPAUCVIMBPL4			37	25	3	4	4	13	0	1	11	1
Species	Cover	Abundance	Sum cover	Cover	Sum	Sum	Sum	Sum	Sum	Sum	Sum	Sum
			162.8	75.3	57	3.2	6.2	8.7	0	0.2	87.4	3
Anthoxanthum odoratum	80	2000	EX								80	
Cerastium glomeratum	0.5	20	EX								0.5	
Cirsium vulgare	0.3	4	EX								0.3	
Hypochaeris glabra	0.2	10	EX								0.2	
Hypochaeris radicata	0.5	8	EX								0.5	
Medicago lupulina	0.3	50	EX								0.3	
Myosotis discolor	1	30	EX								1	
Trifolium arvense	1	50	EX								1	
Verbascum thapsus	0.3	10	EX								0.3	
Holcus lanatus	0.3	4	EX								0.3	
Acaena ovina	1	50	FG					1				
Asperula scoparia	2	100	FG					2				
Cynoglossum australe	0.2	3	FG					0.2				
Euchiton spp.	1	50	FG					1				
Geranium potentilloides	0.1	3	FG					0.1				
Geranium solanderi	1	100	FG					1				
Hydrocotyle laxiflora	0.5	50	FG					0.5				
Oxalis perennans	0.2	10	FG					0.2				
Senecio gunnii	1	15	FG					1				
Senecio prenanthoides	1	20	FG					1				
Senecio quadridentatus	0.2	2	FG					0.2				
Solenogyne gunnii	0.1	2	FG									
Stellaria pungens	0.3	10	FG					0.3				
Viola betonicifolia	0.2	20	FG					0.2				
Luzula flaccida	0.2	3	GG				0.2					
Poa labillardierei	1	10	GG				1					
Poa meionectes	2	30	GG				2					
Poa sieberiana var. sieberiana	3	50	GG				3					
Acetosella vulgaris	3	200	HT									3
Glycine clandestina	0.2	10	OG							0.2		
Melicytus angustifolius subsp. divaricatus	0.5	2	SG			0.5						
Olearia erubescens	0.5	2	SG			0.5						
Pimelea pauciflora	2	6	SG			2						
Rubus parvifolius	0.2	2	SG			0.2						
Acacia dealbata	2	8	TG		2							
Eucalyptus pauciflora	40	18	TG		40							
Eucalyptus viminalis	15	4	TG		15							

Veg Zone = PCT1191 Ribbon Gum variant_Good			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: EPAUCVIMBPL5			**54**	**39**	4	6	11	14	2	2	**16**	3
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			148.1	**88**	42	25.8	10.8	8.3	0.8	0.3	**60.1**	7.3
Asplenium flabellifolium	0.5	30	EG						0.5			
Cheilanthes austrotenuifolia	0.3	30	EG						0.3			
Aira elegantissima	0.3	10	EX								0.3	
Anthoxanthum odoratum	5	300	EX								5	
Cerastium glomeratum	0.2	6	EX								0.2	
Erodium cicutarium	0.2	6	EX								0.2	
Hypochaeris glabra	0.2	6	EX								0.2	
Hypochaeris radicata	0.3	10	EX								0.3	
Linaria arvensis	0.2	10	EX								0.2	
Medicago lupulina	0.3	30	EX								0.3	
Myosotis discolor	0.1	2	EX								0.1	
Petrorhagia nanteuilii	0.5	50	EX								0.5	
Trifolium arvense	30	1000	EX								30	
Verbascum thapsus	15	200	EX								15	
Vulpia myuros	0.5	30	EX								0.5	
Acaena ovina	1	20	FG					1				
Crassula sieberiana	0.1	3	FG					0.1				
Cymbonotus spp.	0.2	10	FG					0.2				
Cynoglossum australe	0.2	3	FG					0.2				
Cynoglossum suaveolens	0.2	4	FG					0.2				
Dichondra repens	0.5	100	FG					0.5				
Euchiton spp.	0.3	20	FG					0.3				
Geranium solanderi	2	300	FG					2				
Hydrocotyle laxiflora	2	300	FG					2				
Mitrasacme serpyllifolia	0.3	6	FG					0.3				
Oxalis perennans	0.2	10	FG					0.2				
Senecio prenanthoides	0.5	20	FG					0.5				
Senecio quadridentatus	0.5	6	FG					0.5				
Wahlenbergia stricta	0.3	10	FG					0.3				
Bromus spp.	0.5	30	GG				0.5					
Carex appressa	0.1	1	GG				0.1					
Carex inversa	0.2	4	GG				0.2					
Echinopogon spp.	0.2	2	GG				0.2					
Elymus scaber	1	20	GG				1					
Lomandra longifolia	1	20	GG				1					
Panicum spp.	0.3	20	GG				0.3					
Poa labillardierei	0.5	10	GG				0.5					
Poa meionectes	3	30	GG				3					
Poa sieberiana var. sieberiana	3	50	GG				3					
Themeda triandra	1	20	GG				1					
Acetosella vulgaris	5	500	HT									5
Hypericum perforatum	0.3	10	HT									0.3
Rosa rubiginosa	2	4	HT									2
Convolvulus erubescens	0.2	10	OG							0.2		
Desmodium varians	0.1	2	OG							0.1		
Cassinia longifolia	20	25	SG			20						
Exocarpos strictus	0.5	2	SG			0.5						

Veg Zone = PCT1191 Ribbon Gum variant_Good			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: EPAUCVIMBPL5			**54**	**39**	4	6	11	14	2	2	**16**	3
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			148.1	**88**	42	25.8	10.8	8.3	0.8	0.3	**60.1**	7.3
Melicytus angustifolius subsp. divaricatus	2	4	SG			2						
Ozothamnus conditus	3	15	SG			3						
Pimelea linifolia	0.1	3	SG			0.1						
Pimelea pauciflora	0.2	1	SG			0.2						
Acacia dealbata	2	2	TG		2							
Acacia melanoxylon	5	3	TG		5							
Eucalyptus pauciflora	5	2	TG		5							
Eucalyptus viminalis	30	6	TG		30							

Veg Zone = PCT1191 Ribbon Gum variant_Good			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: EpaucrubWBPl13			**51**	**39**	3	7	8	21	0	0	**12**	1
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			100.6	**85.7**	42	3.6	32	8.1	0	0	**14.9**	5
Aira elegantissima	0.3	10	EX								0.3	
Anthoxanthum odoratum	5	200	EX								5	
Bromus hordeaceus	0.3	20	EX								0.3	
Cerastium glomeratum	0.1	4	EX								0.1	
Hypochaeris radicata	1	50	EX								1	
Medicago lupulina	1	200	EX								1	
Myosotis discolor	0.2	10	EX								0.2	
Taraxacum officinale	0.3	20	EX								0.3	
Trifolium arvense	1	200	EX								1	
Verbascum thapsus	0.2	4	EX								0.2	
Vulpia myuros	0.5	50	EX								0.5	
Acaena novae-zelandiae	0.5	30	FG					0.5				
Asperula scoparia	0.2	6	FG					0.2				
Cymbonotus spp.	0.2	6	FG					0.2				
Dichondra repens	0.3	30	FG					0.3				
Euchiton sphaericus	0.1	5	FG					0.1				
Geranium potentilloides	0.1	2	FG					0.1				
Geranium solanderi	0.5	30	FG					0.5				
Gonocarpus tetragynus	0.3	10	FG					0.3				
Hydrocotyle spp.	2	300	FG					2				
Hypericum gramineum	0.2	20	FG					0.2				
Mitrasacme serpyllifolia	0.3	30	FG					0.3				
Oxalis perennans	0.3	20	FG					0.3				
Plantago varia	0.1	2	FG					0.1				
Poranthera microphylla	0.1	2	FG					0.1				
Scleranthus biflorus	0.1	2	FG					0.1				
Scleranthus diander	0.2	4	FG					0.2				
Senecio prenanthoides	1	30	FG					1				
Senecio quadridentatus	1	15	FG					1				
Stellaria pungens	0.1	4	FG					0.1				
Viola betonicifolia	0.3	30	FG					0.3				
Wahlenbergia stricta	0.2	3	FG					0.2				
Echinopogon spp.	0.1	3	GG				0.1					
Elymus scaber	0.2	5	GG				0.2					
Lomandra longifolia	1	10	GG				1					
Luzula flaccida	0.1	3	GG				0.1					
Panicum spp.	0.1	2	GG				0.1					
Poa meionectes	20	100	GG				20					
Poa sieberiana var. sieberiana	10	150	GG				10					
Themeda triandra	0.5	10	GG				0.5					
Acetosella vulgaris	5	200	HT									5
Acrotriche serrulata	0.5	4	SG			0.5						
Cassinia longifolia	0.2	1	SG			0.2						
Melicytus angustifolius subsp. divaricatus	0.3	2	SG			0.3						
Mirbelia oxylobioides	2	10	SG			2						
Pimelea curviflora	0.2	2	SG			0.2						
Pimelea linifolia subsp. caesia	0.2	5	SG			0.2						

Veg Zone = PCT1191 Ribbon Gum variant_Good			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: EpaucrubWBPl13			**51**	**39**	3	7	8	21	0	0	**12**	1
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			100.6	**85.7**	42	3.6	32	8.1	0	0	**14.9**	5
Pimelea pauciflora	0.2	2	SG			0.2						
Acacia dealbata	2	12	TG		2							
Eucalyptus pauciflora	30	17	TG		30							
Eucalyptus rubida	10	3	TG		10							

Veg Zone = PCT1191 Ribbon Gum variant_Good			Covers	Native	Trees	Shrubs	Grass	Forb	Fern	Other	Exotic	HighThreat
			# spp	Count	Count	Count	Count	Count	Count	Count	Count	Count
BAM Plot: EPAUCVIMRUBWBPL12			50	41	4	7	7	22	1	0	9	1
Species	Cover	Abundance	Sum cover	Cover	Sum	Sum	Sum	Sum	Sum	Sum	Sum	Sum
			107.6	100.4	56	6.9	26.9	10.4	0.2	0	7.2	5
Asplenium flabellifolium	0.2	10	EG						0.2			
Cerastium glomeratum	0.1	4	EX								0.1	
Linaria arvensis	0.2	6	EX								0.2	
Medicago lupulina	0.3	50	EX								0.3	
Myosotis discolor	0.3	10	EX								0.3	
Petrorhagia nanteuilii	0.1	3	EX								0.1	
Trifolium arvense	0.5	100	EX								0.5	
Verbascum thapsus	0.2	3	EX								0.2	
Vulpia myuros	0.5	50	EX								0.5	
Acaena novae-zelandiae	0.3	10	FG					0.3				
Ajuga australis	0.1	2	FG					0.1				
Asperula scoparia	0.3	30	FG					0.3				
Brachyscome aculeata	0.2	3	FG					0.2				
Crassula sieberiana	0.1	3	FG					0.1				
Dichondra repens	0.2	20	FG					0.2				
Galium gaudichaudii	0.1	4	FG					0.1				
Geranium solanderi	0.2	10	FG					0.2				
Gonocarpus tetragynus	0.2	2	FG					0.2				
Hovea linearis	0.1	1	FG					0.1				
Hydrocotyle laxiflora	3	300	FG					3				
Hypericum gramineum	0.2	6	FG					0.2				
Mitrasacme serpyllifolia	0.2	20	FG					0.2				
Oxalis spp.	0.2	10	FG					0.2				
Poranthera microphylla	0.2	5	FG					0.2				
Scleranthus biflorus	0.2	2	FG					0.2				
Senecio diaschides	0.1	1	FG					0.1				
Senecio gunnii	1	10	FG					1				
Senecio prenanthoides	2	50	FG					2				
Senecio quadridentatus	1	10	FG					1				
Stellaria pungens	0.2	4	FG					0.2				
Viola betonicifolia	0.3	10	FG					0.3				
Elymus scaber	0.1	1	GG				0.1					
Lomandra longifolia	1	20	GG				1					
Luzula flaccida	0.2	4	GG				0.2					
Poa meionectes	5	50	GG				5					
Poa sieberiana var. cyanophylla	0.5	20	GG				0.5					
Poa sieberiana var. sieberiana	20	200	GG				20					
Themeda triandra	0.1	1	GG				0.1					
Acetosella vulgaris	5	300	HT									5
Acacia siculiformis	1	3	SG			1						
Acrotriche serrulata	0.5	4	SG			0.5						
Bossiaea buxifolia	0.1	2	SG			0.1						
Brachyloma daphnoides	0.1	2	SG			0.1						
Leucopogon fletcheri subsp. brevisepalus	0.1	1	SG			0.1						
Mirbelia oxylobioides	5	30	SG			5						
Pimelea linifolia subsp. caesia	0.1	1	SG			0.1						
Acacia dealbata	1	5	TG		1							

Veg Zone = PCT1191 Ribbon Gum variant_Good			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: EPAUCVIMRUBWBPL12			**50**	**41**	4	7	7	22	1	0	**9**	1
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			107.6	**100.4**	56	6.9	26.9	10.4	0.2	0	**7.2**	5
Eucalyptus pauciflora	30	18	TG		30							
Eucalyptus rubida	5	6	TG		5							
Eucalyptus viminalis	20	3	TG		20							

Veg Zone = PCT1191 Ribbon Gum variant_Good			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: EPAUCVIMWBPL19			**46**	**31**	3	2	8	16	1	1	**15**	1
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			188.4	**178.4**	95	0.7	73.3	9.1	0.1	0.2	**10**	0.5
Asplenium flabellifolium	0.1	3	EG						0.1			
Aira elegantissima	0.2	10	EX								0.2	
Anthoxanthum odoratum	3	100	EX								3	
Asteraceae rosette exotic	0.1	1	EX								0.1	
Cerastium glomeratum	0.2	10	EX								0.2	
Cirsium spp.	0.3	20	EX								0.3	
Erodium cicutarium	0.3	10	EX								0.3	
Hypochaeris glabra	1	50	EX								1	
Hypochaeris radicata	1	50	EX								1	
Medicago lupulina	1	200	EX								1	
Myosotis discolor	1	100	EX								1	
Petrorhagia nanteuilii	0.1	3	EX								0.1	
Taraxacum officinale	0.5	30	EX								0.5	
Trifolium arvense	0.5	200	EX								0.5	
Verbascum thapsus	0.3	10	EX								0.3	
Acaena ovina	0.5	30	FG					0.5				
Asperula scoparia	0.3	10	FG					0.3				
Crassula sieberiana	0.1	2	FG					0.1				
Cymbonotus spp.	0.2	6	FG					0.2				
Dichondra repens	0.2	20	FG					0.2				
Euchiton sphaericus	0.1	2	FG					0.1				
Geranium solanderi	1	50	FG					1				
Hydrocotyle laxiflora	0.3	20	FG					0.3				
Hypericum gramineum	0.1	3	FG					0.1				
Oxalis perennans	0.3	30	FG					0.3				
Senecio gunnii	0.1	3	FG					0.1				
Senecio quadridentatus	0.2	4	FG					0.2				
Senecio spp. prenanthoides?	5	200	FG					5				
Stellaria pungens	0.3	10	FG					0.3				
Viola betonicifolia	0.3	20	FG					0.3				
Wahlenbergia stricta	0.1	1	FG					0.1				
Bromus spp.	0.5	30	GG				0.5					
Echinopogon spp.	0.1	1	GG				0.1					
Elymus scaber	0.1	2	GG				0.1					
Luzula flaccida	0.1	2	GG				0.1					
Panicum spp.	0.2	4	GG				0.2					
Poa sieberiana	2	30	GG				2					
Poa sieberiana var. cyanophylla	0.3	10	GG				0.3					
Poa sp. meionectes?	70	250	GG				70					
Acetosella vulgaris	0.5	50	HT									0.5
Glycine clandestina	0.2	6	OG							0.2		
Olearia erubescens	0.2	2	SG			0.2						
Pimelea curviflora	0.5	3	SG			0.5						
Acacia dealbata	60	200	TG		60							
Eucalyptus pauciflora	5	3	TG		5							
Eucalyptus viminalis	30	4	TG		30							

Veg Zone = PCT1191 Ribbon Gum variant_Good			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: EvimWBPl18			**55**	**33**	3	2	8	17	2	1	**22**	5
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			92.8	**74**	43	21	4.7	4.9	0.3	0.1	**18.8**	3.8
Asplenium flabellifolium	0.2	10	EG						0.2			
Cheilanthes austrotenuifolia	0.1	2	EG						0.1			
Verbascum thapsus	0.5	20	EX								0.5	
Medicago lupulina	1	100	EX								1	
Erodium cicutarium	0.3	20	EX								0.3	
Hypochaeris glabra	1	50	EX								1	
Hypochaeris radicata	1	30	EX								1	
Petrorhagia nanteuilii	0.2	10	EX								0.2	
Bromus hordeaceus	5	300	EX								5	
Myosotis discolor	0.5	50	EX								0.5	
Trifolium arvense	3	300	EX								3	
Cerastium glomeratum	0.5	100	EX								0.5	
Taraxacum officinale	0.3	20	EX								0.3	
Linaria arvensis	0.2	10	EX								0.2	
Vulpia myuros	0.3	10	EX								0.3	
Poa annua	0.2	10	EX								0.2	
Cirsium vulgare	0.3	6	EX								0.3	
Aira elegantissima	0.2	10	EX								0.2	
Anthoxanthum odoratum	0.5	30	EX								0.5	
Oxalis perennans	0.2	6	FG					0.2				
Geranium solanderi	0.5	30	FG					0.5				
Hydrocotyle laxiflora	0.3	50	FG					0.3				
Senecio prenanthoides	1	20	FG					1				
Acaena spp.	0.3	20	FG					0.3				
Cymbonotus spp.	0.1	3	FG					0.1				
Viola betonicifolia	0.5	50	FG					0.5				
Solenogyne gunnii	0.1	2	FG					0.1				
Senecio gunnii	0.2	5	FG					0.2				
Mitrasacme serpyllifolia	0.5	50	FG					0.5				
Gonocarpus tetragynus	0.3	4	FG					0.3				
Dichondra repens	0.3	30	FG					0.3				
Galium gaudichaudii	0.2	20	FG					0.2				
Wahlenbergia stricta	0.1	1	FG					0.1				
Crassula sieberiana	0.1	2	FG					0.1				
Cynoglossum australe	0.1	2	FG					0.1				
Senecio quadridentatus	0.1	1	FG					0.1				
Poa meionectes	2	30	GG				2					
Lomandra longifolia	0.2	2	GG				0.2					
Poa labillardierei	0.5	10	GG				0.5					
Luzula flaccida	0.1	1	GG				0.1					
Echinopogon spp.	0.1	2	GG				0.1					
Elymus scaber	1	30	GG				1					
Poa sieberiana var. sieberiana	0.5	20	GG				0.5					
Themeda triandra	0.3	6	GG				0.3					
Acetosella vulgaris	3	300	HT									3
Hypericum perforatum	0.1	2	HT									0.1
Rosa rubiginosa	0.5	2	HT									0.5

Veg Zone = PCT1191 Ribbon Gum variant_Good			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: EvimWBPl18			**55**	**33**	3	2	8	17	2	1	**22**	5
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			92.8	**74**	43	21	4.7	4.9	0.3	0.1	**18.8**	3.8
Bromus diandrus	0.1	50	HT									0.1
Hypericum perforatum	0.1	3	HT									0.1
Glycine clandestina	0.1	10	OG							0.1		
Ozothamnus conditus	20	12	SG			20						
Cassinia longifolia	1	2	SG			1						
Eucalyptus viminalis	20	5	TG		20							
Acacia dealbata	3	8	TG		3							
Eucalyptus pauciflora	20	4	TG		20							

Veg Zone = PCT1191 Ribbon Gum variant_Good			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: Mtbsg7			**43**	**31**	4	5	6	14	0	2	**12**	2
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			140.8	**91.4**	52	7	27.6	4.6	0	0.2	**49.4**	5.2
Aira elegantissima	0.4	50	EX								0.4	
Anthoxanthum odoratum	0.3	10	EX								0.3	
Cerastium sp.	0.1	5	EX								0.1	
Crepis capillaris	0.1	2	EX								0.1	
Echium vulgare	0.1	2	EX								0.1	
Erodium cicutarium	0.7	10	EX								0.7	
Medicago lupulina	0.4	50	EX								0.4	
Petrorhagia nanteuilii	0.1	1	EX								0.1	
Trifolium arvense	2	500	EX								2	
Vulpia myuros	40	2000	EX								40	
Dichondra sp. A	0.1	1	FG					0.1				
Asperula Scoparia	2	2000	FG					2				
Bulbine bulbosa	0.1	10	FG					0.1				
Chrysocephalum semipapposum	0.1	2	FG					0.1				
Geranium solanderi	0.2	20	FG					0.2				
Hydrocotyle laxiflora	0.4	50	FG					0.4				
Hypericum gramineum	0.1	5	FG					0.1				
Myosotis australis	0.4	1000	FG					0.4				
Oxalis perennans	0.2	25	FG					0.2				
Scleranthus biflorus	0.1	1	FG					0.1				
Senecio pinnatifolius	0.4	25	FG					0.4				
Senecio gunnii	0.1	1	FG					0.1				
Stellaria pungens	0.3	5	FG					0.3				
Viola betonicifolia	0.1	5	FG					0.1				
Luzula flaccida	0.1	2	GG				0.1					
Lomandra longifolia	0.4	15	GG				0.4					
Panicum effusum	0.1	1	GG				0.1					
Poa sp. meionectes?	5	50	GG				5					
Poa sieberiana var. sieberiana	20	2000	GG				20					
Poa sieberiana var. cyanophylla	2	500	GG				2					
Rosa rubiginosa	0.2	20	HT									0.2
Acetosella vulgaris	5	2000	HT									5
Desmodium varians	0.1	1	OG							0.1		
Glycine sp.	0.1	1	OG							0.1		
Melicytus angustifolius subsp. *divaricatus*	0.5	2	SG			0.5						
Olearia phlogopappa	1	2	SG			1						
Mirbelia oxylobioides	0.4	5	SG			0.4						
Pimelea curviflora	0.1	1	SG			0.1						
Pimelea pauciflora	5	10	SG			5						
Acacia dealbata	2	5	TG		2							
Eucalyptus pauciflora	20	15	TG		20							
Eucalyptus rubida	10	10	TG		10							
Eucalyptus viminalis	20	5	TG		20							

Veg Zone = PCT1191 Ribbon Gum variant_Good			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: MTBSGVim2			**49**	**35**	3	7	8	13	2	2	**14**	3
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			148.5	**130.3**	28	68.3	25.8	7.4	0.2	0.6	**18.2**	0.6
Asplenium flabellifolium	0.1	20	EG						0.1			
Cheilanthes austrotenuifolia	0.1	10	EG						0.1			
Aira elegantissima	0.4	50	EX								0.4	
Arenaria serpyllifolia	1	20	EX								1	
Anthoxanthum odoratum	5	200	EX								5	
Cirsium vulgare	0.2	10	EX								0.2	
Bromus hordeaceus	0.1	1	EX								0.1	
Hypochaeris glabra	0.1	10	EX								0.1	
Linaria arvensis	0.1	10	EX								0.1	
Onopordum acanthium	0.1	5	EX								0.1	
Petrorhagia nanteuilii	0.4	200	EX								0.4	
Trifolium arvense	10	2000	EX								10	
Verbascum thapsus	0.2	5	EX								0.2	
Dichondra sp. A	2	1000	FG					2				
Acaena ovina	0.4	50	FG					0.4				
Chamaesyce drummondii	0.1	1	FG					0.1				
crassula sieberiana	0.2	50	FG					0.2				
Einadia nutans	0.1	10	FG					0.1				
Euchiton sphaericus	0.1	10	FG					0.1				
Geranium solanderi	2	20	FG					2				
Gonocarpus teucrioides	0.1	10	FG					0.1				
Hydrocotyle laxiflora	2	1000	FG					2				
Hypericum gramineum	0.1	20	FG					0.1				
Oxalis perennans	0.1	20	FG					0.1				
Senecio quadridentatus	0.1	1	FG					0.1				
Wahlenbergia sp.	0.1	10	FG					0.1				
Austrostipa scabra	5	1000	GG				5					
Bothriochloa macra	0.1	10	GG				0.1					
Elymus scaber	10	1000	GG				10					
Lomandra longifolia	5	200	GG				5					
Panicum sp.	0.5	50	GG				0.5					
Poa labillardierei	0.1	1	GG				0.1					
Poa meionectes	0.1	5	GG				0.1					
Poa sieberiana var. sieberiana	5	500	GG				5					
Acetosella vulgaris	0.4	50	HT									0.4
Nassella trichotoma	0.1	1	HT									0.1
Rosa rubiginosa	0.1	1	HT									0.1
Convolvulus erubescens	0.1	20	OG							0.1		
Desmodium varians	0.5	50	OG							0.5		
Acrotriche serrulata	0.1	1	SG			0.1						
Bossiaea buxifolia	0.1	1	SG			0.1						
Brachyloma daphnoides	1	10	SG			1						
Leucopogon fletcheri	0.1	1	SG			0.1						
Melicytus angustifolius subsp. *divaricatus*	5	10	SG			5						
Ozothamnus thyrsoideus	60	25	SG			60						
Pimelea pauciflora	2	10	SG			2						
Acacia melanoxylon	3	3	TG		3							

Veg Zone = PCT1191 Ribbon Gum variant_Good			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: MTBSGVim2			**49**	**35**	3	7	8	13	2	2	**14**	3
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			148.5	**130.3**	28	68.3	25.8	7.4	0.2	0.6	**18.2**	0.6
Eucalyptus pauciflora	20	10	TG		20							
Eucalyptus viminalis	5	2	TG		5							

Veg Zone = PCT1191 Ribbon Gum variant_Moderate			Covers	Native	Trees	Shrubs	Grass	Forb	Fern	Other	Exotic	HighThreat
			# spp	Count	Count	Count	Count	Count	Count	Count	Count	Count
BAM Plot: EpaucvimrubBpl6			50	38	5	5	8	18	1	1	12	1
Species	Cover	Abundance	Sum cover	Cover	Sum	Sum	Sum	Sum	Sum	Sum	Sum	Sum
			143.6	134.9	77	9.3	27.3	20.9	0.3	0.1	8.7	1
Asplenium flabellifolium	0.3	10	EG						0.3			
Aira elegantissima	0.5	10	EX								0.5	
Anthoxanthum odoratum	2	50	EX								2	
Cerastium glomeratum	0.1	1	EX								0.1	
Hypochaeris glabra	0.3	20	EX								0.3	
Hypochaeris radicata	0.3	10	EX								0.3	
Linaria arvensis	0.2	20	EX								0.2	
Myosotis discolor	0.2	6	EX								0.2	
Poa annua	0.1	2	EX								0.1	
Taraxacum officinale	0.5	20	EX								0.5	
Trifolium arvense	3	300	EX								3	
Verbascum thapsus	0.5	10	EX								0.5	
Acaena ovina	1	30	FG					1				
Coronidium spp.	0.2	3	FG					0.2				
Cymbonotus spp.	0.3	20	FG					0.3				
Dichondra repens	0.3	30	FG					0.3				
Euchiton spp.	0.2	10	FG					0.2				
Geranium solanderi	0.5	50	FG					0.5				
Gonocarpus tetragynus	0.3	20	FG					0.3				
Hydrocotyle laxiflora	5	300	FG					5				
Mitrasacme serpyllifolia	0.3	30	FG					0.3				
Oxalis perennans	0.2	20	FG					0.2				
Plantago varia	0.3	8	FG					0.3				
Rumex spp.	0.3	5	FG					0.3				
Scleranthus biflorus	0.5	6	FG					0.5				
Scleranthus diander	0.3	1	FG					0.3				
Senecio prenanthoides	10	100	FG					10				
Senecio quadridentatus	1	20	FG					1				
Solenogyne gunnii	0.1	2	FG					0.1				
Wahlenbergia stricta	0.1	2	FG					0.1				
Austrostipa scabra	0.3	10	GG				0.3					
Echinopogon spp.	0.2	2	GG				0.2					
Elymus scaber	0.5	20	GG				0.5					
Lomandra longifolia	15	30	GG				15					
Panicum spp.	0.3	4	GG				0.3					
Poa meionectes	5	50	GG				5					
Poa sieberiana var. sieberiana	5	50	GG				5					
Themeda triandra	1	20	GG				1					
Acetosella vulgaris	1	50	HT									1
Desmodium varians	0.1	3	OG							0.1		
Acrotriche serrulata	1	8	SG			1						
Cassinia longifolia	5	4	SG			5						
Exocarpos strictus	0.3	1	SG			0.3						
Mirbelia oxylobioides	1	3	SG			1						
Ozothamnus conditus	2	3	SG			2						
Acacia dealbata	20	16	TG		20							
Acacia melanoxylon	2	4	TG		2							

Veg Zone = PCT1191 Ribbon Gum variant_Moderate			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: EpaucvimrubBpl6			**50**	**38**	5	5	8	18	1	1	**12**	1
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			143.6	**134.9**	77	9.3	27.3	20.9	0.3	0.1	**8.7**	1
Eucalyptus pauciflora	30	6	TG		30							
Eucalyptus rubida	5	1	TG		5							
Eucalyptus viminalis	20	4	TG		20							

Veg Zone = PCT1191 Ribbon Gum variant_Moderate			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: MTBSGVim1			**40**	**24**	2	3	5	13	0	1	**16**	3
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			84.2	**73.8**	35	3.2	26.3	9.1	0	0.2	**10.4**	1.1
Aira elegantissima	1	2000	EX								1	
Anthoxanthum odoratum	0.4	20	EX								0.4	
Bromus hordeaceus	0.1	10	EX								0.1	
Cerastium spp.	0.2	20	EX								0.2	
Cirsium vulgare	0.4	10	EX								0.4	
Hypochaeris glabra	1	100	EX								1	
Linaria arvensis	0.1	25	EX								0.1	
Marrubium vulgare	0.1	10	EX								0.1	
Medicago lupulina	0.5	50	EX								0.5	
Myosotis discolor	0.2	50	EX								0.2	
Poa pratensis	0.2	20	EX								0.2	
Trifolium arvense	5	1000	EX								5	
Verbascum thapsus	0.1	1	EX								0.1	
Acaena ovina	0.4	50	FG					0.4				
Asperula scoparia	0.2	20	FG					0.2				
Brachyscome spathulata	0.1	1	FG					0.1				
crassula sieberiana	1	1000	FG					1				
Dichondra sp. A	5	1000	FG					5				
Geranium spp.	0.2	20	FG					0.2				
Geranium solanderi	0.2	20	FG					0.2				
Hydrocotyle laxiflora	1	500	FG					1				
Oxalis perennans	0.1	1	FG					0.1				
Senecio gunnii	0.2	10	FG					0.2				
Senecio quadridentatus	0.4	5	FG					0.4				
Veronica gracilis	0.2	25	FG					0.2				
Viola betonicifolia	0.1	10	FG					0.1				
Carex appressa	0.2	10	GG				0.2					
Carex inversa	1	500	GG				1					
Dichelachne sp.	0.1	1	GG				0.1					
Elymus scaber	5	500	GG				5					
Poa sieberiana	20	1000	GG				20					
Acetosella vulgaris	0.5	100	HT									0.5
Nassella trichotoma	0.5	10	HT									0.5
Rosa rubiginosa	0.1	1	HT									0.1
Desmodium varians	0.2	20	OG							0.2		
Melicytus angustifolius subsp. *divaricatus*	1	5	SG			1						
Pimelea curviflora	0.2	10	SG			0.2						
Pimelea pauciflora	2	10	SG			2						
Eucalyptus pauciflora	5	5	TG		5							
Eucalyptus viminalis	30	15	TG		30							

