

2023

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# Mount Hallowell Bioblitz

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## KOORYUNDERUP



**28th OCTOBER 2023**

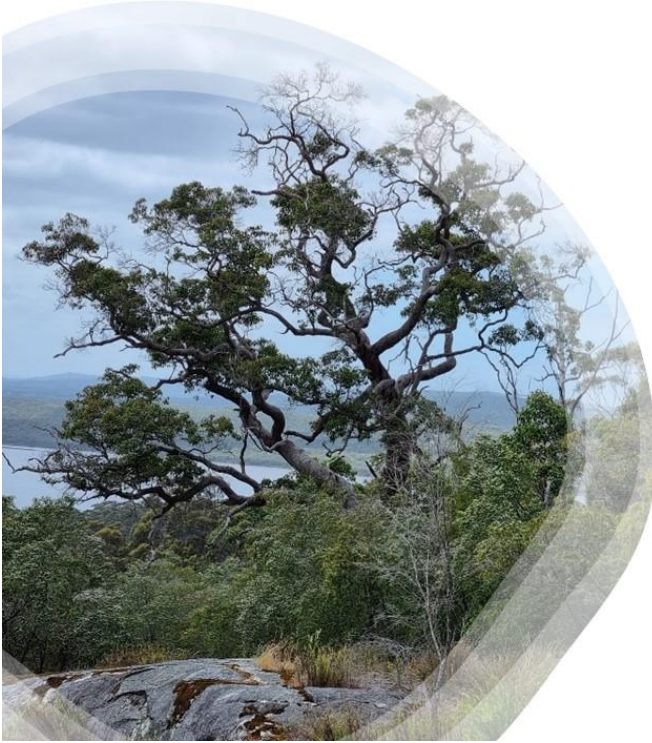
*A citizen science based event coordinated by the Denmark Environment Centre Inc. to document flora, fungi & fauna species within Mount Hallowell (Kooryunderup) Reserve, Denmark WA*



Report prepared by Melissa Howe, Ecological Consultant – December 2023

## ACKNOWLEDGEMENTS

### Acknowledgement of Country



We acknowledge the Pibulmun & Menang people as the original inhabitants & Noongar Traditional Custodians of Mount Hallowell-Kooryunderup. We recognise the rich cultural heritage & significance that this area has for them & their ancestors. We wish to pay respects to them & their ancestors for the continuing culture & care of this land.

Photo credit: @spag-geo, 28<sup>th</sup> October 2023

### Funding support

We are very grateful for the generous funding support provided by Synergy and the Denmark Community Foundation to undertake the inaugural Mount Hallowell Bioblitz 2023.

### Organisers, Team leaders, Tail-end Charlies & Specialists

Thank you to the volunteers and specialists that dedicated their time, energy and expertise as team leaders, assistant leaders, tail-end Charlies (bringing up the rear to accompany the slower and more distractable participants) and specialists that assisted with species identification and provided identification resources and equipment. Many thanks also to Keith Morris (@boobook99 on iNaturalist) for creating the Mount Hallowell (Kooryunderup) Reserve iNaturalist project and to those that have contributed their observations to it.

## Mount Hallowell BioBlitz participants

Many thanks to all participants who were involved in the inaugural Mount Hallowell BioBlitz whether it was in person or your assistance with organisation, identification or evaluation. Your contribution was greatly appreciated.

## Speakers

**Larry Blight** - Noongar Custodian of the Menang people & Aboriginal Tour Guide

**Professor Stephen Hopper** - Conservation Biologist, University of Western Australia

## Bioblitz Leaders

**Ray Lloyd**  
**Melissa Howe**  
**Andrew Dickinson**  
**Phil Runham**  
**Mark Parre**  
**Stephen Hopper**  
**Svetlana Micic**  
**Damien Rathbone**  
**Larry Blight**  
**Sandra Gilfillan**

## Involved organisations

Friends of Mount Hallowell-Kooryunderup  
Denmark FM 99.7  
Denmark Environment Centre  
Denmark Bird Group  
Denmark Primary School  
Kwoorabup Nature School  
Birdlife WA



BioBlitz participants surveying the granite outcrop at Monkey Rock on Mount Hallowell-Kooryunderup with Prof. Stephen Hopper & Menang Custodian Larry Blight.  
Photo: 28<sup>th</sup> October 2023

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## ABOUT THE MOUNT HALLOWELL BIOBLITZ 2023

On the 28<sup>th</sup> of October 2023, 70 participants gathered to be involved in the inaugural Mount Hallowell BioBlitz coordinated by volunteers from the Friends of Mount Hallowell-Kooryunderup and the Denmark Environment Centre.

The BioBlitz comprised a series of surveys conducted in a diversity of vegetation types and habitats within the core of the Mount Hallowell Reserve including jarrah-marri forest, karri forest, and granite outcrops.

There was a mix of activities to cater for differing levels of field experience and fitness. Most activities included “off trail” walking through vegetation and on uneven ground with participants walking from approximately

500m to over 2km. Each group was led by an experienced volunteer or specialist who guided the groups to best document the occurrence of flora, fauna and bird species in the area.

We aimed to capture as much information as possible through the online platform of iNaturalist. This application allowed us to take a photo of a specimen, upload it, then a community of naturalists offered suggestions on its identity – it is a widely recognised database with all observations being collated into the Atlas of Living Australia. This allowed a wider range of participants to contribute to the BioBlitz even from their own home or workplace, originating from anywhere in the world.

You can access the Mount Hallowell BioBlitz 2023 project through this link:

<https://www.inaturalist.org/projects/Mount-Hallowell-bioblitz>



Ray Lloyd demonstrates how to set a fauna camera, with Phil Runham (left) & Tim Gamblin (right) looking on.

## MOUNT HALLOWELL RESERVE – KOORYUNDERUP

The Mount Hallowell Reserve (Kooryunderup) is a 530-hectare area of native remnant vegetation located at Ocean Beach, Denmark Western Australia. It is an 'A' Class reserve vested in the Shire of Denmark for the purpose of Conservation and Recreation and is managed by the Shire of Denmark and local land care groups.

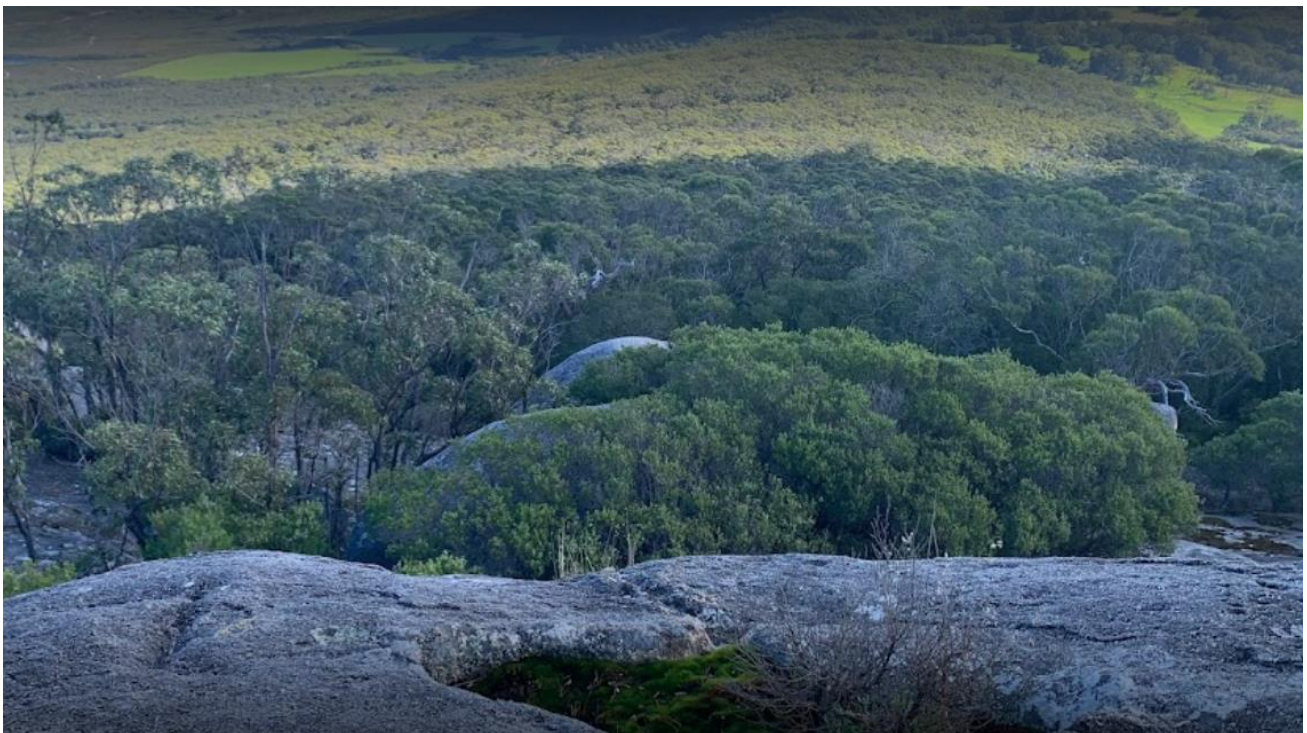
In 1913, part of the Mount Hallowell Reserve was originally gazetted as a timber reserve and then as a Timber and National Park Reserve in 1927. Other parts were vested in the Shire of Denmark for the purpose of Recreation, and 27 hectares was set aside for sand and gravel extraction.

In May 2002, reserves and vacant crown land were amalgamated into one A Class Reserve (R

46618) for the purpose of Conservation and Recreation, originally called Mount Hallowell Nature Reserve, and formally approved as Mount Hallowell Reserve in 2008 by the Department of Land Information.

The summit of Mount Hallowell remains as Crown Land Reserve (R 14239) for the purpose of a trigonometrical station. A trigonometrical station, triangulation pillar or trig point is a fixed surveying station for the geodetic surveying and other surveying projects on nearby areas.

A recreational walk trail known as the Sheila Hill Memorial Trail runs over Mount Hallowell and forms a section of the Bibbulmun Track.



## FIRE HISTORY

In the summer of 1937, a severe fire was reported to have burnt the majority of the Reserve. Fire history records also document a prescribed burn on the north and east side of Mount Hallowell-Kooryunderup in the summer of 1985/1986 which shows approximately two thirds of the reserve was burnt at this time.

Since 1995, two small management burns have also taken place on the north and east edges of Kooryunderup. There was also an accidentally lit fire in February 2022 that local firefighters extinguished with 25-litre water knapsacks and

rake hoes, followed up by a 400-metre line of connected fire hoses and two helicopter waterbombers the next day ensuring it did not flare up again.

Mount Hallowell-Kooryunderup was considered a key benchmark for fire management research as it is one of the few remaining long unburnt karri forest areas in the south-west that remains a 'no planned burn area' (Christensen and Abbott, 1989).



Local firefighter with a 25-litre water knapsack extinguishing the accidentally lit fire on Mount Hallowell-Kooryunderup, 17th February 2023

Photos: Melissa Howe



## ABORIGINAL CULTURAL HERITAGE & SIGNIFICANCE

We acknowledge the Menang and Pibulmun people as the Noongar Traditional Custodians of Mount Hallowell-Kooryunderup and recognise the rich cultural heritage and significance that this area has to them and their ancestors.

Currently, there are no registered Aboriginal Heritage sites within Mount Hallowell-Kooryunderup, although this is not an indication of their absence. Evidence of Noongar cultural heritage can be subtle and a

trained eye is often required to notice significant sites and evidence of Noongar people's use and occupation of natural areas.

There are certainly important cultural sites that exist there which are only starting to be realised and rediscovered. Lizard traps '*kardamia*', water trees '*boorna gnamma*', hollowbutt trees and red ochre '*wilgi*' or '*mirda*' have been found on Mt Hallowell-Kooryunderup indicating a rich Aboriginal cultural history within the area.



Photos: Menang (Noongar Custodian) Larry Blight & Professor Steve Hopper exploring cultural features of Mount Hallowell-Kooryunderup & speaking about the cultural significance.

Photo credit (left-right): Holly Pepper, October 2023; Melissa Howe, November 2021.

## BOORNA GNAMMA →

### Water Tree

tree *boorna*

water *gnamma*

**Boorna gnamma** are trees which have been altered over generations for water storage. Rainfall is directed along funnels in branches into a hollowed-out tree base to fill up the hollow in the tree. This is one of the farming methods of water. They may have used water trees to perform ceremonies.

Source: Lynnette Knapp, Merninger/Menang Elder



UWA Masters Student, Anna Ischenko (left) & Professor Stephen Hopper (right) measure the depth of a 'boorna gnamma' in a Marri tree, Denmark WA.

Photo credit: Denmark Bulletin

## Tree Hollows

The hollowbutts of trees were potentially used as shelters as a location to store gear or cook in wet weather.

## Wilgi or Mirda – Red ochre

Menang Custodian, Larry Blight found red ochre, known as 'wilgi' or 'mirda' in Noongar language, near a granite outcrop on Mount Hallowell-Kooryunderup. Apparently, it does not originate from there but is a substance that was used in ceremonies and would have been taken to the area by Noongar people in times past. It was used ceremonially and medicinally.