Veg Zone = PCT1191 Exotic dominant grassland			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
	MTBGrass1		**# spp**	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: MTBGrass1			**41**	**26**	0	3	5	16	0	2	**15**	2
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			85.7	**16**	0	0.5	11	4	0	0.5	**69.7**	0.3
Aira elegantissima	1	100	EX								1	
Bromus hordeaceus	1	50	EX								1	
Centaurium erythraea	0.1	5	EX								0.1	
Echium vulgare	1	100	EX								1	
Erodium cicutarium	0.1	1	EX								0.1	
Verbascum virgatum	0.1	2	EX								0.1	
Hypochaeris glabra	0.2	20	EX								0.2	
Linaria arvensis	0.1	1	EX								0.1	
Medicago lupulina	0.2	20	EX								0.2	
Petrorhagia nanteuilii	0.4	30	EX								0.4	
Trifolium arvense	25	2000	EX								25	
Verbascum thapsus	0.2	20	EX								0.2	
Vulpia myuros	40	2000	EX								40	
Acaena sp.	0.1	3	FG					0.1				
Brachyscome sp.	0.1	20	FG					0.1				
Chamaesyce drummondii	0.1	1	FG					0.1				
Chrysocephalum semipapposum	0.1	1	FG					0.1				
Crassula sieberiana	0.2	50	FG					0.2				
Cymbonotus lawsonianus	0.1	10	FG					0.1				
Dichondra sp. A	0.4	20	FG					0.4				
Euchiton sphaericus	0.2	10	FG					0.2				
Gonocarpus tetragynus	0.1	10	FG					0.1				
Hypoxis hygrometrica	0.2	10	FG					0.2				
Oxalis perennans	0.1	10	FG					0.1				
Scleranthus biflorus	0.1	1	FG					0.1				
Swainsona monticola	0.1	10	FG					0.1				
Vittadinia muelleri	1	50	FG					1				
Vittadinia sp.	1	50	FG					1				
Wahlenbergia stricta	0.1	10	FG					0.1				
Austrostipa scabra	10	500	GG				10					
Carex inversa	0.1	10	GG				0.1					
Poa labillardierei	0.5	25	GG				0.5					
Poa sieberiana	0.2	2	GG				0.2					
Rytidosperma sp.	0.2	50	GG				0.2					
Hypericum perforatum	0.1	1	HT									0.1
Acetosella vulgaris	0.2	20	HT									0.2
Convolvulus erubescens	0.1	1	OG							0.1		
Desmodium varians	0.4	50	OG							0.4		
Leucopogon fletcheri subsp. brevisepalus	0.2	10	SG			0.2						
Melicytus angustifolius subsp. *divaricatus*	0.1	1	SG			0.1						
Pimelea pauciflora	0.2	2	SG			0.2						

Veg Zone = PCT1191 Exotic dominant grassland			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: MTBGrass2			**12**	**7**	0	0	2	5	0	0	**5**	1
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			94.3	**3.6**	0	0	1.5	2.1	0	0	**90.7**	0.2
Anthoxanthum odoratum	90	5000	EX								90	
Cirsium vulgare	0.1	1	EX								0.1	
Holcus Lanatus	0.2	20	EX								0.2	
Hypochaeris radicata	0.2	10	EX								0.2	
Acaena ovina	0.2	10	FG					0.2				
Asperula conferta	0.4	50	FG					0.4				
Epilobium billardierianum	0.1	2	FG					0.1				
Geranium sp.	1	200	FG					1				
Hydrocotyle sibthorpioides	0.4	50	FG					0.4				
Austrostipa sp.	1	100	GG				1					
Poa meionectes	0.5	20	GG				0.5					
Acetosella vulgaris	0.2	25	HT									0.2

Veg Zone = PCT1191 Exotic dominant grassland			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: MTBGrass3			**21**	**14**	0	1	3	10	0	0	**7**	1
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			106.4	**40.7**	0	0.1	15.1	25.5	0	0	**65.7**	0.2
Aira elegantissima	0.1	10	EX								0.1	
Anthoxanthum odoratum	60	2000	EX								60	
Medicago lupulina	0.2	25	EX								0.2	
Onopordum acanthium	0.1	1	EX								0.1	
Lysimachia sp.?	5	2000	EX								5	
Trifolium repens	0.1	1	EX								0.1	
Acaena ovina	0.1	5	FG					0.1				
Asperula conferta	1	1000	FG					1				
Epilobium billardierianum	2	100	FG					2				
Euchiton sphaericus	20	2000	FG					20				
Geranium SP.	1	200	FG					1				
Hydrocotyle sibthorpioides	1	500	FG					1				
Hypoxis hygrometrica	0.1	25	FG					0.1				
Oxalis perennans	0.1	1	FG					0.1				
Rumex brownii	0.1	70	FG					0.1				
Veronica gracilis	0.1	10	FG					0.1				
Austrostipa sp.	5	200	GG				5					
Poa labillardierei	10	500	GG				10					
Schoenus brevifolius	0.1	10	GG				0.1					
Acetosella vulgaris	0.2	25	HT									0.2
Pimelea pauciflora	0.1	2	SG			0.1						

Veg Zone = PCT1110 Poa variant_Good			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: MTBGrass4			**24**	**13**	0	1	3	9	0	0	**11**	2
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			96	**66.2**	0	0.1	61.1	5	0	0	**29.8**	2
Anthoxanthum odoratum	0.1	1	EX								0.1	
Bromus hordeaceus	1	100	EX								1	
Cerastium sp	0.4	50	EX								0.4	
Cirsium vulgare	0.1	1	EX								0.1	
Hypochaeris glabra	0.1	1	EX								0.1	
Medicago lupulina	2	2000	EX								2	
Petrorhagia nanteuilii	4	100	EX								4	
Verbascum thapsus	0.1	2	EX								0.1	
Vulpia myuros	20	2000	EX								20	
Dichondra sp. A	1	500	FG					1				
Acaena ovina	2	20	FG					2				
Asperula conferta	0.2	50	FG					0.2				
Cymbonotus lawsonianus	0.1	10	FG					0.1				
Euchiton sphaericus	0.1	10	FG					0.1				
Geranium sp.	1	200	FG					1				
Haloragis heterophylla	0.1	10	FG					0.1				
Hydrocotyle sibthorpioides	0.1	10	FG					0.1				
Oxalis perennans	0.4	100	FG					0.4				
Carex inversa	1	20	GG				1					
Poa meionectes	0.1	2	GG				0.1					
Poa labillardierei	60	2000	GG				60					
Hypericum perforatum	1	200	HT									1
Acetosella vulgaris	1	10	HT									1
Pimelea pauciflora	0.1	1	SG			0.1						

Veg Zone = PCT1110 Poa variant_Poor			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: MTBGrass7			**33**	**18**	1	2	2	12	1	0	**15**	3
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			113.4	**19.2**	5	2.4	5.2	6.5	0.1	0	**94.2**	10.8
Ophioglossum lusitanicum	0.1	20	EG						0.1			
Aira elegantissima	0.2	50	EX								0.2	
Bromus hordeaceus	10	1000	EX								10	
Cerastium sp	1	10	EX								1	
Centaurium erythraea	0.4	50	EX								0.4	
Echium vulgare	10	500	EX								10	
Erodium cicutarium	0.1	10	EX								0.1	
Hypochaeris glabra	0.2	10	EX								0.2	
Medicago lupulina	0.1	1	EX								0.1	
Petrorhagia nanteuilii	1	1000	EX								1	
Trifolium arvense	20	2000	EX								20	
Verbascum Thapsus	0.4	20	EX								0.4	
Vulpia myuros	40	2000	EX								40	
Acaena ovina	0.2	20	FG					0.2				
Asperula conferta	0.1	10	FG					0.1				
Crassula sieberiana	1	1000	FG					1				
Cymbonotus lawsonianus	2	20	FG					2				
Epilobium billardierianum	0.1	10	FG					0.1				
Geranium spp.	0.1	1	FG					0.1				
Solenogyne gunnii	0.4	50	FG					0.4				
Swainsona monticola	0.1	10	FG					0.1				
Vittadinia cuneata	1	100	FG					1				
Vittadinia spp.	0.4	20	FG					0.4				
Vittadinia muelleri	1	100	FG					1				
Wahlenbergia stricta	0.1	10	FG					0.1				
Elymus scaber	0.2	20	GG				0.2					
Poa sieberiana	5	100	GG				5					
Acetosella vulgaris	10	1000	HT									10
Bromus diandrus	0.4	40	HT									0.4
Rosa rubiginosa	0.4	4	HT									0.4
Melicytus angustifolius subsp. *divaricatus*	2	5	SG			2						
Pimelea pauciflora	0.4	2	SG			0.4						
Acacia melanoxylon	5	5	TG		5							

Veg Zone = PCT1110 Poa variant_Poor			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: MTBGrass11			**20**	**6**	0	0	4	2	0	0	**14**	2
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			120.4	**11.7**	0	0	11.4	0.3	0	0	**108.7**	10.2
Aira elegantissima	0.4	50	EX								0.4	
Bromus hordeaceus	30	2000	EX								30	
Echium vulgare	0.2	20	EX								0.2	
Bromus hordeaceus	1	100	EX								1	
Erodium cicutarium	0.1	10	EX								0.1	
Hordeum spp.	0.4	20	EX								0.4	
Hypochaeris glabra	1	10	EX								1	
Onopordum acanthium	0.2	10	EX								0.2	
Petrorhagia nanteuilii	0.2	20	EX								0.2	
Trifolium arvense	20	1000	EX								20	
Verbascum Thapsus	5	50	EX								5	
Vulpia myuros	40	2000	EX								40	
Acaena ovina	0.1	1	FG					0.1				
Hypoxis hygrometrica	0.2	10	FG					0.2				
Austrostipa scabra	1	100	GG				1					
Austrostipa sp.	5	50	GG				5					
Elymus scaber	0.4	25	GG				0.4					
Poa labillardierei	5	50	GG				5					
Acetosella vulgaris	10	1000	HT									10
Hypericum perforatum	0.2	10	HT									0.2

Veg Zone = PCT1110 Poa variant_Poor			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: MTBGrass12			**19**	**7**	0	0	4	3	0	0	**12**	1
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			116	**12.1**	0	0	11.6	0.5	0	0	**103.9**	0.5
Bromus hordeaceus	30	2000	EX								30	
Cerastium spp.	0.2	10	EX								0.2	
Cirsium vulgare	1	2	EX								1	
Crepis capillaris	1	10	EX								1	
echium vulgare	0.2	10	EX								0.2	
Erodium cicutarium	0.1	10	EX								0.1	
Medicago lupulina	0.2	10	EX								0.2	
Petrorhagia nanteuilii	0.2	20	EX								0.2	
Trifolium arvense	30	2000	EX								30	
Verbascum Thapsus	0.5	20	EX								0.5	
Vulpia myuros	40	2000	EX								40	
Acaena ovina	0.2	20	FG					0.2				
Geranium solanderi	0.2	20	FG					0.2				
Rumex brownii	0.1	2	FG					0.1				
Austrostipa sp.	10	200	GG				10					
Elymus scaber	0.2	20	GG				0.2					
Poa labillardierei	1	10	GG				1					
Poa sieberiana	0.4	20	GG				0.4					
Acetosella vulgaris	0.5	100	HT									0.5

Veg Zone = PCT1110 Poa variant_Good			Covers	Native	Trees	Shrubs	Grass	Forb	Fern	Other	Exotic	HighThreat
			# spp	Count	Count	Count	Count	Count	Count	Count	Count	Count
BAM Plot: MTBGrass14			21	11	0	0	6	5	0	0	10	1
Species	Cover	Abundance	Sum cover	Sum	Sum	Sum	Sum	Sum	Sum	Sum	Sum	Sum
			132.2	98.7	0	0	82.7	16	0	0	33.5	0.4
Cerastium spp.	0.2	25	EX								0.2	
Cirsium vulgare	0.5	50	EX								0.5	
Crepis capillaris	0.1	10	EX								0.1	
Erodium cicutarium	0.1	10	EX								0.1	
Holcus lanatus	1	200	EX								1	
Hypochaeris glabra	0.2	20	EX								0.2	
Medicago lupulina	25	2000	EX								25	
Poa pratensis	5	200	EX								5	
Trifolium repens	1	500	EX								1	
Asperula Scoparia	0.4	200	FG					0.4				
Geranium solanderi	15	1000	FG					15				
Haloragis heterophylla	0.1	25	FG					0.1				
Hydrocotyle sibthorpioides	0.4	50	FG					0.4				
Rumex brownii	0.1	10	FG					0.1				
Carex appressa	2	500	GG				2					
Carex sp.	10	2000	GG				10					
Eleocharis acuta	0.1	20	GG				0.1					
Juncus filicaulis	0.5	200	GG				0.5					
Juncus phaeanthus	0.1	5	GG				0.1					
Poa labillardierei	70	500	GG				70					
Acetosella vulgaris	0.4	50	HT									0.4

Veg Zone = PCT1110 Poa variant_Moderate			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: GrasslandBpl14			**27**	**15**	0	1	5	9	0	0	**12**	1
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			102.9	**65.4**	0	3	60.6	1.8	0	0	**37.5**	0.1
Aira elegantissima	0.2	10	EX								0.2	
Anthoxanthum odoratum	20	300	EX								20	
Asteraceae spp. exotic	0.1	2	EX								0.1	
Bromus hordeaceus	5	200	EX								5	
Cirsium vulgare	0.1	1	EX								0.1	
Medicago lupulina	10	1000	EX								10	
Myosotis discolor	0.1	3	EX								0.1	
Trifolium repens	0.3	30	EX								0.3	
Verbascum thapsus	0.1	2	EX								0.1	
Vulpia myuros	1	30	EX								1	
Holcus lanatus	0.5	20	EX								0.5	
Acaena spp.	0.3	10	FG					0.3				
Asperula conferta	0.3	30	FG					0.3				
Cymbonotus spp.	0.1	2	FG					0.1				
Cynoglossum australe	0.1	1	FG					0.1				
Epilobium billardierianum	0.1	2	FG					0.1				
Geranium solanderi	0.3	10	FG					0.3				
Hypoxis hygrometrica	0.1	2	FG					0.1				
Oxalis perennans	0.2	10	FG					0.2				
Veronica gracilis	0.3	20	FG					0.3				
Carex inversa	0.2	10	GG				0.2					
Juncus spp.	0.1	3	GG				0.1					
Poa sp. meionectes?	60	200	GG				60					
Scleranthus biflorus	0.2	1	GG				0.2					
Themeda triandra	0.1	1	GG				0.1					
Hypericum perforatum	0.1	3	HT									0.1
Pimelea pauciflora	3	10	SG			3						

Veg Zone = PCT1110 Poa variant_Poor			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: MTBShrub1			**18**	**5**	0	1	2	1	0	1	**13**	3
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			127.2	**49.2**	0	30	17	2	0	0.2	**78**	2.6
Bromus hordeaceus	40	2000	EX								40	
Cirsium vulgare	0.1	1	EX								0.1	
Echium vulgare	0.1	5	EX								0.1	
Erodium cicutarium	1	10	EX								1	
Hypochaeris glabra	0.2	10	EX								0.2	
Medicago lupulina	1	200	EX								1	
Poa pratensis	2	50	EX								2	
Trifolium arvense	10	2000	EX								10	
Verbascum thapsus	1	50	EX								1	
Vulpia myuros	20	2000	EX								20	
Acaena ovina	2	20	FG					2				
Austrostipa sp.	2	200	GG				2					
Poa labillardierei	15	100	GG				15					
Hypericum perforatum	0.1	1	HT									0.1
Acetosella vulgaris	2	500	HT									2
Nassella trichotoma	0.5	20	HT									0.5
Convolvulus erubescens	0.2	20	OG							0.2		
Pimelea pauciflora	30	50	SG			30						

Veg Zone = PCT1110 Poa variant_Moderate			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: MTBGrass15			**33**	**18**	0	1	4	12	0	1	**15**	3
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			122.9	**74.9**	0	1	62.6	11.2	0	0.1	**48**	5.2
Aira elegantissima	0.1	10	EX								0.1	
Anthoxanthum odoratum	5	500	EX								5	
Bromus hordeaceus	10	1000	EX								10	
Centaurium erythraea	0.1	10	EX								0.1	
Cerastium spp.	0.1	20	EX								0.1	
Cirsium vulgare	0.1	10	EX								0.1	
Hypochaeris glabra	0.1	10	EX								0.1	
Medicago lupulina	5	1000	EX								5	
Petrorhagia nanteuilii	0.2	50	EX								0.2	
Trifolium arvense	2	200	EX								2	
Trifolium repens	0.1	20	EX								0.1	
Vulpia myuros	20	2000	EX								20	
Acaena ovina	0.1	20	FG					0.1				
Asperula scoparia	2	2000	FG					2				
Cymbonotus lawsonianus	0.1	10	FG					0.1				
Dichondra sp. A	2	200	FG					2				
Euchiton spp.	0.1	20	FG					0.1				
Geranium solanderi	5	500	FG					5				
Hydrocotyle laxiflora	1	100	FG					1				
Lythrum hyssopifolia	0.1	20	FG					0.1				
Oxalis perennans	0.1	20	FG					0.1				
Rumex brownii	0.1	20	FG					0.1				
Solenogyne gunnii	0.5	50	FG					0.5				
Wahlenbergia gracilis	0.1	1	FG					0.1				
Carex inversa	2	200	GG				2					
Juncus filicaulis	0.1	20	GG				0.1					
Poa labillardierei	60	1000	GG				60					
Schoenus apogon	0.5	20	GG				0.5					
Acetosella vulgaris	5	200	HT									5
Hypericum perforatum	0.1	20	HT									0.1
Rosa rubiginosa	0.1	1	HT									0.1
Convolvulus erubescens	0.1	20	OG							0.1		
Pimelea pauciflora	1	10	SG			1						

Veg Zone = PCT1191 Exotic dominant grassland			Covers	Native	Trees	Shrubs	Grass	Forb	Fern	Other	Exotic	HighThreat
			# spp	Count	Count	Count	Count	Count	Count	Count	Count	Count
BAM Plot: GrasslandBpl11			22	12	0	1	2	8	0	1	10	2
Species	Cover	Abundance	Sum cover	Cover	Sum	Sum	Sum	Sum	Sum	Sum	Sum	Sum
			127.9	24.7	0	3	20.1	1.5	0	0.1	103.2	0.8
Aira elegantissima	0.2	20	EX								0.2	
Anthoxanthum odoratum	60	1000	EX								60	
Cerastium glomeratum	0.3	20	EX								0.3	
Hypochaeris radicata	0.6	100	EX								0.6	
Medicago lupulina	40	1000	EX								40	
Petrorhagia nanteuilii	0.1	2	EX								0.1	
Taraxacum officinale	1	100	EX								1	
Trifolium arvense	0.2	50	EX								0.2	
Acaena spp.	0.2	20	FG					0.2				
Asperula scoparia	0.2	10	FG					0.2				
Cymbonotus spp.	0.3	10	FG					0.3				
Euchiton spp.	0.2	20	FG					0.2				
Geranium solanderi	0.2	30	FG					0.2				
Hypoxis hygrometrica	0.1	2	FG					0.1				
Oxalis perennans	0.2	10	FG					0.2				
Solenogyne gunnii	0.1	4	FG					0.1				
Poa sp. meionectes?	20	100	GG				20					
Themeda triandra	0.1	1	GG				0.1					
Acetosella vulgaris	0.5	100	HT									0.5
Hypericum perforatum	0.3	30	HT									0.3
Convolvulus erubescens	0.1	6	OG							0.1		
Pimelea pauciflora	3	4	SG			3						

Veg Zone = PCT1110 Poa variant_Moderate			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: GrasslandBpl20			**26**	**11**	0	2	3	6	0	0	**15**	3
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			113.7	**77.4**	0	1.2	75.2	1	0	0	**36.3**	1.5
Medicago lupulina	30	1000	EX								30	
Anthoxanthum odoratum	1	30	EX								1	
Hypochaeris radicata	0.5	50	EX								0.5	
Bromus sp. hordeaceus?	1	50	EX								1	
Taraxacum officinale	0.5	30	EX								0.5	
Verbascum thapsus	0.5	20	EX								0.5	
Aira elegantissima	0.1	2	EX								0.1	
Poa annua	0.3	10	EX								0.3	
Cirsium spp.	0.5	10	EX								0.5	
Cerastium glomeratum	0.2	6	EX								0.2	
Petrorhagia nanteuilii	0.1	3	EX								0.1	
Trifolium repens	0.1	3	EX								0.1	
Geranium solanderi	0.3	20	FG					0.3				
Acaena ovina	0.3	20	FG					0.3				
Dichondra repens	0.1	4	FG					0.1				
Mitrasacme serpyllifolia	0.1	2	FG					0.1				
Rumex spp.	0.1	1	FG					0.1				
Vittadinia muelleri	0.1	1	FG					0.1				
Poa sp. labillardierei	60	200	GG				60					
Poa sp. meionectes?	15	50	GG				15					
Carex appressa	0.2	1	GG				0.2					
Acetosella vulgaris	1	50	HT									1
Hypericum perforatum	0.2	4	HT									0.2
Bromus diandrus	0.3	20	HT									0.3
Pimelea pauciflora	1	2	SG			1						
Melicytus angustifolius subsp. divaricatus	0.2	1	SG			0.2						

Veg Zone = PCT1110 Poa variant_Poor			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: MTBGrass5			**26**	**15**	0	2	3	10	0	0	**11**	1
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			111.8	**28.6**	0	0.4	25.5	2.7	0	0	**83.2**	1
Anthoxanthum odoratum	20	1000	EX								20	
Bromus hordeaceus	40	2000	EX								40	
Cerastium sp.	0.1	1	EX								0.1	
Cirsium vulgare	0.3	10	EX								0.3	
Erodium cicutarium	0.2	20	EX								0.2	
Medicago lupulina	20	2000	EX								20	
Myosotis discolor	0.1	10	EX								0.1	
Poa pratensis	1	500	EX								1	
Taraxacum officinale	0.1	10	EX								0.1	
Trifolium repens	0.4	20	EX								0.4	
Acaena ovina	0.1	10	FG					0.1				
Asperula conferta	1	2000	FG					1				
Chrysocephalum apiculatum	0.2	20	FG					0.2				
Cymbonotus lawsonianus	0.1	5	FG					0.1				
Geranium solanderi	0.5	50	FG					0.5				
Oxalis perennans	0.1	1	FG					0.1				
Rumex brownii	0.1	20	FG					0.1				
Solenogyne gunnii	0.4	100	FG					0.4				
Stellaria spp.	0.1	10	FG					0.1				
Veronica gracilis	0.1	2	FG					0.1				
Carex inversa	0.1	5	GG				0.1					
Juncus usitatus	0.4	50	GG				0.4					
Poa labillardierei	25	500	GG				25					
Acetosella vulgaris	1	500	HT									1
Pimelea curviflora	0.1	2	SG			0.1						
Pimelea pauciflora	0.3	10	SG			0.3						

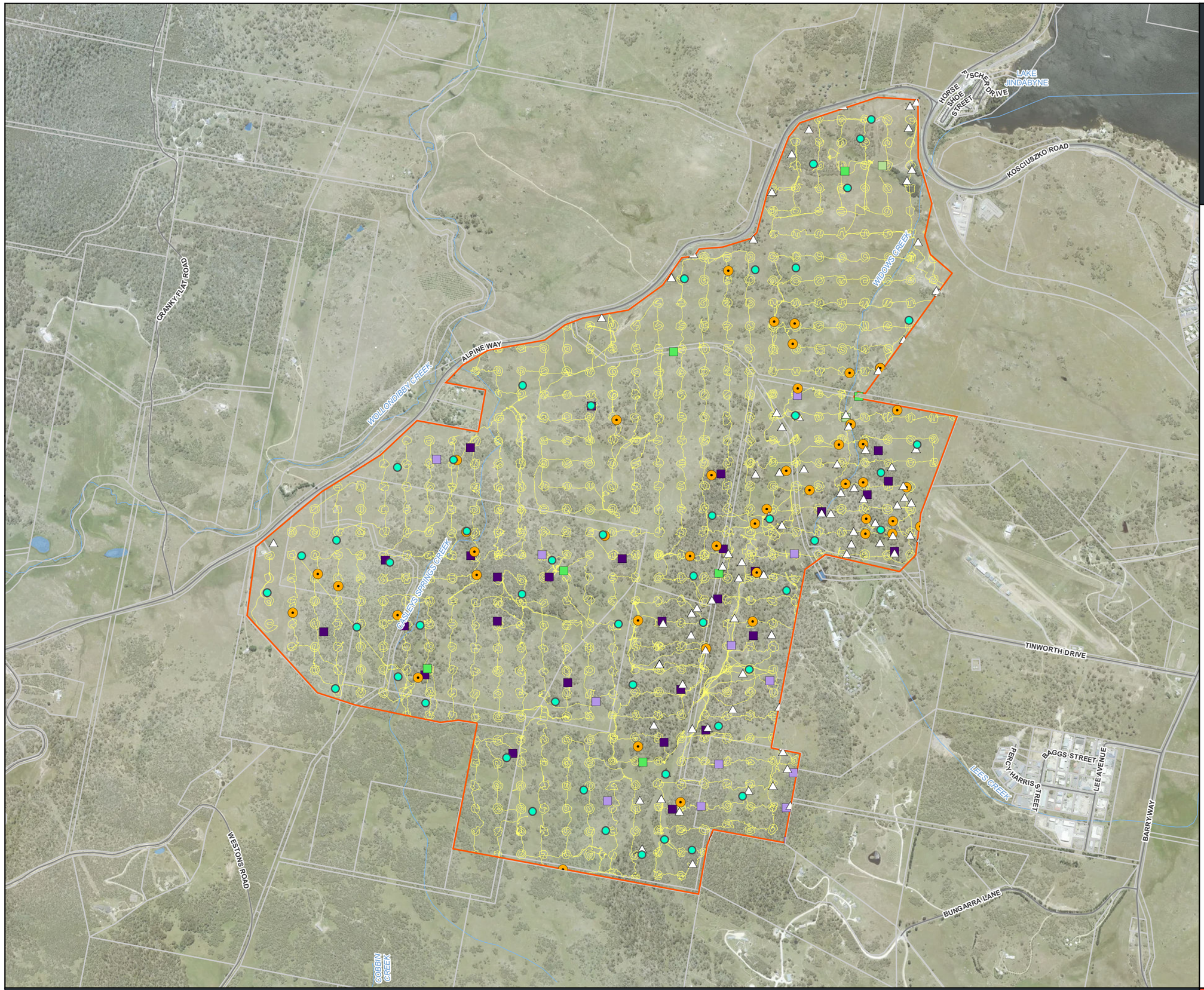
Veg Zone = PCT1110 Poa variant_Poor			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: MTBGrass6			**21**	**8**	1	2	2	3	0	0	**13**	1
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			110.7	**29.5**	5	2.1	22	0.4	0	0	**81.2**	5
Onopordum acanthium	0.2	70	EX								0.2	
Bromus hordeaceus	30	2000	EX								30	
Caryophyllaceae sp.	0.1	10	EX								0.1	
Echium vulgare	0.2	20	EX								0.2	
Erodium cicutarium	0.1	10	EX								0.1	
Hordeum sp.	0.2	20	EX								0.2	
Hypochaeris radicata	0.1	10	EX								0.1	
Petrorhagia nanteuilii	0.2	20	EX								0.2	
Poa pratensis	0.1	10	EX								0.1	
Trifolium arvense	20	2000	EX								20	
Verbascum thapsus	5	200	EX								5	
Vulpia myuros	20	2000	EX								20	
Acaena ovina	0.1	1	FG					0.1				
Geranium sp.	0.1	1	FG					0.1				
Geranium solanderi	0.2	20	FG					0.2				
Elymus scaber	20	200	GG				20					
Poa labillardierei	2	20	GG				2					
Acetosella vulgaris	5	2000	HT									5
Melicytus angustifolius subsp. *divaricatus*	0.1	1	SG			0.1						
Pimelea pauciflora	2	20	SG			2						
Eucalyptus pauciflora	5	1	TG		5							

Veg Zone = PCT1110 Exotic dominant grassland			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: MTBGrass10			**21**	**9**	1	0	4	4	0	0	**12**	1
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			108.3	**27**	5	0	21.2	0.8	0	0	**81.3**	0.2
Aira elegantissima	0.2	20	EX								0.2	
Anthoxanthum odoratum	0.2	25	EX								0.2	
Bromus rubens	0.2	10	EX								0.2	
Bromus hordeaceus	5	200	EX								5	
Echium vulgare	0.1	5	EX								0.1	
Erodium cicutarium	0.2	20	EX								0.2	
Medicago lupulina	0.1	1	EX								0.1	
Petrorhagia nanteuilii	0.1	20	EX								0.1	
Trifolium arvense	30	2000	EX								30	
Verbascum Thapsus	5	50	EX								5	
Vulpia myuros	40	2000	EX								40	
Crassula sieberiana	0.4	100	FG					0.4				
Euchiton sphaericus	0.1	10	FG					0.1				
Hypoxis hygrometrica	0.2	20	FG					0.2				
Oxalis perennans	0.1	10	FG					0.1				
Austrostipa scabra	20	2000	GG				20					
Carex inversa	1	70	GG				1					
Poa sieberiana	0.1	1	GG				0.1					
Themeda triandra	0.1	10	GG				0.1					
Acetosella vulgaris	0.2	20	HT									0.2
Eucalyptus pauciflora	5	2	TG		5							

Veg Zone = PCT1110 Themeda variant_Good			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: MTBGrass9			**21**	**9**	0	0	3	5	1	0	**12**	2
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			102.1	**67.1**	0	0	61.2	5.8	0.1	0	**35**	0.6
Ophioglossum lusitanicum	0.1	20	EG						0.1			
Aira elegantissima	0.5	200	EX								0.5	
Centaurium erythraea	0.1	70	EX								0.1	
Erodium cicutarium	0.1	10	EX								0.1	
Hypochaeris glabra	0.2	20	EX								0.2	
Medicago lupulina	0.1	1	EX								0.1	
Petrorhagia nanteuilii	0.2	20	EX								0.2	
Trifolium arvense	3	500	EX								3	
Verbascum virgatum	0.1	5	EX								0.1	
Verbascum Thapsus	0.1	2	EX								0.1	
Vulpia myuros	30	2000	EX								30	
Acaena ovina	0.4	20	FG					0.4				
Chamaesyce drummondii	0.2	50	FG					0.2				
crassula sieberiana	5	100	FG					5				
Oxalis perennans	0.1	70	FG					0.1				
Wahlenbergia sp.	0.1	10	FG					0.1				
Austrostipa scabra	0.2	20	GG				0.2					
Rytidosperma sp.	1	200	GG				1					
Themeda triandra	60	2000	GG				60					
Acetosella vulgaris	0.4	25	HT									0.4
Hypericum perforatum	0.2	5	HT									0.2

Veg Zone = PCT1110 Exotic dominant grassland			Covers	Native	Trees	Shrubs	Grass	Forb	Fern	Other	Exotic	HighThreat
			# spp	Count	Count	Count	Count	Count	Count	Count	Count	Count
BAM Plot: MTBGrass8			22	11	0	1	2	8	0	0	11	3
Species	Cover	Abundance	Sum cover	Sum	Sum	Sum	Sum	Sum	Sum	Sum	Sum	Sum
			93.5	30.3	0	0.2	7	23.1	0	0	63.2	1.6
Anthoxanthum odoratum	0.5	50	EX								0.5	
Echium vulgare	0.2	10	EX								0.2	
Hypochaeris glabra	0.2	20	EX								0.2	
Linaria arvensis	0.1	20	EX								0.1	
Petrorhagia nanteuilii	0.4	100	EX								0.4	
Trifolium arvense	20	2000	EX								20	
Verbascum thapsus	0.2	20	EX								0.2	
Vulpia myuros	40	2000	EX								40	
Acaena ovina	0.2	20	FG					0.2				
Chrysocephalum apiculatum	2	100	FG					2				
Crassula sieberiana	0.4	2000	FG					0.4				
Hypoxis hygrometrica	0.2	10	FG					0.2				
Scleranthus biflorus	0.1	10	FG					0.1				
Triptilodiscus pygmaeus	0.1	5	FG					0.1				
Vittadinia muelleri	20	2000	FG					20				
Wahlenbergia sp.	0.1	20	FG					0.1				
Poa sieberiana	5	50	GG				5					
Themeda triandra	2	100	GG				2					
Acetosella vulgaris	0.5	50	HT									0.5
Hypericum perforatum	1	50	HT									1
Rosa rubiginosa	0.1	1	HT									0.1
Leucopogon fletcheri	0.2	20	SG			0.2						

APPENDIX A-2
Mountain Bike and Adventure Park sub-precinct mapping



wsp

Snowy SAP - Field Survey Effort

Figure A.1

Mountain Bike and Adventure Park Sub-precinct
Catalyst Precinct

Legend

- Precinct Boundary
- Cadastre
- Waterbodies
- Watercourse
- Roads

Field Suvey Effort

- BAM Plot
- Rapid Data Points
- Opportunistic bird survey
- Targeted Threatened Species 2-Phase Grid Survey