## KARDA MIA →

### Lizard Traps

lizard *karda*

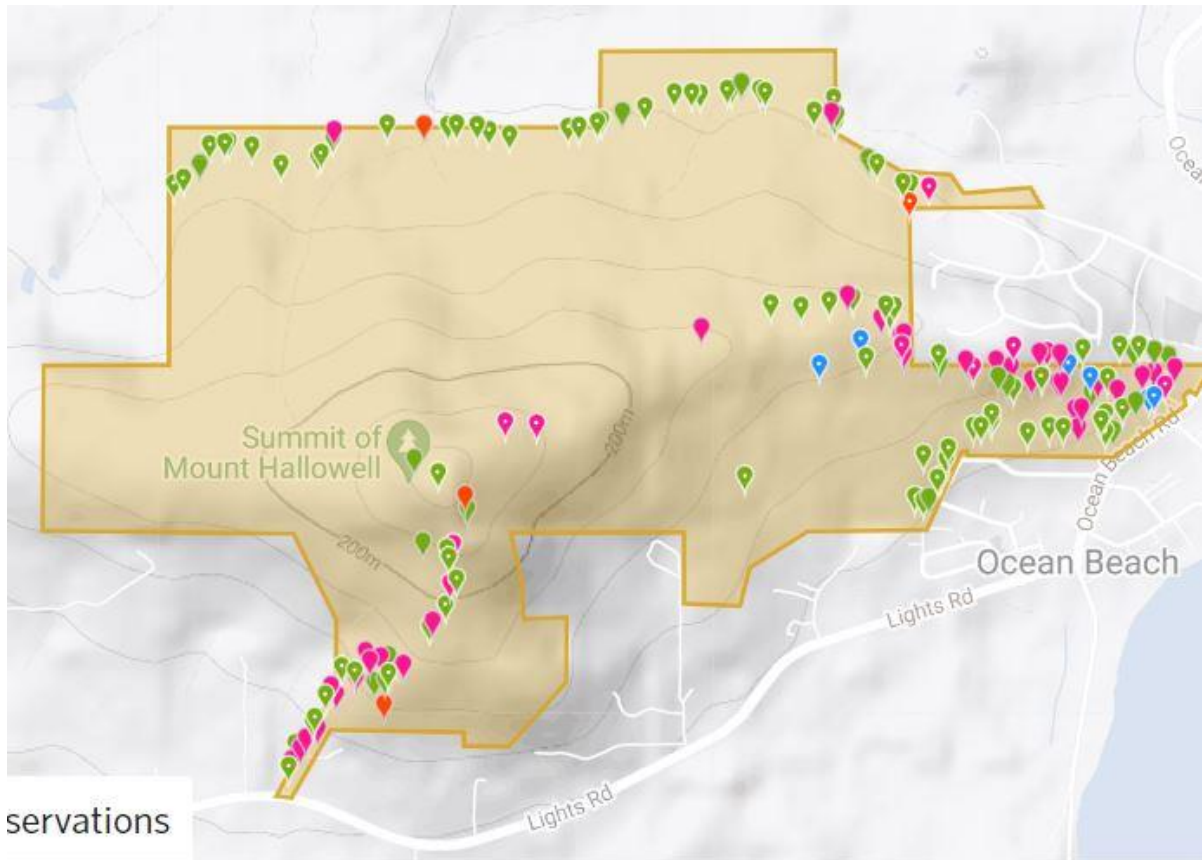
home *mia*

A flat granite rock propped up with a stone to encourage lizards, snakes & other animals to shelter under them & make them easy to find & catch for a feed.

Photo credit: Professor Stephen Hopper



# MAP OF MOUNT HALLOWELL RESERVE AREA & BIOBLITZ LOCATION



## SURVEYING, RECORDING AND IDENTIFICATION

The Mount Hallowell BioBlitz surveys were undertaken by numerous groups of up to 10 individuals in different vegetation and habitat types throughout the Mount Hallowell Reserve. Within each group there was an experienced volunteer or specialist who guided the groups to best capture the presence of flora, fauna and fungi species in the area. Most surveys were about 3 hours duration.

It is not intended that the BioBlitz be regarded as a formal or comprehensive study of the species occurring within the area. Many species were identified by photographs only and were not collected or vouchered (submitted to specialists for identification).

Limited skills and knowledge of some participants may have resulted in some errors in species identifications.

To counter this, there were experienced plant botanists, Entomologists, Ecologists and Zoologists with experience in the region that made efforts to assist with species identifications and curate the data at basecamp or subsequently through the iNaturalist platform.

Numerous nocturnal and cryptic species known to occur in the area would not have been adequately accounted for, apart from species detected by fauna motion cameras set in place before the BioBlitz in October 2023.

*"Mount Hallowell Reserve is a special place with a variety of habitats, most of which are in excellent condition. We need to learn as much about its biological diversity as possible."*  
Mount Hallowell Bioblitz participant.



Basecamp for Mount Hallowell-Kooryunderup Bioblitz.

Photo: Holly Pepper, October 2023.

## FLORA, FAUNA & FUNGI AT A GLANCE...

The Mount Hallowell Bioblitz and the Mount Hallowell (Kooryunderup) Reserve iNaturalist project has captured species observations on the day of the Bioblitz and other observations over many years. The Mount Hallowell Reserve Management Plan (Green Skills, 2008) species lists have been combined with these iNaturalist projects in this report to provide a more comprehensive list of flora, fauna and fungi species identified to date. Numerous species that haven't been documented in the Management Plan have been observed.

The species lists combined have documented:

- **467** flora species
- **251** fungi species documented within the 2008 Management Plan
- **77** fungi species documented on iNaturalist (not cross-referenced to date)
- **82** bird species
- **18** mammal species, including **4** introduced mammal species
- **12** native reptile species
- **5** amphibian species
- **34** arachnid species
- **106** insect species
- **12** 'other invertebrate' species

The Mount Hallowell (Kooryunderup) Reserve iNaturalist project can be accessed at:

<https://www.inaturalist.org/projects/Mount-Hallowell-kooryunderup-reserve>

*See Appendices 2 – 10 for species lists divided by major group.*

## MOUNT HALLOWELL BIOBLITZ SPECIES OBSERVATIONS'

### iNaturalist species observations

- ✦ **367** observations have been made
- ✦ **158** species have been identified
- ✦ **29** observers uploaded their observations
- ✦ **86** identifiers joined the project
- ✦ **618** identifications have been made

Statistics current as of 1<sup>st</sup> December 2023

MOUNT HALLOWELL BIOBLITZ 2023

Pie chart of Mount Hallowell-Kooryunderup Bioblitz Species Observations

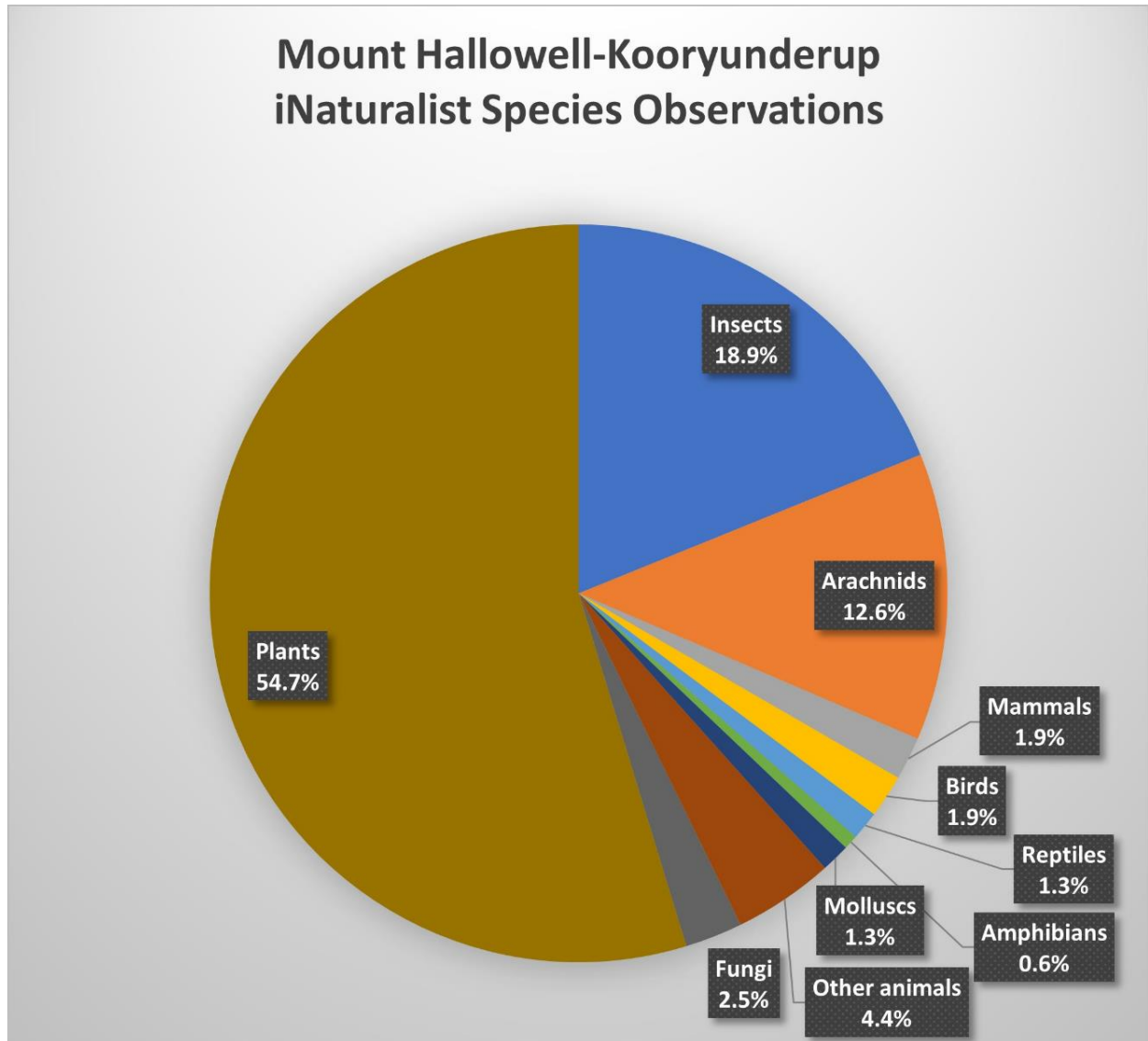


Table of Mount Hallowell-Kooryunderup Bioblitz Species Observations

MOUNT HALLOWELL-KOORYUNDERUP BIOBLITZ SPECIES OBSERVATIONS*					
SPECIES GROUP	% OBSERVED	NO. SPECIES	OBSERVATIONS	OBSERVERS	IDENTIFIERS
Amphibians	0.6%	1	7	5	4
Arachnids	12.6%	20	56	10	18
Birds	1.9%	3	4	3	2
Fungi	2.5%	4	12	4	7
Insects	18.9%	30	82	12	39
Mammals	1.9%	3	8	3	3
Molluscs	1.3%	2	9	5	4
Other animals	4.4%	7	21	9	12
Plants	54.7%	87	163	26	28
Reptiles	1.3%	2	3	3	2

\*Statistics current as of 1<sup>st</sup> December 2023.

## MOUNT HALLOWELL BIOBLITZ 2023

In total, approximately 38.63% of observations have been identified to species level and qualified as research grade. This equates to 141 observations making up 85 species with 24 observers and 41 identifiers.

Approximately 61.37% of observations have been identified to genus or species level but need to be verified by an additional identification and/or to species level. This equates to 224 observations making up 81 species with 26 observers and 60 identifiers.

*“More than finding a new species, more than finding a threatened species, I feel the greatest value of a bioblitz is in sharing the bush experience with others. Its swapping knowledge and stories or just simply being with people in the bush and demonstrating to the broader community that we consider that patch significant and worth protecting.”*

Tim Gamblin

Biodiversity Officer (Wilson Inlet Catchment Committee), Fauna Consultant & Bioblitz Leader

## FLORA SPECIES OBSERVATIONS

Flora species documented within Mount Hallowell-Kooryunderup

To date, there are 467 flora species documented as occurring within the Reserve. Of these, 347 flora species were listed in the 2008 Mount Hallowell Reserve Management Plan and 120 additional flora species have been documented subsequently as part of the Bioblitz and the Mount Hallowell (Kooryunderup) Reserve species observations on iNaturalist.

87 flora species were documented during the BioBlitz and uploaded to iNaturalist.

See Appendix 2: Flora species list – Mount Hallowell-Kooryunderup.

Flora species observed during the Bioblitz

### iNaturalist flora species observations

- ✦ 87 flora species have been identified to species level
- ✦ 163 observations have been made
- ✦ 26 observers uploaded their observations
- ✦ 28 identifiers joined the project to assist

Statistics current as of 1<sup>st</sup> December 2023

## MOUNT HALLOWELL BIOBLITZ 2023

### Threatened & priority flora species within Mount Hallowell–Kooryunderup

The Commonwealth’s Environmental Protection and Biodiversity Conservation (EPBC) Act 1999 and WA’s Biodiversity Conservation (BC) Act 2016 (DBCA, 2023) provide a listing of threatened flora species. Flora species may also be listed under the Department of Biodiversity, Conservation and Attractions (DBCA) priority list.

There are numerous flora species listed under the EPBC Act, BC Act and Priority list that are known to occur, likely to occur or may occur in the Reserve (DCEEW, 2023; DBCA, 2022).

To date, there haven’t been any threatened flora species (also known as Declared Rare Flora (DRF)) documented within the Reserve, although there are 7 priority flora species occurring within the Reserve that are poorly known, rare, near threatened or other species

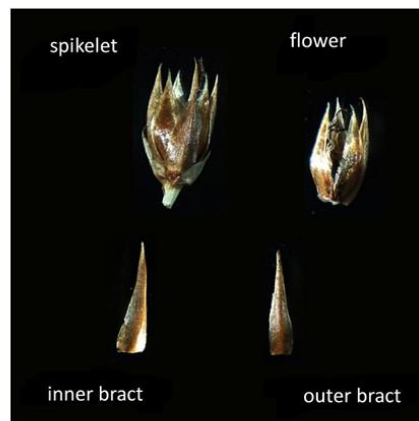
in need of monitoring (Green Skills, 2008; iNaturalist, 2023).