Fauna Habitat Assessment Sites

- Call playback
- Camera trap
- Frog survey
- Reptile search

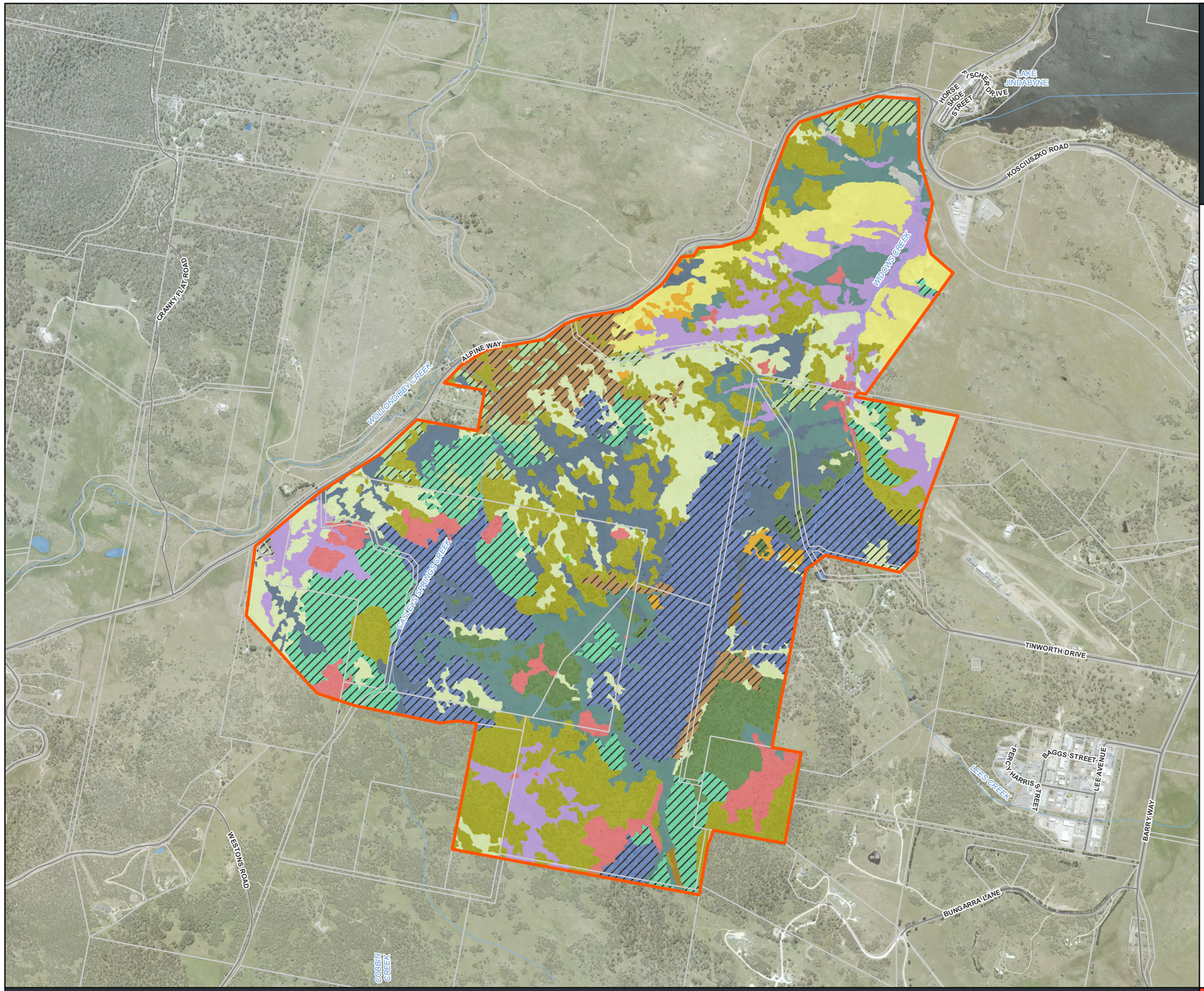
0 0.4 0.8 km

Coordinate system: GDA 1994 MGA Zone 55

Scale ratio correct when printed at A3

1:16,000 Date: 1/04/2022

Data sources: - NSWSS, Geoscience Australia, DPIE, Metromap



Snowy SAP - Plant Community Types

Figure A.2

Mountain Bike and Adventure Park Sub-precinct Catalyst Precinct

Legend

- Precinct Boundary
- Cadastre
- Waterbodies
- Watercourse
- Roads

Plant Community Types and Vegetation Zones

- PCT 1191, Ribbon Gum variant (Good)
- PCT 1191, Ribbon Gum variant (Moderate)
- PCT 1191, Good
- PCT 1191, Native dominant grassland
- PCT 1191, Rocky outcrop
- PCT 1191, Shrubland
- PCT 1191, Exotic dominant grassland
- PCT 1191, Poor
- PCT 1191, Moderate
- PCT 1110, Themeda variant (Good)
- PCT 1110, Poa variant (Good)
- PCT 1110, Poa variant (Moderate)
- PCT 1110, Poa variant (Poor)
- PCT 1110, Native dominant grassland
- PCT 1110, Exotic dominant grassland
- Miscellaneous/exotic

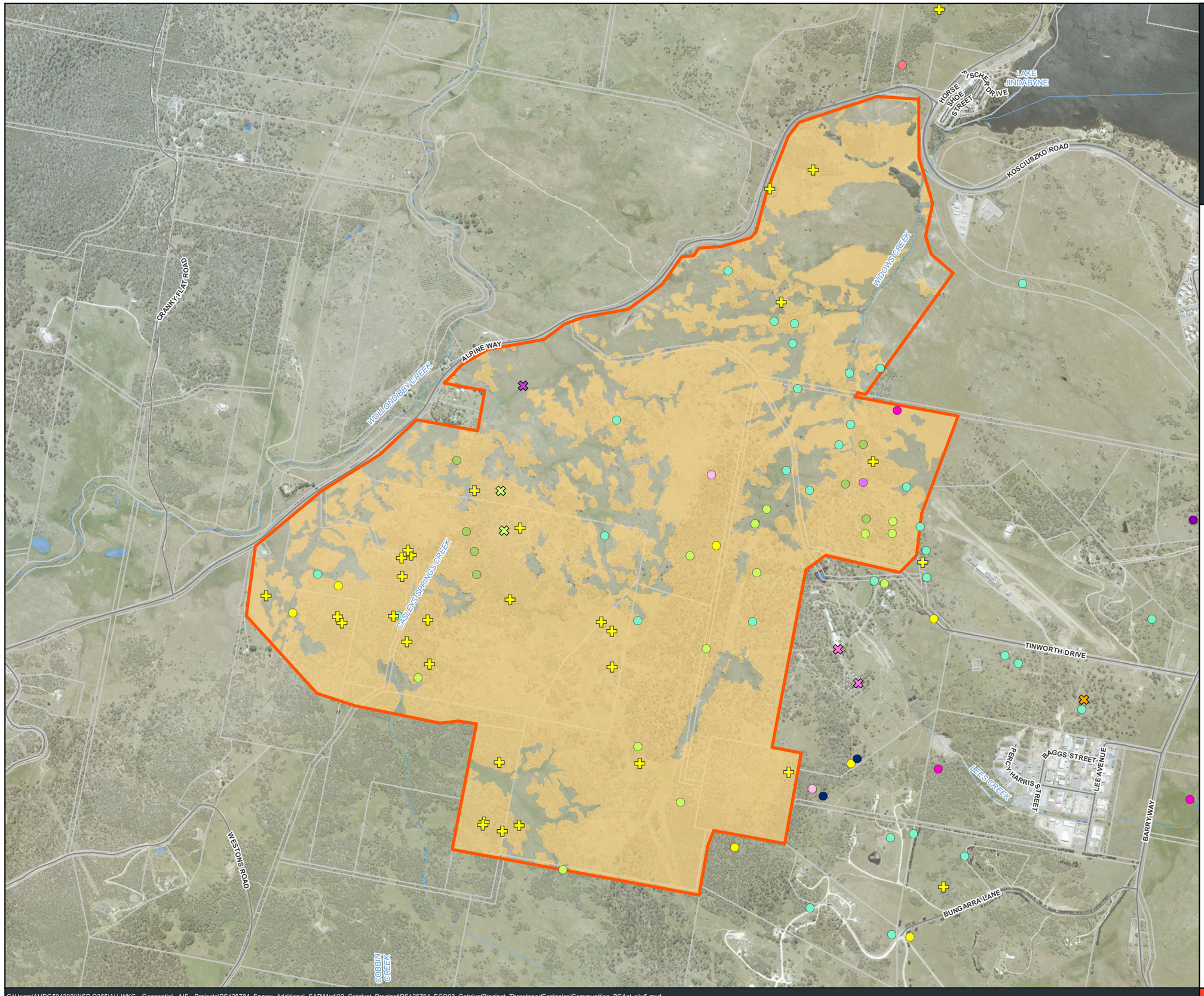
0 0.4 0.8 km

Coordinate system: GDA 1994 MGA Zone 55

Scale ratio correct when printed at A3

1:16,000 Date: 1/04/2022

Data sources: - NSWSS, Geoscience Australia, DPIE, Metromap



Snowy SAP - BC Act Listed Biodiversity

Figure A.3

Mountain Bike and Adventure Park Sub-precinct Catalyst Precinct

Legend

- Precinct Boundary
- Cadastre
- Waterbodies
- Watercourse
- Roads
- Hollow-bearing tree

Threatened Flora Species

- *Carex sp.*
- *Eucalyptus nicholii*
- *Glycine sp.*
- *Swainsona sericea* (recorded 2017)

Threatened Fauna Species

- Dusky Woodswallow
- Satin flycatcher
- Rufous fantail
- Gang-gang Cockatoo
- Varied Sittella
- Little Eagle
- Little Eagle (Active Nest)
- Stick Nest (potential Little Eagle)
- Scarlet Robin
- Flame Robin

Threatened Ecological Communities (BC Act)

- Monaro Tableland Cool Temperate Grassy Woodland in The South Eastern Highlands Bioregion

0 0.4 0.8 km

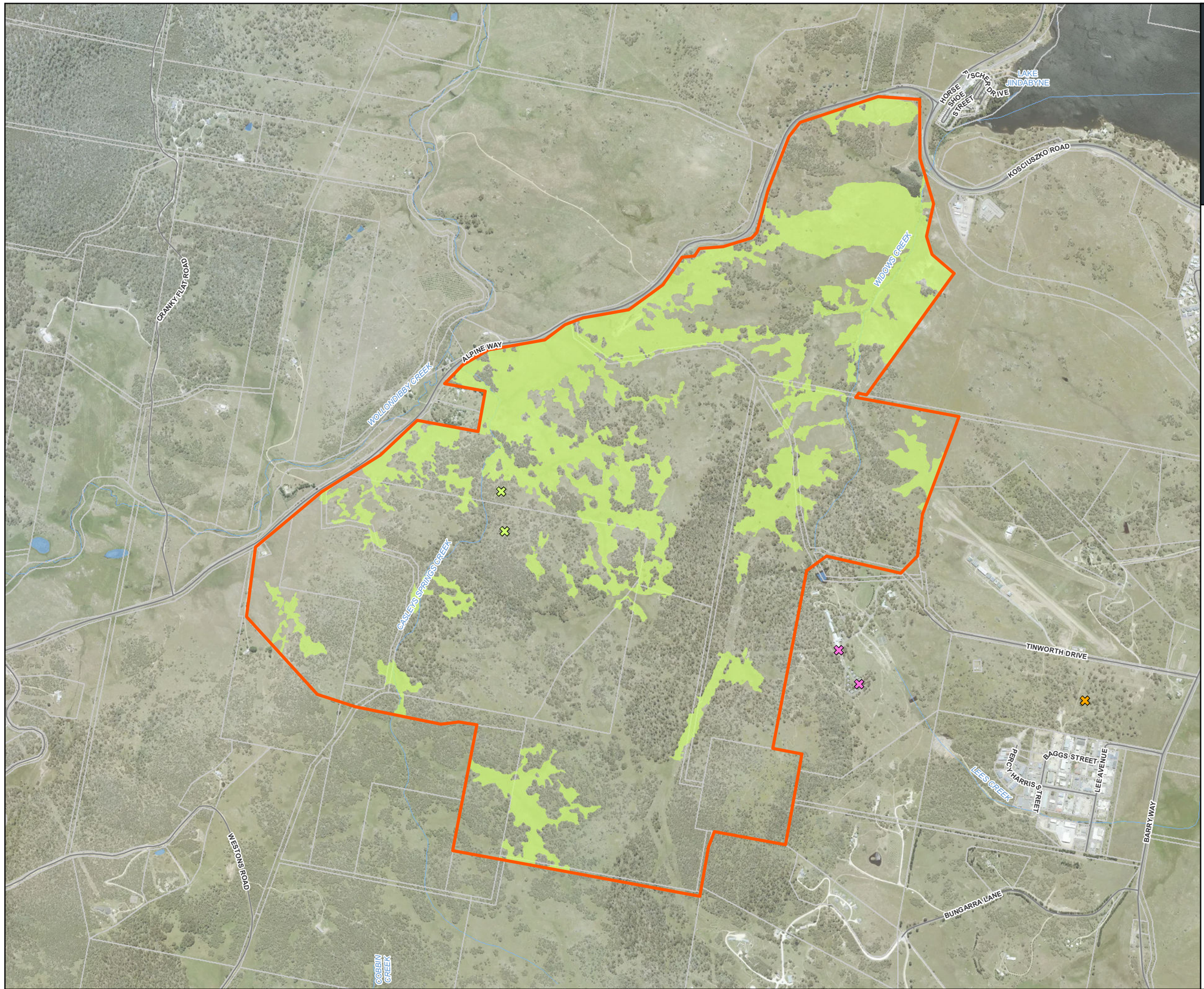
Coordinate system: GDA 1994 MGA Zone 55

Scale ratio correct when printed at A3

1:16,000 Date: 1/04/2022

Data sources: - NSWSS, Geoscience Australia, DPIE, Metromap

C:\Users\AUDG504200\WSP O365\AU-WKG - Geospatial - AIS - Projects\PS126784_Snowy_Additional_SAP\Mxd\02_Catalyst_Precinct\PS126784_ECO03_CatalystPrecinct_ThreatenedEcologicalCommunities_BCAct_r1v5.mxd



Snowy SAP - EPBC Act Listed Biodiversity

Figure A.4

Mountain Bike and Adventure Park Sub-precinct
Catalyst Precinct

Legend

- Precinct Boundary
- Cadastre
- Waterbodies
- Watercourse
- Roads

Threatened Flora Species

- *Eucalyptus nicholii*
- *Glycine sp.*
- *Swainsona sericea* (recorded 2017)

Threatened Ecological Communities (EPBC Act)

- Natural Temperate Grassland of the South Eastern Highlands

0 0.4 0.8 km

Coordinate system: GDA 1994 MGA Zone 55

Scale ratio correct when printed at A3

1:16,000 Date: 1/04/2022

Data sources: - NSWSS, Geoscience Australia, DPIE, Metromap

APPENDIX A-3
Mountain Bike and Adventure Park sub-precinct BAM candidate species report

BAM Candidate Species Report

Proposal Details

Assessment Id 00023687/BAAS17060/22/00031133	Proposal Name MTB and Adventure Park	BAM data last updated * 24/11/2021
Assessor Name Lukas Leslie Clews	Report Created 15/02/2022	BAM Data version * 50
Assessor Number BAAS17060	Assessment Type Biocertification	BAM Case Status Open
Assessment Revision 0	Date Finalised To be finalised	

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

List of Species Requiring Survey

Name	Presence	Survey Months
Thesium australe Austral Toadflax		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Gentiana baeuerlenii Baeuerlen's Gentian		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Ninox connivens Barking Owl		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Eucalyptus aggregata Black Gum		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Diuris aequalis Buttercup Doubletail		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Rutidosis leptorrhynchoides Button Wrinklewort		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Dodonaea procumbens Creeping Hop-bush		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Commersonia prostrata Dwarf Kerrawang		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Cercartetus nanus Eastern Pygmy-possum		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Callocephalon fimbriatum Gang-gang Cockatoo		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Calyptorhynchus lathami Glossy Black-Cockatoo		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Petauroides volans Greater Glider		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Litoria aurea Green and Golden Bell Frog		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Leucochrysum albicans var. tricolor Hoary Sunray		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Phascolarctos cinereus Koala		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Miniopterus orianae oceanensis Large Bent-winged Bat		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Hieraaetus morphnoides Little Eagle		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Calotis glandulosa Mauve Burr-daisy		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Eucalyptus macarthurii Paddys River Box, Camden Woollybutt		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Petroica rodinogaster Pink Robin		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Aprasia parapulchella Pink-tailed Legless Lizard		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Ninox strenua Powerful Owl		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Anthochaera phrygia Regent Honeyeater		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Euphrasia scabra Rough Eyebright		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Swainsona sericea Silky Swainson-pea		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Litoria raniformis Southern Bell Frog		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Myotis macropus Southern Myotis		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Delma impar Striped Legless Lizard		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Prasophyllum petilum Tarengo Leek Orchid		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Caladenia tessellata Thick Lip Spider Orchid		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Haliaeetus leucogaster White-bellied Sea-Eagle		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Threatened species Manually Added

None added

Appendix B

Southern Connector Road sub-precinct

APPENDIX B-1
Southern Connector Road sub-precinct flora survey data

Veg Zone = PCT1110 Themeda variant_Good			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: GrasslandBpl17			**31**	**12**	0	1	4	7	0	0	**19**	4
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			108	**100.9**	0	0.5	97.3	3.1	0	0	**7.1**	1.4
Aira elegantissima	0.3	10	EX								0.3	
Asteraceae spp. exotic	0.1	3	EX								0.1	
Avena sativa	0.2	10	EX								0.2	
Bromus hordeaceus	1	30	EX								1	
Hypochaeris radicata	1	50	EX								1	
Linaria arvensis	0.1	2	EX								0.1	
Medicago lupulina	0.2	10	EX								0.2	
Petrorhagia nanteuilii	0.2	6	EX								0.2	
Plantago lanceolata	0.2	6	EX								0.2	
Poa annua	0.2	10	EX								0.2	
Rumex crispus	0.2	3	EX								0.2	
Taraxacum officinale	0.5	20	EX								0.5	
Trifolium arvense	1	100	EX								1	
Verbascum thapsus	0.3	10	EX								0.3	
Vulpia myuros	0.2	10	EX								0.2	
Acaena ovina	0.3	10	FG					0.3				
Euchiton spp.	0.2	4	FG					0.2				
Geranium spp.	2	3	FG					2				
Oxalis spp.	0.1	1	FG					0.1				
Senecio prenanthoides	0.2	2	FG					0.2				
Senecio quadridentatus	0.1	2	FG					0.1				
Vittadinia muelleri	0.2	2	FG					0.2				
Elymus scaber	1	20	GG				1					
Poa sp. meionectes?	0.3	10	GG				0.3					
Poa sieberiana var. sieberiana	1	20	GG				1					
Themeda triandra	95	500	GG				95					
Acetosella vulgaris	0.5	30	HT									0.5
Bromus diandrus	0.2	10	HT									0.2
Hypericum perforatum	0.2	3	HT									0.2
Pyracantha spp.	0.5	1	HT									0.5
Hakea microcarpa	0.5	1	SG			0.5						

Veg Zone = PCT1110 Themeda variant_Good			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: SCRGrass1			**27**	**8**	0	0	3	5	0	0	**19**	2
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			124.8	**73**	0	0	71.2	1.8	0	0	**51.8**	0.6
Centaurium erythraea	0.1	1	EX								0.1	
Aira elegantissima	1	500	EX								1	
Avena sp.	25	500	EX								25	
Bromus rubens	0.1	5	EX								0.1	
Bromus hordeaceus	0.4	50	EX								0.4	
Crepis capillaris	0.2	20	EX								0.2	
Crataegus monogyna	0.1	1	EX								0.1	
Holcus lanatus	0.3	20	EX								0.3	
Hypochaeris glabra	1	100	EX								1	
Trifolium sp.	1	10	EX								1	
Medicago lupulina	1	200	EX								1	
Petrorhagia nanteuilii	0.2	1000	EX								0.2	
Plantago lanceolata	0.5	50	EX								0.5	
Salvia coccinea	0.2	70	EX								0.2	
Trifolium arvense	15	2000	EX								15	
Verbascum Thapsus	0.1	3	EX								0.1	
Vulpia myuros	5	1000	EX								5	
Ammobium alatum	0.1	10	FG					0.1				
Geranium solanderi	0.4	50	FG					0.4				
Hypoxis hygrometrica	0.2	10	FG					0.2				
Acaena novae-zelandiae	1	1	FG					1				
Senecio quadridentatus	0.1	1	FG					0.1				
Elymus scaber	1	200	GG				1					
Austrostipa scabra	0.2	10	GG				0.2					
Themeda triandra	70	2000	GG				70					
Hypericum perforatum	0.4	50	HT									0.4
Acetosella vulgaris	0.2	10	HT									0.2

Veg Zone = PCT1110 Themeda variant_Good			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: ECRG1			**25**	**7**	0	0	5	2	0	0	**18**	4
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			107.7	**80.7**	0	0	80.5	0.2	0	0	**27**	0.4
Verbascum thapsus	0.3	40	EX								0.3	
Onopordum acanthium	0.1	2	EX								0.1	
Trifolium arvense	0.3	100	EX								0.3	
Bromus hordeaceus	10	300	EX								10	
Avena spp.	0.1	30	EX								0.1	
Echium vulgare	0.1	10	EX								0.1	
Hirschfeldia incana	0.1	10	EX								0.1	
Linaria arvensis	0.1	2	EX								0.1	
Vulpia myuros	15	300	EX								15	
Anagallis arvensis	0.1	5	EX								0.1	
Marrubium vulgare	0.1	1	EX								0.1	
Sonchus oleraceus	0.1	1	EX								0.1	
Petrorhagia nanteuilii	0.1	10	EX								0.1	
Bothriochloa macra	0.1	5	EX								0.1	
Oxalis perennans	0.1	1	FG					0.1				
Acaena ovina	0.1	1	FG					0.1				
Themeda triandra	80	200	GG				80					
Elymus scaber	0.2	20	GG				0.2					
Rytidosperma tenuius	0.1	10	GG				0.1					
Poa labillardierei	0.1	10	GG				0.1					
Poa sieberiana	0.1	10	GG				0.1					
Hypericum perforatum	0.1	20	HT									0.1
Nassella trichotoma	0.1	20	HT									0.1
Acetosella vulgaris	0.1	20	HT									0.1
Rosa rubiginosa	0.1	1	HT									0.1

Veg Zone = PCT1191 Exotic dominant grassland			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: SCRGrass3			**24**	**7**	0	2	3	2	0	0	**17**	3
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			110.5	**7.6**	0	1.4	5.9	0.3	0	0	**102.9**	1.6
Aira elegantissima	0.2	50	EX								0.2	
Avena spp.	0.2	10	EX								0.2	
Bromus hordeaceus	40	2000	EX								40	
Cerastium sp.	0.1	1	EX								0.1	
Crepis capillaris	0.1	1	EX								0.1	
Echium vulgare	5	1000	EX								5	
Erodium cicutarium	0.1	1	EX								0.1	
Petrorhagia nanteuilii	5	1000	EX								5	
Plantago lanceolata	0.2	20	EX								0.2	
Poa pratensis	0.1	10	EX								0.1	
Alyssum linifolium	0.1	10	EX								0.1	
Trifolium arvense	10	1000	EX								10	
Verbascum thapsus	0.2	5	EX								0.2	
Vulpia myuros	40	2000	EX								40	
Acaena ovina	0.2	20	FG					0.2				
Vittadinia cuneata	0.1	70	FG					0.1				
Austrostipa scabra	5	500	GG				5					
Elymus scaber	0.5	50	GG				0.5					
Poa sieberiana var. sieberiana	0.4	10	GG				0.4					
Acetosella vulgaris	0.2	20	HT									0.2
Hypericum perforatum	1	100	HT									1
Rosa rubiginosa	0.4	2	HT									0.4
Melicytus angustifolius subsp. *divaricatus*	0.4	1	SG			0.4						
Pimelea pauciflora	1	2	SG			1						

Veg Zone = PCT1110 Exotic dominant grassland			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: SCRGrass4			**26**	**15**	0	0	3	9	1	2	**11**	2
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			72.8	**33.9**	0	0	5.6	28	0.1	0.2	**38.9**	5.2
Ophioglossum lusitanicum	0.1	20	EG						0.1			
Aira elegantissima	1	500	EX								1	
Anthoxanthum odoratum	2	10	EX								2	
Bromus hordeaceus	5	100	EX								5	
Centaurium erythraea	0.1	10	EX								0.1	
Echium vulgare	0.2	10	EX								0.2	
Hypochaeris glabra	0.1	1	EX								0.1	
Linaria arvensis	0.1	20	EX								0.1	
Trifolium arvense	25	2000	EX								25	
Verbascum thapsus	0.2	20	EX								0.2	
Acaena ovina	0.2	20	FG					0.2				
Crassula sieberiana	2	1000	FG					2				
Dichondra sp. A	0.1	1	FG					0.1				
Epilobium billardierianum	0.1	10	FG					0.1				
Euchiton sphaericus	0.2	20	FG					0.2				
Rumex brownii	0.1	1	FG					0.1				
Swainsona monticola	0.1	5	FG					0.1				
Vittadinia cuneata	0.2	50	FG					0.2				
Vittadinia muelleri	25	2000	FG					25				
Austrostipa scabra	5	500	GG				5					
Carex breviculmis	0.5	30	GG				0.5					
Poa sieberiana	0.1	5	GG				0.1					
Hypericum perforatum	5	200	HT									5
Rosa rubiginosa	0.2	1	HT									0.2
Convolvulus erubescens	0.1	10	OG							0.1		
Desmodium varians	0.1	10	OG							0.1		

Veg Zone = PCT1110 Exotic dominant grassland			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: SCRGrass5			**28**	**13**	0	2	2	7	1	1	**15**	3
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			112.9	**8.7**	0	0.9	6	1.6	0.1	0.1	**104.2**	0.8
Cheilanthes austrotenuifolia	0.1	10	EG						0.1			
Aira elegantissima	0.2	50	EX								0.2	
Bromus hordeaceus	10	1000	EX								10	
Centaurium erythraea	0.1	1	EX								0.1	
Echium vulgare	0.2	20	EX								0.2	
Erodium cicutarium	0.1	10	EX								0.1	
Hypochaeris glabra	0.3	50	EX								0.3	
Linaria arvensis	0.1	25	EX								0.1	
Petrorhagia nanteuilii	1	50	EX								1	
Plantago lanceolata	1	500	EX								1	
Trifolium arvense	40	2000	EX								40	
Verbascum thapsus	0.4	50	EX								0.4	
Vulpia myuros	50	2000	EX								50	
Acaena ovina	0.2	20	FG					0.2				
Crassula sieberiana	0.2	200	FG					0.2				
Dichondra sp. A	0.5	20	FG					0.5				
Epilobium billardierianum	0.1	20	FG					0.1				
Vittadinia cuneata	0.4	50	FG					0.4				
Vittadinia spp.	0.1	10	FG					0.1				
Vittadinia muelleri	0.1	10	FG					0.1				
Austrostipa scabra	5	200	GG				5					
Poa sieberiana	1	5	GG				1					
Acetosella vulgaris	0.2	20	HT									0.2
Hypericum perforatum	0.4	25	HT									0.4
Rosa rubiginosa	0.2	2	HT									0.2
Desmodium varians	0.1	5	OG							0.1		
Melicytus angustifolius subsp. *divaricatus*	0.5	3	SG			0.5						
Pimelea pauciflora	0.4	3	SG			0.4						

Veg Zone = PCT1110 Exotic dominant grassland			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: SCRGrass6			**26**	**13**	0	0	5	8	0	0	**13**	2
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			109.2	**20.8**	0	0	16.3	4.5	0	0	**88.4**	6
Aira elegantissima	0.2	20	EX								0.2	
Bromus rubens	0.1	10	EX								0.1	
Bromus hordeaceus	5	500	EX								5	
Centaurium erythraea	0.2	20	EX								0.2	
Echium vulgare	0.2	20	EX								0.2	
Erodium cicutarium	0.1	10	EX								0.1	
Hypochaeris glabra	0.2	25	EX								0.2	
Petrorhagia nanteuilii	1	1000	EX								1	
Trifolium arvense	15	2000	EX								15	
Verbascum thapsus	0.4	25	EX								0.4	
Vulpia myuros	60	2000	EX								60	
Acaena ovina	2	20	FG					2				
Asperula conferta	0.1	10	FG					0.1				
Crassula sieberiana	1	2000	FG					1				
Cymbonotus lawsonianus	0.2	20	FG					0.2				
Euchiton sphaericus	0.5	50	FG					0.5				
Oxalis perennans	0.1	20	FG					0.1				
Vittadinia cuneata	0.4	50	FG					0.4				
Vittadinia muelleri	0.2	20	FG					0.2				
Austrostipa scabra	15	1000	GG				15					
Carex breviculmis	0.1	5	GG				0.1					
Carex inversa	0.2	25	GG				0.2					
Elymus scaber	0.5	50	GG				0.5					
Poa sieberiana	0.5	20	GG				0.5					
Acetosella vulgaris	5	200	HT									5
Hypericum perforatum	1	50	HT									1

Veg Zone = PCT1110 Poa variant_Poor			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: SCRGrass7			**29**	**15**	0	2	4	8	0	1	**14**	2
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			96.7	**43.7**	0	0.3	41.1	2.2	0	0.1	**53**	0.3
Aira elegantissima	0.2	20	EX								0.2	
Bromus hordeaceus	40	1000	EX								40	
Centaurium erythraea	0.2	20	EX								0.2	
Crataegus monogyna	0.5	1	EX								0.5	
Crepis capillaris	0.1	10	EX								0.1	
Hypochaeris glabra	0.4	20	EX								0.4	
Medicago lupulina	0.4	20	EX								0.4	
Petrorhagia nanteuilii	0.4	200	EX								0.4	
Poa pratensis	0.2	20	EX								0.2	
Trifolium arvense	10	1000	EX								10	
Trifolium repens	0.2	70	EX								0.2	
Verbascum thapsus	0.1	2	EX								0.1	
Asperula conferta	0.1	1	FG					0.1				
Dichondra sp. A	1	30	FG					1				
Geranium solanderi	0.2	10	FG					0.2				
Oxalis perennans	0.1	1	FG					0.1				
Persicaria prostrata	0.1	10	FG					0.1				
Rumex brownii	0.2	20	FG					0.2				
Solenogyne gunnii	0.1	1	FG					0.1				
Vittadinia muelleri	0.4	50	FG					0.4				
Austrostipa sp.	0.2	20	GG				0.2					
Poa labillardierei	40	200	GG				40					
Poa sieberiana	0.5	20	GG				0.5					
Themeda triandra	0.4	50	GG				0.4					
Hypericum perforatum	0.2	10	HT									0.2
Rosa rubiginosa	0.1	1	HT									0.1
Convolvulus erubescens	0.1	10	OG							0.1		
Mirbelia oxylobioides	0.1	1	SG			0.1						
Pimelea pauciflora	0.2	1	SG			0.2						

Veg Zone = PCT1191 Rocky Outcrop			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: EpaucDNS12			**39**	**25**	1	1	8	13	1	1	**14**	4
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			73.9	**51.7**	20	10	12.6	8.3	0.5	0.3	**22.2**	8
Asplenium flabellifolium	0.5	30	EG						0.5			
Vulpia myuros	1	150	EX								1	
Avena barbata	5	300	EX								5	
Echium vulgare	3	200	EX								3	
Petrorhagia nanteuilii	3	500	EX								3	
Verbascum thapsus	1	30	EX								1	
Bromus hordeaceus	0.5	30	EX								0.5	
Trifolium arvense	0.3	30	EX								0.3	
Aira elegantissima	0.2	30	EX								0.2	
Arenaria leptoclados	0.1	3	EX								0.1	
Linaria arvensis	0.1	5	EX								0.1	
Senecio quadridentatus	5	100	FG					5				
Vittadinia muelleri	0.1	2	FG					0.1				
Ammobium alatum	0.2	2	FG					0.2				
Oxalis perennans	0.5	200	FG					0.5				
Geranium solanderi var. solanderi	1	100	FG					1				
Acaena ovina	0.2	5	FG					0.2				
Crassula sieberiana	0.1	10	FG					0.1				
Einadia nutans	0.5	50	FG					0.5				
Scleranthus biflorus	0.1	2	FG					0.1				
Wahlenbergia communis	0.2	20	FG					0.2				
Dichondra repens	0.2	20	FG					0.2				
Plantago varia	0.1	3	FG					0.1				
Leptorhynchos spp.	0.1	1	FG					0.1				
Lomandra longifolia	7	200	GG				7					
Austrostipa scabra	1	50	GG				1					
Enneapogon nigricans	2	200	GG				2					
Panicum effusum	1	50	GG				1					
Rytidosperma tenuius	0.1	3	GG				0.1					
Themeda triandra	1	50	GG				1					
Poa sieberiana var. sieberiana	0.3	10	GG				0.3					
Dichelachne crinita	0.2	6	GG				0.2					
Bromus diandrus	1	100	HT									1
Acetosella vulgaris	1	50	HT									1
Rosa rubiginosa	3	20	HT									3
Hypericum perforatum	3	200	HT									3
Convolvulus erubescens	0.3	20	OG							0.3		
Melicytus angustifolius subsp. divaricatus	10	200	SG			10						
Acacia dealbata	20	28	TG		20							