The 7 priority flora species known within the Reserve include:

- Priority 2 flora species: *Lepyrodia extensa*
- Priority 3 flora species: *Anthocercis sylvicola* (Tailflower)
- Priority 3 flora species: *Goodenia* sp. South Coast
- Priority 3 flora species: *Leucopogon alternifolius*
- Priority 4 flora species: *Banksia serra* (Serrate-leaved Dryandra)
- Priority 4 flora species: *Drosera fimbriata* (Manypeaks Sundew)
- Priority 4 flora species: *Pleurophascum occidentale* (Western Giant-leaved Moss)

## PRIORITY 2 FLORA

### *Lepyrodia extensa* RESTIONACEAE



#### POORLY KNOWN

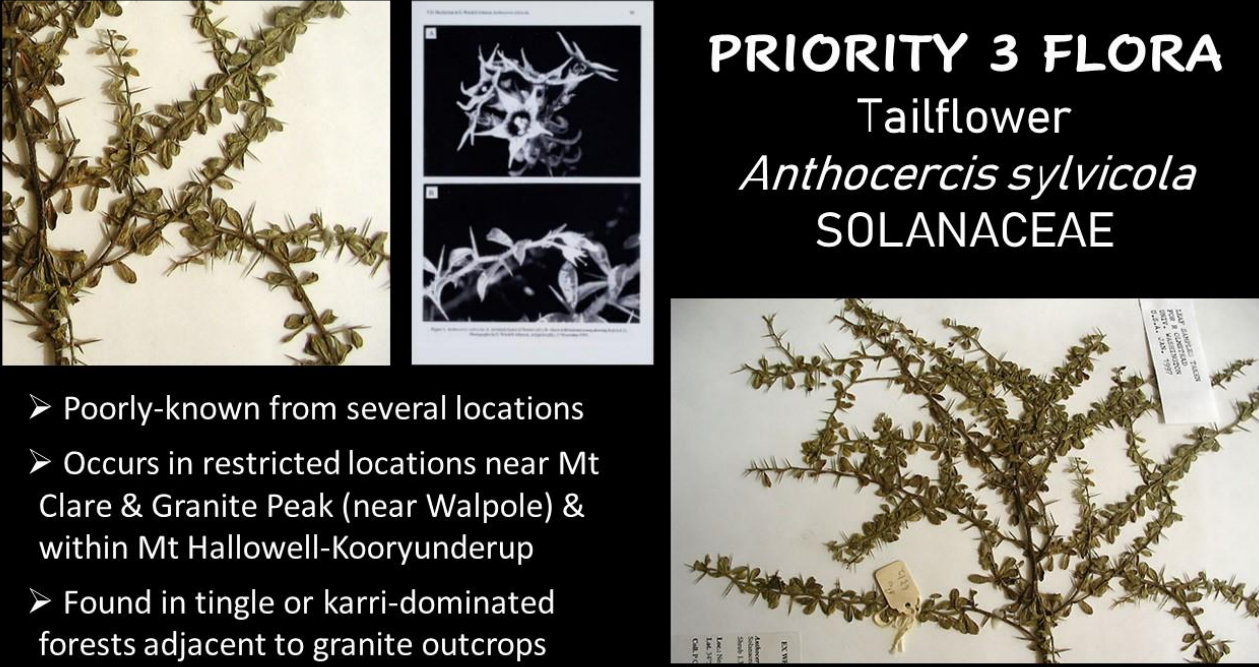
#### ONLY KNOWN FROM ONE OR A FEW POPULATIONS

- Herb (sedge-like) approx. 0.3 m high
- Sand & sandy peat
- Seasonally inundated swamps

**Description:** Herb (rush), up to 0.4 metres high. Lower slope, sandy surface & sandy peat. Seasonally inundated swamps.

**Source:** <https://florabase.dbca.wa.gov.au/browse/profile/17954> & Johnson & Briggs (1995).





**PRIORITY 3 FLORA**  
Tailflower  
*Anthocercis sylvicola*  
SOLANACEAE

- Poorly-known from several locations
- Occurs in restricted locations near Mt Clare & Granite Peak (near Walpole) & within Mt Hallowell-Kooryunderup
- Found in tingle or karri-dominated forests adjacent to granite outcrops

Description: Shrub, 0.45-1.3 metres high. Flowers yellow & purple, October. Sand.  
Source: <https://florabase.dbca.wa.gov.au/browse/profile/16321>  
Photo credit: Grant Wardell-Johnson



Photo credit: @boobook99



**PRIORITY 4 FLORA**  
Rare, near threatened or other  
species in need of monitoring

**MANYPEAKS SUNDEW**  
*Drosera fimbriata*

**Description:**  
Erect tuberous, perennial, herb, 0.05-0.15 metres high. Flowers white, September to October. White sand, granite.

**Source:**  
<https://florabase.dbca.wa.gov.au/browse/profile/3096>

**PRIORITY 4 FLORA**

***Banksia serra***

**Serrate-leaved Dryandra**

Rare, near threatened or other species in need of monitoring

- Erect, slender, non-lignotuberous shrub
- 1 to 4 (up to 7) metres high
- Flowers yellow/cream-green, July to September
- Gravel, sand or clay loam over laterite. Hillslopes.

**Source:**

<https://florabase.dbca.wa.gov.au/browse/profile/32084>



## FUNGI SPECIES, INCLUDING LICHEN

### Fungi species documented within Mount Hallowell-Kooryunderup

251 macrofungi and lichen species have been documented in the 2008 Management Plan and 77 fungi and lichen species have been uploaded and identified subsequently as part of the Mount Hallowell (Kooryunderup) Reserve Project on iNaturalist.

These lists have not yet been combined in the Appendices and only the fungi species observed on iNaturalist are listed. Refer to Mount Hallowell Management Plan for a more extensive list of fungi and lichen species.

Some native animals depend on fungi as part of their diet such as the Southwestern Brown Bandicoot (*Isodon fusciventer*) and the Bush Rat (*Rattus fuscipes*) and they are also important vectors for fungi spore dispersal.

Three rare species are documented in the 2008 Management Plan. *Leucopaxillus liacinus* and an *Amanita* sp. “pink gills” that was collected in 1992 by Katrina Syme which is the only time she has seen them anywhere (Katrina Syme, pers. comm). Also, the Priority 2 fungi species *Amanita walpolei* was listed as occurring within Mount Hallowell.

4 fungi species were documented during the BioBlitz and uploaded to iNaturalist:

- Orange Fan: *Anthracophyllum archeri*
- Southern Cinnabar Polypore: *Trametes coccinea*
- Common Lichens: Lecanoromycetes (Class)
- Hymenochaetaceae (Family)

See Appendix 3: Fungi species list – Mount Hallowell-Kooryunderup.

Fungi species observed during the Bioblitz

**iNaturalist fungi species observations**

- ✦ 4 fungi species have been identified to species level
- ✦ 12 observations have been made
- ✦ 4 observers uploaded their observations
- ✦ 7 identifiers joined the project to assist

Statistics current as of 1<sup>st</sup> December 2023

## MACROFUNGI GROUPS

### MOUNT HALLOWELL-KOORYUNDERUP

- earthstars
- puffballs
- coral fungi
- truffles
- jelly fungi
- gilled fungi on stalks
- pored fungi on stalks
- bracket fungi
- paint fungi
- polypores



@boobook99



@mitsymay



@boobook99



@boobook99



@porpoloma



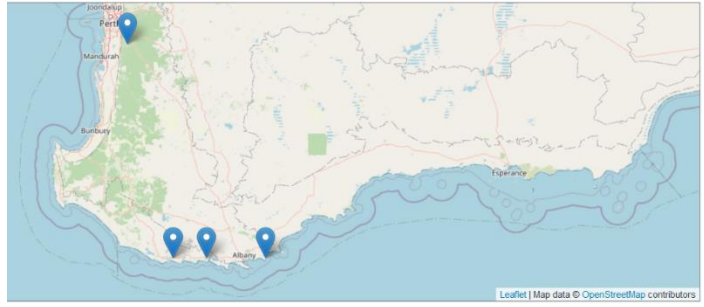
@tahnaya

### *Cortinarius hallowellensis*

*Cortinarius hallowellensis* is a fungus native to Western Australia and Tasmania. It was collected within Mount Hallowell and described in 2009 by Alec Wood and is related to the northern hemisphere species *Cortinarius violaceus*. The main species in the

North America group, *Cortinarius monticola*, has also been identified, but has not been found in Australia. Despite this relative isolation, there is genetic interchange between the North American species and the Australian species.

MOUNT HALLOWELL BIOBLITZ 2023



Collection of *Cortinarius hallowellensis* and records of distribution

Source: <https://florabase.dbca.wa.gov.au/browse/profile/48174>

**MACROFUNGI OF MOUNT HALLOWELL RESERVE**

Photos (clockwise from top left):

- Geastrum javanicum*
- Cortinarius hallowellensis*
- Leucopaxillus lilacinus* (drawing)
- Elaphomyces chlorocarpus*
- Amanita arenaria*
- Amanita walpolei*

Photos & drawing credit: Katrina Syme

A collage of six images showing various macrofungi. The top-left image shows a cluster of star-shaped, cream-colored mushrooms (Geastrum javanicum). The top-right image shows a purple mushroom with a dark cap (Cortinarius hallowellensis). The middle-left image shows a drawing of a mushroom with a white cap and gills (Leucopaxillus lilacinus). The middle-right image shows a drawing of a mushroom with a pinkish-red cap and gills (Amanita arenaria). The bottom-left image shows a mushroom with a white cap and gills (Amanita walpolei). The bottom-right image shows a cross-section of a mushroom with a white interior and a dark, mossy exterior (Elaphomyces chlorocarpus).



@boobook99



@tahnaya



@mitsymay



@mitsymay



@boobook99

## FUNGI

Mt Hallowell-  
Kooryunderup  
on iNaturalist



@mitsymay

## FAUNA SPECIES

### Fauna species documented within Mount Hallowell-Kooryunderup

To date, there are 270 fauna species documented as occurring within the Reserve. Many fauna species were already listed in the 2008 Management Plan, although numerous additional fauna species have been documented subsequently as part of the Mount Hallowell Bioblitz and the Mount Hallowell (Kooryunderup) Reserve species observations on iNaturalist.

From the Bioblitz, 67 fauna species were observed, uploaded and identified on iNaturalist.

### Fauna species observed during the Bioblitz

#### iNaturalist fauna species observations

- ✦ 67 fauna species have been identified to species level
- ✦ 190 observations have been made
- ✦ 19 observers uploaded their observations
- ✦ 60 identifiers joined the project to assist

Statistics current as of 1<sup>st</sup> December 2023

## MOUNT HALLOWELL BIOBLITZ 2023

### Threatened, priority & other specially protected fauna within Mount Hallowell-Kooryunderup

The Commonwealth's Environmental Protection and Biodiversity Conservation (EPBC) Act 1999 and WA's Biodiversity Conservation (BC) Act 2016 (DBCA, 2023) provide a listing of threatened fauna species. Fauna species that are poorly known, rare, near threatened or other species in need of monitoring are listed under the Department of Biodiversity, Conservation and Attractions (DBCA) Priority List.

There are several fauna species listed under the EPBC Act, BC Act and Priority list that are known to occur in the Mount Hallowell-Kooryunderup Reserve (DCEEW, 2023; DBCA, 2022).

The Reserve is also host to numerous endemic fauna species with limited distributions and specific habitat requirements that only occur in the southwest of Western Australia.

There are 6 threatened fauna species documented within the Mount Hallowell-Kooryunderup Reserve.

These are:

- Baudin's Cockatoo (*Zanda baudinii*) (Endangered, WA & Nationally)
- Carnaby's Cockatoo (*Zanda latirostris*) (Endangered, WA & Nationally)
- WA Pill Millipede (*Cynotelopus notabilis*) (Endangered, WA)
- Forest Red-tailed Black-cockatoo (*Calyptorhynchus banksii naso*) (Vulnerable, WA)
- Main's Assassin Spider (*Zephyrarchaea mainae*) (Vulnerable, WA)
- South-western Brush-tailed Phascogale (*Phascogale tapoatafa wambenger*) (Conservation dependent, WA)

The Southwestern Brown Bandicoot (*Isodon fusciventer*) and Western False Pipistrelle (*Falsistrellus mackenziei*) are listed as a Priority 4 species and are also present within the Reserve.

*See Appendix 1: Conservation codes for Western Australian fauna.*

*See Appendices 4 through to 10 for fauna species lists divided by major group.*

## BIRDS

### Bird species documented within Mount Hallowell-Kooryunderup

There are 82 bird species documented as occurring within Mount Hallowell-Kooryunderup Reserve.

Of these, 72 bird species were listed in the 2008 Mount Hallowell Reserve Management Plan and 48 bird species have been

documented subsequently as part of the Bioblitz and Mount Hallowell (Kooryunderup) Reserve Project on iNaturalist. Several of these species had not been previously identified as occurring within the Reserve, although some were considered likely due to their presence nearby or locally known to occur there, such as

## MOUNT HALLOWELL BIOBLITZ 2023

the 'endangered' Carnaby's Cockatoo (*Zanda latirostris*).

- Galah\*: *Eolophus roseicapilla* (\*non-native)
- New Holland Honeyeater: *Phylidonyris novaehollandiae*
- Western Rosella: *Platycercus icterotis*

Only 3 bird species were documented during the BioBlitz and uploaded to iNaturalist:

### Bird species observed during the Bioblitz

#### iNaturalist bird species observations

- ✦ 3 bird species have been identified to species level
- ✦ 4 observations have been made
- ✦ 3 observers uploaded their observations
- ✦ 2 identifiers joined the project to assist

Statistics current as of 1<sup>st</sup> December 2023

### Threatened & priority birds within Mount Hallowell-Kooryunderup

Three threatened bird species were identified within Mount Hallowell-Kooryunderup Reserve before and during the BioBlitz.

These were:

- Baudin's cockatoo (*Zanda baudinii*) – Endangered (WA and Nationally)
- Carnaby's Cockatoo (*Zanda latirostris*) – Endangered (WA and Nationally)
- Forest Red-tailed Black-cockatoo (*Calyptorhynchus banksii naso*) – Vulnerable (WA & Nationally)

Mount Hallowell comprises high quality breeding habitat for both Carnaby's and Baudin's Cockatoo. In addition, the area would have ample foraging habitat as well within close proximity to the breeding site as these are closely related.

Several Baudin's cockatoo breeding pairs were found at Mount Hallowell during the 2023 Bioblitz and subsequent surveys. The Baudin's Cockatoo is an endangered species endemic to WA. With only a few thousand individuals left in the wild, any breeding habitat for the species is of critical importance.

Several Carnaby's cockatoo pairs were found to breed in the Karri present on Mount Hallowell as well. This species is endangered and its breeding habitat is protected.

Having Baudin's and Carnaby's breed in such proximity to one another at the same site is quite unique. This illustrates that the site is incredibly important for at least two endangered Black-cockatoo species.

**Dr. Sam Rycken, WA Carnaby's Black Cockatoo Coordinator, Birdlife WA**

*MOUNT HALLOWELL BIOBLITZ 2023*

No priority bird species were known to be observed or identified during the Bioblitz.

See Appendix 4: Bird species list - Mount Hallowell-Kooryunderup

**DOCUMENTING BLACK-COCKATOO NESTING TREES, MOUNT HALLOWELL-KOORYUNDERUP**  
Sam Rycken, Black-cockatoo Project Coordinator from Birdlife WA



Photos: Melissa Howe, 15<sup>th</sup> November 2023

**NJOO LARK**

Baudin's Cockatoo *Zanda baudinii*

**ENDANGERED (WA & Nationally)**

**CRITICALLY ENDANGERED (IUCN Redlist, 2021)**



Photo credit: Tony Kirkby





## Black-cockatoos depend on nesting hollows to breed

Analyses show that trees with hollows large enough for use by Baudin's cockatoo may be between 200 and 500 years of age (Johnstone et al., 2002).

### Description

- Large bird 50-57 cm with a wingspan of approximately 110 cm, and a mass of 560–770 g
- Mostly dull black in colour, with pale whitish margins on the feathers, large, rounded patches (white to yellowish-white in the female and dusky-white to brownish-white in the male) on the ear coverts, and rectangular white panels in the tail.
- Very similar to Carnaby's Cockatoo, but has a long, finely curved, narrow bill adapted to removing seeds from the deep seed-capsules of the marri nut
- **Male:** Distinctive red orbital eyering & dark grey beaks
- **Female:** Dull grey eyering & light grey beaks
- Juvenile birds are like the adults in appearance, but the bill of the juvenile male is like that of the adult female

### Distribution

- Endemic to southwest WA
- Found from as far north as Muchea & east near Wandering, throughout the Darling Range near Perth to the Stirling Range and Albany on the South Coast across to Augusta in the west
- The deeper southwest has the highest concentration of the population

### Habitat

- Heavier forested areas of southwest WA, mainly in karri, jarrah & tingle forests and woodlands, although they utilise other habitat types

### Diet

- Feed on seeding Marri, Jarrah, Banksia, Snottygobble, nectar, wood-boring larvae and orchard fruits and seeds. Predominantly jarrah and marri seeds.

### Breeding

- Breeds from August/September to February/March
- They form permanent pairs
- Require large tree hollows to breed, mainly in jarrah, marri and karri trees
- Clutch size is 1 or 2, but usually only 1 chick survives
- Low rate of reproduction (0.6 chicks per year)
- After breeding, they flock together and fly north to the Darling Range or east to forests of the Stirling Ranges
- Breeding areas in Denmark and Mount Hallowell-Kooryunderup

### Population

- They have endured a population decrease of 90% over the last three generations
- The population is now estimated at just 2,500 to 4,000 mature individuals with a declining trend

## NJOOLARK

Carnaby's Cockatoo *Zanda latirostris*

ENDANGERED (WA & Nationally)

ENDANGERED (IUCN Redlist, 2022)



LEFT: Female Carnaby's Cockatoo in nesting hollow in Mount Hallowell-Kooryunderup Reserve.  
Photo credit: Kirsty Anderson



RIGHT: A Mature male Carnaby's Cockatoo distinguished by a dark beak & pink eye-ring.  
Photo credit: Tony Kirkby

### Description

- Large bird between 54-56 cm in length, with a wingspan of approximately 110 cm, and a mass of 520 to 790 g
- It is mostly brownish-black or greyish-black in colour with narrow off-white margins on the feathers; a large patch over the ear coverts that is off-white or cream to brownish-white in males and yellowish-white (and slightly larger) in females; and broad white panels in the tail
- Very similar to Baudin's Cockatoo, but with a shorter, broader bill adapted for cracking seed-capsules
- **Male:** Distinctive red orbital eye-ring, dark grey beaks, dull white ear-patch, less distinct feather margins

- **Female:** Dull grey eye-ring, light grey beaks, clear white ear-patch, broader pale margins to breast feathers
- **Juveniles:** Very similar in appearance to the adult female but are best distinguished by the harsh rasping calls that are emitted continuously when begging for food; the narrower and more pointed shape of the folded primaries; and the smooth (as opposed to flaky) texture of the bill
- Lifespan between 25–50 years

### Distribution

- Endemic to southwest WA
- Found throughout north & central Swan Coastal Plain, including Yanchep & Gnarup pine plantation, southern Wheatbelt region, including Stirling Ranges, Fitzgerald River & woodlands in the eastern Wheatbelt east of Hyden

## MOUNT HALLOWELL BIOBLITZ 2023

### Habitat

- Open forests, woodlands, scrublands wheatbelt & sandplain areas (heathland)
- Also found in southwest forests

### Diet

- Feed mainly on proteaceous species including Banksias, Hakeas and Grevilleas as well as seeding Marri, Jarrah, bottlebrushes, pinecones & fruit trees
- They also eat nectar from flowers and insect larvae

### Breeding

- Breeds from July/August to January/February
- Mainly in wheatbelt, but breeding records in Denmark and Mount Hallowell-Kooryunderup
- They form permanent pairs
- Clutch size is 2, incubated by the female only, for a period of 28 to 29 days

- The young depart the nest 10–12 weeks after hatching
- Often leave breeding grounds between January to April
- Require habitat that combines their nest sites, primarily Wandoo & food plants

### Population

- It is estimated that their population has decreased by over 50% in the last 200 years since European settlement
- Much of the remaining population is now getting old & beyond the breeding age, meaning that there may be very few younger birds to take their place
- In 2010 it was estimated that there were about 40,000 birds left in the wild (DPaW 2013), with medium reliability, and declining (Garnett et al. 2011).

## KARRAK

Forest Red-tailed Black-cockatoo *Calyptorhynchus banksii naso*

VULNERABLE (WA & Nationally)



Left: Female in flight near Mount Hallowell-Kooryunderup.

Right: Family of three; Female (behind left), male (front left) & juvenile (right below).

Photo credit: Susan Hawson

### Description

- Large bird, 53–55 cm in length, weighing between 600–610 g
- **Male:** Glossy black except for bright orange-red band towards tip of tail, bill dark grey or blackish.
- **Female:** Duller black, head & wing coverts spotted with pale yellow; breast & belly barred with orange-yellow-cream; tail narrowly banded with orange-yellow (more orange) on undertail coverts; bill pale greyish white.
- **Juveniles:** Similar to female except for less pale-yellow spots on head, cheeks & wings, dull pale-yellow bars on breast & belly, outer tail feathers brightly barred with red or orange-red (little or no yellow) & bill dark grey or blackish.

### Distribution

- Endemic to southwest WA
- Perth hills, North Bannister, Margaret River area, down to Albany, Denmark and Walpole in the south

### Habitat

- Eucalypt forests, particularly jarrah-marri forests

### Diet

- Feed predominantly on seeding Marri & Jarrah, sometimes Blackbutt, Sheoak & Snottygobble, also some ornamental eucalypts & introduced Cape Lilac.

### Breeding

- Peak breeding time is usually October/November but with good rainfall they may breed in March/April
- Can breed year round

## MOUNT HALLOWELL BIOBLITZ 2023

### Population

- There are 3 subspecies of Red-tailed Black Cockatoo in WA
- Only the south-western population 'naso' is listed as Vulnerable

- Current population is estimated to be 15,000 birds, with a declining trend, an estimate of medium reliability (Garnett et al. 2011).

### Indicators of breeding & nesting behaviour:

- Keep a look out for pairs of Black-cockatoos flying together and inspecting tree hollows
- Lone male birds flying or perched calling and flocks of mostly males out feeding is a good indicator females are breeding in the nearby area
- Male Black-cockatoos will feed the female several times a day when she is nesting
- The female will come out of the nesting hollow to get a feed from the male and they will usually stay close to the nest tree during feeding
- Freshly chewed marks around the entrance of hollows can indicate a tree used for nesting
- Juvenile Black-cockatoos will stay with their parents for 12 months or more after fledging
- There is evidence to suggest that if a pair raises a chick successfully in a hollow, they will likely try and use the same hollow again next time they nest. If the chick does not survive, they will try a different hollow, usually nearby.

## MAMMALS

### Mammal species documented within Mount Hallowell-Kooryunderup

There are 18 mammal species documented as occurring within the Reserve.

Of these, 9 mammal species were listed in the 2008 Management Plan and 11 mammal species have been documented as part of the Bioblitz and Mount Hallowell (Kooryunderup) Reserve Project on iNaturalist.

9 mammal species were documented during the BioBlitz and uploaded to iNaturalist:

- Australian Bush Rat: *Rattus fuscipes*
- Common Brushtail Possum: *Trichosurus vulpecula*
- Western Grey Kangaroo: *Macropus fuliginosus*

- *White-striped Free-tailed Bat: *Austronomus australis**
- *Gould's Wattled Bat: *Chalinolobus gouldii**
- *Chocolate Wattled Bat: *Chalinolobus morio**
- *Western False Pipistrelle: *Falsistrellus mackenziei* (Priority 4 fauna)*
- *Lesser Long-eared Bat: *Nyctophilus geoffroyi**
- *Southern Forest Bat: *Vespadelus regulus**

Most of these mammal species, except for the bat species, have been previously identified as occurring within the Reserve. There are 8 bat species recognised in southwest WA and 6 of

## MOUNT HALLOWELL BIOBLITZ 2023

these have now been documented within the Reserve.

Additional species known to occur in the Reserve include the 'conservation dependent' South-western Brush-tailed Phascogale (*Phascogale tapoatafa wambenger*) known as 'wambenger' to the Noongar people and

Quenda or Southwestern Brown Bandicoot (*Isoodon fusciventer*), a Priority 4 fauna species. They have been included in the mammal species list.

See Appendix 5: Mammal species list - Mount Hallowell-Kooryunderup

### Mammal species observed during the Bioblitz

#### iNaturalist mammal species observations

- ✦ 3 mammal species have been identified to species level
- ✦ 8 observations have been made
- ✦ 3 observers uploaded their observations
- ✦ 3 identifiers joined the project to assist

Statistics current as of 1<sup>st</sup> December 2023

## KOOMAL

### Common Brushtail Possum *Trichosurus vulpecula*



#### Description

- Varies in size and colour, but generally silver-grey above and white to pale grey below with long oval ears
- Head and body length: 350-550 mm
- Tail length: 250-400 mm varies from being bushy to sparsely furred

- Female weight: 1,200-3,500 g
- Male weight: 1,300-4,500 g

#### Habitat

- Lives in open forests, woodlands, heath and some urban areas

#### Distribution

## MOUNT HALLOWELL BIOBLITZ 2023

- Found in QLD, NSW, Vic, SA, Tas, WA and NT
- Rare in central and arid Australia, abundant in south-eastern Australia but declining elsewhere
- Also found in NZ (introduced in 1840)

### Diet

- Leaves, flowers, fruit, invertebrates, bird eggs and occasionally meat

### Behaviour

- Predominantly arboreal
- Nocturnal and during the day they retreat to a den in a hollow log, branch, tree trunk or any dark area and inside house roofs
- Home ranges vary from 0.2-4 individuals per hectare
- Longevity is usually less than 11 years

### Communication

- Remains in contact with its group through sounds and scents

- Deep guttural coughs and sharp hisses or piercing screeches are frequent at times, particularly during the breeding season, to establish territories and warn of danger

### Breeding

- Major autumn and minor spring breeding season
- Females begin to reproduce at about 1-year old
- A single young is born about 16-18 days after copulation and spends 4-5 months in the pouch
- A further 1 or 2 months are spent in the pouch or riding on the mother's back before weaning is completed

### Predators

- Main predators include dingoes, foxes, cats, pythons and large monitors

# MARDO

Yellow-footed Antechinus

*Antechinus flavipes*



## Description

- Mardos are predominantly nocturnal, carnivorous marsupials between the size of a mouse and a small rat
- **Males:** Head and body length is 93-165 mm with a tail length of 70-151 mm & average weight of 56 g
- **Females:** Head and body length are 86-127 mm with a tail length of 65-107 mm and average weight of 34 g
- Their fur is slate-grey with some reddish-brown towards the rump and feet
- They have prominent light eye rings and black-tipped tail
- They have pointed heads with dark eyes, large ears & feet with small, sharp claws on dexterous toes
- They can move fast, and their movement is often jerky and erratic

## Distribution

- They are found from north-eastern QLD to southwest WA in a range of diverse habitats
- In southwest WA, they are found in jarrah, karri and tingle forests, woodlands, heath and coastal vegetation along the southern coast

## Diet

- Consists mainly of invertebrates but also includes flowers, nectar, small birds, reptiles and mammals, such as mice

## Breeding

- They nest in small hollows and crevices
- Breeding takes place in late winter with up to 12 young born about 4 weeks later
- All males die shortly after mating

## Threatened & priority mammals within Mount Hallowell-Kooryunderup

### WAMBENGER

South-western Brush-tailed Phascogale  
*Phascogale tapoafata wambenger*

**CONSERVATION DEPENDENT (WA)**  
**NEAR THREATENED (IUCN Redlist)**

One of the thylacine's close living relatives, last sharing a common ancestor 35-46 million years ago.

'*Phascogale*' coined in 1824 by Dutch aristocrat, zoologist, and museum director, Coenraad Jacob Temminck means "pouched weasel".



Photo credit: Tim Bawden



Photo credit: Sheila Murray



## MOUNT HALLOWELL BIOBLITZ 2023

### Description

- Rat-sized arboreal carnivorous marsupial with a characteristic tuft of black silky hairs on the terminal portion of its tail.
- Phascogales don't have a true pouch & form temporary folds of skin, sometimes called a "pseudo-pouch", around the mammary glands during pregnancy.
- **Male** home ranges (area of occupancy) overlap with those of other males and females and increase in size during the breeding season.
- **Female** ranges cover 20-70 ha, and do not overlap those of unrelated females.

### Habitat

- Preferred habitat is jarrah and mixed jarrah and karri forest with enough older trees to provide the numerous hollows they require

### Distribution

- This subspecies only occurs in southwest Western Australia
- Known from Perth and south to Albany, west of Albany Highway
- Occurs at low densities in the northern Jarrah forest and highest densities occur in the Perup/Kingston area, Collie River valley, near Margaret River and Busselton

### Diet

- Active between dusk and dawn, they forage almost exclusively among tree canopies and tear the bark from trees to reach and remove prey. Phascogales are mostly carnivorous and hunt small mammals, birds, reptiles, insects, spiders and centipedes. Known to kill & eat chickens and generally avoid eating carrion.
- Mainly arboreal & have been known to feed on the nectar of eucalyptus flowers.
- Considered effective at helping to control insect and rodent pest populations since it is a natural predator of these animals.