Veg Zone = PCT1191 Exotic dominant grassland			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: WCXGrass2			**26**	**12**	0	0	6	5	0	1	**14**	2
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			76.6	**14.2**	0	0	13.5	0.5	0	0.2	**62.4**	0.2
Avena barbata	60	500	EX								60	
Hypochaeris radicata	0.2	70	EX								0.2	
Trifolium arvense	0.2	200	EX								0.2	
Petrorhagia nanteuilii	0.1	100	EX								0.1	
Verbascum thapsus	0.1	100	EX								0.1	
Bromus hordeaceus	0.1	20	EX								0.1	
Poa pratensis	0.1	10	EX								0.1	
Aira elegantissima	0.1	10	EX								0.1	
Taraxacum officinale	0.1	2	EX								0.1	
Salvia coccinea	0.1	1	EX								0.1	
Vulpia myuros	1	300	EX								1	
Medicago lupulina	0.1	10	EX								0.1	
Cymbonotus lawsonianus	0.1	10	FG					0.1				
Crassula sieberiana	0.1	10	FG					0.1				
Ammobium alatum	0.1	3	FG					0.1				
Acaena ovina	0.1	20	FG					0.1				
Oxalis perennans	0.1	10	FG					0.1				
Rytidosperma tenuius	2.5	500	GG				2.5					
Bothriochloa macra	10	100	GG				10					
Elymus scaber	0.2	20	GG				0.2					
Austrostipa scabra	0.2	50	GG				0.2					
Poa labillardierei	0.1	20	GG				0.1					
Themeda triandra	0.5	200	GG				0.5					
Acetosella vulgaris	0.1	10	HT									0.1
Rosa rubiginosa	0.1	2	HT									0.1
Convolvulus erubescens	0.2	20	OG							0.2		

Veg Zone = PCT679 Poor			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: Estell6			**34**	**14**	1	2	3	8	0	0	**20**	5
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			128.3	**40**	30	3	5.2	1.8	0	0	**88.3**	7.6
Dactylis glomerata	60	1000	EX								60	
Vulpia myuros	1	30	EX								1	
Medicago lupulina	1	500	EX								1	
Trifolium arvense	0.3	30	EX								0.3	
Taraxacum officinale	1	100	EX								1	
Bromus hordeaceus	0.3	10	EX								0.3	
Plantago lanceolata	1	50	EX								1	
Poa pratensis	10	500	EX								10	
Trifolium repens	1	200	EX								1	
Cirsium vulgare	1	20	EX								1	
Hypochaeris radicata	0.3	20	EX								0.3	
Echium vulgare	1	30	EX								1	
Verbascum thapsus	0.3	10	EX								0.3	
Gamochaeta spp.	0.5	100	EX								0.5	
Holcus lanatus	2	50	EX								2	
Hydrocotyle laxiflora	0.5	50	FG					0.5				
Geranium solanderi var. solanderi	0.3	30	FG					0.3				
Pelargonium inodorum	0.1	4	FG					0.1				
Dichondra repens	0.3	50	FG					0.3				
Acaena ovina	0.2	3	FG					0.2				
Rumex brownii	0.1	1	FG					0.1				
Bulbine bulbosa	0.1	3	FG					0.1				
Asperula conferta	0.2	20	FG					0.2				
Carex appressa	3	50	GG				3					
Poa labillardierei	2	50	GG				2					
Themeda triandra	0.2	10	GG				0.2					
Rosa rubiginosa	1	8	HT									1
Bromus diandrus	5	500	HT									5
Crataegus monogyna	0.3	1	HT									0.3
Acetosella vulgaris	0.3	20	HT									0.3
Pyracantha sp.	1	6	HT									1
Melicytus angustifolius subsp. divaricatus	1	4	SG			1						
Pimelea pauciflora	2	6	SG			2						
Eucalyptus stellulata	30	16	TG		30							

Veg Zone = PCT1191 Poor			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: ECSG1			**34**	**16**	1	1	6	7	0	1	**18**	4
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			41.4	**37.9**	20	0.3	16.6	0.9	0	0.1	**3.5**	1.4
Trifolium arvense	0.5	100	EX								0.5	
Hypochaeris radicata	0.1	20	EX								0.1	
Poa pratensis	0.1	20	EX								0.1	
Cirsium vulgare	0.1	1	EX								0.1	
Avena spp.	0.1	10	EX								0.1	
Bromus hordeaceus	0.3	100	EX								0.3	
Vulpia myuros	0.2	50	EX								0.2	
Dactylis glomerata	0.1	20	EX								0.1	
Lolium perenne	0.1	10	EX								0.1	
Petrorhagia nanteuilii	0.1	20	EX								0.1	
Lactuca serriola	0.1	1	EX								0.1	
Verbascum thapsus	0.1	3	EX								0.1	
Sonchus oleraceus	0.1	1	EX								0.1	
Taraxacum officinale	0.1	1	EX								0.1	
Acaena ovina	0.1	2	FG					0.1				
Senecio quadridentatus	0.1	3	FG					0.1				
Geranium solanderi	0.1	10	FG					0.1				
Hydrocotyle laxiflora	0.3	100	FG					0.3				
Dichondra sp. A	0.1	10	FG					0.1				
Oxalis perennans	0.1	10	FG					0.1				
Wahlenbergia communis	0.1	1	FG					0.1				
Poa sieberiana	5	30	GG				5					
Lomandra longifolia	0.2	1	GG				0.2					
Poa labillardierei	1	50	GG				1					
Elymus scaber	10	300	GG				10					
Carex inversa	0.1	10	GG				0.1					
Rytidosperma tenuius	0.3	50	GG				0.3					
Pyracantha sp.	1	5	HT									1
Rosa rubiginosa	0.2	2	HT									0.2
Bromus diandrus	0.1	10	HT									0.1
Acetosella vulgaris	0.1	20	HT									0.1
Clematis leptophylla	0.1	1	OG							0.1		
Pimelea pauciflora	0.3	2	SG			0.3						
Eucalyptus pauciflora	20	50	TG		20							

APPENDIX B-2
Southern Connector Road sub-precinct mapping

wsp

Snowy SAP - Field Survey Effort

Figure B.1

Southern Connector Road
Catalyst Precinct

Legend

- Precinct Boundary
- Cadastre
- Waterbodies
- Watercourse
- Roads

Field Suvey Effort

- BAM Plot
- Rapid Data Points
- Opportunistic bird survey
- Targeted Threatened Species 2-Phase Grid Survey

Fauna Habitat Assessment Sites

- Reptile search

0 0.25 0.5 km

Coordinate system: GDA 1994 MGA Zone 55

Scale ratio correct when printed at A3

1:11,000 Date: 1/04/2022

Data sources: - NSWSS, Geoscience Australia, DPIE, Metromap

wsp

Snowy SAP - Plant Community Types

Figure B.2

Southern Connector Road
Catalyst Precinct

Legend

- Precinct Boundary
- Cadastre
- Waterbodies
- Watercourse
- Roads

Plant Community Types and Vegetation Zones

- PCT 1191, Native dominant grassland
- PCT 1191, Rocky outcrop
- PCT 1191, Exotic dominant grassland
- PCT 1191, Poor
- PCT 1191, Moderate
- PCT 1110, Themeda variant (Good)
- PCT 1110, Poa variant (Poor)
- PCT 1110, Native dominant grassland
- PCT 1110, Exotic dominant grassland
- PCT 679, Poor
- Miscellaneous/exotic

0 0.25 0.5 km

Coordinate system: GDA 1994 MGA Zone 55

Scale ratio correct when printed at A3

1:11,000 Date: 1/04/2022

Data sources: - NSWSS, Geoscience Australia, DPIE, Metromap

Snowy SAP - BC Act Listed Biodiversity

Figure B.3

Southern Connector Road
Catalyst Precinct

Legend

- Precinct Boundary
- Cadastre
- Waterbodies
- Watercourse
- Roads
- Hollow-bearing tree

Threatened Flora Species

- *Eucalyptus nicholii*
- *Swainsona sericea* (recorded 2017)

Threatened Fauna Species

- Dusky Woodswallow
- Satin flycatcher
- Rufous fantail
- Gang-gang Cockatoo
- Little Eagle
- Little Eagle (Active Nest)
- Flame Robin

Threatened Ecological Communities (BC Act)

- Monaro Tableland Cool Temperate Grassy Woodland in The South Eastern Highlands Bioregion

0 0.25 0.5 km

Coordinate system: GDA 1994 MGA Zone 55

Scale ratio correct when printed at A3

1:11,000 Date: 1/04/2022

Data sources: - NSWSS, Geoscience Australia, DPIE, Metromap

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wsp

Snowy SAP - EPBC Act Listed Biodiversity

Figure B.4

Southern Connector Road
Catalyst Precinct

Legend

- Precinct Boundary
- Cadastre
- Waterbodies
- Watercourse
- Roads

Threatened Flora Species

- *Eucalyptus nicholii*
- *Swainsona sericea* (recorded 2017)

Threatened Ecological Communities (EPBC Act)

- Natural Temperate Grassland of the South Eastern Highlands

0 0.25 0.5 km

Coordinate system: GDA 1994 MGA Zone 55

Scale ratio correct when printed at A3

1:11,000 Date: 1/04/2022

Data sources: - NSWSS, Geoscience Australia, DPIE, Metromap

APPENDIX B-3
Southern Connector Road sub-precinct BAM candidate species report

BAM Candidate Species Report

Proposal Details

Assessment Id 00023687/BAAS17060/22/00031132	Proposal Name Southern Connector Road	BAM data last updated * 24/11/2021
Assessor Name Lukas Leslie Clews	Report Created 15/02/2022	BAM Data version * 50
Assessor Number BAAS17060	Assessment Type Biocertification	BAM Case Status Open
Assessment Revision 0	Date Finalised To be finalised	

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

List of Species Requiring Survey

Name	Presence	Survey Months
Thesium australe Austral Toadflax		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Gentiana baeuerlenii Baeuerlen's Gentian		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Ninox connivens Barking Owl		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Eucalyptus aggregata Black Gum		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Mastacomys fuscus Broad-toothed Rat		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Diuris aequalis Buttercup Doubletail		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Rutidosis leptorrhynchoides Button Wrinklewort		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Dodonaea procumbens Creeping Hop-bush		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Commersonia prostrata Dwarf Kerrawang		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Cercartetus nanus Eastern Pygmy-possum		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Callocephalon fimbriatum Gang-gang Cockatoo		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Calyptorhynchus lathami Glossy Black-Cockatoo		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Petauroides volans Greater Glider		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Litoria aurea Green and Golden Bell Frog		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Leucochrysum albicans var. tricolor Hoary Sunray		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Phascolarctos cinereus Koala		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Miniopterus orianae oceanensis Large Bent-winged Bat		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Discaria nitida Leafy Anchor Plant		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Hieraaetus morphnoides Little Eagle		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Calotis glandulosa Mauve Burr-daisy		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Eucalyptus macarthurii Paddys River Box, Camden Woollybutt		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Petroica rodinogaster Pink Robin		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Aprasia parapulchella Pink-tailed Legless Lizard		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Ninox strenua Powerful Owl		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Anthochaera phrygia Regent Honeyeater		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Euphrasia scabra Rough Eyebright		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Swainsona sericea Silky Swainson-pea		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Eucalyptus parvula Small-leaved Gum		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Litoria raniformis Southern Bell Frog		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Myotis macropus Southern Myotis		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Delma impar Striped Legless Lizard		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Prasophyllum petilum Tarengo Leek Orchid		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Caladenia tessellata Thick Lip Spider Orchid		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Monotoca rotundifolia Trailing Monotoca		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Haliaeetus leucogaster White-bellied Sea-Eagle		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Threatened species Manually Added

None added

Appendix C

Sports and Education sub-precinct

APPENDIX C-1
Sports and Education sub-precinct flora survey data

Veg Zone = PCT679 Poor			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: BSM1			**33**	**16**	2	1	4	8	0	1	**17**	4
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			88.8	**47.4**	40.1	0.5	5.3	1.4	0	0.1	**41.4**	25.3
Onopordum acanthium	0.1	10	EX								0.1	
Trifolium arvense	0.1	15	EX								0.1	
Hirschfeldia incana	0.1	5	EX								0.1	
Vulpia myuros	5	100	EX								5	
Poa pratensis	5	100	EX								5	
Medicago lupulina	5	100	EX								5	
Avena barbata	0.1	1	EX								0.1	
Erodium cicutarium	0.2	10	EX								0.2	
Plantago lanceolata	0.1	1	EX								0.1	
Bromus hordeaceus	0.1	2	EX								0.1	
Verbascum thapsus	0.1	5	EX								0.1	
Taraxacum officinale	0.1	1	EX								0.1	
Petrorhagia nanteuilii	0.1	6	EX								0.1	
Chrysocephalum semipapposum	0.5	7	FG					0.5				
Hydrocotyle laxiflora	0.3	15	FG					0.3				
Oxalis perennans	0.1	1	FG					0.1				
Asperula conferta	0.1	10	FG					0.1				
Acaena ovina	0.1	1	FG					0.1				
Swainsona monticola	0.1	6	FG					0.1				
Geranium solanderi	0.1	2	FG					0.1				
Dichondra repens	0.1	1	FG					0.1				
Elymus scaber	5	100	GG				5					
Poa spp.	0.1	1	GG				0.1					
Carex inversa	0.1	20	GG				0.1					
Austrostipa scabra	0.1	1	GG				0.1					
Rosa rubiginosa	0.2	1	HT									0.2
Bromus diandrus	20	20	HT									20
Hypericum perforatum	0.1	1	HT									0.1
Pyracantha spp. (P. angustifolia, P. crenatoserrata, P. crenulata and P. rogersiana)	5	2	HT									5
Convolvulus erubescens	0.1	1	OG							0.1		
Pimelea pauciflora	0.5	3	SG			0.5						
Eucalyptus stellulata	40	13	TG		40							
Eucalyptus pauciflora	0.1	1	TG		0.1							

Veg Zone = PCT679 Poor			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: Estell7			**35**	**18**	1	1	5	10	0	1	**17**	4
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			103	**25.2**	10	0.5	6.4	8.2	0	0.1	**77.8**	6.2
Poa pratensis	50	1000	EX								50	
Medicago lupulina	1	100	EX								1	
Vulpia myuros	3	100	EX								3	
Bromus hordeaceus	1	100	EX								1	
Erodium cicutarium	0.3	20	EX								0.3	
Plantago lanceolata	1	50	EX								1	
Taraxacum officinale	1	30	EX								1	
Echium vulgare	3	200	EX								3	
Trifolium arvense	5	500	EX								5	
Petrorhagia nanteuilii	5	300	EX								5	
Verbascum thapsus	1	20	EX								1	
Hirschfeldia incana	0.1	3	EX								0.1	
Marrubium vulgare	0.2	5	EX								0.2	
Swainsona monticola	0.3	12	FG					0.3				
Plantago varia	2	50	FG					2				
Hydrocotyle laxiflora	1	50	FG					1				
Oxalis perennans	0.2	20	FG					0.2				
Geranium solanderi	1	20	FG					1				
Acaena ovina	1	30	FG					1				
Asperula conferta	0.1	3	FG					0.1				
Ajuga australis	2	30	FG					2				
Dichondra repens	0.3	30	FG					0.3				
Einadia nutans	0.3	50	FG					0.3				
Poa sieberiana var. sieberiana	5	200	GG				5					
Poa spp.	0.1	2	GG				0.1					
Austrostipa scabra	1	50	GG				1					
Themeda triandra	0.2	5	GG				0.2					
Rytidosperma tenuius	0.1	1	GG				0.1					
Hypericum perforatum	1	20	HT									1
Bromus diandrus	5	300	HT									5
Rosa rubiginosa	0.1	1	HT									0.1
Acetosella vulgaris	0.1	10	HT									0.1
Convolvulus erubescens	0.1	3	OG							0.1		
Pimelea pauciflora	0.5	1	SG			0.5						
Eucalyptus stellulata	10	10	TG		10							

Veg Zone = PCT1191 Moderate			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: Epauc4			**50**	**35**	3	5	8	17	0	2	**15**	5
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			105.5	**85**	35.3	9.3	23.7	15.6	0	1.1	**20.5**	6.7
Petrorhagia nanteuilii	5	500	EX								5	
Poa pratensis	0.5	20	EX								0.5	
Vulpia myuros	0.5	100	EX								0.5	
Verbascum thapsus	0.3	10	EX								0.3	
Taraxacum officinale	0.2	10	EX								0.2	
Plantago lanceolata	1	20	EX								1	
Trifolium arvense	2	100	EX								2	
Bromus hordeaceus	0.3	20	EX								0.3	
Echium vulgare	1	20	EX								1	
Malus pumila	3	1	EX								3	
Asperula conferta	5	500	FG					5				
Ajuga australis	0.5	20	FG					0.5				
Bulbine bulbosa	2	200	FG					2				
Acaena ovina	1	20	FG					1				
Calotis anthemoides	0.2	6	FG					0.2				
Asperula scoparia	0.2	8	FG					0.2				
Calotis scabiosifolia	2	30	FG					2				
Gonocarpus tetragynus	0.3	10	FG					0.3				
Chrysocephalum apiculatum	0.3	10	FG					0.3				
Wahlenbergia communis	1	200	FG					1				
Hovea heterophylla	0.1	3	FG					0.1				
Geranium solanderi var. solanderi	1	100	FG					1				
Galium spp.	0.1	2	FG					0.1				
Cynoglossum suaveolens	0.3	10	FG					0.3				
Chrysocephalum semipapposum	0.5	20	FG					0.5				
Dichondra sp. A	1	50	FG					1				
Dianella longifolia	0.1	1	FG					0.1				
Carex inversa	0.1	2	GG				0.1					
Poa sieberiana var. sieberiana	20	500	GG				20					
Poa meionectes	0.5	5	GG				0.5					
Elymus scaber	0.5	20	GG				0.5					
Themeda triandra	2	30	GG				2					
Dichelachne crinita	0.2	2	GG				0.2					
Poa sieberiana var. cyanophylla	0.1	2	GG				0.1					
Lomandra filiformis	0.3	10	GG				0.3					
Pyracantha sp.	3	20	HT									3
Rosa rubiginosa	0.5	4	HT									0.5
Acetosella vulgaris	0.2	4	HT									0.2
Bromus diandrus	2	50	HT									2
Hypericum perforatum	1	20	HT									1
Convolvulus erubescens	1	50	OG							1		
Glycine tabacina	0.1	1	OG							0.1		
Acacia rubida	2	6	SG			2						
Bossiaea buxifolia	1	20	SG			1						
Ozothamnus rosmarinifolius	1	1	SG			1						
Mirbelia oxylobioides	5	50	SG			5						
Brachyloma daphnoides	0.3	3	SG			0.3						

Veg Zone = PCT1191 Moderate			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: Epauc4			**50**	**35**	3	5	8	17	0	2	**15**	5
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			105.5	**85**	35.3	9.3	23.7	15.6	0	1.1	**20.5**	6.7
Eucalyptus pauciflora	20	22	TG		20							
Acacia dealbata	0.3	3	TG		0.3							
Eucalyptus rubida	15	2	TG		15							

Veg Zone = PCT1191 Moderate			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: Epauc5			**47**	**33**	3	6	8	15	0	1	**14**	4
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			110.7	**91.2**	22	26.5	24.2	18.4	0	0.1	**19.5**	4.5
Petrorhagia nanteuilii	5	500	EX								5	
Verbascum thapsus	1	10	EX								1	
Trifolium arvense	5	300	EX								5	
Vulpia myuros	1	50	EX								1	
Hirschfeldia incana	0.2	5	EX								0.2	
Gamochaeta spp.	0.3	30	EX								0.3	
Bromus hordeaceus	1	30	EX								1	
Linaria arvensis	0.2	20	EX								0.2	
Medicago lupulina	1	200	EX								1	
Plantago lanceolata	0.3	10	EX								0.3	
Senecio quadridentatus	1	20	FG					1				
Dianella longifolia	1	10	FG					1				
Ajuga australis	1	20	FG					1				
Bulbine bulbosa	5	100	FG					5				
Wahlenbergia communis	2	200	FG					2				
Brachyscome scapigera	3	100	FG					3				
Cymbonotus lawsonianus	0.2	4	FG					0.2				
Acaena ovina	1	20	FG					1				
Hydrocotyle laxiflora	2	100	FG					2				
Asperula conferta	1	50	FG					1				
Crassula sieberiana	0.1	10	FG					0.1				
Plantago varia	0.3	10	FG					0.3				
Geranium solanderi var. solanderi	0.5	30	FG					0.5				
Craspedia variabilis	0.2	4	FG					0.2				
Oxalis spp.	0.1	5	FG					0.1				
Poa sieberiana var. sieberiana	20	500	GG				20					
Austrostipa scabra	0.2	5	GG				0.2					
Rytidosperma tenuius	0.2	6	GG				0.2					
Themeda triandra	3	200	GG				3					
Carex inversa	0.1	2	GG				0.1					
Poa meionectes	0.3	10	GG				0.3					
Lomandra filiformis subsp. coriacea	0.2	2	GG				0.2					
Elymus scaber	0.2	5	GG				0.2					
Bromus diandrus	2	100	HT									2
Hypericum perforatum	2	30	HT									2
Rosa rubiginosa	0.2	1	HT									0.2
Acetosella vulgaris	0.3	20	HT									0.3
Glycine clandestina	0.1	1	OG							0.1		
Daviesia mimosoides	2	6	SG			2						
Mirbelia oxylobioides	20	200	SG			20						
Brachyloma daphnoides	2	30	SG			2						
Pimelea linifolia subsp. caesia	0.3	10	SG			0.3						
Bossiaea buxifolia	2	3	SG			2						
Cassinia longifolia	0.2	1	SG			0.2						
Eucalyptus pauciflora	20	15	TG		20							
Acacia dealbata	1	5	TG		1							
Acacia melanoxylon	1	1	TG		1							

Veg Zone = PCT1191 Moderate			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: Plot 3 (Jindabyne School BDAR)			**27**	**16**	3	1	4	7	0	1	**11**	2
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			145.7	**97.9**	40.4	1	45.3	11.1	0	0.1	**47.8**	0.2
Plantago lanceolata	1	100	EX								1	
Trifolium arvense	1	100	EX								1	
Salvia coccinea	45	1000	EX								45	
Echium plantagineum	0.1	1	EX								0.1	
Dactylis glomerata	0.1	1	EX								0.1	
Hirschfeldia incana	0.1	1	EX								0.1	
Hypochaeris radicata	0.1	10	EX								0.1	
Verbascum thapsus	0.1	10	EX								0.1	
Verbascum virgatum	0.1	10	EX								0.1	
Chrysocephalum apiculatum	10	200	FG					10				
Acaena ovina	0.4	50	FG					0.4				
Ammobium alatum	0.1	1	FG					0.1				
Hydrocotyle laxiflora	0.3	20	FG					0.3				
Senecio spp.	0.1	2	FG					0.1				
Geranium solanderi	0.1	10	FG					0.1				
Oxalis perennans	0.1	1	FG					0.1				
Themeda triandra	0.1	1	GG				0.1					
Austrostipa spp. (no reproductive material)	45	1000	GG				45					
Eragrostis spp. (no reproductive material)	0.1	5	GG				0.1					
Panicum effusum	0.1	1	GG				0.1					
Acetosella vulgaris	0.1	1	HT									0.1
Hypericum perforatum	0.1	1	HT									0.1
Desmodium varians	0.1	10	OG							0.1		
Bossiaea buxifolia	1	10	SG			1						
Eucalyptus rubida	30	20	TG		30							
Eucalyptus pauciflora	10	5	TG		10							
Acacia melanoxylon	0.4	1	TG		0.4							

Veg Zone = PCT1191 Moderate			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: Plot 5 (Jindabyne School BDAR)			**25**	**15**	2	0	3	10	0	0	**10**	2
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			94	**82.9**	20	0	61	1.9	0	0	**11.1**	0.4
Plantago lanceolata	10	200	EX								10	
Salvia coccinea	0.1	20	EX								0.1	
Verbascum thapsus	0.1	1	EX								0.1	
Echium plantagineum	0.1	10	EX								0.1	
Trifolium arvense	0.1	10	EX								0.1	
Potentilla spp.	0.1	10	EX								0.1	
Hirschfeldia incana	0.1	10	EX								0.1	
Hypochaeris radicata	0.1	1	EX								0.1	
Geranium solanderi	0.1	20	FG					0.1				
Oxalis perennans	0.1	10	FG					0.1				
Vittadinia spp.	0.1	10	FG					0.1				
Swainsona behriana	0.1	1	FG					0.1				
Einadia nutans	0.1	10	FG					0.1				
Dichondra sp. A	0.1	20	FG					0.1				
Asperula conferta	0.1	20	FG					0.1				
Acaena ovina	0.1	2	FG					0.1				
Chrysocephalum apiculatum	1	100	FG					1				
Cymbonotus lawsonianus	0.1	2	FG					0.1				
Austrostipa spp. (no reproductive material)	40	1000	GG				40					
Themeda triandra	20	100	GG				20					
Panicum effusum	1	50	GG				1					
Hypericum perforatum	0.1	10	HT									0.1
Cotoneaster spp.	0.3	1	HT									0.3
Eucalyptus rubida	10	1	TG		10							
Eucalyptus pauciflora	10	12	TG		10							

Veg Zone = PCT1191 Moderate			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: Plot 6 (Jindabyne School BDAR)			**28**	**16**	2	1	5	8	0	0	**12**	3
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			91.7	**88.5**	20	1.5	66.2	0.8	0	0	**3.2**	0.3
Malus pumila	1	2	EX								1	
Plantago lanceolata	1	100	EX								1	
Verbascum thapsus	0.1	5	EX								0.1	
Salvia coccinea	0.1	10	EX								0.1	
Hirschfeldia incana	0.1	1	EX								0.1	
Trifolium arvense	0.1	10	EX								0.1	
Hypochaeris radicata	0.2	20	EX								0.2	
Dactylis glomerata	0.2	20	EX								0.2	
Iris spp.	0.1	5	EX								0.1	
Geranium solanderi	0.1	10	FG					0.1				
Chrysocephalum apiculatum	0.1	10	FG					0.1				
Chrysocephalum semipapposum	0.1	1	FG					0.1				
Vittadinia spp.	0.1	1	FG					0.1				
Cymbonotus lawsonianus	0.1	10	FG					0.1				
Wahlenbergia spp.	0.1	1	FG					0.1				
Acaena ovina	0.1	10	FG					0.1				
Einadia nutans	0.1	10	FG					0.1				
Austrostipa spp. (no reproductive material)	40	1000	GG				40					
Panicum effusum	5	20	GG				5					
Themeda triandra	20	1000	GG				20					
Eragrostis spp.	0.2	20	GG				0.2					
Enneapogon spp.	1	50	GG				1					
Hypericum perforatum	0.1	1	HT									0.1
Achillea millefolium	0.1	1	HT									0.1
Cotoneaster spp.	0.1	1	HT									0.1
Mirbelia oxylobioides	1.5	1	SG			1.5						
Eucalyptus rubida	10	2	TG		10							
Eucalyptus pauciflora	10	12	TG		10							

Veg Zone = PCT1191 Moderate			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: CBarkBS1			**33**	**20**	4	2	4	10	0	0	**13**	5
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			71.5	**68.2**	45.5	0.4	20.5	1.8	0	0	**3.3**	2.1
Plantago lanceolata	0.1	10	EX								0.1	
Trifolium arvense	0.3	100	EX								0.3	
Medicago lupulina	0.2	50	EX								0.2	
Senecio quadridentatus	0.1	1	EX								0.1	
Hypochaeris radicata	0.1	2	EX								0.1	
Verbascum thapsus	0.1	4	EX								0.1	
Bromus hordeaceus	0.1	10	EX								0.1	
Holcus lanatus	0.2	10	EX								0.2	
Bulbine bulbosa	0.3	50	FG					0.3				
Oreomyrrhis eriopoda	0.3	100	FG					0.3				
Hydrocotyle laxiflora	0.3	20	FG					0.3				
Geranium solanderi	0.2	20	FG					0.2				
Cullen microcephalum	0.1	10	FG					0.1				
Ajuga australis	0.1	20	FG					0.1				
Asperula conferta	0.2	300	FG					0.2				
Acaena ovina	0.1	10	FG					0.1				
Oxalis perennans	0.1	1	FG					0.1				
Calotis scabiosifolia	0.1	3	FG					0.1				
Elymus scaber	0.3	10	GG				0.3					
Poa labillardierei	20	200	GG				20					
Poa sieberiana	0.1	20	GG				0.1					
Themeda triandra	0.1	1	GG				0.1					
Cotoneaster spp.	0.5	1	HT									0.5
Crataegus monogyna	0.5	30	HT									0.5
Rosa rubiginosa	0.5	1	HT									0.5
Bromus diandrus	0.5	100	HT									0.5
Rubus fruticosus agg.	0.1	1	HT									0.1
Pimelea pauciflora	0.3	5	SG			0.3						
Melicytus angustifolius subsp. divaricatus	0.1	2	SG			0.1						
Eucalyptus rubida	30	10	TG		30							
Eucalyptus stellulata	10	3	TG		10							
Eucalyptus pauciflora	5	10	TG		5							
Acacia melanoxylon	0.5	5	TG		0.5							

Veg Zone = PCT1191 Moderate			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: CBarkM1			**41**	**26**	4	3	7	12	0	0	**15**	5
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			113.6	**46.7**	40.4	0.4	2.8	3.1	0	0	**66.9**	20.4
Trifolium arvense	40	200	EX								40	
Vulpia myuros	5	100	EX								5	
Hirschfeldia incana	0.1	10	EX								0.1	
Linaria arvensis	0.1	10	EX								0.1	
Hypochaeris radicata	0.1	1	EX								0.1	
Petrorhagia nanteuilii	0.6	10	EX								0.6	
Medicago lupulina	0.2	10	EX								0.2	
Hydrocotyle laxiflora	0.1	10	EX								0.1	
Bromus catharticus	0.2	10	EX								0.2	
Lolium perenne	0.1	10	EX								0.1	
Plantago varia	2	100	FG					2				
Acaena ovina	0.1	10	FG					0.1				
Geranium solanderi	0.1	10	FG					0.1				
Ajuga australis	0.1	5	FG					0.1				
Swainsona behriana	0.1	10	FG					0.1				
Stellaria pungens	0.1	3	FG					0.1				
Craspedia variabilis	0.1	10	FG					0.1				
Ranunculus lappaceus	0.1	10	FG					0.1				
Bulbine bulbosa	0.1	1	FG					0.1				
Dichondra sp. A	0.1	1	FG					0.1				
Asperula conferta	0.1	10	FG					0.1				
Oxalis perennans	0.1	1	FG					0.1				
Elymus scaber	0.2	20	GG				0.2					
Poa sieberiana	0.2	20	GG				0.2					
Poa labillardierei	2	50	GG				2					
Carex inversa	0.1	10	GG				0.1					
Panicum effusum	0.1	3	GG				0.1					
Dichelachne crinita	0.1	2	GG				0.1					
Themeda triandra	0.1	1	GG				0.1					
Bromus diandrus	20	200	HT									20
Hypericum perforatum	0.1	1	HT									0.1
Crataegus monogyna	0.1	2	HT									0.1
Pyracantha sp.	0.1	1	HT									0.1
Rosa rubiginosa	0.1	1	HT									0.1
Mirbelia oxylobioides	0.1	1	SG			0.1						
Pimelea glauca	0.2	20	SG			0.2						
Pimelea pauciflora	0.1	1	SG			0.1						
Eucalyptus rubida	30	3	TG		30							
Eucalyptus stellulata	10	4	TG		10							
Eucalyptus pauciflora	0.2	4	TG		0.2							
Acacia melanoxylon	0.2	3	TG		0.2							