### Breeding

- Nesting varies across the year, with individuals using more than 20 nest sites across the year
- Nest sites include hollow tree limbs, rotten stumps, and even bird nests
- Young stay in this pseudo-pouch area, nursing for about 7 weeks before being moved to a nest where they stay until they are weaned at about 20 weeks of age
- All males die shortly after mating

## PRIORITY 4 SPECIES

Rare, near threatened or other species in need of monitoring

### Western False Pipistrelle *Falsistrellus mackenziei*

One of the largest Australian bats  
of the family Vespertilionidae

Was not recorded or described until  
the early 1960s



#### Description

- Dark brown fur above with light cinnamon-reddish brown fur below and prominent ears
- Head and body length: 55-67 mm
- Tail length: 40-53 mm
- Forearm length: 48-54 mm
- Weight: 17-26 g

#### Habitat

- Mainly in wet sclerophyll forests of Karri and high rainfall zones of the Jarrah
- Also known in the Tuart forests and in mixed Jarrah-Tuart woodlands
- They roost in hollows in old trees, branches and stumps, in colonies of 5 to 30 bats
- The population is declining due to loss of its habitat such as roost sites in tree hollows and loss of feeding grounds by forestry

activities, clearing for agriculture and housing

#### Distribution

- Occurs in southwestern Australia nearly northward to Perth and eastward to the western margin of the wheatbelt
- Considered locally common in karri forests

#### Diet

- An insectivore associated with old growth forests
- They fly rapidly around the upper canopy of trees in pursuit of flying insects

#### Breeding

- Data suggests the sexes segregate for roosting and foraging at least during spring and summer
- Young are born in spring or early summer

## PRIORITY 4 SPECIES

Rare, near threatened or other species in need of monitoring



Photo credit: @wacrakey  
Observed: Denmark WA, October 2016



Photo credit: @boobook99  
Observed: Denmark WA, June 2023

# QUENDA

Southwestern Brown Bandicoot

*Isodon fusciventer*

### Description

- They have a rounded back with large hindquarters & their bodies narrow towards their head which has a long, pointed snout & small, rounded ears
- Their fur is coarse and usually dark greyish brown with yellowish flecks & creamy white on their underside
- Their tails are long, lightly furred & usually dark brown as like upper surface of their hindfeet
- They have long, sturdy claws and their hind foot has two toes joined together to form a “grooming claw”
- They often move with a bounding gait
- **Males:** Head & body length of 300-360 mm with tail length of 90-140 mm & weighing 500-1600 g.
- **Females:** Head & body length of 280-330 mm with tail length of 90-140 mm & weighing 400-1100 g

- Removed from the Endangered species list in 1996

### Distribution

- They are found in the wetter parts of southwest WA
- Once abundant, now rare, scattered & decimated throughout most of its former range

### Habitat

- A variety of habitats such as forest, woodland, heath & shrubland & favour areas where understorey is quite dense, particularly near watercourses & wetlands

### Diet

- Quenda often leave conical holes in the soils where they have been digging for food such as fungi (truffles), roots, bulbs & invertebrates, such as insect larvae & earthworms

### Behaviour

## MOUNT HALLOWELL BIOBLITZ 2023

- Predominantly nocturnal, but not strictly & may be seen in the day
  - They prefer to stay close to cover when searching for food
  - They dig shallow (sometimes deeper) conical holes with their snout and foreclaws
  - Quenda turn over abundant amounts of soil & encourage the breakdown of fallen vegetation & organic material. Their digging (bioturbation) adds to the nutrient level of the soil, giving the soil greater capacity to host micro-organisms & water.
  - During the day they sleep in a ground nest they construct from leaves, grass & other plant material, sometimes mixed with earth
- Breeding**
- Breeding can occur throughout the year, although most young are born between winter to summer & usually lasts 6-8 months
  - This species can have a high reproduction rate in favourable conditions & their young develop rapidly.
- Source:** Strahan, 1995; Van Dyck et al., 2013.

## REPTILES

### Reptile species documented within Mount Hallowell-Kooryunderup

There are 12 reptile species documented within Mount Hallowell-Kooryunderup, including 11 reptiles that were listed in the 2008 Mount Hallowell Reserve Management Plan and 6 species are documented on the iNaturalist Mount Hallowell (Kooryunderup) Reserve Project on iNaturalist, including one species which was not previously listed in the 2008 Mount Hallowell Management Plan.

Two reptile species were observed during the BioBlitz:

- Common South-west Ctenotus: *Ctenotus labillardieri*
- South-western Crevice Skink: *Egernia napoleonis*

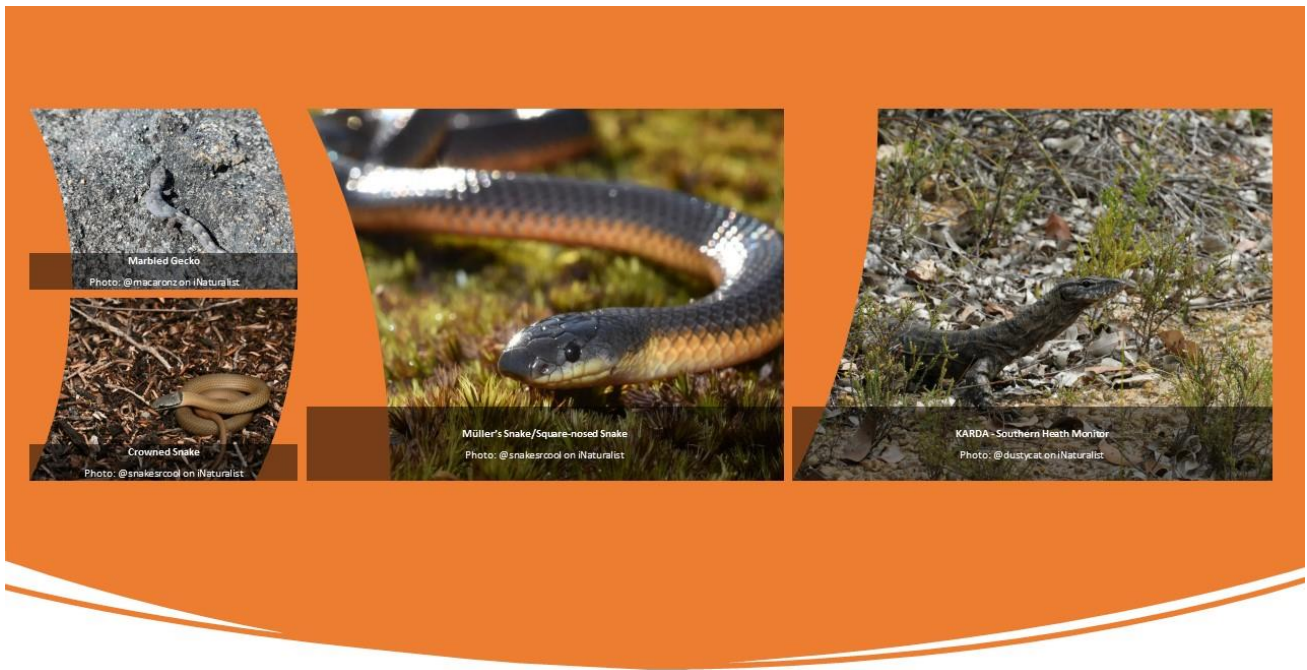
See Appendix 6: Reptile species list - Mount Hallowell-Kooryunderup

### Reptile species observed during the Bioblitz

#### iNaturalist reptile species observations

- ✦ 2 reptile species have been identified to species level
- ✦ 3 observations have been made
- ✦ 3 observers uploaded their observations
- ✦ 2 identifiers joined the project to assist

Statistics current as of 1<sup>st</sup> December 2023



## AMPHIBIANS

Amphibian species documented within Mount Hallowell-Kooryunderup

There are 5 amphibian species documented as occurring within the Reserve, all of which are native frog species including:

- Motorbike Frog: *Ranoidea moorei*
- Nichollas Toadlet: *Metacrinia nichollsi*
- Quacking Frog: *Crinia georgiana*
- Slender Tree Frog: *Litoria adelaidensis*
- Foam-nesting Ground Frogs: Heleioporus (Genus)

Only one *Crinia* species was observed, uploaded and identified to genus level during the Bioblitz.

See Appendix 7: Amphibian species list - Mount Hallowell-Kooryunderup

Amphibian species observed during the Bioblitz

### iNaturalist fauna species observations

- ✦ 1 amphibian species have been identified to genus level
- ✦ 7 observations have been made
- ✦ 5 observers uploaded their observations
- ✦ 4 identifiers joined the project to assist

Statistics current as of 1<sup>st</sup> December 2023



## INVERTEBRATES

Arachnids, Insects and other invertebrates documented within Mount Hallowell-Kooryunderup

To date, 35 arachnids, 106 insects and 12 other invertebrates are known to occur and have been documented within the Reserve. Many invertebrate species recorded have not been identified to species level.

See Appendices 8 to 10 for invertebrate species lists within Mount Hallowell-Kooryunderup.

Arachnid species observed during the Bioblitz

### iNaturalist arachnid species observations

- ✦ 20 arachnid species have been identified to species level
- ✦ 56 observations have been made
- ✦ 10 observers uploaded their observations
- ✦ 18 identifiers joined the project to assist

Statistics current as of 1<sup>st</sup> December 2023

See Appendix 8: Arachnid species list – Mount Hallowell-Kooryunderup.

ARACHNIDS & PSEUDOSCORPIONS

**House Pseudoscorpion**

*Chelifer cancroides*



**Order:** Pseudoscorpiones

**Family:** Cheliferidae

**Photo credit:** @projectsdec

**Walckenaer's Studded Triangular Spider**

*Arkys walckenaeri*



**Family:** Arkyidae

**Photo credit:** @nic6333

**Silver Orb Spider**

*Leucauge dromedaria*



**Long-jawed Orb Weavers**

**Family:** Tetragnathidae

**Photo credit:** @pillboy

**Milky Flower Spider**

*Zygomelis xanthogaster*



**Family:** Thomisidae (Crab Spiders)

**Photo credit:** @katrina\_syme

ARACHNIDS & PSEUDOSCORPIONS

**Red and Black Spider**

*Nicodamus species*



**Family:** Nicodamidae

**Photo credit:** @nic6333

**Crab Spiders**

*Bomus species*



**Family:** Thomisidae

**Photo credit:** @pillboy

Insect species observed during the Bioblitz

iNaturalist insect species observations

- ✦ 30 insect species have been identified to species level
- ✦ 82 observations have been made
- ✦ 12 observers uploaded their observations
- ✦ 39 identifiers joined the project to assist

Statistics current as of 1<sup>st</sup> December 2023

See Appendix 9: Insect species list – Mount Hallowell-Kooryunderup.

INSECTS

**June Beetles**

*Diphucephala species*



**Family:** Scarabaeidae

**Photo credit:** @boobook99

**Catepillar**



**Order:** Lepidoptera

**Photo credit:** @katrina\_syne



INSECTS

**Insect gall on plant**



**Photo credit:** @katrina\_syme

**Pegrid Sawfly**



**Family:** Pegridae

**Photo credit:** @pillboy

**Braconid Wasps**

*Callibracon species*



**Family:** Braconidae

**Photo credit:** @pillboy

**Variable Shield Bug**

*Choerocoris variegatus*



**Photo credit:** @nic6333

Other invertebrate species observed during the Bioblitz

**iNaturalist 'other animals' species observations**

- ✦ 7 other invertebrate species have been identified to species level
- ✦ 21 observations have been made
- ✦ 9 observers uploaded their observations
- ✦ 12 identifiers joined the project to assist

Statistics current as of 1<sup>st</sup> December 2023

See Appendix 10: Other invertebrate species list – Mount Hallowell-Kooryunderup.

## MOUNT HALLOWELL BIOBLITZ 2023

### Threatened & priority invertebrates within Mount Hallowell-Kooryunderup

There are 2 threatened invertebrate species known to occur within Mount Hallowell-Kooryunderup: The WA listed 'vulnerable' Main's Assassin Spider (*Zephyrarchaea mainae*) and WA listed 'endangered' Western Australian (WA) Pill Millipede (*Cynotelopus notabilis*). The WA Pill Millipede was documented during the Bioblitz, within the Mount Hallowell (Kooryunderup) Reserve iNaturalist project and in the 2008 Management Plan.

No priority listed invertebrate species were observed or documented to occur within the Reserve.



**FEMALE MAIN'S ASSASSIN SPIDER**

Photo: M. Rix

## **VULNERABLE (WA)** Main's Assassin Spider *Zephyrarchaea mainae*

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### **IN JANUARY 2008...**

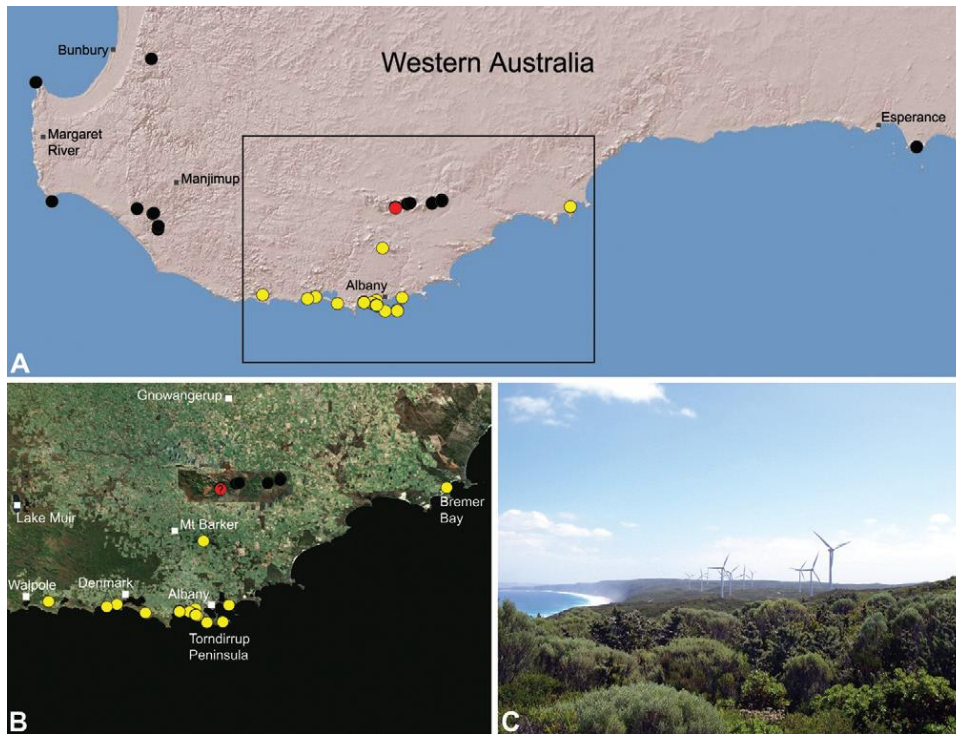
#### **WAS KNOWN FROM ONLY 2 LOCALITIES:**

- Eclipse Island Road, Torndirrup National Park (1st collected 1983, scientifically described in 1991).
- Albany Wind Farm (Biota rediscovery 2007).

### **...AFTER 14 DAYS OF SURVEY WORK DURING MARCH – MAY 2008...**

- 40 specimens collected
- 25 different sites between William Bay & Gull Rock National Park (including Mt Hallowell, near Monkey Rock)
- Linear range of 70 km

## MOUNT HALLOWELL BIOBLITZ 2023



**Figures above:** Distribution of Main's Assassin Spider & habitat at Albany Wind Farm

- Has very specific habitat requirements and can only be found in the understorey layer of 'elevated leaf-litter' which forms in low-growing grasses, 'wiry' herbs and sedges.
- The 'assassin spiders' (family Archaeidae) are a group of ancient and extremely unusual spiders known only from Madagascar, South Africa and mainland Australia.
- Assassin spiders are specialist predators on other spiders and possess a remarkable 'pelican-like' morphology which is used to hunt and capture their spider prey.
- The family was first discovered and described in Europe from Baltic amber fossil specimens, before living representatives were subsequently found in the forests of Madagascar in the mid-19th century
- Other fossil assassin spiders have been discovered in fossil strata of Jurassic age; some 150 million years old
- Assassin spiders very similar to the modern species were probably present throughout the Mesozoic Era, having survived both the evolution and extinction of the dinosaurs

**Source:** Rix & Harvey, 2012.

*See Appendices 8 to 10 for invertebrate species lists within Mount Hollowell-Kooryunderup.*

## Endangered (WA)

### WA PILL MILLIPEDE *Cynotelopus notabilis*

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- Occurs in high-rainfall habitats along WA south coast
- Described in 1986 from 3 specimens collected in 1927 from Nornalup.
- Restricted range, stretching 115 km along WA south coast, from Tinglewood (west) to Torbay Hill (east).
- Found in 3 National Parks: Walpole-Nornalup, William Bay & West Cape Howe.
- Threats: localised extinction events due to fire & habitat fragmentation.



Lily Kumpe | meetyourneighbours.net

Photo: @lily\_kumpe on iNaturalist



Photo credit: @boobook99

See Appendices 8 to 10 for invertebrate species lists within Mount Hallowell-Kooryunderup.

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### Longhorn Beetle, an ant-mimicking beetle

Q: **“Can someone explain why this is not an ant?”**

Bioblitz participant & iNaturalist observer

A: **“It's a very convincing ant mimic.”**

iNaturalist identifier

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Family: Cerambycidae

Photo credit: @nic6333 Observed: Oct 28, 2023 at 1:25 pm

# APPENDICES

## APPENDIX 1

Conservation codes for Western Australian flora, fungi, lichen & ecological communities

### **Threatened flora, fungi and lichen species codes**

Schedule 1 - Critically Endangered flora

Schedule 2 - Endangered flora

Schedule 3 - Vulnerable flora

Schedule 4 – Presumed Extinct flora

### **Priority flora, fungi and lichen species codes**

Priority 1: Poorly-known species known from one or a few locations (on threatened lands)

Priority 2: Poorly-known species known from one or a few locations (some on conservation lands)

Priority 3: Poorly-known species known from several locations (some on conservation lands)

Priority 4: Rare, near threatened and other species in need of monitoring

Conservation codes for Western Australian fauna

### **Threatened fauna species codes**

Schedule 1 - Critically Endangered fauna

Schedule 2 - Endangered fauna

Schedule 3 - Vulnerable fauna

Schedule 4 - Presumed Extinct fauna

Schedule 5 - Migratory birds protected under an international agreement

Schedule 6 – Conservation Dependent fauna

Schedule 7 - Other Specially Protected fauna

### **Priority fauna species codes**

Priority 1: Poorly-known species known from one or a few locations (on threatened lands)

Priority 2: Poorly-known species known from one or a few locations (some on conservation lands)

Priority 3: Poorly-known species known from several locations (some on conservation lands)

Priority 4: Rare, near threatened and other species in need of monitoring

**SOURCE:** *Biodiversity Conservation (Listing of Native Species) (Fauna) Order 2022*

Fauna may also be listed as threatened under the Commonwealth [Environment Protection and Biodiversity Conservation Act 1999](#), the Australian Government's central piece of environmental legislation.

MOUNT HALLOWELL BIOBLITZ 2023

APPENDIX 2

Flora species list – Mount Hallowell-Kooryunderup

FLORA		
NO.	SCIENTIFIC NAME	COMMON NAME
1	<i>Acacia browniana</i>	Brown's Wattle
2	<i>Acacia browniana</i> var. <i>obscura</i>	Brown's Wattle
3	<i>Acacia cyclops</i>	Western Coastal Wattle
4	<i>Acacia divergens</i>	Sail-boat Wattle
5	<i>Acacia drummondii</i>	Drummond's Wattle
6	<i>Acacia hastulata</i>	Prickly Swamp Wattle
7	<i>Acacia littorea</i>	Shark Tooth Wattle
8	<i>Acacia longifolia</i>	Longleaf Wattle
9	<i>Acacia myrtifolia</i>	Myrtle Wattle
10	<i>Acacia pentadenia</i>	Karri Wattle
11	<i>Acacia pulchella</i>	Prickly Moses
12	<i>Acacia pulchella</i> var. <i>pulchella</i>	Prickly Moses
13	<i>Acacia urophylla</i>	Net-veined Wattle
14	<i>Acacia varia</i>	
15	<i>Actinotus glomeratus</i>	
16	<i>Actinotus omnifertilis</i>	
17	<i>Adenanthos cuneatus</i>	Coastal Jugflower
18	<i>Adenanthos obovatus</i>	Jugflower
19	<i>Agonis flexuosa</i>	Western Australian Peppermint
20	<i>Agonis flexuosa</i> var. <i>flexuosa</i>	Peppermint
21	<i>Agonis flexuosa</i> var. <i>latifolia</i>	Peppermint
22	<i>Agonis theiformis</i>	
23	<i>Agrostocrinum scabrum</i>	Blue Grass Lily
24	<i>Allocasuarina decussata</i>	Karri Sheoak
25	<i>Allocasuarina fraseriana</i>	Western Sheoak
26	<i>Allocasuarina humilis</i>	Dwarf Sheoak
27	<i>Amperea simulans</i>	
28	<i>Amphipogon species</i>	
29	<i>Anarthria gracilis</i>	
30	<i>Anarthria prolifera</i>	
31	<i>Anarthria scabra</i>	
32	<i>Andersonia caerulea</i>	Foxtails
33	<i>Andersonia caerulea</i> subsp. <i>Diminuta</i>	
34	<i>Andersonia sprengelioides</i>	
35	<i>Andersonia virolens</i>	
36	<i>Anigozanthos flavidus</i>	Tall Kangaroo Paw
37	<i>Anigozanthos preissii</i>	Albany Catpaw
38	<i>Anthocercis sylvicola</i> <b>PRIORITY 3</b>	
39	<i>Aotus intermedia</i>	



MOUNT HALLOWELL BIOBLITZ 2023

FLORA		
NO.	SCIENTIFIC NAME	COMMON NAME
40	<i>Aphelia cyperoides</i>	
41	<i>Asplenium aethiopicum</i>	Ethiopian spleenwort
42	<i>Asplenium flabellifolium</i>	Necklace Fern
43	<i>Asteridea pulverulenta</i>	
44	<i>Banksia dallanneyi</i>	
45	<i>Banksia grandis</i>	Giant Banksia
46	<i>Banksia ilicifolia</i>	Holly-Leaved Banksia
47	<i>Banksia littoralis</i>	Swamp Banksia
48	<i>Banksia quercifolia</i>	Oak-leaved Banksia
49	<i>Banksia serra</i> <b>PRIORITY 4</b>	Serrate-leaved Dryandra
50	<i>Barbula calycina</i>	
51	<i>Beaufortia decussata/Melaleuca transversa</i>	Gravel Bottlebrush
52	<i>Beaufortia sparsa</i>	Swamp Bottlebrush
53	<i>Beaufortia sparsa/Melaleuca sparsa</i>	Swamp Bottlebrush
54	<i>Billardiera floribunda</i>	White-flowered Billardiera
55	<i>Billardiera heterophylla</i>	Australian Bluebell
56	<i>Billardiera variifolia</i>	
57	<i>Boronia alata</i>	Winged Boronia
58	<i>Boronia crenulata</i>	Aniseed Boronia
59	<i>Boronia gracilipes</i>	Karri Boronia
60	<i>Boronia molloyae</i>	Tall Boronia
61	<i>Boronia spathulata</i>	
62	<i>Boronia stricta</i>	
63	<i>Borya sphaerocephala</i>	Pincushions
64	<i>Bossiaea linophylla</i>	
65	<i>Bossiaea praetermissa</i>	
66	<i>Brachyloma baxteri</i>	
67	<i>Brachythecium albicans</i>	Whitish Feather-moss
68	<i>Braunia imberbis</i>	
69	<i>Bryum argenteum</i>	
70	<i>Bryum caespiticium</i>	
71	<i>Bryum dichotomum</i>	
72	<i>Burchardia congesta</i>	Milkmaids
73	<i>Caesia occidentalis</i>	Pale Grass Lily
74	<i>Caladenia attingens</i>	Forest Mantis-orchid
75	<i>Caladenia brownii</i>	Karri Spider Orchid
76	<i>Caladenia cairnsiana</i>	Zebra Orchid
77	<i>Caladenia flava</i>	Cowslip Orchid
78	<i>Caladenia flava</i> subsp. <i>flava</i>	Cowslip Orchid
79	<i>Caladenia flava</i> subsp. <i>sylvestris</i>	Cowslip Orchid
80	<i>Caladenia latifolia</i>	Pink Fairies
81	<i>Caladenia longicauda</i>	Common White Spider Orchid
82	<i>Caladenia macrostylis</i>	Leaping Spider Orchid

MOUNT HALLOWELL BIOBLITZ 2023

FLORA		
NO.	SCIENTIFIC NAME	COMMON NAME
83	<i>Caladenia nana</i>	Pink Fan Orchid
84	<i>Caladenia pectinata</i>	King Spider Orchid
85	<i>Caladenia reptans</i>	Little Pink Fairy Orchid
86	<i>Caladenia reptans</i> subsp. <i>reptans</i>	Little Pink Fairy Orchid
87	<i>Calandrinia species</i>	
88	<i>Caleana nigrata</i>	Flying Duck Orchid
89	<i>Callistachys lanceolata</i>	Native Willow/Wonnich
90	<i>Callistemon glaucus</i> / <i>Melaleuca glauca</i>	Albany Bottlebrush
91	<i>Campylopus australis</i>	
92	<i>Campylopus bicolor</i>	
93	<i>Campylopus clavatus</i>	
94	<i>Campylopus introflexus</i>	Heath Star-moss
95	<i>Cassytha glabella</i>	Slender Devil's Twine
96	<i>Centaurium erythraea</i>	Common Centaury
97	<i>Cephaloziella arctica</i> subsp. <i>subantarctica</i>	
98	<i>Ceramanus clatritexta</i>	
99	<i>Chaetophyllopsis whiteleggii</i>	
100	<i>Chamaescilla corymbosa</i>	Blue Stars
101	<i>Chamaescilla corymbosa</i> var. <i>paradoxa</i>	Blue Squill
102	<i>Cheilanthes austrotenuifolia</i>	Rock Fern
103	<i>Chiloscyphus semiteres</i>	
104	<i>Chiloscyphus species</i>	Leafy Liverworts
105	<i>Choretrum lateriflorum</i>	
106	<i>Chorilaena quercifolia</i>	Karri Oak
107	<i>Chorizema diversifolium</i>	
108	<i>Chorizema ilicifolium</i>	Holly flame pea
109	<i>Chorizema reticulatum</i>	Showy Flame Pea
110	<i>Chorizema retrorsum</i>	Holly Flame Pea
111	<i>Clematis pubescens</i>	Old Man's Beard
112	<i>Codonoblepharon menziesii</i>	
113	<i>Comesperma calymega</i>	Blue Spike Milkwort
114	<i>Comesperma confertum</i>	
115	<i>Comesperma flavum</i>	
116	<i>Comesperma virgatum</i>	Milkwort
117	<i>Comesperma volubile</i>	Climbing Milkwort
118	<i>Commersonia corniculata</i>	
119	<i>Commersonia corylifolia</i>	Hazel-leaved Rulingia
120	<i>Conostylis setigera</i>	Bristly Cottonhead
121	<i>Corymbia calophylla</i>	Marri
122	<i>Corymbia ficifolia</i>	Red-flowering gum (planted)
123	<i>Crassula decumbens</i>	Rufous Stonecrop
124	<i>Crowea angustifolia</i> var. <i>platyphylla</i>	Crowea
125	<i>Cryptostylis ovata</i>	Slipper Orchid

MOUNT HALLOWELL BIOBLITZ 2023

FLORA		
NO.	SCIENTIFIC NAME	COMMON NAME
126	<i>Cyanicula sericea</i>	Silky Blue Orchid
127	<i>Cyrtostylis huegelii</i>	Midge Orchid
128	<i>Cyrtostylis robusta</i>	Mosquito Orchid
129	<i>Dampiera alata</i>	Winged-stem Dampiera
130	<i>Dampiera diversifolia</i>	
131	<i>Dampiera hederacea</i>	Karri Dampiera
132	<i>Dampiera leptoclada</i>	
133	<i>Dampiera linearis</i>	Common Dampiera
134	<i>Darwinia vestita</i>	Pom-pom Darwinia
135	<i>Dasyopogon bromeliifolius</i>	Drumsticks
136	<i>Daviesia cordata</i>	Bookleaf
137	<i>Daviesia inflata</i>	
138	<i>Desmocladus fasciculatus</i>	
139	<i>Desmocladus flexuosus</i>	
140	<i>Dicranoloma diaphanoneuron</i>	
141	<i>Didymodon subtorquatus</i>	
142	<i>Dielsiodoxa lycopodioides</i>	
143	<i>Diplasiolejeuna plicatiloba</i>	Tiny Leafy Liverwort
145	<i>Disa bracteata*</i>	Bract Disa
146	<i>Ditrichum cylindricarpum</i>	
147	<i>Ditrichum difficile</i>	
148	<i>Diuris jonesii</i>	Dunsborough Donkey Orchid
149	<i>Diuris longifolia</i>	Purple Pansy Orchid
150	<i>Drakaea glyptodon</i>	King-in-his-carriage
151	<i>Drakaea livida</i>	Warty Hammer Orchid
152	<i>Drakaea thynniphila</i>	Narrow-lipped Hammer Orchid
153	<i>Drosera collina</i>	
154	<i>Drosera erythrogyne</i>	
155	<i>Drosera erythroyiza</i>	Red Ink Sundew
156	<i>Drosera fimbriata</i> <b>PRIORITY 4</b>	Manypeaks Sundew
157	<i>Drosera glanduligera</i>	Pimpernel Sundew
158	<i>Drosera huegelii</i>	Bold Sundew
159	<i>Drosera macrantha</i>	Bridal Rainbow
160	<i>Drosera microphylla</i>	Golden Rainbow
161	<i>Drosera modesta</i>	
162	<i>Drosera pulchella</i>	Pretty Sundew
163	<i>Elythranthera brunonis</i>	Purple Enamel Orchid
164	<i>Eriochilus dilatatus</i>	White Bunny Orchid
165	<i>Eucalyptus cornuta</i>	Yate
166	<i>Eucalyptus cornuta</i>	River Yate
167	<i>Eucalyptus diversicolor</i>	Karri
168	<i>Eucalyptus marginata</i>	Jarrah
169	<i>Eucalyptus megacarpa</i>	Bullich