Veg Zone = PCT1191 Moderate			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: Epauc3			**45**	**28**	2	0	8	15	1	2	**17**	4
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			121.7	**65**	30.5	0	22.7	11.3	0.1	0.4	**56.7**	3.6
Cheilanthes austrotenuifolia	0.1	3	EG						0.1			
Avena barbata	2	50	EX								2	
Vulpia myuros	2	50	EX								2	
Petrorhagia nanteuilii	3	200	EX								3	
Verbascum thapsus	1	20	EX								1	
Trifolium arvense	40	1000	EX								40	
Medicago lupulina	0.5	30	EX								0.5	
Echium vulgare	2	30	EX								2	
Taraxacum officinale	0.5	30	EX								0.5	
Bromus hordeaceus	1	30	EX								1	
Linaria arvensis	0.5	30	EX								0.5	
Cirsium vulgare	0.1	2	EX								0.1	
Salvia coccinea	0.3	10	EX								0.3	
Hirschfeldia incana	0.2	5	EX								0.2	
Chrysocephalum apiculatum	1	30	FG					1				
Chrysocephalum semipapposum	0.5	10	FG					0.5				
Wahlenbergia communis	2	100	FG					2				
Cullen microcephalum	0.3	10	FG					0.3				
Oxalis perennans	0.5	30	FG					0.5				
Bulbine bulbosa	2	30	FG					2				
Hydrocotyle laxiflora	2	200	FG					2				
Senecio quadridentatus	0.5	8	FG					0.5				
Acaena ovina	1	30	FG					1				
Dichondra sp. A	0.5	100	FG					0.5				
Geranium solanderi var. solanderi	0.5	30	FG					0.5				
Rumex brownii	0.1	1	FG					0.1				
Crassula sieberiana	0.2	10	FG					0.2				
Pelargonium inodorum	0.1	3	FG					0.1				
Dianella longifolia	0.1	1	FG					0.1				
Poa sieberiana var. sieberiana	20	300	GG				20					
Themeda triandra	1	20	GG				1					
Lomandra longifolia	0.3	4	GG				0.3					
Poa meionectes	0.3	10	GG				0.3					
Elymus scaber	0.3	20	GG				0.3					
Austrostipa scabra	0.2	4	GG				0.2					
Lomandra filiformis	0.3	20	GG				0.3					
Carex inversa	0.3	10	GG				0.3					
Hypericum perforatum	0.5	20	HT									0.5
Bromus diandrus	1	30	HT									1
Pyracantha sp.	2	4	HT									2
Acetosella vulgaris	0.1	3	HT									0.1
Glycine clandestina	0.3	20	OG							0.3		
Glycine tabacina	0.1	3	OG							0.1		
Eucalyptus pauciflora	30	25	TG		30							
Acacia melanoxylon	0.5	1	TG		0.5							

Veg Zone = PCT1191 Moderate			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: Epauc1			**42**	**24**	3	1	8	10	1	1	**18**	4
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			97.7	**36.1**	21.2	3	7.8	3.8	0.1	0.2	**61.6**	24
Asplenium flabellifolium	0.1	1	EG						0.1			
Bromus hordeaceus	15	500	EX								15	
Petrorhagia nanteuilii	5	500	EX								5	
Echium vulgare	10	1000	EX								10	
Avena barbata	1	20	EX								1	
Arenaria leptoclados	0.2	4	EX								0.2	
Verbascum thapsus	0.5	10	EX								0.5	
Hirschfeldia incana	0.3	8	EX								0.3	
Trifolium arvense	1	100	EX								1	
Vulpia myuros	3	200	EX								3	
Taraxacum officinale	1	50	EX								1	
Hordeum spp.	0.2	20	EX								0.2	
Hypochaeris radicata	0.1	1	EX								0.1	
Cirsium vulgare	0.1	1	EX								0.1	
Erodium cicutarium	0.2	10	EX								0.2	
Crassula sieberiana	0.2	30	FG					0.2				
Hydrocotyle laxiflora	1	30	FG					1				
Bulbine bulbosa	1	20	FG					1				
Rumex brownii	0.1	2	FG					0.1				
Wahlenbergia communis	0.5	20	FG					0.5				
Acaena ovina	0.3	10	FG					0.3				
Geranium solanderi var. solanderi	0.3	20	FG					0.3				
Swainsona monticola	0.1	2	FG					0.1				
Acaena novae-zelandiae	0.1	2	FG					0.1				
Dichondra repens	0.2	20	FG					0.2				
Austrostipa scabra	3	200	GG				3					
Poa sieberiana var. sieberiana	3	200	GG				3					
Poa meionectes	0.2	3	GG				0.2					
Carex inversa	1	30	GG				1					
Microlaena stipoides	0.3	20	GG				0.3					
Rytidosperma tenuius	0.1	1	GG				0.1					
Elymus scaber	0.1	2	GG				0.1					
Lomandra longifolia	0.1	1	GG				0.1					
Bromus diandrus	20	500	HT									20
Crataegus monogyna	1	1	HT									1
Acetosella vulgaris	2	50	HT									2
Hypericum perforatum	1	30	HT									1
Convolvulus erubescens	0.2	10	OG							0.2		
Melicytus angustifolius subsp. divaricatus	3	5	SG			3						
Acacia dealbata	0.2	1	TG		0.2							
Eucalyptus pauciflora	20	20	TG		20							
Acacia melanoxylon	1	1	TG		1							

Veg Zone = PCT1191 Poor			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: CBark1			**31**	**16**	2	1	5	7	0	1	**15**	0
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			63.7	**22.4**	10.5	0.5	10.5	0.8	0	0.1	**41.7**	0
Medicago lupulina	0.1	10	EX								0.1	
Salvia coccinea	0.1	3	EX								0.1	
Paronychia brasiliana	0.2	30	EX								0.2	
Trifolium arvense	20	200	EX								20	
Vulpia myuros	10	200	EX								10	
Hirschfeldia incana	10	300	EX								10	
Echium vulgare	0.1	1	EX								0.1	
Petrorhagia nanteuilii	0.1	1	EX								0.2	
Plantago lanceolata	0.2	10	EX								0.2	
Bromus hordeaceus	0.2	10	EX								0.2	
Erodium cicutarium	0.1	1	EX								0.1	
Bromus catharticus	0.2	10	EX								0.2	
Avena barbata	0.1	1	EX								0.1	
Hypochaeris radicata	0.1	10	EX								0.1	
Rumex crispus	0.1	1	EX								0.1	
Swainsona monticola	0.1	20	FG					0.1				
Scleranthus biflorus	0.2	30	FG					0.2				
Acaena ovina	0.1	3	FG					0.1				
Crassula sieberiana	0.1	50	FG					0.1				
Chrysocephalum apiculatum	0.2	30	FG					0.1				
Einadia nutans	0.1	1	FG					0.1				
Oxalis perennans	0.1	5	FG					0.1				
Austrostipa scabra	10	100	GG				10					
Rytidosperma tenuius	0.2	50	GG				0.2					
Panicum effusum	0.1	1	GG				0.1					
Elymus scaber	0.1	20	GG				0.1					
Poa sieberiana	0.1	1	GG				0.1					
Convolvulus erubescens	0.1	5	OG							0.1		
Pimelea pauciflora	0.1	1	SG			0.5						
Eucalyptus pauciflora	0.5	1	TG		0.5							
Eucalyptus rubida	10	2	TG		10							

Veg Zone = PCT1191 Poor			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: CBark2			**32**	**15**	1	0	4	9	0	1	**17**	2
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			61.9	**11.8**	10	0	0.4	1.3	0	0.1	**50.1**	5.1
Trifolium arvense	20	300	EX								20	
Bromus hordeaceus	10	300	EX								10	
Salvia coccinea	0.2	50	EX								0.2	
Medicago lupulina	5	200	EX								5	
Bromus catharticus	0.1	2	EX								0.1	
Potentilla recta	0.1	1	EX								0.1	
Dactylis glomerata	0.1	1	EX								0.1	
Hypochaeris radicata	0.1	20	EX								0.1	
Trifolium subterraneum	2	20	EX								2	
Echium vulgare	0.1	5	EX								0.1	
Vulpia myuros	5	100	EX								5	
Erodium cicutarium	0.1	5	EX								0.1	
Hirschfeldia incana	0.1	2	EX								0.1	
Avena fatua	2	100	EX								2	
Plantago lanceolata	0.1	1	EX								0.1	
Ammobium alatum	0.1	20	FG					0.1				
Acaena ovina	0.1	10	FG					0.1				
Epilobium billardierianum	0.1	10	FG					0.1				
Asperula conferta	0.1	1	FG					0.1				
Chrysocephalum apiculatum	0.5	20	FG					0.5				
Oxalis perennans	0.1	3	FG					0.1				
Scleranthus biflorus	0.1	20	FG					0.1				
Einadia nutans	0.1	5	FG					0.1				
Hydrocotyle laxiflora	0.1	1	FG					0.1				
Austrostipa scabra	0.1	1	GG				0.1					
Elymus scaber	0.1	2	GG				0.1					
Poa labillardierei	0.1	10	GG				0.1					
Rytidosperma tenuius	0.1	1	GG				0.1					
Cotoneaster spp.	5	1	HT									5
Acetosella vulgaris	0.1	7	HT									0.1
Convolvulus erubescens	0.1	1	OG							0.1		
Eucalyptus rubida	10	1	TG		10							

Veg Zone = PCT1191 Poor			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: Plot 1 (Jindabyne School BDAR)			**30**	**11**	1	1	4	5	0	0	**19**	4
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			120.1	**71.6**	10	0.4	60.1	1.1	0	0	**48.5**	5.5
Deciduous tree (no leaves)	5	1	EX								5	
Yucca aloifolia	0.1	5	EX								0.1	
Hirschfeldia incana	1	50	EX								1	
Malva parviflora	0.1	20	EX								0.1	
Plantago lanceolata	0.1	1	EX								0.1	
Salvia coccinea	15	200	EX								15	
Arenaria leptoclados	15	50	EX								15	
Bromus spp.	1	20	EX								1	
Panicum effusum	5	50	EX								5	
Trifolium arvense	0.1	10	EX								0.1	
Taraxacum officinale	0.1	1	EX								0.1	
Onopordum acanthium	0.1	1	EX								0.1	
Dactylis glomerata	0.2	10	EX								0.2	
Verbascum thapsus	0.1	10	EX								0.1	
Cirsium vulgare	0.1	5	EX								0.1	
Einadia nutans	0.4	20	FG					0.4				
Ammobium alatum	0.1	10	FG					0.1				
Cymbonotus lawsonianus	0.3	50	FG					0.3				
Oxalis perennans	0.2	50	FG					0.2				
Lily species (no reproductive material)	0.1	20	FG					0.1				
Austrostipa spp. (no reproductive material)	25	500	GG				25					
Rytidosperma spp.	30	200	GG				30					
Cynodon dactylon	5	1500	GG				5					
Carex inversa	0.1	20	GG				0.1					
Cotoneaster spp.	0.3	1	HT									0.3
Crataegus monogyna	5	10	HT									5
Rubus fruticosus agg.	0.1	20	HT									0.1
Achillea millefolium	0.1	8	HT									0.1
Melicytus angustifolius subsp. divaricatus	0.4	1	SG			0.4						
Eucalyptus rubida	10	2	TG		10							

Veg Zone = PCT1191 Poor			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: Plot 7 (Jindabyne School BDAR)			**14**	**9**	1	0	6	2	0	0	**5**	0
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			99.6	**75.5**	5	0	70.3	0.2	0	0	**24.1**	0
Cupressus sp	0.5	1	EX								0.5	
Plantago lanceolata	20	500	EX								20	
Hypochaeris radicata	1.5	100	EX								1.5	
Trifolium repens	2	100	EX								2	
Hirschfeldia incana	0.1	5	EX								0.1	
Geranium solanderi	0.1	10	FG					0.1				
Lily spp. (no reproductive material)	0.1	10	FG					0.1				
Rytidosperma spp. (no reproductive material)	20	200	GG				20					
Chloris ventricosa	10	100	GG				10					
Austrostipa spp. 1 (no reproductive material)	0.1	5	GG				0.1					
Austrostipa spp. 2 (no reproductive material)	0.1	10	GG				0.1					
Carex inversa	0.1	10	GG				0.1					
Cynodon dactylon	40	1000	GG				40					
Eucalyptus rubida	5	1	TG		5							

Veg Zone = PCT1191 Poor			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: Epauc2			**34**	**14**	0	1	6	6	0	1	**20**	3
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			78.4	**3.8**	0	0.2	1.8	1.3	0	0.5	**74.6**	21.2
Bromus hordeaceus	10	500	EX								10	
Hirschfeldia incana	15	500	EX								15	
Hordeum leporinum	3	100	EX								3	
Erodium cicutarium	0.5	30	EX								0.5	
Plantago lanceolata	0.3	20	EX								0.3	
Trifolium arvense	3	150	EX								3	
Potentilla recta	0.2	3	EX								0.2	
Petrorhagia nanteuilii	0.5	50	EX								0.5	
Taraxacum officinale	3	200	EX								3	
Echium vulgare	10	500	EX								10	
Verbascum thapsus	0.2	10	EX								0.2	
Lolium perenne	0.3	20	EX								0.3	
Avena barbata	0.3	20	EX								0.3	
Marrubium vulgare	5	100	EX								5	
Salvia coccinea	1	20	EX								1	
Arenaria leptoclados	1	1	EX								1	
Medicago lupulina	0.1	1	EX								0.1	
Hydrocotyle laxiflora	0.5	30	FG					0.5				
Einadia nutans	0.3	20	FG					0.3				
Swainsona behriana	0.1	1	FG					0.1				
Rumex brownii	0.2	2	FG					0.2				
Vittadinia muelleri	0.1	2	FG					0.1				
Crassula sieberiana	0.1	2	FG					0.1				
Austrostipa scabra	1	50	GG				1					
Poa meionectes	0.3	10	GG				0.3					
Cynodon dactylon	0.1	5	GG				0.1					
Panicum effusum	0.1	1	GG				0.1					
Austrostipa scabra	0.2	5	GG				0.2					
Carex inversa	0.1	1	GG				0.1					
Bromus diandrus	20	1000	HT									20
Hypericum perforatum	0.2	3	HT									0.2
Acetosella vulgaris	1	30	HT									1
Convolvulus erubescens	0.5	30	OG							0.5		
Pimelea pauciflora	0.2	2	SG			0.2						

Veg Zone = PCT1191 Rocky Outcrop			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: RecShrub1			**45**	**28**	1	4	6	13	2	2	**17**	4
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			52.2	**19.3**	5	1.1	11	1.8	0.2	0.2	**32.9**	0.4
Cheilanthes austrotenuifolia	0.1	50	EG						0.1			
Asplenium flabellifolium	0.1	10	EG						0.1			
Avena barbata	0.1	10	EX								0.1	
Trifolium arvense	30	200	EX								30	
Aira elegantissima	0.2	10	EX								0.2	
Petrorhagia nanteuilii	0.5	200	EX								0.5	
Poa pratensis	0.2	20	EX								0.2	
Anthoxanthum odoratum	0.1	10	EX								0.1	
Linaria arvensis	0.1	20	EX								0.1	
Echium vulgare	0.5	50	EX								0.5	
Austrostipa scabra	0.2	20	EX								0.2	
Verbascum thapsus	0.2	10	EX								0.2	
Verbascum virgatum	0.1	10	EX								0.1	
Arenaria leptoclados	0.1	1	EX								0.1	
Hypochaeris radicata	0.2	70	EX								0.2	
Senecio quadridentatus	0.1	1	FG					0.1				
Bulbine bulbosa	0.2	15	FG					0.2				
Wahlenbergia communis	0.3	150	FG					0.3				
Vittadinia muelleri	0.3	50	FG					0.3				
Acaena ovina	0.1	20	FG					0.1				
Crassula sieberiana	0.1	30	FG					0.1				
Oxalis perennans	0.1	10	FG					0.1				
Chamaesyce dallachyana	0.1	10	FG					0.1				
Scleranthus biflorus	0.1	20	FG					0.1				
Hovea heterophylla	0.1	10	FG					0.1				
Diuris sulphurea	0.1	10	FG					0.1				
Gonocarpus tetragynus	0.1	10	FG					0.1				
Cymbonotus lawsonianus	0.1	1	FG					0.1				
Lomandra longifolia	0.1	20	GG				0.1					
Lepidosperma laterale	0.1	1	GG				0.1					
Themeda triandra	10	50	GG				10					
Rytidosperma tenuius	0.2	20	GG				0.2					
Panicum effusum	0.1	10	GG				0.1					
Carex inversa	0.5	50	GG				0.5					
Cotoneaster spp.	0.1	1	HT									0.1
Hypericum perforatum	0.1	15	HT									0.1
Acetosella vulgaris	0.1	20	HT									0.1
Bromus diandrus	0.1	20	HT									0.1
Convolvulus erubescens	0.1	10	OG							0.1		
Desmodium varians	0.1	1	OG							0.1		
Pimelea pauciflora	0.4	1	SG			0.4						
Melicytus angustifolius subsp. divaricatus	0.5	10	SG			0.5						
Brachyloma daphnoides	0.1	20	SG			0.1						
Bossiaea buxifolia	0.1	10	SG			0.1						
Acacia melanoxylon	5	3	TG		5							

Veg Zone = PCT1191 Exotic dominant grassland			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: CLGrss1			**31**	**9**	0	0	6	3	0	0	**22**	3
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			119	**55.9**	0	0	55.6	0.3	0	0	**63.1**	0.8
Trifolium arvense	20	100	EX								20	
Hypochaeris radicata	0.1	10	EX								0.1	
Medicago lupulina	0.2	20	EX								0.2	
Echium vulgare	0.3	30	EX								0.3	
Erodium cicutarium	0.1	10	EX								0.1	
Plantago lanceolata	0.2	20	EX								0.2	
Hirschfeldia incana	0.1	10	EX								0.1	
Taraxacum officinale	0.1	1	EX								0.1	
Avena barbata	0.1	10	EX								0.1	
Petrorhagia nanteuilii	0.3	300	EX								0.3	
Verbascum thapsus	0.1	4	EX								0.1	
Cirsium vulgare	0.1	5	EX								0.1	
Tragopogon dubius	0.1	1	EX								0.1	
Poa pratensis	40	200	EX								40	
Vulpia myuros	0.1	10	EX								0.1	
Juncus falcatus	0.1	1	EX								0.1	
Salvia coccinea	0.1	1	EX								0.1	
Bromus catharticus	0.1	10	EX								0.1	
Bromus hordeaceus	0.1	1	EX								0.1	
Rumex brownii	0.1	1	FG					0.1				
Acaena ovina	0.1	10	FG					0.1				
Plantago antarctica	0.1	1	FG					0.1				
Poa sieberiana	40	1000	GG				40					
Poa labillardierei	0.2	10	GG				0.2					
Themeda triandra	10	200	GG				10					
Bothriochloa macra	5	100	GG				5					
Rytidosperma tenuius	0.2	50	GG				0.2					
Elymus scaber	0.2	20	GG				0.2					
Hypericum perforatum	0.1	1	HT									0.1
Acetosella vulgaris	0.5	100	HT									0.5
Bromus diandrus	0.2	50	HT									0.2

Veg Zone = PCT1191 Exotic dominant grassland			Covers	Native	Trees	Shrubs	Grass	Forb	Fern	Other	Exotic	HighThreat
			# spp	Count	Count	Count	Count	Count	Count	Count	Count	Count
BAM Plot: RecGrass1			23	7	0	0	3	3	0	1	16	2
Species	Cover	Abundance	Sum cover	Sum	Sum	Sum	Sum	Sum	Sum	Sum	Sum	Sum
			113.6	2	0	0	0.4	1.4	0	0.2	111.6	0.2
Trifolium arvense	60	2000	EX								60	
Bromus hordeaceus	20	200	EX								20	
Rumex crispus	0.1	5	EX								0.1	
Echium vulgare	20	500	EX								20	
Malva neglecta	0.1	10	EX								0.1	
Taraxacum officinale	0.1	10	EX								0.1	
Arenaria leptoclados	0.3	100	EX								0.3	
Vulpia myuros	10	100	EX								10	
Potentilla recta	0.1	1	EX								0.1	
Linaria arvensis	0.1	2	EX								0.1	
Erodium cicutarium	0.1	10	EX								0.1	
Petrorhagia nanteuilii	0.1	1	EX								0.1	
Medicago lupulina	0.3	10	EX								0.3	
Capsella bursa-pastoris	0.1	5	EX								0.1	
Acaena ovina	0.1	10	FG					0.1				
Scleranthus biflorus	1	200	FG					1				
Crassula sieberiana	0.3	100	FG					0.3				
Austrostipa bigeniculata	0.1	1	GG				0.1					
Austrostipa scabra	0.1	1	GG				0.1					
Carex inversa	0.2	10	GG				0.2					
Acetosella vulgaris	0.1	10	HT									0.1
Hypericum perforatum	0.1	3	HT									0.1
Convolvulus erubescens	0.2	10	OG							0.2		

Veg Zone = PCT1191 Exotic dominant grassland			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: RecGrass2			**30**	**13**	0	0	4	7	1	1	**17**	2
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			128.9	**38.6**	0	0	35.1	3.3	0.1	0.1	**90.3**	2.1
Cheilanthes austrotenuifolia	0.1	1	EG						0.1			
Trifolium arvense	60	2000	EX								60	
Verbascum thapsus	1	30	EX								1	
Bromus hordeaceus	10	100	EX								10	
Echium vulgare	1	20	EX								1	
Linaria arvensis	0.1	10	EX								0.1	
Petrorhagia nanteuilii	0.1	20	EX								0.1	
Vulpia myuros	15	100	EX								15	
Erodium cicutarium	0.2	20	EX								0.2	
Aira elegantissima	0.2	20	EX								0.2	
Poa pratensis	0.1	5	EX								0.1	
Anthoxanthum odoratum	0.1	10	EX								0.1	
Verbascum virgatum	0.1	1	EX								0.1	
Chamaesyce dallachyana	0.1	1	EX								0.1	
Hypochaeris radicata	0.1	1	EX								0.1	
Hirschfeldia incana	0.1	1	EX								0.1	
Crassula sieberiana	0.5	200	FG					0.5				
Vittadinia muelleri	2	100	FG					2				
Swainsona monticola	0.1	1	FG					0.1				
Acaena ovina	0.2	20	FG					0.2				
Scleranthus biflorus	0.3	50	FG					0.3				
Wahlenbergia communis	0.1	10	FG					0.1				
Chrysocephalum apiculatum	0.1	1	FG					0.1				
Austrostipa scabra	15	50	GG				15					
Rytidosperma tenuius	10	50	GG				10					
Themeda triandra	10	100	GG				10					
Panicum effusum	0.1	1	GG				0.1					
Hypericum perforatum	2	20	HT									2
Acetosella vulgaris	0.1	1	HT									0.1
Convolvulus erubescens	0.1	5	OG							0.1		

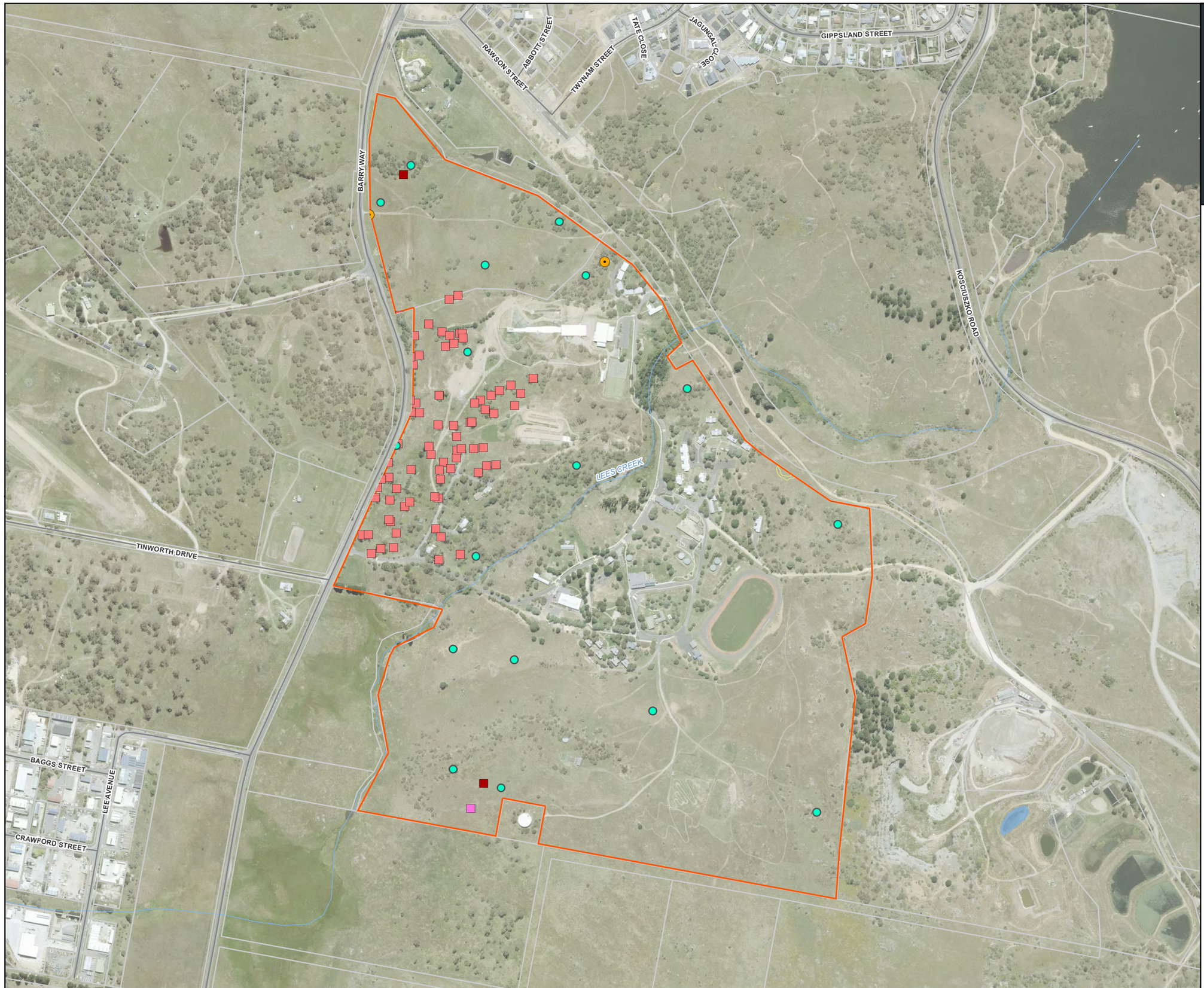
Veg Zone = PCT1191 Native dominant grassland			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
	03-06-21		**# spp**	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: Plot 2 (Jindabyne School BDAR)			**19**	**11**	0	0	7	4	0	0	**8**	1
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			102.5	**77.3**	0	0	76.7	0.6	0	0	**25.2**	0.1
Salvia coccinea	20	500	EX								20	
Verbascum thapsus	1	50	EX								1	
Bromus hordeaceus	0.5	20	EX								0.5	
Trifolium spp.	0.5	100	EX								0.5	
Plantago lanceolata	1	100	EX								1	
Echium plantagineum	2	100	EX								2	
Hypochaeris radicata	0.1	10	EX								0.1	
Acaena ovina	0.1	1	FG					0.1				
Ammobium alatum	0.1	10	FG					0.1				
Scleranthus biflorus	0.3	60	FG					0.3				
Chrysocephalum apiculatum	0.1	5	FG					0.1				
Austrostipa spp. (no reproductive material)	40	1500	GG				40					
Panicum effusum	20	200	GG				20					
Eragrostis setifolia	0.5	50	GG				0.5					
Enneapogon nigricans	0.5	50	GG				0.5					
Cynodon dactylon	0.5	200	GG				0.5					
Themeda triandra	15	200	GG				15					
Austrostipa spp. 2 (no reproductive material)	0.2	10	GG				0.2					
Hypericum perforatum	0.1	5	HT									0.1

Veg Zone = PCT1191 Native dominant grassland			Covers	Native	Trees	Shrubs	Grass	Forb	Fern	Other	Exotic	HighThreat
			# spp	Count	Count	Count	Count	Count	Count	Count	Count	Count
BAM Plot: Plot 4 (Jindabyne School BDAR)			23	13	0	0	5	8	0	0	10	1
Species	Cover	Abundance	Sum cover	Sum	Sum	Sum	Sum	Sum	Sum	Sum	Sum	Sum
			86.6	69.8	0	0	66.3	3.5	0	0	16.8	0.1
Plantago lanceolata	15	200	EX								15	
Salvia coccinea	0.1	10	EX								0.1	
Verbascum thapsus	0.3	30	EX								0.3	
Echium plantagineum	0.3	20	EX								0.3	
Trifolium subterraneum	0.3	20	EX								0.3	
Onopordum acanthium	0.1	2	EX								0.1	
Hypochaeris radicata	0.1	10	EX								0.1	
Hirschfeldia incana	0.3	20	EX								0.3	
Modiola caroliniana	0.2	10	EX								0.2	
Ammobium alatum	0.2	20	FG					0.2				
Scleranthus biflorus	0.3	20	FG					0.3				
Rumex brownii	0.3	20	FG					0.3				
Vittadinia muelleri	0.3	20	FG					0.3				
Chrysocephalum semipapposum	0.1	1	FG					0.1				
Chrysocephalum apiculatum	2	50	FG					2				
Epilobium billardierianum	0.2	20	FG					0.2				
Acaena ovina	0.1	1	FG					0.1				
Panicum effusum	40	1000	GG				40					
Rytidosperma spp. (no reproductive material)	1	50	GG				1					
Austrostipa spp. (no reproductive material)	0.2	20	GG				0.2					
Themeda triandra	25	400	GG				25					
Eragrostis spp. (no reproductive material)	0.1	1	GG				0.1					
Hypericum perforatum	0.1	5	HT									0.1

Veg Zone = PCT1191 Native dominant grassland			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: SGMP1			**32**	**17**	1	0	6	9	0	1	**15**	2
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			95.4	**52.1**	0.5	0	50.5	1	0	0.1	**43.3**	1.1
Bromus hordeaceus	5	100	EX								5	
Petrorhagia nanteuilii	5	200	EX								5	
Echium vulgare	10	100	EX								10	
Hypochaeris radicata	0.1	10	EX								0.1	
Vulpia myuros	20	200	EX								20	
Plantago lanceolata	0.1	1	EX								0.1	
Hirschfeldia incana	0.1	10	EX								0.1	
Linaria arvensis	0.1	1	EX								0.1	
Trifolium arvense	1	200	EX								1	
Verbascum thapsus	0.1	1	EX								0.1	
Chrysocephalum apiculatum	0.5	10	EX								0.5	
Medicago lupulina	0.1	1	EX								0.1	
Salvia coccinea	0.1	1	EX								0.1	
Geranium solanderi	0.1	1	FG					0.1				
Scleranthus biflorus	0.1	1	FG					0.1				
Swainsona monticola	0.1	15	FG					0.1				
Acaena ovina	0.1	5	FG					0.1				
Plantago varia	0.2	100	FG					0.2				
Oxalis perennans	0.1	5	FG					0.1				
Swainsona behriana	0.1	1	FG					0.1				
Crassula sieberiana	0.1	1	FG					0.1				
Hypoxis hygrometrica	0.1	1	FG					0.1				
Austrostipa scabra	20	200	GG				20					
Elymus scaber	0.2	50	GG				0.2					
Rytidosperma tenuius	0.2	50	GG				0.2					
Carex inversa	0.1	10	GG				0.1					
Poa sieberiana	20	100	GG				20					
Themeda triandra	10	200	GG				10					
Hypericum perforatum	0.1	5	HT									0.1
Acetosella vulgaris	1	300	HT									1
Convolvulus erubescens	0.1	2	OG							0.1		
Eucalyptus pauciflora	0.5	1	TG		0.5							

Veg Zone = PCT1191 Exotic dominant grassland			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: RecGrass3			**24**	**11**	0	0	5	6	0	0	**13**	2
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			43.4	**11.8**	0	0	6.3	5.5	0	0	**31.6**	0.2
Verbascum thapsus	0.1	5	EX								0.1	
Echium vulgare	0.3	30	EX								0.3	
Trifolium arvense	10	200	EX								10	
Vulpia myuros	20	200	EX								20	
Petrorhagia nanteuilii	0.2	50	EX								0.2	
Hypochaeris radicata	0.3	20	EX								0.3	
Verbascum virgatum	0.1	1	EX								0.1	
Anthoxanthum odoratum	0.1	10	EX								0.1	
Plantago lanceolata	0.1	1	EX								0.1	
Bromus hordeaceus	0.1	10	EX								0.1	
Erodium cicutarium	0.1	10	EX								0.1	
Scleranthus biflorus	5	50	FG					5				
Acaena ovina	0.1	10	FG					0.1				
Vittadinia muelleri	0.1	10	FG					0.1				
Wahlenbergia communis	0.1	10	FG					0.1				
Crassula sieberiana	0.1	1	FG					0.1				
Chamaesyce dallachyana	0.1	10	FG					0.1				
Austrostipa scabra	5	50	GG				5					
Rytidosperma tenuius	0.5	50	GG				0.5					
Eragrostis benthamii	0.2	20	GG				0.2					
Bothriochloa macra	0.1	10	GG				0.1					
Themeda triandra	0.5	20	GG				0.5					
Hypericum perforatum	0.1	20	HT									0.1
Acetosella vulgaris	0.1	1	HT									0.1

APPENDIX C-2
Sports and Education sub-precinct mapping



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Snowy SAP - Field Survey Effort

Figure C.1

Sports and Education Sub-precinct
Catalyst Precinct

Legend

- Precinct Boundary
- Cadastre
- Waterbodies
- Watercourse
- Roads

Field Suvey Effort

- BAM Plot
- Opportunistic bird survey
- Targeted Threatened Species 2-Phase Grid Survey