MOUNT HALLOWELL BIOBLITZ 2023

FLORA		
NO.	SCIENTIFIC NAME	COMMON NAME
170	<i>Eucalyptus patens</i>	Common Blackbutt
171	<i>Euchiton collinus</i>	
172	<i>Eutaxia myrtifolia</i>	
173	<i>Eutaxia parvifolia</i>	
174	<i>Evandra aristata</i>	
175	<i>Fissidens curvatus</i>	
176	<i>Fissidens species</i>	
177	<i>Fissidens taylorii</i>	
178	<i>Fissidens tenellus</i>	
179	<i>Fossombronia species</i>	
180	<i>Frullania falciloba</i>	
181	<i>Frullania pentapleura</i>	
182	<i>Frullania probosciphora</i>	
183	<i>Gastrodia lacista</i>	Potato Orchid
184	<i>Gastrolobium brownii</i>	
185	<i>Glischrocaryon racemosum</i>	Shrubby Raspwort
186	<i>Gompholobium confertum</i>	
187	<i>Gompholobium knightianum</i>	Handsome Wedge Pea
188	<i>Gompholobium ovatum</i>	
189	<i>Gompholobium polymorphum</i>	Twining Gompholobium
190	<i>Gompholobium shuttleworthii</i>	
191	<i>Gompholobium tomentosum</i>	Hairy Yellow Pea
192	<i>Gonocarpus benthamii</i>	
193	<i>Gonocarpus diffusus</i>	
194	<i>Goodenia eatoniana</i>	
195	<i>Goodenia macrophylla</i>	Large-leaved Velleia
196	<i>Goodenia pusilla</i>	
197	<i>Goodenia</i> sp. South Coast <b>PRIORITY 3</b>	
198	<i>Goodenia trinervis</i>	Common Velleia
199	<i>Grevillea quercifolia</i>	Oak-leaf Grevillea
200	<i>Grevillea trifida</i>	
201	<i>Gymnostomum calcareum</i>	Blunt-leaf Tufa-Moss
202	<i>Haemodorum paniculatum</i>	Mardja/Born
203	<i>Haemodorum simplex</i>	
204	<i>Haemodorum spicatum</i>	Bloodroot/Mean
205	<i>Hakea amplexicaulis</i>	Prickly Hakea
206	<i>Hakea florida</i>	
207	<i>Hakea linearis</i>	
208	<i>Hakea ruscifolia</i>	Candle Hakea
209	<i>Hakea varia</i>	Variable-leaved Hakea
210	<i>Haloragodedron racemosum</i> / <i>Glischrocaryon racemosum</i>	Shrubby Raspwort
211	<i>Hardenbergia comptoniana</i>	Native Wisteria
212	<i>Hedwigia ciliata</i>	Ciliate Hoarmoss

MOUNT HALLOWELL BIOBLITZ 2023

FLORA		
NO.	SCIENTIFIC NAME	COMMON NAME
213	<i>Hemigenia humilis</i>	
214	<i>Hemigenia podalyrina</i>	
215	<i>Hibbertia amplexicaulis</i>	
216	<i>Hibbertia cuneiformis</i>	Cutleaf Hibbertia
217	<i>Hibbertia cunninghamii</i>	
218	<i>Hibbertia furfuracea</i>	
219	<i>Hibbertia pilosa</i>	
220	<i>Hovea chorizemifolia</i>	Holly-Leaved Hovea
221	<i>Hovea elliptica</i>	Tree Hovea
222	<i>Hovea trisperma</i>	Common Hovea
223	<i>Hydrocotyle alata</i>	
224	<i>Hypnum cupressiforme</i>	
225	<i>Hypocalymma strictum</i>	Pink Myrtle
226	<i>Hypolaena fastigiata</i>	Tassel Rope-rush
227	<i>Ischyrodon lepturus</i>	Feather Mosses
228	<i>Isopogon longifolius</i>	Long-leaved Isopogon
229	<i>Isopogon sphaerocephalus</i>	Drumstick Isopogon
230	<i>Isotropis cuneifolia</i>	Granny Bonnets
231	<i>Jacksonia horrida</i>	
232	<i>Johnsonia lupulina</i>	Hooded Lily
233	<i>Kennedia coccinea</i>	Coral Vine
234	<i>Kingia australis</i>	bullanock
235	<i>Kunzea ericifolia</i>	Spearwood
236	<i>Kunzea ericifolia</i> subsp. <i>ericifolia</i>	Spearwood
237	<i>Kunzea sulphurea</i>	Spearwood
238	<i>Kurzia compacta</i>	
239	<i>Lasiopetalum floribundum</i>	
240	<i>Lavandula stoechas</i> *	Topped Lavender
241	<i>Laxmannia grandiflora</i>	
242	<i>Laxmannia minor</i>	
243	<i>Lepidosperma effusum</i>	Riverside Sword Sedge
244	<i>Lepidosperma gladiatum</i>	Coastal Sword Sedge
245	<i>Lepidosperma gracile</i>	
246	<i>Lepidosperma squamatum</i>	
247	<i>Lepidozia species</i>	Leafy Liverworts
248	<i>Leporella fimbriata</i>	Hare Orchid
249	<i>Leptobryum pyriforme</i>	
250	<i>Leptocarpus elegans</i>	
251	<i>Leptocarpus scoparius</i>	Velvet Rush
252	<i>Leptocarpus tenax</i>	
253	<i>Leptoceras menziesii</i>	Rabbit Orchid
254	<i>Leptomeria scrobiculata</i>	
255	<i>Leptomeria squarrulosa</i>	

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FLORA		
NO.	SCIENTIFIC NAME	COMMON NAME
256	<i>Lepyrodia extensa</i> <b>PRIORITY 2</b>	
257	<i>Lethocolea pansa</i>	
258	<i>Lethocolea squamata</i>	
259	<i>Leucobryum subchlorophyllum</i>	
260	<i>Leucopogon alternifolius</i> <b>PRIORITY 3</b>	
261	<i>Leucopogon australis</i>	Spiked Beard-heath
262	<i>Leucopogon capitellatus</i>	
263	<i>Leucopogon distans</i>	
264	<i>Leucopogon glabellus</i>	
265	<i>Leucopogon obovatus</i> subsp. <i>revolutus</i>	
266	<i>Leucopogon parviflorus</i>	Coastal Beard-heath
267	<i>Leucopogon unilateralis</i>	
268	<i>Leucopogon verticillatus</i>	Tassel Bush/Njorr-lee
269	<i>Levenhookia pusilla</i>	Tiny Stylewort
270	<i>Lindsaea linearis</i>	Screw Fern
271	<i>Lobelia anceps</i>	Punakuru
272	<i>Lobelia gibbosa</i>	Tall Lobelia
273	<i>Lobelia rhombifolia</i>	
274	<i>Logania vaginalis</i>	White Spray
275	<i>Lomandra drummondii</i>	
276	<i>Lomandra nigricans</i>	
277	<i>Lomandra pauciflora</i>	
278	<i>Lomandra purpurea</i>	
279	<i>Lomandra sericea</i>	Silky Mat Rush
280	<i>Lophocolea semiteres</i>	Southern Crestwort
281	<i>Lotus species*</i>	Bird's-foot Trefoils and Deervetches
282	<i>Lyperanthus serratus</i>	Rattle Beaks
283	<i>Macrocoma tenuis</i>	Joint-toothed Mosses
284	<i>Macrozamia riedlei</i>	Zamia Palm
285	<i>Marianthus drummondianus</i>	
286	<i>Marianthus sylvaticus</i>	
287	<i>Marianthus tenuis</i>	
288	<i>Melaleuca microphylla</i>	
289	<i>Melaleuca thymoides</i>	
290	<i>Mesomelaena tetragona</i>	Semaphore Sedge
291	<i>Microtis media</i>	Tall Mignonette Orchid
292	<i>Microtis media</i> subsp. <i>media</i>	Common Mignonette Orchid
293	<i>Mirbelia dilatata</i>	Holly-leaved Mirbelia
294	<i>Mittonia plumula</i>	Southern Goblin's Gold
295	<i>Monotaxis occidentalis</i>	
296	<i>Myoporum insulare</i>	Blueberry Tree
297	<i>Olax phyllanthi</i>	
298	<i>Olearia muricata</i>	Rough-leaved Daisy

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FLORA		
NO.	SCIENTIFIC NAME	COMMON NAME
299	<i>Olearia paucidentata</i>	Autumn Scrub Daisy
300	<i>Opercularia hispidula</i>	Hispid Stinkweed
301	<i>Opercularia volubilis</i>	Climbing Stinkweed
302	<i>Orianthera serpyllifolia</i>	
303	<i>Ornduffia parnassifolia</i>	
304	<i>Ornithopus compressus</i>	Yellow Serradella
305	<i>Orobanche minor</i>	Common Broomrape
306	<i>Orthodontium lineare</i>	Cape Thread-moss
307	<i>Paracaleana disjuncta</i>	
308	<i>Paracaleana nigrata</i>	Flying Duck Orchid
309	<i>Paraserianthes lophantha</i>	Plume Albizia
310	<i>Paraserianthes lophantha</i>	Plume Albizia/False Wattle
311	<i>Patersonia occidentalis</i>	Purple Flag Iris
312	<i>Patersonia umbrosa</i> var. <i>umbrosa</i>	Purple flag
313	<i>Pelargonium australe</i>	Austral Stork's-bill/Wild Geranium
314	<i>Pelargonium drummondii</i>	Geraniums and storksbills
315	<i>Pelargonium littorale</i>	Native Geranium
316	<i>Pentapeltis silvatica</i>	Southern Pentapeltis
317	<i>Persoonia elliptica</i>	Spreading Snottygobble
318	<i>Persoonia longifolia</i>	Snottygobble
319	<i>Petrophile diversifolia</i>	Pixie Mops
320	<i>Petrorhagia dubia</i> *	Hairypink
321	<i>Pheladenia deformis</i>	
322	<i>Pigea debilissima</i>	Native Violet
323	<i>Pimelea clavata</i>	
324	<i>Pimelea hispida</i>	Bristly Pimelea
325	<i>Pimelea longiflora</i>	
326	<i>Pimelea rosea</i>	Rosy Rice Flower
327	<i>Pimelea spectabilis</i>	Bunjong
328	<i>Pithocarpa ramosa</i>	
329	<i>Platysace filiformis</i>	
330	<i>Platysace pendula</i>	
331	<i>Platytheca juniperina</i>	
332	<i>Pleurophascum occidentale</i> <b>PRIORITY 4</b>	Western Giant-leaved Moss
333	<i>Podocarpus drouynianus</i>	Emu Plum/Emu Berry
334	<i>Polygala myrtifolia</i> *	Butterfly Bush/Sweet Pea Shrub
335	<i>Poranthera huegelii</i>	
336	<i>Prasophyllum</i> aff. <i>parvifolium</i>	Autumn Leek Orchid
337	<i>Prasophyllum brownii</i>	Christmas Leek Orchid
338	<i>Prasophyllum cucullatum</i>	Hooded Leek Orchid
339	<i>Prasophyllum elatum</i>	Tall Leek Orchid
340	<i>Prasophyllum fimbria</i>	Fringed Leek Orchid
341	<i>Prasophyllum regium</i>	King Leek Orchid

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FLORA		
NO.	SCIENTIFIC NAME	COMMON NAME
342	<i>Pteridium esculentum</i>	Bracken Fern
343	<i>Pterostylis aff. turfosa</i>	Bearded Bird Orchid
344	<i>Pterostylis barbata</i>	Bird Orchid
345	<i>Pterostylis glebosa</i>	Clubbed Snail Orchid
346	<i>Pterostylis pyramidalis</i>	Snail Orchid
347	<i>Pterostylis recurva</i>	Jug Orchid
348	<i>Pterostylis sanguinea</i>	Red-banded Greenhood
349	<i>Pterostylis turfosa</i>	Bearded Bird Orchid
350	<i>Pterostylis vittata</i>	Banded Greenhood
351	<i>Ptychostomum capillare</i>	Capillary Thread-moss
352	<i>Pultenaea reticulata</i>	
353	<i>Pyrorchis nigricans</i>	Redbeaks
354	<i>Racopilum cuspidigerum</i>	
355	<i>Radula buccinifera</i>	
356	<i>Rhacocarpus purpurascens</i>	Royal Rock Moss
357	<i>Rhacopilum convolutaceum</i>	
358	<i>Rhapidorrhynchium amoenum</i>	
359	<i>Rhodanthe citrina</i>	
360	<i>Rhynchostegium tenuifolium</i>	Loose Straw Moss
361	<i>Riccardia aequicellularis</i>	
362	<i>Riccardia bipinnatifida</i>	
363	<i>Riccardia cochleata</i>	
364	<i>Riccardia wattsiana</i>	
365	<i>Ricinocarpos glaucus</i>	Wedding Bush
366	<i>Rinzia schollerifolia</i>	Cranberry Rinzia
367	<i>Romulea rosea*</i>	Guildford Grass/Rosy sandcrocus
368	<i>Rosulabryum albolimbatum</i>	
369	<i>Rosulabryum billardierei</i>	
370	<i>Rosulabryum campylothecium</i>	
371	<i>Rosulabryum subtomentosum</i>	
372	<i>Rosulabryum torquescens</i>	
373	<i>Rytidosperma caespitosum</i>	Common Wallaby-grass
374	<i>Sauloma tenella</i>	Joint-toothed Mosses
375	<i>Scaevola microphylla</i>	Small-leaved Scaevola
376	<i>Scaevola striata</i>	Royal Robe
377	<i>Sematophyllum homomallum</i>	Bronze Moss
378	<i>Solanum laciniatum</i>	Kangaroo-apple
379	<i>Sphaerolobium alatum</i>	
380	<i>Sphaerolobium drummondii</i>	
381	<i>Sphaerolobium grandiflorum</i>	
382	<i>Sphaerolobium medium</i>	
383	<i>Sphaerolobium vimineum</i>	Leafless Globe-pea
384	<i>Sphenotoma capitata</i>	