Fauna Habitat Assessment Sites

- Anabat
- Diurnal bird
- Koala Scat Survey (KSS)

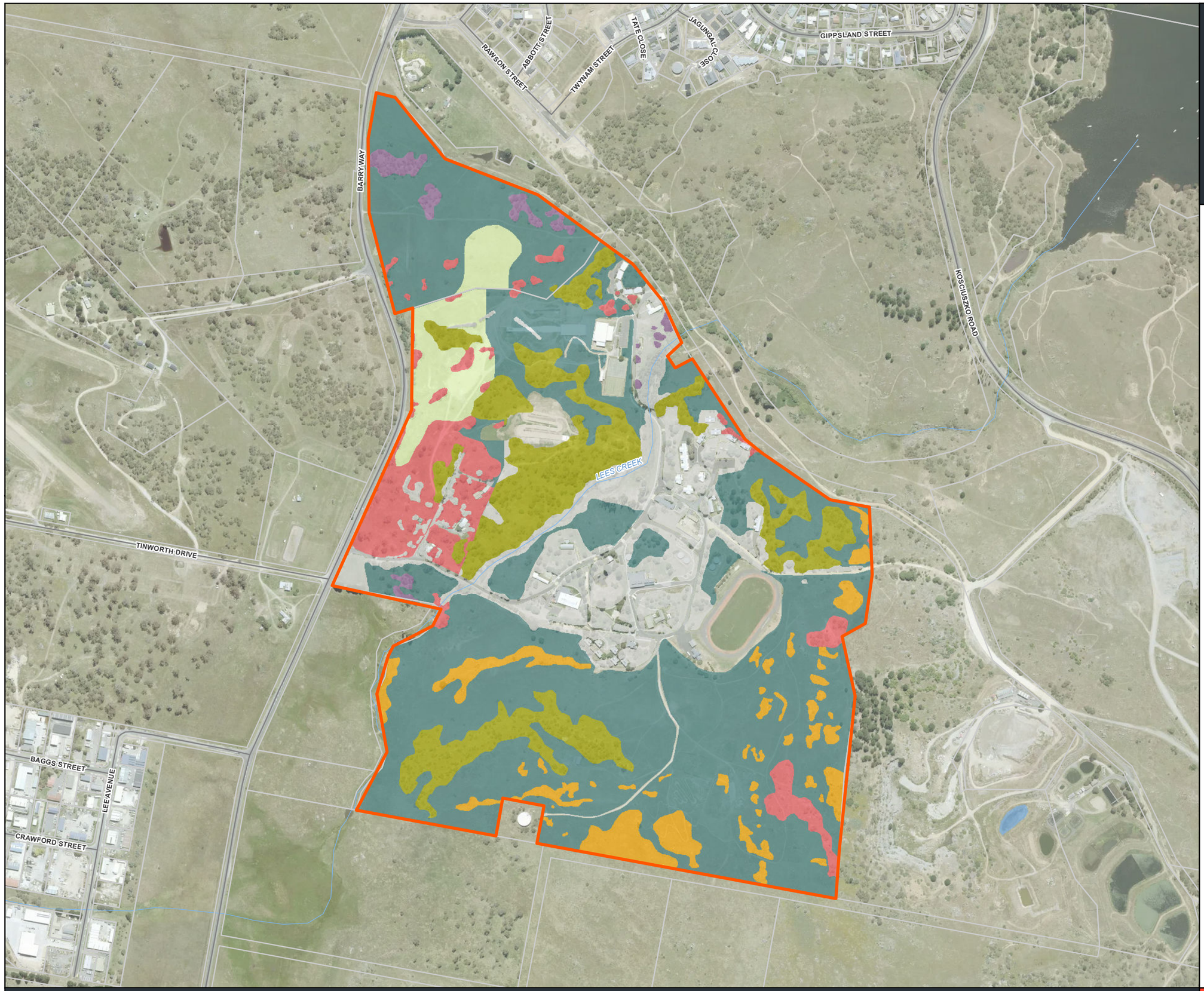
0 0.15 0.3 km

Coordinate system: GDA 1994 MGA Zone 55

Scale ratio correct when printed at A3

1:7,000 Date: 1/04/2022

Data sources: - NSWSS, Geoscience Australia, DPIE, Metromap



Snowy SAP - Plant Community Types

Figure C.2

Sports and Education Sub-precinct
Catalyst Precinct

Legend

- Precinct Boundary
- Cadastre
- Waterbodies
- Watercourse
- Roads

Plant Community Types and Vegetation Zones

- PCT 1191, Native dominant grassland
- PCT 1191, Rocky outcrop
- PCT 1191, Exotic dominant grassland
- PCT 1191, Poor
- PCT 1191, Moderate
- PCT 679, Poor
- Miscellaneous/exotic

0 0.15 0.3 km

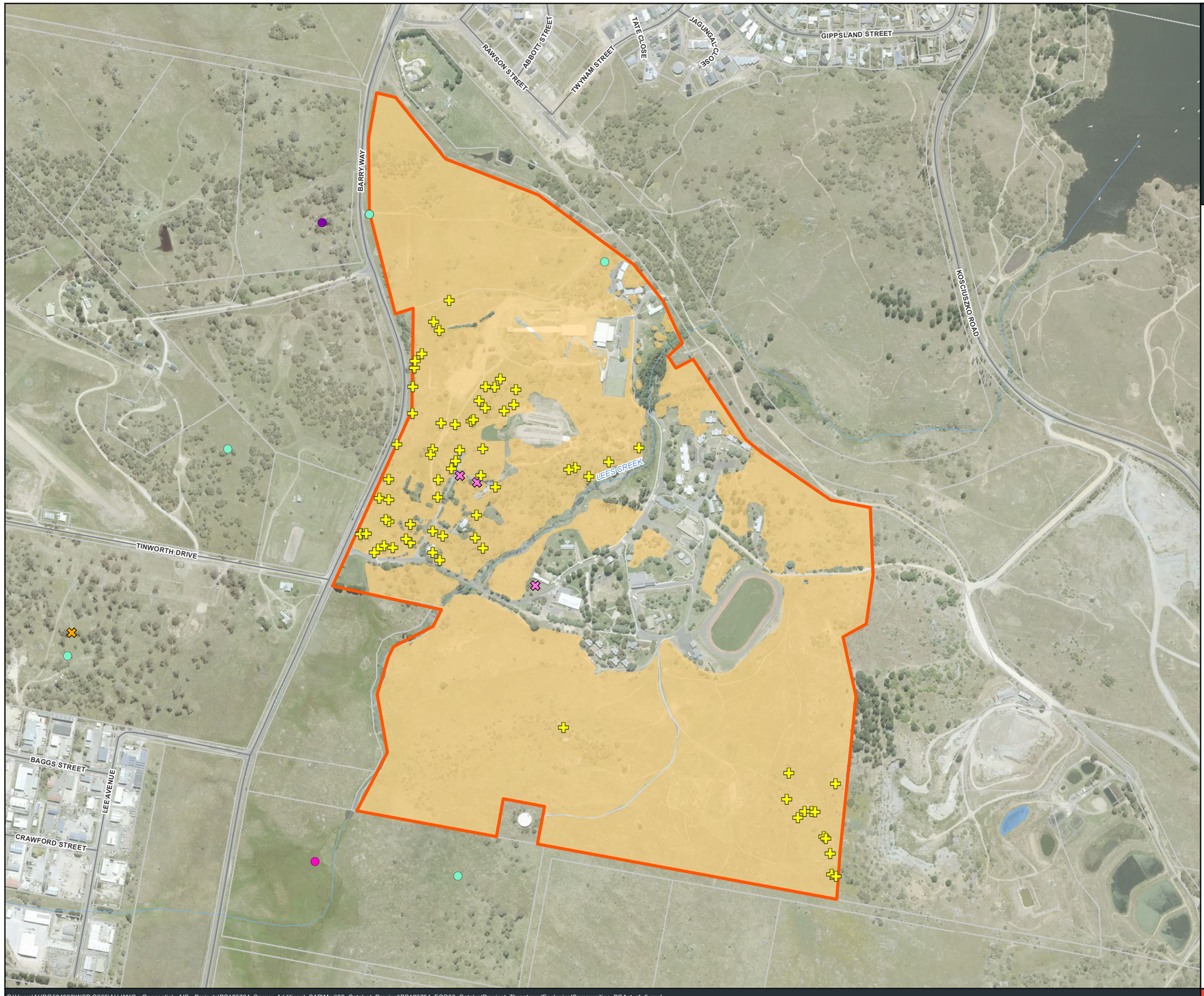
Coordinate system: GDA 1994 MGA Zone 55

Scale ratio correct when printed at A3

1:7,000 Date: 1/04/2022

Data sources: - NSWSS, Geoscience Australia, DPIE, Metromap

C:\Users\AUDG504200\WSP O365\AU-WKG - Geospatial - AIS - Projects\PS126784_Snowy_Additional_SAP\Mxd\02_Catalyst_Precinct\PS126784_ECO02_CatalystPrecinct_PlantCommunityTypes_r1v3.mxd



Snowy SAP - BC Act Listed Biodiversity

Figure C.3

Sports and Education Sub-precinct
Catalyst Precinct

Legend

- Precinct Boundary
- Cadastre
- Waterbodies
- Watercourse
- Roads
- Hollow-bearing tree

Threatened Flora Species

- *Eucalyptus nicholii*
- *Swainsona sericea* (recorded 2017)

Threatened Fauna Species

- Dusky Woodswallow
- Little Eagle
- Little Eagle (Active Nest)

Threatened Ecological Communities (BC Act)

- Monaro Tableland Cool Temperate Grassy Woodland in The South Eastern Highlands Bioregion

0 0.15 0.3 km

Coordinate system: GDA 1994 MGA Zone 55

Scale ratio correct when printed at A3

1:7,000 Date: 1/04/2022

Data sources: - NSWSS, Geoscience Australia, DPIE, Metromap

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Snowy SAP - EPBC Act Listed Biodiversity

Figure C.4

Sports and Education Sub-precinct
Catalyst Precinct

Legend

- Precinct Boundary
- Cadastre
- Waterbodies
- Watercourse
- Roads

Threatened Flora Species

- *Eucalyptus nicholii*
- *Swainsona sericea* (recorded 2017)

0 0.15 0.3 km

Coordinate system: GDA 1994 MGA Zone 55

Scale ratio correct when printed at A3

1:7,000 Date: 1/04/2022

Data sources: - NSWSS, Geoscience Australia, DPIE, Metromap

APPENDIX C-3
Sports and Education sub-precinct BAM candidate species report

BAM Candidate Species Report

Proposal Details

Assessment Id 00023687/BAAS17060/22/00031131	Proposal Name Sports and Recreation	BAM data last updated * 24/11/2021
Assessor Name Lukas Leslie Clews	Report Created 15/02/2022	BAM Data version * 50
Assessor Number BAAS17060	Assessment Type Biocertification	BAM Case Status Open
Assessment Revision 0	Date Finalised To be finalised	

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

List of Species Requiring Survey

Name	Presence	Survey Months
Thesium australe Austral Toadflax		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Ninox connivens Barking Owl		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Eucalyptus aggregata Black Gum		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Mastacomys fuscus Broad-toothed Rat		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Diuris aequalis Buttercup Doubletail		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Rutidosis leptorrhynchoides Button Wrinklewort		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Dodonaea procumbens Creeping Hop-bush		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Commersonia prostrata Dwarf Kerrawang		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Cercartetus nanus Eastern Pygmy-possum		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Callocephalon fimbriatum Gang-gang Cockatoo		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Calyptorhynchus lathami Glossy Black-Cockatoo		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Petauroides volans Greater Glider		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Leucochrysum albicans var. tricolor Hoary Sunray		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Phascolarctos cinereus Koala		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Miniopterus orianae oceanensis Large Bent-winged Bat		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Discaria nitida Leafy Anchor Plant		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Hieraaetus morphnoides Little Eagle		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Calotis glandulosa Mauve Burr-daisy		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Eucalyptus macarthurii Paddys River Box, Camden Woollybutt		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Petroica rodinogaster Pink Robin		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Aprasia parapulchella Pink-tailed Legless Lizard		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Ninox strenua Powerful Owl		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Anthochaera phrygia Regent Honeyeater		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Euphrasia scabra Rough Eyebright		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Swainsona sericea Silky Swainson-pea		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Eucalyptus parvula Small-leaved Gum		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Myotis macropus Southern Myotis		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Prasophyllum petilum Tarengo Leek Orchid		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Caladenia tessellata Thick Lip Spider Orchid		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Monotoca rotundifolia Trailing Monotoca		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Haliaeetus leucogaster White-bellied Sea-Eagle		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Threatened species Manually Added

None added

Appendix D

Western Lake Jindabyne sub-precinct

APPENDIX D-1
Western Lake Jindabyne sub-precinct flora survey data

Veg Zone = PCT1191 Moderate			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: RabSG1			**36**	**14**	1	1	4	6	0	2	**18**	5
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			93.4	**45.6**	40	0.5	4.3	0.6	0	0.2	**47.4**	26.3
Verbascum thapsus	0.1	10	EX								0.1	
Aira elegantissima	0.1	20	EX								0.1	
Medicago lupulina	0.1	50	EX								0.1	
Petrorhagia nanteuilii	0.1	20	EX								0.1	
Vulpia myuros	10	100	EX								10	
Erodium cicutarium	0.1	10	EX								0.1	
Trifolium arvense	10	200	EX								10	
Linaria arvensis	0.1	10	EX								0.1	
Hypochaeris radicata	0.1	1	EX								0.1	
Hordeum spp.	0.1	1	EX								0.1	
Taraxacum officinale	0.1	1	EX								0.1	
Malva rotundifolia	0.1	1	EX								0.1	
Marrubium vulgare	0.1	1	EX								0.1	
Onopordum acanthium	0.1	1	EX									
Acaena ovina	0.1	10	FG					0.1				
Plantago varia	0.1	10	FG					0.1				
Hydrocotyle laxiflora	0.1	20	FG					0.1				
Oxalis perennans	0.1	10	FG					0.1				
Geranium solanderi	0.1	1	FG					0.1				
Asperula conferta	0.1	10	FG									
Crassula sieberiana	0.1	50	FG									
Dichondra sp. A	0.1	10	FG					0.1				
Poa sieberiana	2	100	GG				2					
Austrostipa scabra	0.2	50	GG				0.2					
Carex inversa	0.1	10	GG				0.1					
Poa labillardierei	2	20	GG				2					
Elymus scaber	0.1	10	GG									
Rosa rubiginosa	0.1	1	HT									0.1
Bromus diandrus	25	300	HT									25
Acetosella vulgaris	0.1	20	HT									0.1
Hypericum perforatum	0.1	10	HT									0.1
Crataegus monogyna	1	2	HT									1
Desmodium varians	0.1	10	OG							0.1		
Convolvulus erubescens	0.1	10	OG							0.1		
Melicytus angustifolius subsp. *divaricatus*	0.5	10	SG			0.5						
Eucalyptus pauciflora	40	50	TG		40							

Veg Zone = PCT1191 Moderate			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: RabSG2			**39**	**21**	2	0	8	10	0	1	**18**	5
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			86.5	**43.5**	40.3	0	2.1	1	0	0.1	**43**	21.4
Echium vulgare	0.1	15	EX								0.1	
Trifolium arvense	20	200	EX								20	
Bromus hordeaceus	0.1	50	EX								0.1	
Petrorhagia nanteuilii	0.1	100	EX								0.1	
Verbascum thapsus	0.1	10	EX								0.1	
Aira elegantissima	0.1	20	EX								0.1	
Medicago lupulina	0.5	50	EX								0.5	
Poa pratensis	0.1	20	EX								0.1	
Sonchus oleraceus	0.1	1	EX								0.1	
Avena spp.	0.1	20	EX								0.1	
Hypochaeris radicata	0.1	10	EX								0.1	
Onopordum acanthium	0.1	3	EX								0.1	
Crataegus monogyna	0.1	5	EX								0.1	
Hydrocotyle laxiflora	0.1	20	FG					0.1				
Acaena ovina	0.1	3	FG					0.1				
Crassula sieberiana	0.1	50	FG					0.1				
Dichondra sp. A	0.1	1	FG					0.1				
Cynoglossum suaveolens	0.1	20	FG					0.1				
Wahlenbergia gracilis	0.1	20	FG					0.1				
Myosotis australis	0.1	3	FG					0.1				
Einadia nutans	0.1	1	FG					0.1				
Oxalis perennans	0.1	1	FG					0.1				
Geranium solanderi	0.1	10	FG					0.1				
Elymus scaber	0.2	50	GG				0.2					
Rytidosperma tenuius	0.3	50	GG				0.3					
Austrostipa scabra	0.1	10	GG				0.1					
Poa sieberiana	0.1	20	GG				0.1					
Poa labillardierei	1	50	GG				1					
Themeda triandra	0.2	50	GG				0.2					
Panicum effusum	0.1	1	GG				0.1					
Carex inversa	0.1	20	GG				0.1					
Rosa rubiginosa	20	50	HT									20
Nassella trichotoma	0.5	10	HT									0.5
Bromus diandrus	0.3	50	HT									0.3
Rubus fruticosus agg.	0.5	1	HT									0.5
Hypericum perforatum	0.1	10	HT									0.1
Desmodium varians	0.1	10	OG							0.1		
Eucalyptus pauciflora	40	15	TG		40							
Eucalyptus rubida	0.3	1	TG		0.3							

Veg Zone = PCT1191 Moderate			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: RabSG3			**31**	**14**	1	1	7	5	0	0	**17**	3
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			129.5	**77**	30	0.2	46.2	0.6	0	0	**52.5**	5.3
Acer pseudoplatanus	10	2	EX								10	
Trifolium arvense	10	150	EX								10	
Acer spp.	20	1	EX								20	
Poa pratensis	2	50	EX								2	
Holcus lanatus	2	50	EX								2	
Bromus hordeaceus	0.2	50	EX								0.2	
Medicago lupulina	0.5	50	EX								0.5	
Conyza bonariensis	0.1	1	EX								0.1	
Hypochaeris radicata	0.1	10	EX								0.1	
Vulpia myuros	1	100	EX								1	
Aira elegantissima	0.1	20	EX								0.1	
Crataegus monogyna	1	1	EX								1	
Petrorhagia nanteuilii	0.1	2	EX								0.1	
Lolium perenne	0.1	10	EX								0.1	
Myosotis australis	0.1	50	FG					0.1				
Geranium solanderi	0.2	20	FG					0.2				
Oxalis perennans	0.1	10	FG					0.1				
Acaena ovina	0.1	2	FG					0.1				
Einadia nutans	0.1	1	FG					0.1				
Elymus scaber	40	400	GG				40					
Carex inversa	0.2	100	GG				0.2					
Poa labillardierei	0.5	20	GG				0.5					
Dichelachne crinita	5	100	GG				5					
Rytidosperma tenuius	0.3	50	GG				0.3					
Poa sieberiana	0.1	20	GG				0.1					
Carex spp.	0.1	1	GG				0.1					
Rosa rubiginosa	5	30	HT									5
Bromus diandrus	0.2	50	HT									0.2
Acetosella vulgaris	0.1	10	HT									0.1
Pimelea pauciflora	0.2	2	SG			0.2						
Eucalyptus pauciflora	30	15	TG		30							

Veg Zone = PCT1191 Moderate			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: Epauc14			**34**	**16**	2	1	3	10	0	0	**18**	5
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			149.5	**45.8**	33	0.2	10.4	2.2	0	0	**103.7**	20.4
Trifolium arvense	70	5000	EX								70	
Medicago lupulina	10	1000	EX								10	
Vulpia myuros	1	200	EX								1	
Petrorhagia nanteuilii	0.3	100	EX								0.3	
Verbascum thapsus	0.5	20	EX								0.5	
Plantago lanceolata	0.1	2	EX								0.1	
Myosotis discolor	0.1	3	EX								0.1	
Aira elegantissima	0.2	20	EX								0.2	
Poa pratensis	0.1	4	EX								0.1	
Taraxacum officinale	0.2	20	EX								0.2	
Echium vulgare	0.2	10	EX								0.2	
Erodium cicutarium	0.1	2	EX								0.1	
Crataegus monogyna	0.5	1	EX								0.5	
Geranium solanderi var. solanderi	0.5	100	FG					0.5				
Viola betonicifolia	0.3	50	FG					0.3				
Ajuga australis	0.3	30	FG					0.3				
Oxalis perennans	0.1	5	FG					0.1				
Acaena ovina	0.1	3	FG					0.1				
Hydrocotyle laxiflora	0.2	50	FG					0.2				
Hydrocotyle sibthorpioides	0.1	10	FG					0.1				
Dichondra repens	0.3	50	FG					0.3				
Scleranthus biflorus	0.1	1	FG					0.1				
Wahlenbergia multicaulis	0.2	10	FG					0.2				
Poa sieberiana var. sieberiana	10	200	GG				10					
Elymus scaber	0.2	6	GG				0.2					
Luzula flaccida	0.2	6	GG				0.2					
Rosa rubiginosa	15	200	HT									15
Bromus diandrus	0.2	10	HT									0.2
Acetosella vulgaris	3	500	HT									3
Hypericum perforatum	0.2	5	HT									0.2
Nassella trichotoma	2	30	HT									2
Pimelea pauciflora	0.2	3	SG			0.2						
Eucalyptus pauciflora	30	22	TG		30							
Acacia melanoxylon	3	2	TG		3							

Veg Zone = PCT1191 Exotic dominant grassland			Covers	Native	Trees	Shrubs	Grass	Forb	Fern	Other	Exotic	HighThreat
			# spp	Count	Count	Count	Count	Count	Count	Count	Count	Count
BAM Plot: RabGrass1			22	7	0	0	4	2	0	1	15	4
Species	Cover	Abundance	Sum cover	Cover	Sum	Sum	Sum	Sum	Sum	Sum	Sum	Sum
			115.2	3	0	0	2.7	0.2	0	0.1	112.2	0.9
Echium vulgare	0.5	50	EX								0.5	
Bromus hordeaceus	70	500	EX								70	
Petrorhagia nanteuilii	0.2	200	EX								0.2	
Verbascum thapsus	0.1	10	EX								0.1	
Trifolium arvense	20	200	EX								20	
Hypochaeris radicata	0.1	20	EX								0.1	
Vulpia myuros	20	200	EX								20	
Anthoxanthum odoratum	0.1	10	EX								0.1	
Taraxacum officinale	0.1	20	EX								0.1	
Aira elegantissima	0.1	20	EX								0.1	
Erodium cicutarium	0.1	10	EX								0.1	
Cynoglossum suaveolens	0.1	5	FG					0.1				
Crassula sieberiana	0.1	20	FG					0.1				
Austrostipa scabra	2	50	GG				2					
Rytidosperma tenuius	0.2	100	GG				0.2					
Elymus scaber	0.2	50	GG				0.2					
Themeda triandra	0.3	20	GG				0.3					
Rosa rubiginosa	0.5	7	HT									0.5
Acetosella vulgaris	0.1	50	HT									0.1
Hypericum perforatum	0.1	10	HT									0.1
Eragrostis curvula	0.2	6	HT									0.2
Convolvulus erubescens	0.1	1	OG							0.1		

Veg Zone = PCT1191 Exotic dominant grassland			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: RabGrass2			**24**	**12**	0	1	7	4	0	0	**12**	3
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			99.5	**7.8**	0	0.1	7.3	0.4	0	0	**91.7**	0.7
Trifolium arvense	10	200	EX								10	
Medicago lupulina	0.1	20	EX								0.1	
Bromus hordeaceus	20	200	EX								20	
Vulpia myuros	60	500	EX								60	
Poa pratensis	0.5	50	EX								0.5	
Verbascum thapsus	0.1	10	EX								0.1	
Echium vulgare	0.1	10	EX								0.1	
Aira elegantissima	0.1	10	EX								0.1	
Anthoxanthum odoratum	0.1	10	EX								0.1	
Myosotis australis	0.1	10	FG					0.1				
Oxalis perennans	0.1	1	FG					0.1				
Epilobium billardierianum	0.1	1	FG					0.1				
Crassula sieberiana	0.1	2	FG					0.1				
Themeda triandra	2	50	GG				2					
Elymus scaber	2	150	GG				2					
Carex inversa	0.1	50	GG				0.1					
Rytidosperma tenuius	1	100	GG				1					
Poa sieberiana	2	20	GG				2					
Bothriochloa macra	0.1	20	GG				0.1					
Dichelachne crinita	0.1	20	GG				0.1					
Rosa rubiginosa	0.5	60	HT									0.5
Acetosella vulgaris	0.1	10	HT									0.1
Hypericum perforatum	0.1	1	HT									0.1
Melicytus angustifolius subsp. *divaricatus*	0.1	1	SG			0.1						

Veg Zone = PCT1191 Exotic dominant grassland			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: RabGrass3			**24**	**11**	0	0	7	4	0	0	**12**	3
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			128.1	**1.5**	0	0	1.1	0.4	0	0	**126.5**	0.7
Petrorhagia nanteuilii	0.1	50	EX								0.1	
Medicago lupulina	0.1	20	EX								0.1	
Trifolium arvense	60	500	EX								60	
Vulpia myuros	40	400	EX								40	
Bromus hordeaceus	25	200	EX								25	
Verbascum thapsus	0.1	20	EX								0.1	
Poa pratensis	0.3	200	EX								0.3	
Aira elegantissima	0.1	10	EX								0.1	
Erodium cicutarium	0.1	1	EX								0.1	
Echium vulgare	0.1	1	EX									
Epilobium billardierianum	0.1	10	FG					0.1				
Crassula sieberiana	0.1	20	FG					0.1				
Wahlenbergia gracilis	0.1	1	FG					0.1				
Oxalis perennans	0.1	1	FG					0.1				
Themeda triandra	0.2	20	GG				0.2					
Bothriochloa macra	0.1	50	GG				0.1					
Rytidosperma tenuius	0.2	100	GG				0.2					
Carex inversa	0.1	50	GG				0.1					
Poa labillardierei	0.1	1	GG				0.1					
Elymus scaber	0.3	50	GG				0.3					
Panicum effusum	0.1	1	GG				0.1					
Rosa rubiginosa	0.5	40	HT									0.5
Acetosella vulgaris	0.1	30	HT									0.1
Nassella trichotoma	0.1	1	HT									0.1

Veg Zone = PCT1191 Rocky Outcrop			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: WJB1			**35**	**20**	0	5	3	9	1	2	**14**	3
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			84	**42.6**	0	5.9	35.1	1.3	0.1	0.2	**41.3**	0.3
Asplenium flabellifolium	0.1	3	EG						0.1			
Trifolium arvense	40	1000	EX								40	
Tragopogon dubius	0.1	1	EX								0.1	
Verbascum thapsus	0.1	1	EX								0.1	
Aira elegantissima	0.1	20	EX								0.1	
Petrorhagia nanteuilii	0.1	20	EX								0.1	
Echium vulgare	0.1	5	EX								0.1	
Vulpia myuros	0.1	15	EX								0.1	
Hypochaeris radicata	0.1	5	EX								0.1	
Linaria arvensis	0.1	1	EX								0.1	
Bromus rubens	0.1	50	EX								0.1	
Bromus hordeaceus	0.1	10	EX								0.1	
Senecio quadridentatus	0.1	10	FG					0.1				
Hydrocotyle laxiflora	0.1	1	FG					0.1				
Acaena ovina	0.1	10	FG					0.1				
Crassula sieberiana	0.5	1000	FG					0.5				
Wahlenbergia communis	0.1	1	FG					0.1				
Oxalis perennans	0.1	1	FG					0.1				
Vittadinia muelleri	0.1	10	FG					0.1				
Geranium solanderi	0.1	5	FG					0.1				
Asperula conferta	0.1	20	FG					0.1				
Themeda triandra	30	1000	GG				30					
Austrostipa scabra	5	100	GG				5					
Rytidosperma tenuius	0.1	20	GG									
Poa sieberiana	0.1	2	GG				0.1					
Acetosella vulgaris	0.1	20	HT									0.1
Hypericum perforatum	0.1	2	HT									0.1
Rosa rubiginosa	0.1	1	HT									0.1
Desmodium varians	0.1	1	OG							0.1		
Convolvulus erubescens	0.1	10	OG							0.1		
Kunzea ericoides	5	5	SG			5						
Melicytus angustifolius subsp. divaricatus	0.5	10	SG			0.5						
Pimelea pauciflora	0.2	10	SG			0.2						
Brachyloma daphnoides	0.1	1	SG			0.1						
Bossiaea buxifolia	0.1	10	SG			0.1						

Veg Zone = PCT1191 Rocky Outcrop			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: Eshrub24			**25**	**8**	1	3	1	2	0	1	**17**	4
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			113.2	**3.1**	0.3	2.1	0.1	0.5	0	0.1	**110.1**	54
Onopordum acanthium	1	6	EX								1	
Bromus hordeaceus	0.5	100	EX								0.5	
Echium vulgare	20	5000	EX								20	
Verbascum thapsus	2	20	EX								2	
Vulpia myuros	5	1000	EX								5	
Trifolium arvense	20	5000	EX								20	
Taraxacum officinale	1	200	EX								1	
Medicago lupulina	2	1000	EX								2	
Poa pratensis	2	50	EX								2	
Erodium cicutarium	0.3	30	EX								0.3	
Tragopogon dubius	0.1	1	EX								0.1	
Bromus rubens	0.2	30	EX								0.2	
Sambucus nigra	2	1	EX								2	
Geranium solanderi	0.2	10	FG					0.2				
Acaena ovina	0.3	6	FG					0.3				
Themeda triandra	0.1	1	GG				0.1					
Rosa rubiginosa	20	30	HT									20
Bromus diandrus	30	3000	HT									30
Acetosella vulgaris	3	500	HT									3
Nassella trichotoma	1	6	HT									1
Convolvulus erubescens	0.1	3	OG							0.1		
Pimelea pauciflora	1	4	SG			1						
Melicytus angustifolius subsp. divaricatus	1	4	SG			1						
Kunzea ericoides	0.1	1	SG			0.1						
Acacia dealbata	0.3	2	TG		0.3							

Veg Zone = PCT1191 Rocky Outcrop			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: DNG26			**25**	**12**	1	2	4	4	1	0	**13**	3
Species	**Cover**	**Abundance**	**Sum cover**	**Sum**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			75.8	**29.1**	3	2.3	22.1	1.5	0.2	0	**46.7**	6.3
Asplenium flabellifolium	0.2	20	EG						0.2			
Verbascum thapsus	1	10	EX								1	
Trifolium arvense	15	1500	EX								15	
Marrubium vulgare	15	500	EX								15	
Vulpia myuros	2	300	EX								2	
Petrorhagia nanteuilii	2	300	EX								2	
Bromus rubens	2	150	EX								2	
Bromus hordeaceus	1	100	EX								1	
Echium vulgare	2	200	EX								2	
Arenaria leptoclados	0.2	6	EX								0.2	
Aira elegantissima	0.2	20	EX								0.2	
Wahlenbergia communis	1	100	FG					1				
Oxalis spp.	0.3	30	FG					0.3				
Chamaesyce dallachyana	0.1	4	FG					0.1				
Acaena ovina	0.1	1	FG					0.1				
Themeda triandra	15	300	GG				15					
Austrostipa scabra	5	500	GG				5					
Rytidosperma tenuius	2	200	GG				2					
Enneapogon nigricans	0.1	2	GG				0.1					
Rosa rubiginosa	5	10	HT									5
Hypericum perforatum	1	3	HT									1
Acetosella vulgaris	0.3	50	HT									0.3
Pimelea pauciflora	2	5	SG			2						
Melicytus angustifolius subsp. divaricatus	0.3	2	SG			0.3						
Acacia dealbata	3	1	TG		3							

Veg Zone = PCT1191 Exotic dominant grassland			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: WJGrass1			**19**	**4**	0	0	2	1	0	1	**15**	1
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			87.8	**20.5**	0	0	20.3	0.1	0	0.1	**67.3**	0.1
Trifolium arvense	5	300	EX								5	
Hirschfeldia incana	0.1	10	EX								0.1	
Vulpia myuros	60	1000	EX								60	
Bromus catharticus	0.1	20	EX								0.1	
Hordeum leporinum	0.1	1	EX								0.1	
Hypochaeris radicata	0.1	10	EX								0.1	
Echium vulgare	0.1	2	EX								0.1	
Trifolium subterraneum	1	200	EX								1	
Poa pratensis	0.1	10	EX								0.1	
Petrorhagia nanteuilii	0.1	2	EX								0.1	
Verbascum thapsus	0.1	1	EX								0.1	
Phalaris aquatica	0.2	50	EX								0.2	
Medicago lupulina	0.1	1	EX								0.1	
Arenaria leptoclados	0.1	1	EX								0.1	
Crassula sieberiana	0.1	20	FG					0.1				
Austrostipa scabra	0.3	100	GG				0.3					
Rytidosperma tenuius	20	200	GG				20					
Acetosella vulgaris	0.1	20	HT									0.1
Convolvulus erubescens	0.1	3	OG							0.1		

Veg Zone = PCT1191 Exotic dominant grassland			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: WJGrass2			**24**	**4**	1	1	1	1	0	0	**20**	2
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			89.5	**1.5**	1	0.1	0.3	0.1	0	0	**88**	0.2
Onopordum acanthium	0.5	50	EX								0.5	
Echium vulgare	0.1	50	EX								0.1	
Trifolium arvense	20	500	EX								20	
Vulpia myuros	50	2000	EX								50	
Bromus catharticus	0.1	50	EX								0.1	
Petrorhagia nanteuilii	0.1	20	EX								0.1	
Salvia coccinea	0.1	20	EX								0.1	
Hordeum leporinum	15	1000	EX								15	
Taraxacum officinale	0.1	10	EX								0.1	
Hirschfeldia incana	0.1	10	EX								0.1	
Malva neglecta	0.1	20	EX								0.1	
Reseda luteola	0.1	2	EX								0.1	
Rumex crispus	0.1	1	EX								0.1	
Poa pratensis	0.1	2	EX								0.1	
Capsella bursa-pastoris	0.1	20	EX								0.1	
Erodium cicutarium	0.1	50	EX								0.1	
Trifolium subterraneum	1	200	EX								1	
Bromus hordeaceus	0.1	20	EX								0.1	
Einadia nutans	0.1	5	FG					0.1				
Austrostipa scabra	0.3	50	GG				0.3					
Bromus diandrus	0.1	10	HT									0.1
Rosa rubiginosa	0.1	1	HT									0.1
Melicytus angustifolius subsp. divaricatus	0.1	1	SG			0.1						
Eucalyptus pauciflora	1	1	TG		1							

Veg Zone = PCT1191 Exotic dominant grassland			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: WJGrass3			**26**	**2**	0	0	0	1	0	1	**24**	3
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			88.2	**0.2**	0	0	0	0.1	0	0.1	**88**	0.7
Onopordum acanthium	0.5	50	EX								0.5	
Hordeum leporinum	50	1000	EX								50	
Vulpia myuros	30	200	EX								30	
Trifolium arvense	5	10	EX								5	
Hirschfeldia incana	0.1	20	EX								0.1	
Salvia coccinea	0.1	20	EX								0.1	
Bromus hordeaceus	0.1	20	EX								0.1	
Bromus catharticus	0.2	60	EX								0.2	
Petrorhagia nanteuilii	0.1	30	EX								0.1	
Echium vulgare	0.1	10	EX								0.1	
Aira elegantissima	0.1	50	EX								0.1	
Medicago lupulina	0.1	10	EX								0.1	
Malva neglecta	0.1	1	EX								0.1	
Taraxacum officinale	0.1	2	EX								0.1	
Hypochaeris radicata	0.1	5	EX								0.1	
Poa pratensis	0.1	10	EX								0.1	
Capsella bursa-pastoris	0.1	10	EX								0.1	
Verbascum thapsus	0.1	2	EX								0.1	
Polygonum spp.	0.1	20	EX								0.1	
Arenaria leptoclados	0.1	1	EX								0.1	
Crataegus monogyna	0.1	1	EX								0.1	
Acaena ovina	0.1	1	FG					0.1				
Rosa rubiginosa	0.1	1	HT									0.1
Bromus diandrus	0.5	100	HT									0.5
Acetosella vulgaris	0.1	50	HT									0.1
Convolvulus erubescens	0.1	13	OG							0.1		

Veg Zone = PCT1191 Exotic dominant grassland			Covers	Native	Trees	Shrubs	Grass	Forb	Fern	Other	Exotic	HighThreat
			# spp	Count	Count	Count	Count	Count	Count	Count	Count	Count
BAM Plot: Eshrub25			22	10	1	1	5	3	0	0	12	2
Species	**Cover**	**Abundance**	Sum cover	Sum	Sum	Sum	Sum	Sum	Sum	Sum	Sum	Sum
			238.1	13.7	10	0.5	2.4	0.8	0	0	224.4	7
Crataegus monogyna	30	200	EX								30	
Trifolium arvense	90	5000	EX								90	
Bromus hordeaceus	60	3000	EX								60	
Medicago lupulina	30	5000	EX								30	
Petrorhagia nanteuilii	2	1000	EX								2	
Echium vulgare	1	100	EX								1	
Taraxacum officinale	0.2	30	EX								0.2	
Vulpia bromoides	0.2	30	EX								0.2	
Poa pratensis	2	300	EX								2	
Vulpia myuros	2	300	EX								2	
Asperula scoparia	0.3	50	FG					0.3				
Geranium solanderi var. solanderi	0.3	20	FG					0.3				
Solenogyne spp.	0.2	10	FG					0.2				
Themeda triandra	1	200	GG				1					
Poa sieberiana var. sieberiana	1	50	GG				1					
Rytidosperma tenuius	0.1	2	GG				0.1					
Poa sieberiana var. cyanophylla	0.1	2	GG				0.1					
Elymus scaber	0.2	10	GG				0.2					
Rosa rubiginosa	2	10	HT									2
Bromus diandrus	5	500	HT									5
Melicytus angustifolius subsp. divaricatus	0.5	2	SG			0.5						
Eucalyptus pauciflora	10	7	TG		10							

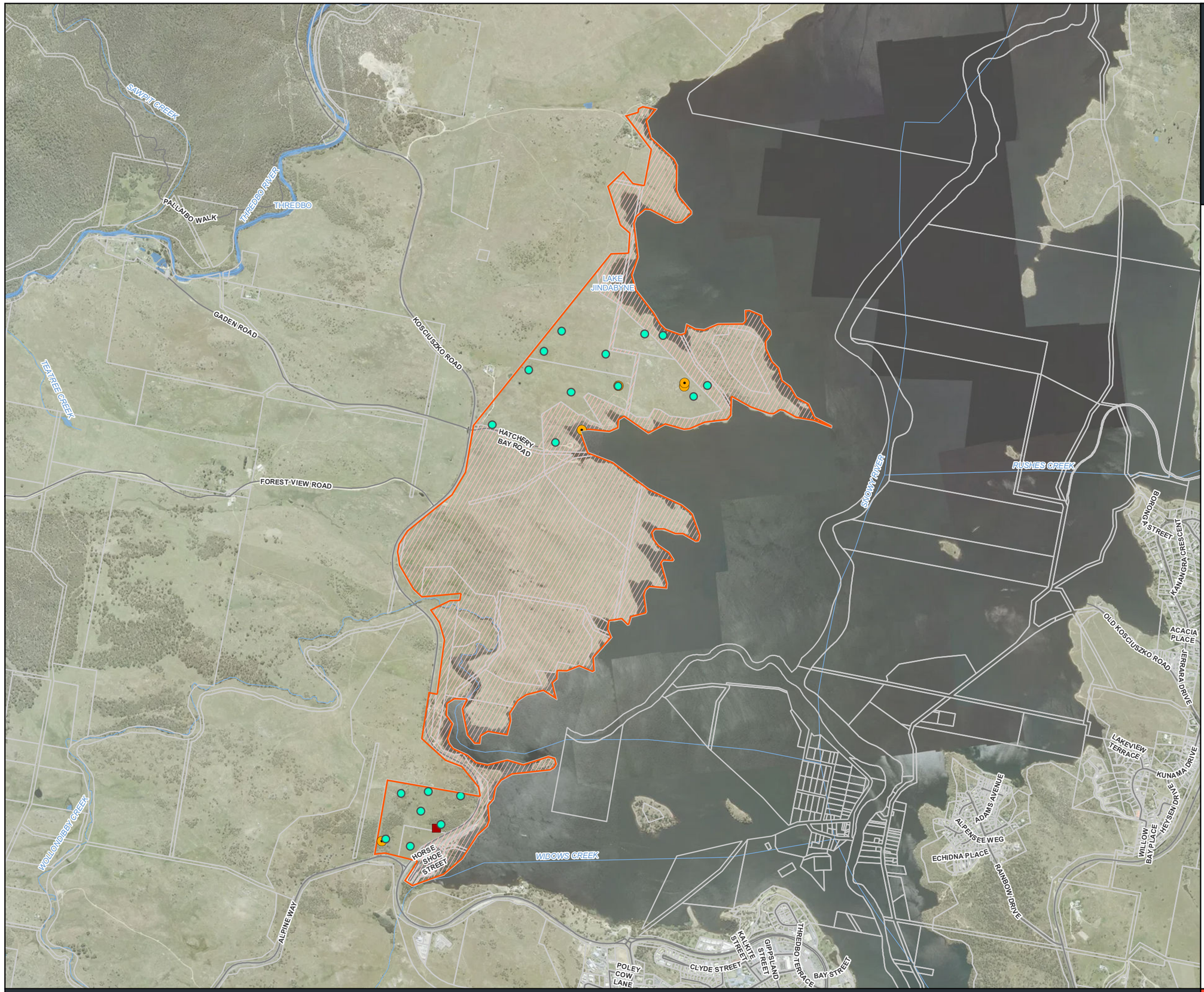
Veg Zone = PCT1191 Exotic dominant grassland			Covers	Native	Trees	Shrubs	Grass	Forb	Fern	Other	Exotic	HighThreat
			# spp	Count	Count	Count	Count	Count	Count	Count	Count	Count
BAM Plot: WJGrass6			22	10	0	0	2	6	0	2	12	2
Species	Cover	Abundance	Sum cover	Cover	Sum	Sum	Sum	Sum	Sum	Sum	Sum	Sum
			124	43	0	0	41	0.6	0	1.4	81	0.2
Vulpia myuros	40	500	EX								40	
Trifolium arvense	40	2000	EX								40	
Echium vulgare	0.1	20	EX								0.1	
Petrorhagia nanteuilii	0.1	20	EX								0.1	
Bromus hordeaceus	0.1	50	EX								0.1	
Anthoxanthum odoratum	0.1	20	EX								0.1	
Taraxacum officinale	0.1	10	EX								0.1	
Hypochaeris radicata	0.1	1	EX								0.1	
Arenaria leptoclados	0.1	10	EX								0.1	
Aira elegantissima	0.1	20	EX								0.1	
Crassula sieberiana	0.1	50	FG					0.1				
Oxalis perennans	0.1	20	FG					0.1				
Vittadinia muelleri	0.1	10	FG					0.1				
Swainsona monticola	0.1	1	FG					0.1				
Wahlenbergia communis	0.1	50	FG					0.1				
Asperula conferta	0.1	10	FG					0.1				
Austrostipa scabra	40	500	GG				40					
Rytidosperma tenuius	1	100	GG				1					
Rosa rubiginosa	0.1	2	HT									0.1
Hypericum perforatum	0.1	3	HT									0.1
Convolvulus erubescens	0.1	10	OG							0.1		
Desmodium varians	1.3	50	OG							1.3		

Veg Zone = PCT1191 Exotic dominant grassland			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: WJGrass7			**20**	**10**	0	2	3	3	0	2	**10**	2
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			91.9	**41.1**	0	0.3	40.2	0.3	0	0.3	**50.8**	0.2
Echium vulgare	0.1	50	EX								0.1	
Petrorhagia nanteuilii	0.1	100	EX								0.1	
Avena spp.	0.1	1	EX								0.1	
Anthoxanthum odoratum	0.1	10	EX								0.1	
Vulpia myuros	40	1000	EX								40	
Trifolium arvense	10	200	EX								10	
Taraxacum officinale	0.1	2	EX								0.1	
Hirschfeldia incana	0.1	3	EX								0.1	
Acaena ovina	0.1	1	FG					0.1				
Chamaesyce dallachyana	0.1	1	FG					0.1				
Crassula sieberiana	0.1	100	FG					0.1				
Carex inversa	0.1	10	GG				0.1					
Austrostipa scabra	40	1000	GG				40					
Rytidosperma tenuius	0.1	20	GG				0.1					
Acetosella vulgaris	0.1	20	HT									0.1
Rosa rubiginosa	0.1	1	HT									0.1
Desmodium varians	0.2	20	OG							0.2		
Convolvulus erubescens	0.1	10	OG							0.1		
Pimelea pauciflora	0.1	1	SG			0.1						
Melicytus angustifolius subsp. *divaricatus*	0.2	2	SG			0.2						

Veg Zone = PCT1191 Exotic dominant grassland			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: WJGrass5			**19**	**8**	0	0	4	3	0	1	**11**	1
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			67.6	**25.6**	0	0	25.2	0.3	0	0.1	**42**	0.1
Trifolium arvense	40	1000	EX								40	
Vulpia myuros	1	100	EX								1	
Echium vulgare	0.2	50	EX								0.2	
Anthoxanthum odoratum	0.1	1	EX								0.1	
Verbascum thapsus	0.1	10	EX								0.1	
Bromus hordeaceus	0.1	10	EX								0.1	
Bromus rubens	0.1	1	EX								0.1	
Petrorhagia nanteuilii	0.1	10	EX								0.1	
Medicago lupulina	0.1	10	EX								0.1	
Aira elegantissima	0.1	1	EX								0.1	
Crassula sieberiana	0.1	50	FG					0.1				
Oxalis perennans	0.1	1	FG					0.1				
Cymbonotus lawsonianus	0.1	1	FG					0.1				
Rytidosperma tenuius	20	200	GG				20					
Bothriochloa macra	5	200	GG				5					
Austrostipa scabra	0.1	10	GG				0.1					
Carex inversa	0.1	20	GG				0.1					
Acetosella vulgaris	0.1	50	HT									0.1
Convolvulus erubescens	0.1	10	OG							0.1		

Veg Zone = PCT1191 Native dominant grassland			**Covers**	**Native**	Trees	Shrubs	Grass	Forb	Fern	Other	**Exotic**	HighThreat
			# spp	**Count**	Count	Count	Count	Count	Count	Count	**Count**	Count
BAM Plot: WJGrass4			**19**	**10**	0	0	5	4	0	1	**9**	1
Species	**Cover**	**Abundance**	**Sum cover**	**Cover**	Sum	Sum	Sum	Sum	Sum	Sum	**Sum**	Sum
			112.9	**72.1**	0	0	71.6	0.4	0	0.1	**40.8**	0.1
Trifolium arvense	40	1000	EX								40	
Petrorhagia nanteuilii	0.1	100	EX								0.1	
Echium vulgare	0.1	200	EX								0.1	
Vulpia myuros	0.1	100	EX								0.1	
Bromus hordeaceus	0.1	100	EX								0.1	
Linaria arvensis	0.1	50	EX								0.1	
Cerastium vulgare	0.1	10	EX								0.1	
Verbascum thapsus	0.1	5	EX								0.1	
Crassula sieberiana	0.1	100	FG					0.1				
Chamaesyce dallachyana	0.1	10	FG					0.1				
Wahlenbergia communis	0.1	50	FG					0.1				
Oxalis perennans	0.1	1	FG					0.1				
Austrostipa scabra	1	500	GG				1					
Austrostipa bigeniculata	50	2000	GG				50					
Rytidosperma tenuius	20	1000	GG				20					
Bothriochloa macra	0.5	100	GG				0.5					
Carex inversa	0.1	10	GG				0.1					
Acetosella vulgaris	0.1	100	HT									0.1
Convolvulus erubescens	0.1	20	OG							0.1		

APPENDIX D-2
Western Lake Jindabyne sub-precinct mapping



Snowy SAP - Field Survey Effort

Figure D.1

Western Lake Jindabyne Sub-precinct
Catalyst Precinct

Legend

- Precinct Boundary
- Cadastre
- Waterbodies
- Watercourse
- Roads

Field Suvey Effort

- BAM Plot
- Opportunistic bird survey
- Not surveyed

Fauna Habitat Assessment Sites

- Anabat

0 0.55 1.1 km

Coordinate system: GDA 1994 MGA Zone 55

Scale ratio correct when printed at A3

1:23,000 Date: 1/04/2022

Data sources: - NSWSS, Geoscience Australia, DPIE, Metromap

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Snowy SAP - Plant Community Types

Figure D.2

Western Lake Jindabyne Sub-precinct
Catalyst Precinct

Legend

- Precinct Boundary
- Cadastre
- Waterbodies
- Watercourse
- Roads

Plant Community Types and Vegetation Zones

- PCT 1191, Native dominant grassland
- PCT 1191, Rocky outcrop
- PCT 1191, Exotic dominant grassland
- PCT 1191, Poor
- PCT 1191, Moderate
- Miscellaneous/exotic

0 0.55 1.1 km

Coordinate system: GDA 1994 MGA Zone 55

Scale ratio correct when printed at A3

1:23,000 Date: 1/04/2022

Data sources: - NSWSS, Geoscience Australia, DPIE, Metromap

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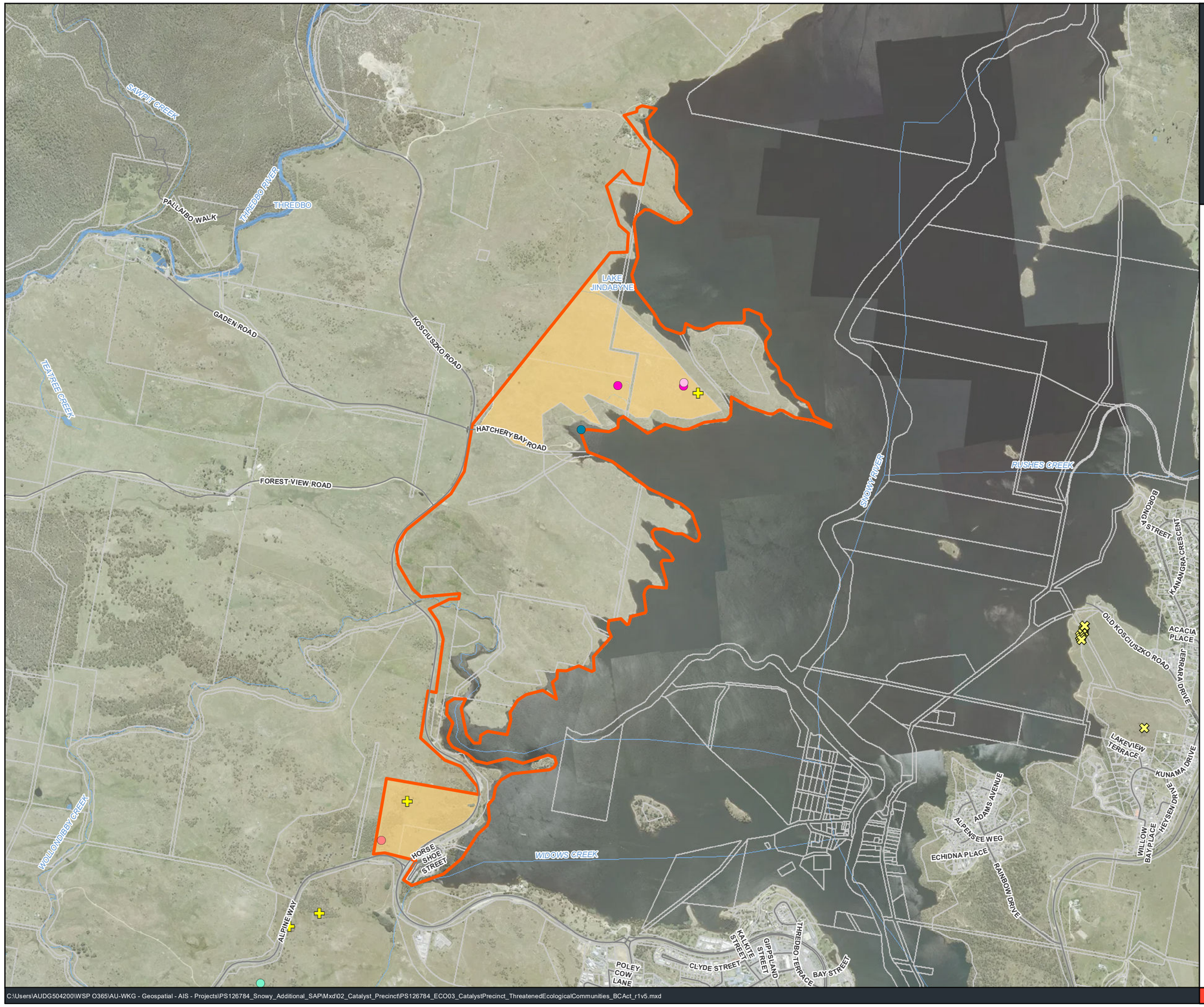

Snowy SAP - BC Act Listed Biodiversity

Figure D.3

Western Lake Jindabyne Sub-precinct
Catalyst Precinct

Legend

- Precinct Boundary
- Cadastre
- Waterbodies
- Watercourse
- Roads
- Hollow-bearing tree

Threatened Flora Species

- *Swainsona sericea (potential)*

Threatened Fauna Species

- Dusky Woodswallow
- White-fronted chat
- Little Eagle
- Stick Nest (potential Little Eagle)
- Scarlet Robin

Threatened Ecological Communities

(BC Act)

- Monaro Tableland Cool Temperate Grassy Woodland in The South Eastern Highlands Bioregion

0 0.55 1.1 km

Coordinate system: GDA 1994 MGA Zone 55

Scale ratio correct when printed at A3

1:23,000 Date: 1/04/2022

Data sources: - NSWSS, Geoscience Australia, DPIE, Metromap

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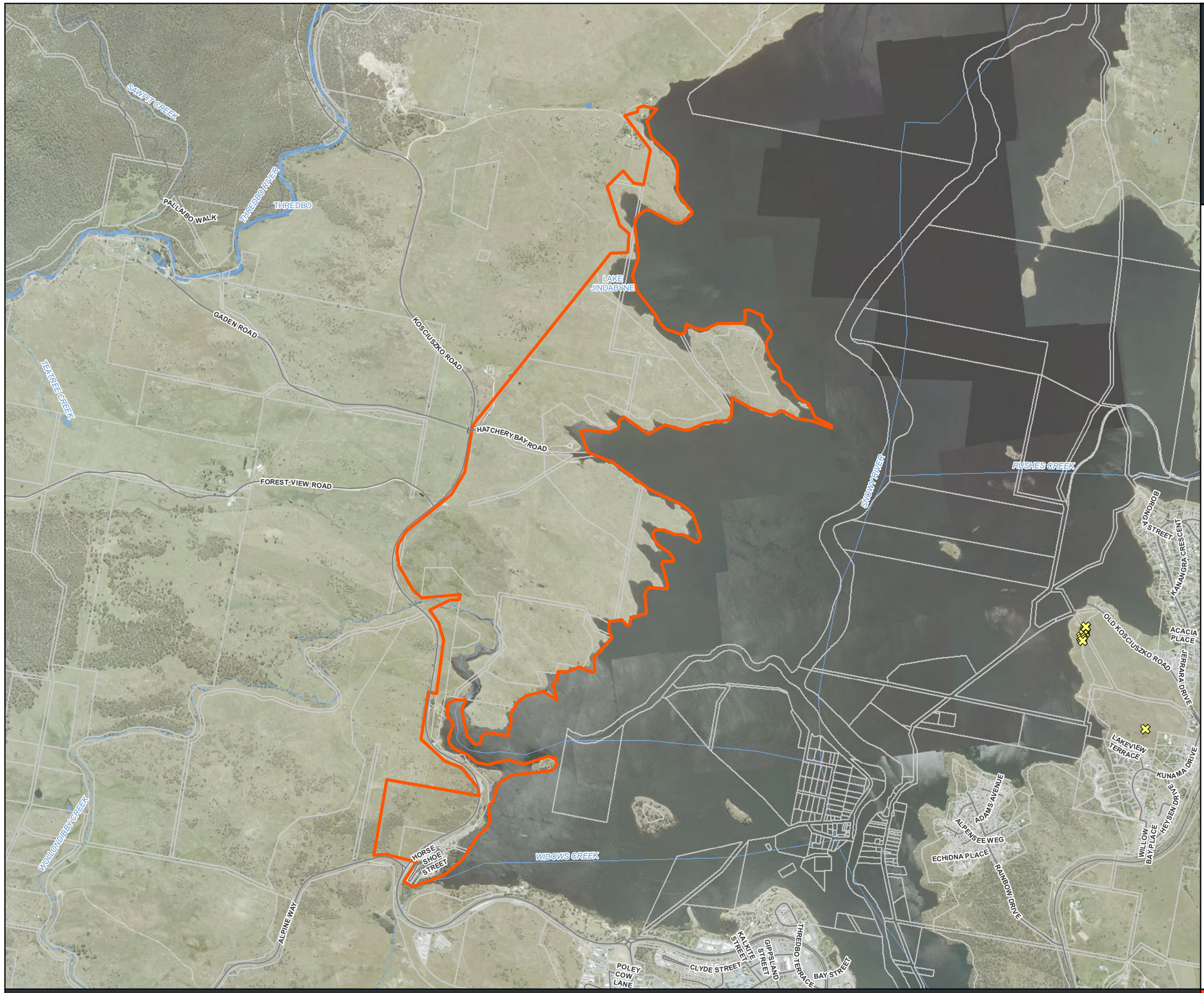

Snowy SAP - EPBC Act Listed Biodiversity

Figure D.4

Western Lake Jindabyne Sub-precinct
Catalyst Precinct

Legend

- Precinct Boundary
- Cadastre
- Waterbodies
- Watercourse
- Roads

Threatened Flora Species

- *Swainsona sericea (potential)*

0 0.55 1.1 km

Coordinate system: GDA 1994 MGA Zone 55

Scale ratio correct when printed at A3

1:23,000 Date: 1/04/2022

Data sources: - NSWSS, Geoscience Australia, DPIE, Metromap

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APPENDIX D-3
Western Lake Jindabyne sub-precinct BAM candidate species report

BAM Candidate Species Report

Proposal Details

Assessment Id 00023687/BAAS17060/22/00031130	Proposal Name Western Lake Jindabyne	BAM data last updated * 24/11/2021
Assessor Name Lukas Leslie Clews	Report Created 15/02/2022	BAM Data version * 50
Assessor Number BAAS17060	Assessment Type Biocertification	BAM Case Status Open
Assessment Revision 0	Date Finalised To be finalised	

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

List of Species Requiring Survey

Name	Presence	Survey Months
Thesium australe Austral Toadflax		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Ninox connivens Barking Owl		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Eucalyptus aggregata Black Gum		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Diuris aequalis Buttercup Doubletail		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Rutidosis leptorrhynchoides Button Wrinklewort		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Dodonaea procumbens Creeping Hop-bush		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Commersonia prostrata Dwarf Kerrawang		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Cercartetus nanus Eastern Pygmy-possum		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Callocephalon fimbriatum Gang-gang Cockatoo		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Calyptorhynchus lathami Glossy Black-Cockatoo		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Petauroides volans Greater Glider		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Leucochrysum albicans var. tricolor Hoary Sunray		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Phascolarctos cinereus Koala		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Miniopterus orianae oceanensis Large Bent-winged Bat		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Hieraaetus morphnoides Little Eagle		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Calotis glandulosa Mauve Burr-daisy		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Eucalyptus macarthurii Paddys River Box, Camden Woollybutt		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Petroica rodinogaster Pink Robin		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Aprasia parapulchella Pink-tailed Legless Lizard		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Ninox strenua Powerful Owl		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Anthochaera phrygia Regent Honeyeater		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Euphrasia scabra Rough Eyebright		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Swainsona sericea Silky Swainson-pea		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Myotis macropus Southern Myotis		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Prasophyllum petilum Tarengo Leek Orchid		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Caladenia tessellata Thick Lip Spider Orchid		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Haliaeetus leucogaster White-bellied Sea-Eagle		☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Threatened species Manually Added

None added

Appendix E

Fauna survey results

APPENDIX E-1
Fauna species recorded

Table E.1 Fauna species recorded in the Catalyst precincts

Family	Common name	Scientific name
Amphibians		
Hylidae	Brown Tree Frog	*Litoria ewingii*
Hylidae	Lesueur' s Frog	*Litoria lesueuri*
Hylidae	Peron's Tree Frog	*Litoria peronii*
Hylidae	Verreaux's Frog	*Litoria verreauxii verreauxii*
Limnodynastidae	Brown-striped Frog	*Limnodynastes peronii*
Limnodynastidae	Eastern Banjo Frog	*Limnodynastes dumerilii*
Limnodynastidae	Spotted Grass Frog	*Limnodynastes tasmaniensis*
Myobatrachidae	Common Froglet	*Crinia signifera*
Myobatrachidae	Eastern Sign-bearing Froglet	*Crinia parinsignifera*
Birds		
Acanthizidae	Brown Thornbill	*Acanthiza pusilla*
Acanthizidae	Buff-rumped Thornbill	*Acanthiza reguloides*
Acanthizidae	Southern Whiteface	*Aphelocephala leucopsis*
Acanthizidae	Striated Thornbill	*Acanthiza lineata*
Acanthizidae	Weebill	*Smicrornis brevirostris*
Acanthizidae	White-browed Scrubwren	*Sericornis (Sericornis) frontalis*
Acanthizidae	White-throated Gerygone	*Gerygone olivacea*
Acanthizidae	Yellow Thornbill	*Acanthiza nana*
Accipitridae	Black-shouldered Kite	*Elanus axillaris*
Accipitridae	Brown Goshawk	*Accipiter fasciatus*
Accipitridae	Collared Sparrowhawk	*Accipiter cirrocephalus*
Accipitridae	Little Eagle	*Hieraaetus morphnoides*
Accipitridae	Wedge-tailed Eagle	*Aquila audax*
Accipitridae	Whistling Kite	*Haliastur sphenurus*
Alcedinidae	Kookaburra	*Dacelo (Dacelo) novaeguineae*
Alcedinidae	Sacred Kingfisher	*Todiramphus (Todiramphus) sanctus*
Ardeidae	White-faced Heron	*Egretta novaehollandiae*
Artamidae	Australian Magpie	*Gymnorhina tibicen*
Artamidae	Dusky Woodswallow	*Artamus cyanopterus*
Artamidae	Grey Butcherbird	*Cracticus torquatus*
Artamidae	Masked Woodswallow	*Artamus personatus*

Family	Common name	Scientific name
Artamidae	Pied Currawong	*Strepera graculina*
Cacatuidae	Galah	*Eolophus roseicapilla*
Cacatuidae	Gang-gang Cockatoo	*Callocephalon fimbriatum*
Cacatuidae	Little Corella	*Cacatua sanguinea*
Cacatuidae	Sulphur-crested Cockatoo	*Cacatua galerita*
Cacatuidae	Yellow-tailed Black-cockatoo	*Calyptorhynchus funereus*
Campephagidae	Black-faced cuckoo-shrike	*Coracina novaehollandiae*
Campephagidae	White-winged Triller	*Lalage sueurii*
Casuariidae	Emu	*Dromaius novaehollandiae*
Charadriidae	Black-fronted Dotterel	*Elseyornis melanops*
Charadriidae	Masked Lapwing	*Vanellus miles*
Climacteridae	White-throated Treecreeper	*Cormobates leucophaea*
Columbidae	Common Bronzewing	*Phaps chalcoptera*
Columbidae	Crested Pigeon	*Ocyphaps lophotes*
Columbidae	Rock Dove	*Columba livia*
Corcoracidae	White-winged Chough	*Corcorax melanorhamphos*
Corvidae	Australian Raven	*Corvus coronoides*
Corvidae	Little Raven	*Corvus mellori*
Cuculidae	Brush Cuckoo	*Cacomantis variolosus*
Cuculidae	Channel-billed Cuckoo	*Scythrops novaehollandiae*
Cuculidae	Fan-tailed Cuckoo	*Cacomantis flabelliformis*
Cuculidae	Pallid Cuckoo	*Cacomantis pallidus*
Cuculidae	Shining Bronze-cuckoo	*Chalcites lucidus*
Estrildidae	Red-browed Finch	*Neochmia temporalis*
Falconidae	Brown Falcon	*Falco berigora*
Falconidae	Nankeen Kestrel	*Falco cenchroides*
Fringillidae	Goldfinch	*Carduelis carduelis*
Hirundinidae	Tree Martin	*Petrochelidon nigricans*
Hirundinidae	Welcome Swallow	*Hirundo neoxena*
Laridae	Silver Gull	*Chroicocephalus novaehollandiae*
Maluridae	Superb Fairy-wren	*Malurus cyaneus*
Meliphagidae	Brown-headed Honeyeater	*Melithreptus brevirostris*
Meliphagidae	Noisy Friarbird	*Philemon corniculatus*

Family	Common name	Scientific name
Meliphagidae	Noisy Miner	*Manorina melanocephala*
Meliphagidae	Red wattlebird	*Anthochaera carunculata*
Meliphagidae	White-eared Honeyeater	*Nesophilus leucotis*
Meliphagidae	White-fronted Chat	*Epthianura albifrons*
Meliphagidae	White-naped Honeyeater	*Melithreptus lunatus*
Meliphagidae	Yellow-faced Honeyeater	*Caligavis chrysops*
Monarchidae	Magpie-lark	*Grallina cyanoleuca*
Monarchidae	Satin Flycatcher	*Myiagra cyanoleuca*
Motacillidae	Australian Pipit	*Anthus novaeseelandiae*
Nectariniidae	Mistletoebird	*Dicaeum hirundinaceum*
Neosittidae	Varied Sittella	*Daphoenositta chrysoptera*
Oriolidae	Olive-backed Oriole	*Oriolus sagittatus*
Pachycephalidae	Crested Shrike-tit	*Falcunculus frontatus*
Pachycephalidae	Golden Whistler	*Pachycephala pectoralis*
Pachycephalidae	Grey Shrike-thrush	*Colluricincla harmonica*
Pachycephalidae	Rufous Whistler	*Pachycephala rufiventris*
Pardalotidae	Spotted Pardalote	*Pardalotus punctatus*
Pardalotidae	Striated Pardalote	*Pardalotus striatus*
Passeridae	House sparrow	*Passer domesticus*
Pelecanidae	Australian pelican	*Pelecanus conspicillatus*
Petroicidae	Eastern Yellow Robin	*Eopsaltria australis*
Petroicidae	Flame Robin	*Petroica phoenicea*
Petroicidae	Hooded Robin	*Melanodryas cucullata*
Petroicidae	Jacky Winter	*Microeca fascinans*
Petroicidae	Rose Robin	*Petroica rosea*
Petroicidae	Scarlet Robin	*Petroica boodang*
Podargidae	Tawny Frogmouth	*Podargus strigoides*
Psittacidae	Australian King-parrot	*Alisterus scapularis*
Psittacidae	Budgerigar	*Melopsittacus undulatus*
Psittacidae	Crimson Rosella	*Platycercus elegans*
Psittacidae	Eastern Rosella	*Platycercus eximius*
Psittacidae	Red-rumped Parrot	*Psephotus haematonotus*
Ptilonorhynchidae	Satin Bowerbird	*Ptilonorhynchus violaceus*

Family	Common name	Scientific name
Rhipiduridae	Grey Fantail	*Rhipidura albiscapa*
Rhipiduridae	Willie Wagtail	*Rhipidura leucophrys*
Sturnidae	Starling	*Sturnus vulgaris*
Threskiornithidae	Australian White Ibis	*Threskiornis moluccus*
Threskiornithidae	Straw-necked Ibis	*Threskiornis spinicollis*
Timaliidae	Silvereye	*Zosterops lateralis*
Turdidae	Blackbird	*Turdus merula*
Mammals		
Bovidae	Goat	*Capra hircus*
Canidae	Fox	*Vulpes vulpes*
Cervidae	Fallow Deer	*Dama dama*
Cervidae	Sambar Deer	*Rusa unicolor*
Felidae	Cat	*Felis catus*
Leporidae	Rabbit	*Oryctolagus cuniculus*
Macropodidae	Eastern Grey Kangaroo	*Macropus giganteus*
Macropodidae	Red-necked Wallaby	*Macropus rufogriseus*
Macropodidae	Swamp Wallaby	*Wallabia bicolor*
Molossidae	Ride's Free-Tailed Bat	*Ozimops ridei*
Molossidae	White-striped Free-Tailed Bat	*Austronomus australis*
Muridae	Black Rat	*Rattus rattus*
Petauridae	Krefft's Glider	*Petaurus notatus*
Phalangeridae	Common Brushtail Possum	*Trichosurus vulpecula*
Pseudocheiridae	Common Ringtail Possum	*Pseudocheirus peregrinus*
Tachyglossidae	Short-beaked Echidna	*Tachyglossus aculeatus*
Vespertilionidae	Chocolate Wattled Bat	*Chalinolobus morio*
Vespertilionidae	Eastern Broad-nosed Bat	*Scotorepens orion*
Vespertilionidae	Eastern False Pipistrelle	*Falsistrellus tasmaniensis*
Vespertilionidae	Gould's Wattled Bat	*Chalinolobus gouldi*
Vespertilionidae	Long-eared Bat	*Nyctophilus* sp. (*N. geoffroyi / gouldi*)
Vespertilionidae	Large Forest Bat	*Vespadelus darlingtoni*
Vespertilionidae	Little Forest Bat	*Vespadelus vulturnus*
Vespertilionidae	Forest Bat	*Vespadelus* sp. (*Vespadelus darlingtoni / regulus / vulturnus*)

Family	Common name	Scientific name
Vombatidae	Common Wombat	*Vombatus ursinus*
Reptiles		
Agamidae	Jacky Lizard	*Amphibolurus muricatus*
Elapidae	Eastern Brown Snake	*Pseudonaja textilis*
Elapidae	Highlands Copperhead	*Austrelaps ramsayi*
Elapidae	Red-bellied Black Snake	*Pseudechis porphyriacus*
Scincidae	Blotched Blue-tongue	*Tiliqua nigrolutea*
Scincidae	Copper-tailed Skink	*Ctenotus taeniolatus*
Scincidae	Cunningham's Skink	*Egernia cunninghami*
Scincidae	Eastern Blue-tongue	*Tiliqua scincoides*
Scincidae	Eastern Three-lined Skink	*Acritoscincus duperreyi*
Scincidae	Pale-flecked Garden Sunskink	*Lampropholis guichenoti*
Scincidae	Red-throated Skink	*Acritoscincus platynotus*
Scincidae	Shingle-back	*Tiliqua rugosa*
Scincidae	Tussock Skink	*Pseudemoia pagenstecheri*
Scincidae	White's Skink	*Liopholis whitii*

APPENDIX E-2
Anabat sonograms

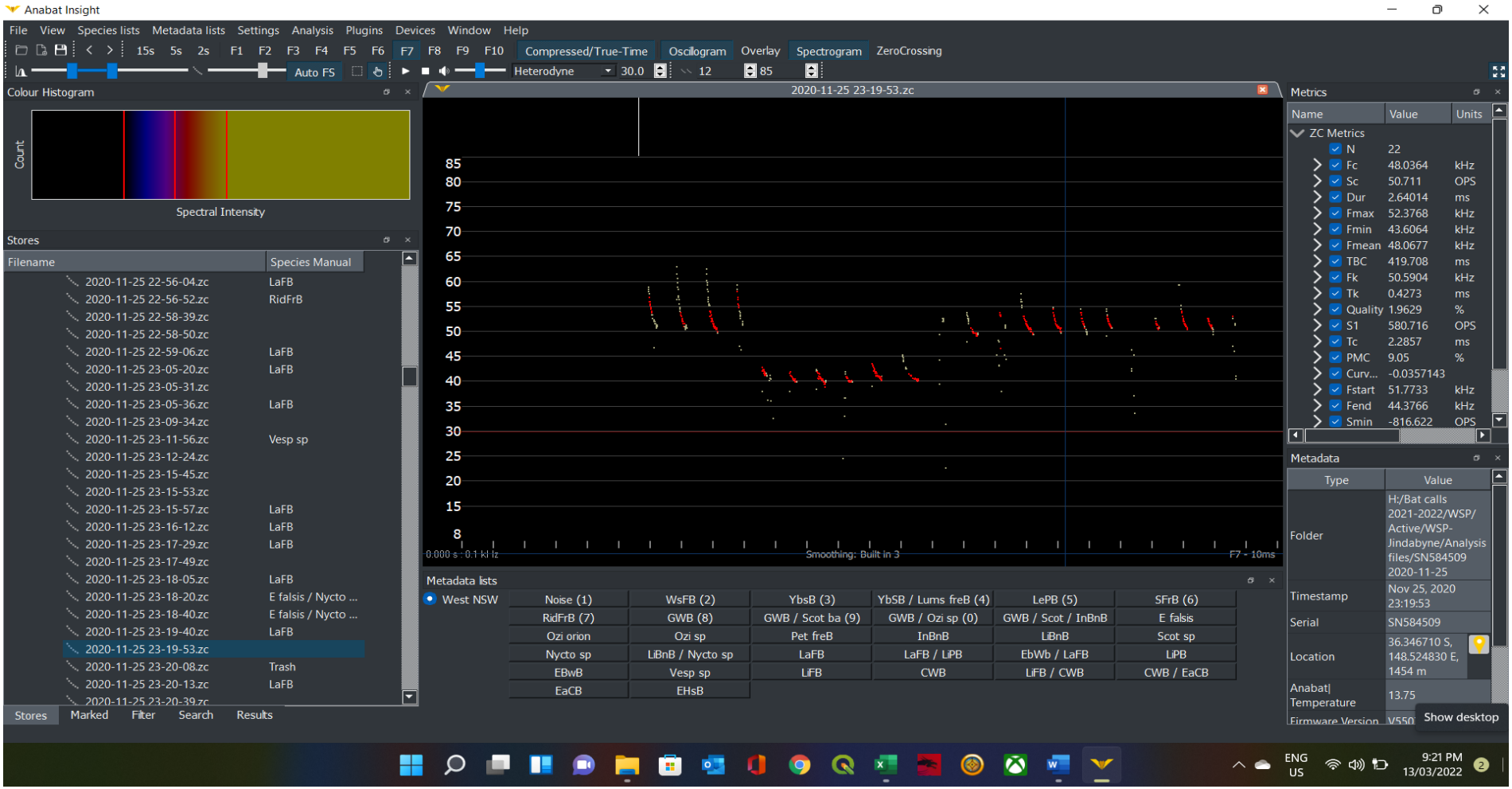

Figure E.1 Chocolate Wattled Bat sonogram

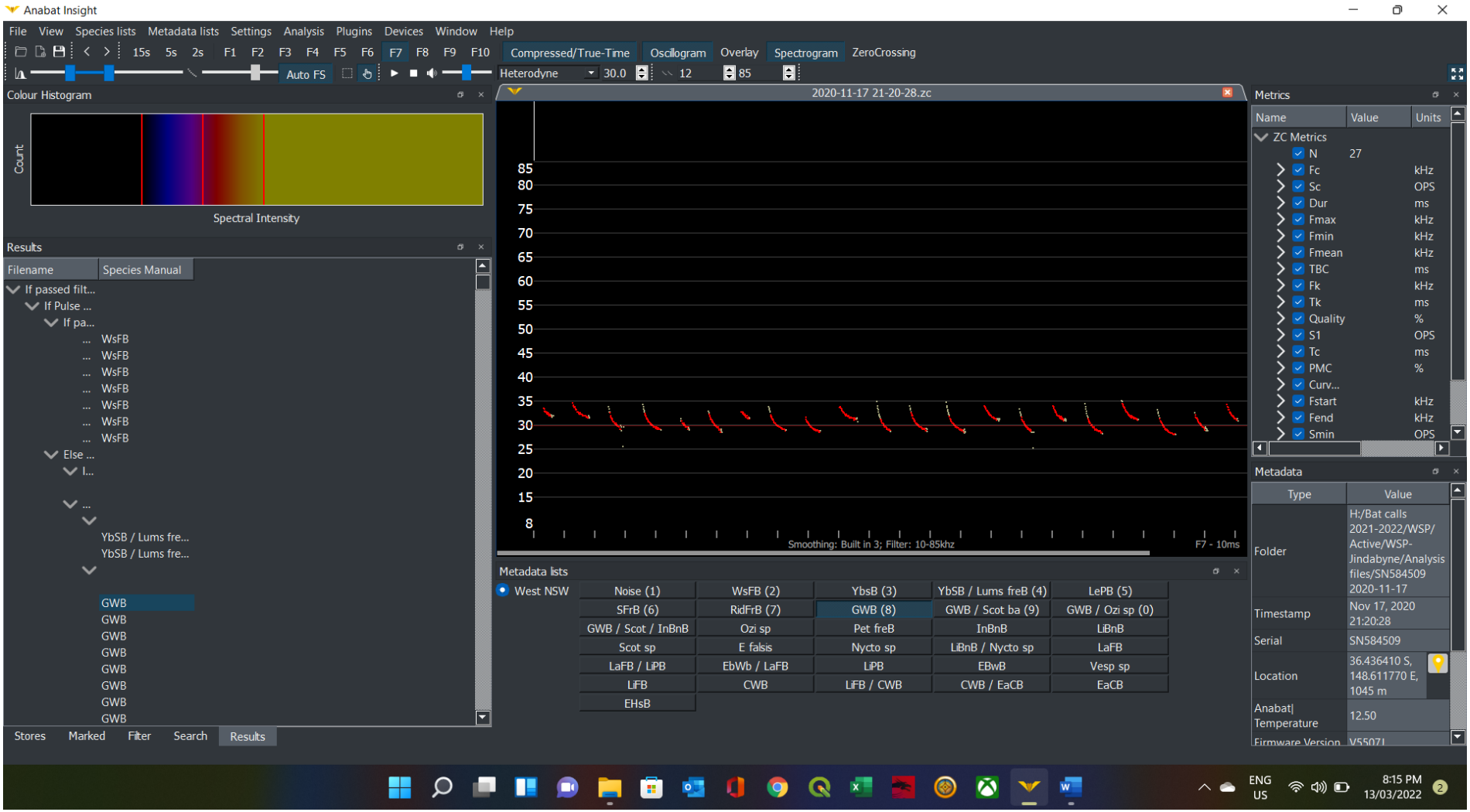

Figure E.2 Gould's Wattled Bat sonogram

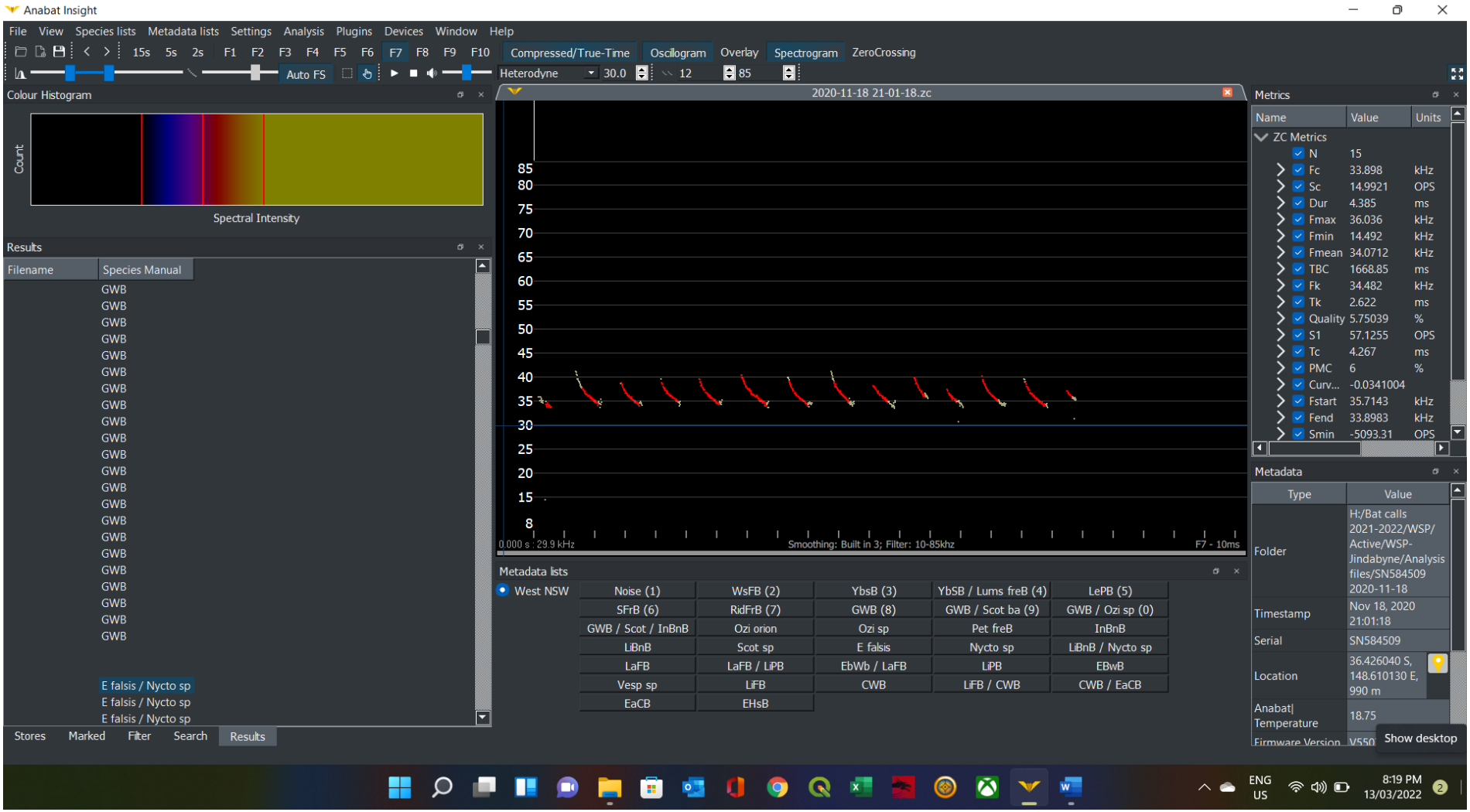

Figure E.3 Eastern False Pipistrelle sonogram

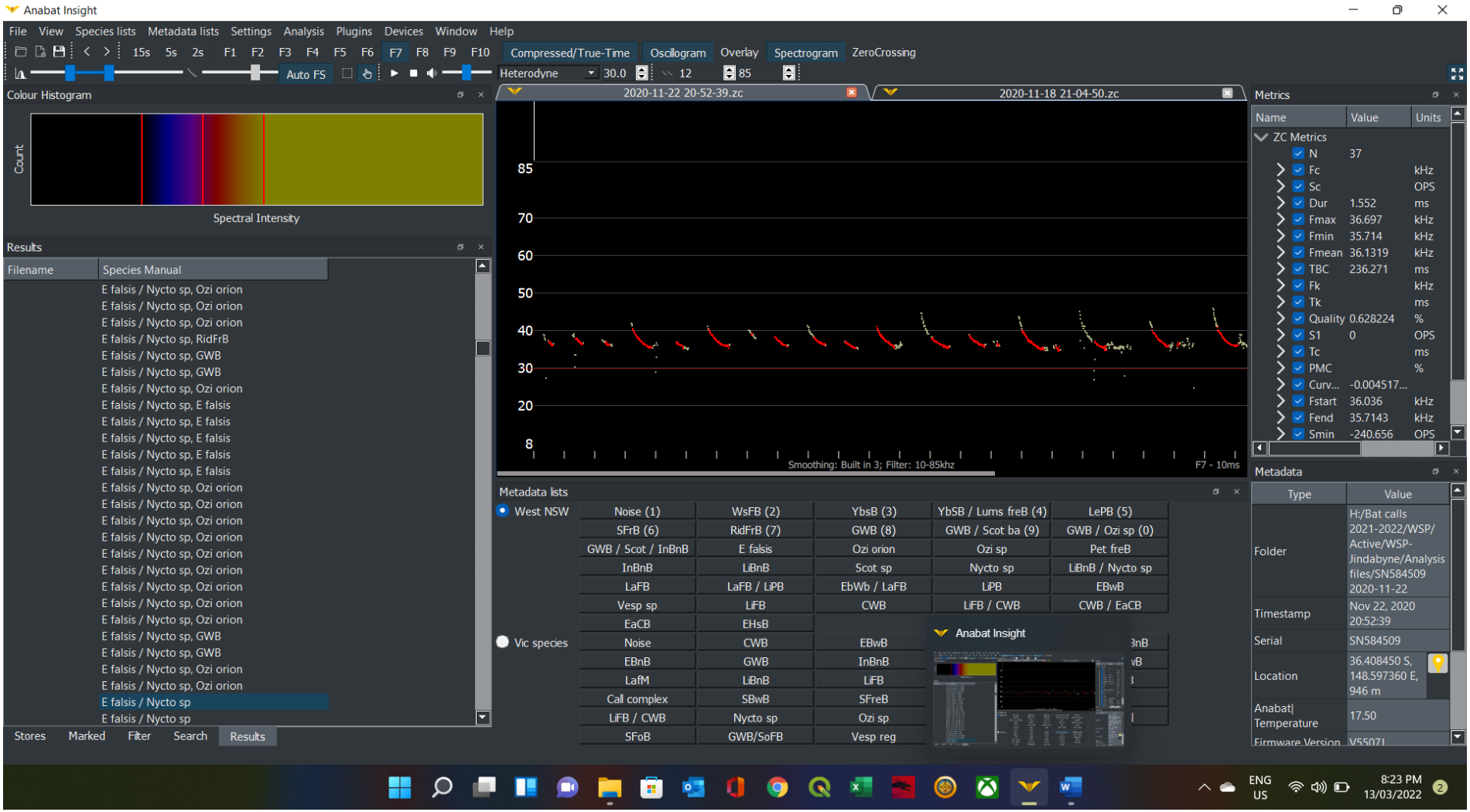

Figure E.4 Eastern Broad-nosed bat sonogram

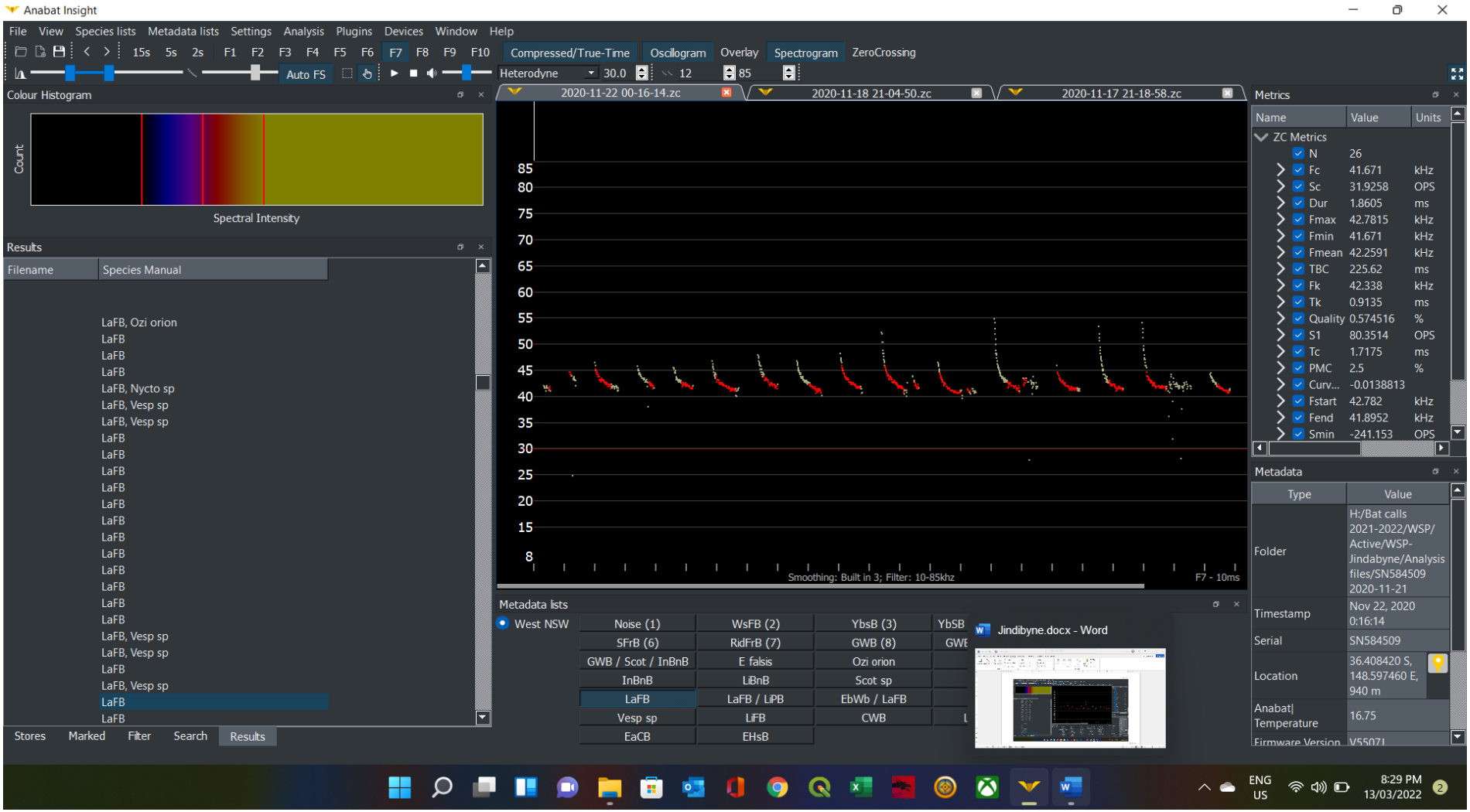

Figure E.5 Large Forest Bat sonogram

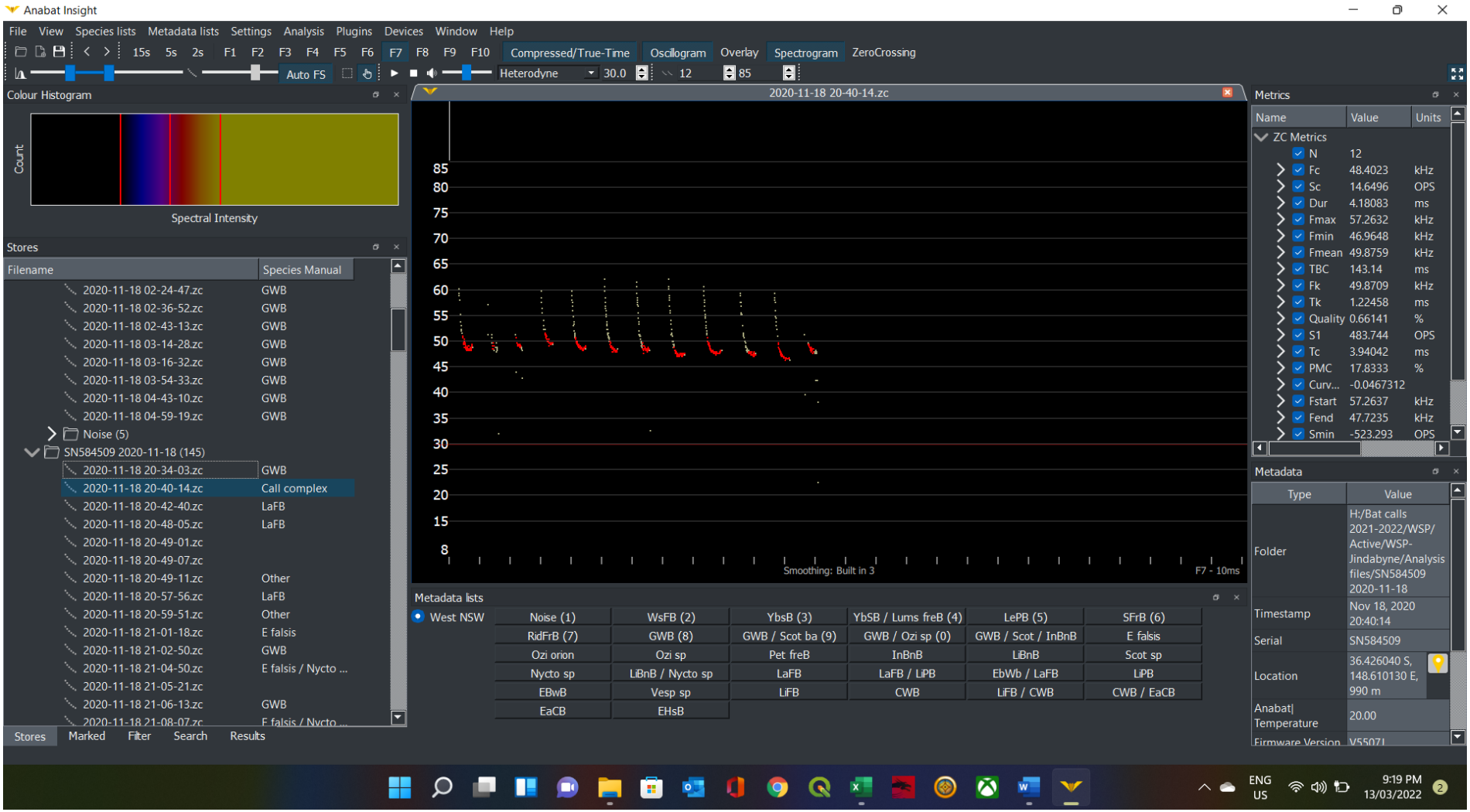

Figure E.6 Little Forest Bat sonogram

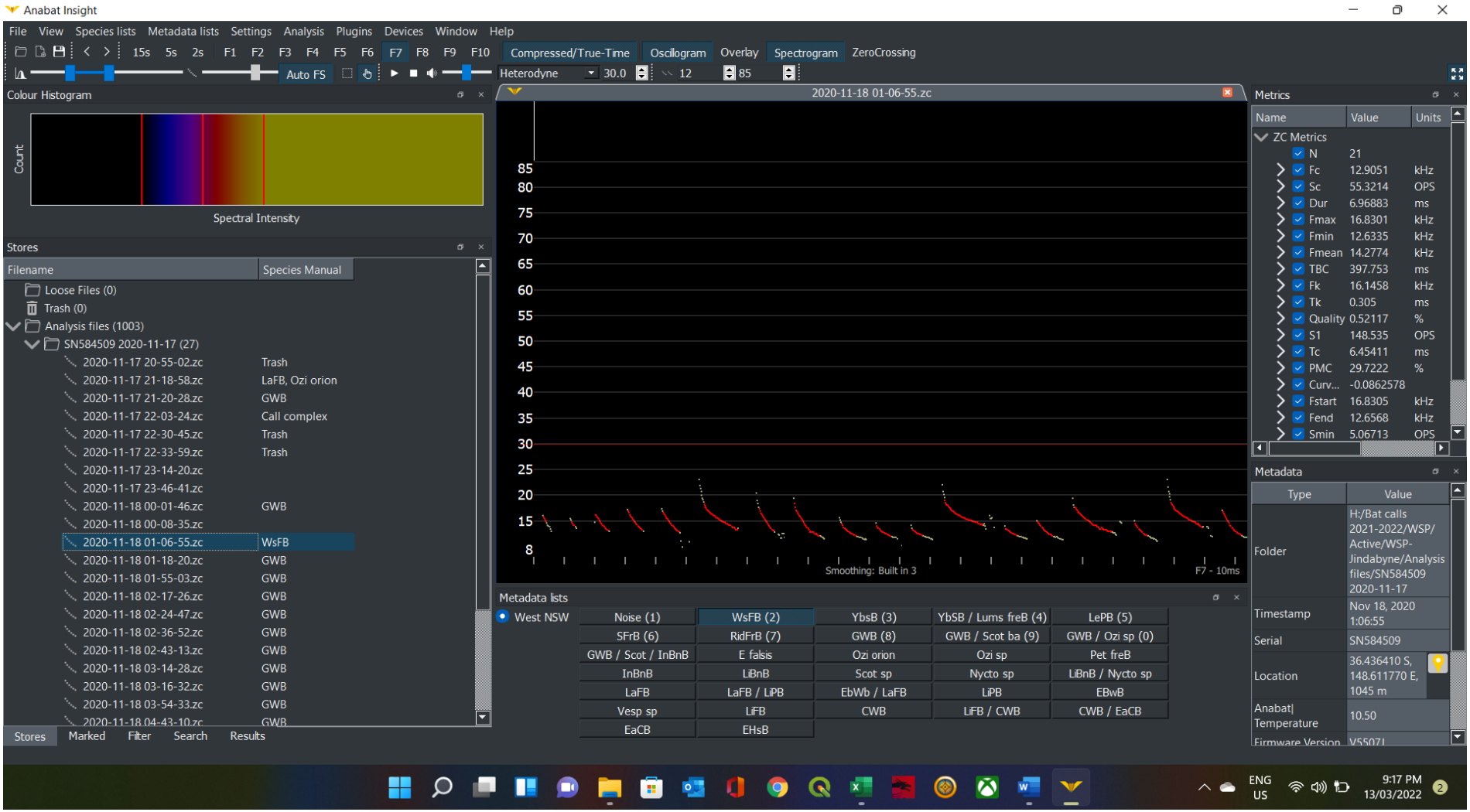

Figure E.7 White-striped Freetail Bat sonogram

Figure E.8 Ride's Freetail Bat sonogram

APPENDIX E-3
Sample photos from camera traps

Photo E.1 Brushtail Possum

Photo E.2 Pied Currawong

Photo E.3 Black Rat

Photo E.4 Sambar Deer

Photo E.5 Brushtail Possum

Photo E.6 Fallow Deer

Photo E.7 Swamp Wallaby

Photo E.8 Eastern Grey Kangaroo

Photo E.9 Fallow Deer

Photo E.10 Common Wombat

Photo E.11 Fallow Deer

Photo E.12 Brushtail Possum

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