MOUNT HALLOWELL BIOBLITZ 2023

FLORA		
NO.	SCIENTIFIC NAME	COMMON NAME
385	<i>Sphenotoma gracilis</i>	Swamp Paper-heath
386	<i>Stackhousia monogyna</i>	Creamy Candles
387	<i>Stylidium adnatum</i>	Common Beaked Triggerplant
388	<i>Stylidium amoenum</i>	Lovely Triggerplant
389	<i>Stylidium assimile</i>	Bronze-leaved Triggerplant
390	<i>Stylidium calcaratum</i>	Book Triggerplant
391	<i>Stylidium crassifolium</i>	Thick-leaved Triggerplant
392	<i>Stylidium fasciculatum</i>	Pale Beaked Triggerplant
393	<i>Stylidium guttatum</i>	Dotted Triggerplant
394	<i>Stylidium inundatum</i>	Hundreds and Thousands
395	<i>Stylidium junceum</i>	Little Reed Triggerplant
396	<i>Stylidium nymphaeum</i>	
397	<i>Stylidium piliferum</i>	Common Butterfly Triggerplant
398	<i>Stylidium planirosula</i>	
399	<i>Stylidium pritzelianum</i>	Royal Triggerplant
400	<i>Stylidium repens</i>	Matted Triggerplant
401	<i>Stylidium rynchocarpum</i>	Black-beaked Triggerplant
402	<i>Stylidium scandens</i>	Climbing Triggerplant
403	<i>Stylidium schoenoides</i>	Cow Kicks
404	<i>Stylidium acuminatum</i> subsp. <i>meridionale</i>	
405	<i>Stylidium spathulatum</i>	Creamy Triggerplant
406	<i>Stylidium squamosotuberosum</i>	Rhizomatous Reed Triggerplant
407	<i>Stypandra glauca</i>	Blind Grass/Nodding Blue Lily
408	<i>Styphelia erubescens</i>	
409	<i>Styphelia madida</i>	
410	<i>Styphelia pallida</i>	Kick Bush
411	<i>Styphelia pendula</i>	
412	<i>Styphelia propinqua</i>	
413	<i>Styphelia racemulosa</i>	
414	<i>Symphyogyna podophylla</i>	
415	<i>Taxandria conspicua</i>	
416	<i>Taxandria juniperina</i>	Wattie/Warren River Cedar
417	<i>Taxandria linearifolia</i>	
418	<i>Taxandria marginata</i>	
419	<i>Taxandria parviceps</i>	Fine Teatree
420	<i>Tayloria octoblepharis</i>	
421	<i>Tayloria octoblepharum</i>	Austral Poop Moss
422	<i>Tetrarrhena laevis</i>	Forest Rice Grass
423	<i>Tetrateca affinis</i>	
424	<i>Tetrateca hispidissima</i>	
425	<i>Tetrateca setigera</i>	
426	<i>Thelymitra antennifera</i>	Vanilla Orchid/Lemon-scented Sun Orchid
427	<i>Thelymitra benthamiana</i>	Leopard Orchid/Blotched Sun-orchid

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FLORA		
NO.	SCIENTIFIC NAME	COMMON NAME
428	<i>Thelymitra crinita</i>	Blue Lady Orchid
429	<i>Thelymitra cucullata</i>	Swamp Sun Orchid
430	<i>Thelymitra flexuosa</i>	Twisted Sun Orchid
431	<i>Thelymitra fuscolutea</i>	Chestnut sun orchid
432	<i>Thelymitra graminea</i>	Shy Sun Orchid
433	<i>Thelymitra macrophylla</i>	Scented Sun Orchid
434	<i>Thelymitra paludosa</i>	Plain Sun Orchid
435	<i>Thelymitra</i> sp. Denmark	
436	<i>Thelymitra tigrina</i>	Tiger Orchid
437	<i>Thomasia heterophylla</i>	
438	<i>Thomasia paniculata</i>	
439	<i>Thomasia purpurea</i>	
440	<i>Thomasia</i> sp. Vasse	Thomasias
441	<i>Thuidiopsis sparsa</i> (syn. <i>Thuidium sparsum</i> )	Sparse Fern Moss
442	<i>Thuidium sparsum</i> var. <i>hastatum</i>	Sparse Fern Moss
443	<i>Thysanotus multiflorus</i>	Many-flowered Fringe Lily
444	<i>Thysanotus patersonii</i>	Twining Fringe-lily
445	<i>Thysanotus tenellus</i>	
446	<i>Thysanotus thyrsoides</i>	
447	<i>Tortula antarctica</i>	
448	<i>Trachymene grandis</i>	
449	<i>Tremandra stelligera</i>	
450	<i>Tribonanthes australis</i>	Southern Tiurndin
451	<i>Tricoryne elatior</i>	Yellow rush-lily
452	<i>Tricoryne humilis</i>	
453	<i>Triquetrella papillata</i>	
454	<i>Trymalium ledifolium</i> var. <i>rosmarinifolium</i>	
455	<i>Trymalium odoatissimum</i>	Karri Hazel
456	<i>Trymalium venustum</i>	
457	<i>Utricularia menziesii</i>	Redcoats
458	<i>Utricularia multifida</i>	Pink Petticoats
459	<i>Weissia controversa</i>	
460	<i>Wurmbea dioica</i> subsp. <i>alba</i>	Early Nancy
461	<i>Xanthorrhoea gracilis</i>	Graceful Grass Tree/Mimidi
462	<i>Xanthorrhoea preissii</i>	Balga
463	<i>Xanthosia huegelii</i>	Heath Xanthosia
464	<i>Xanthosia rotundifolia</i>	Southern Cross Flower
465	<i>Xanthosia tasmanica</i>	
466	<i>Xyris lanata</i>	Yellow-eyed Grasses
467	<i>Zygodon species</i>	Yoke Mosses

MOUNT HALLOWELL BIOBLITZ 2023

APPENDIX 3

Fungi species list – Mount Hallowell-Kooryunderup

FUNGI		
NO.	SCIENTIFIC NAME	COMMON NAME
1	<i>Abortiporus biennis</i>	Blushing Rosette
2	<i>Agaricus species</i>	Field and Button Mushrooms
3	<i>Amanita ananiceps</i>	Australian Pineapple Lepidella
4	<i>Amanita xanthocephala</i>	Vermilion Amanita
5	<i>Anthracophyllum archeri</i>	Orange Fan
6	<i>Arcangeliella daucina</i>	Milkcaps, Brittle-gills and Allies
7	<i>Armillaria luteobubalina</i>	Australian Honey Fungus
8	<i>Austroboletus occidentalis</i>	Boletes
9	<i>Austrocortinarius australiensis</i>	Common Gilled Mushrooms and Allies
10	<i>Austropaxillus infundibuliformis</i>	Boletes and Allies
11	<i>Bankeraceae</i>	Mushrooms, Bracket Fungi, Puffballs & Allies
12	<i>Boletellus obscurecoccineus</i>	Rhubarb Bolete
13	<i>Boletus species</i>	Porcini and Allies
14	<i>Calocera guepinoides</i>	Higher Basidiomycetes
15	<i>Cantharellus concinnus</i>	Australian Chanterelle
16	<i>Cladia species</i>	Cladias
17	<i>Cladonia rigida</i>	Spindles and Structured Lichens
18	<i>Clavulinopsis amoena</i>	Antler and Spindle Fungi
19	<i>Clavulinopsis sulcata</i>	Flame Fungus
20	<i>Coltricia species</i>	Mushrooms, Bracket Fungi, Puffballs & Allies
21	<i>Coprinellus disseminatus</i>	Trooping Crumble Cap
22	<i>Coprinus comatus</i>	Shaggy Mane
23	<i>Cortinarius rotundisporus</i>	Elegant Blue Webcap
24	<i>Cortinarius sinapicolor</i>	Common Gilled Mushrooms and Allies
25	<i>Crepidotus variabilis</i>	Variable Oysterling
26	<i>Cuphophyllum aurantiopallens</i>	Waxcaps and Allies
27	<i>Favolaschia claudopus*</i>	Orange Pore Fungus
28	<i>Fistulinella mollis</i>	Marshmallow Bolete
29	<i>Fistulinella prunicolor</i>	Boletes
30	<i>Fuscoporia gilva</i>	Mustard Yellow Polypore
31	<i>Galerina</i>	Moss Bells
32	<i>Graphidaceae</i>	Script Lichens and Allies
33	<i>Gymnopilus allantopus</i>	Common Gilled Mushrooms and Allies
34	<i>Gymnopilus eucalyptorum</i>	Common Gilled Mushrooms and Allies
35	<i>Gymnopilus junonius</i>	Spectacular Rustgill
36	<i>Gymnopilus purpuratus</i>	Common Gilled Mushrooms and Allies
37	<i>Helotiales</i>	Higher Ascomycetes
38	<i>Hemimycena species</i>	Half Bonnets
39	<i>Hydnoplicata convoluta</i>	Pezizas, Desert Truffles, and Allies

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FUNGI		
NO.	SCIENTIFIC NAME	COMMON NAME
40	<i>Hydnum species</i>	Hedgehog Mushrooms
41	<i>Hygrocybe species</i>	Waxcaps
42	<i>Hygrophoropsis aurantiaca</i>	False Chanterelle
43	<i>Hypholoma fasciculare</i>	Sulphur Tuft
44	<i>Hypomyces chrysospermus</i>	Bolete Mould
45	<i>Laccaria species</i>	Laccarias
46	<i>Lactarius eucalypti</i>	Milkcaps, Brittle-gills and Allies
47	<i>Lecidella species</i>	Disc Lichens
48	<i>Lepiota species</i>	Common Gilled Mushrooms and Allies
49	<i>Leucopaxillus lilacinus</i>	Common Gilled Mushrooms and Allies
50	<i>Lichenomphalia chromacea</i>	Yellow Navel
51	<i>Lobaria species</i>	Lung Lichens
52	<i>Melanelia species</i>	Camouflage Lichens
53	<i>Mucronella pendula</i>	Icicle Spine
54	<i>Mycena species</i>	Bonnets
55	<i>Ochrolechia species</i>	Crabseye Lichens
56	<i>Omphalotus nidiformis</i>	Ghost Fungus
57	<i>Peltigera dolichorhiza</i>	Longroot Pelt Lichen
58	<i>Peltigera polydactylon</i>	Many-fruited Pelt Lichen
59	<i>Piptoporus australiensis</i>	Curry Punk
60	<i>Pisolithus arhizus</i>	Dyeball
61	<i>Pluteus species</i>	Deer Mushrooms
62	<i>Podoserpula pusio</i>	Pagoda Fungus
63	<i>Pseudocyphellaria neglecta</i>	Common Gilled Mushrooms and Allies
64	<i>Ramaria capitata</i>	Mushrooms, Bracket Fungi, Puffballs, and Allies
65	<i>Rhodofomitopsis lilacinogilva</i>	Gum Bracket
66	<i>Rickenella fibula</i>	Orange Moss Navel
67	<i>Russula adusta</i>	Blackening Russula
68	<i>Russula clelandii</i>	Milkcaps, Brittle-gills and Allies
69	<i>Russula persanguinea</i>	Milkcaps, Brittle-gills and Allies
70	<i>Russula purpureoflava</i>	Milkcaps, Brittle-gills and Allies
71	<i>Scleroderma</i>	Earthballs
72	<i>Stereum hirsutum</i>	Hairy Curtain Crust
73	<i>Trametes coccinea</i>	Southern Cinnabar Polypore
74	<i>Trametes versicolor</i>	Turkey-tail
75	<i>Tubaria rufofulva</i>	Burgundy Wood Tubaria
76	<i>Usnea species</i>	Beard Lichens
77	<i>Xylaria hypoxylon</i>	Candlesnuff Fungus

MOUNT HALLOWELL BIOBLITZ 2023

APPENDIX 4

Bird species list - Mount Hallowell-Kooryunderup

BIRDS		
NO.	COMMON NAME	SCIENTIFIC NAME
1	Australian Hobby	<i>Falco longipennis</i>
2	Australian Kestrel	<i>Falco cenchroides</i>
3	Australian Magpie	<i>Gymnorhina tibicen</i>
4	Australian Magpie-lark	<i>Grallina cyanoleuca</i>
5	Australian Raven	<i>Corvus coronoides</i>
6	Australian Ringneck	<i>Barnardius zonarius</i>
7	Australian Shelduck	<i>Tadorna tadornoides</i>
8	Baudin's Cockatoo <b>ENDANGERED</b>	<i>Zanda baudinii</i>
9	Black-faced Cuckoo-shrike	<i>Coracina novaehollandiae</i>
10	Brown Falcon	<i>Falco berigora</i>
11	Brown Goshawk	<i>Accipiter fasciatus</i>
12	Brown Honeyeater	<i>Lichmera indistincta</i>
13	Brush Bronzewing	<i>Phaps elegans</i>
14	Carnaby's Cockatoo <b>ENDANGERED</b>	<i>Zanda latirostris</i>
15	Collared Sparrowhawk	<i>Accipiter cirrocephalus</i>
16	Common Bronzewing	<i>Phaps chalcoptera</i>
17	Crested Shrike-tit	<i>Falcunculus frontatus</i>
18	Dusky Woodswallow	<i>Artamus cyanopterus</i>
19	Elegant Parrot	<i>Neophema elegans</i>
20	Fan-tailed Cuckoo	<i>Cacomantis flabelliformis</i>
21	Forest Red-tailed Black-cockatoo <b>VULNERABLE</b>	<i>Calyptorhynchus banksii naso</i>
22	Galah*	<i>Eolophus roseicapilla</i>
23	Gilbert's Honeyeater	<i>Melithreptus chloropsis</i>
24	Grey Butcherbird	<i>Cracticus torquatus</i>
25	Grey Currawong	<i>Strepera versicolor</i>
26	Grey Fantail	<i>Rhipidura albiscapa</i>
27	Grey Shrike-thrush	<i>Colluricincla harmonica</i>
28	Grey Teal	<i>Anas gibberifrons</i>
29	Horsfield's Bronze-Cuckoo	<i>Chrysococcyx basalis</i>
30	Inland Thornbill	<i>Acanthiza apicalis</i>
31	Laughing Kookaburra*	<i>Dacelo novaeguineae</i>
32	Little Eagle	<i>Hieraaetus morphnoides</i>
33	Little Wattlebird	<i>Anthochaera chrysoptera</i>
34	Maned Duck	<i>Chenonetta jubata</i>
35	Marsh Harrier	<i>Circus aeruginosus</i>
36	Nankeen Kestrel	<i>Falco cenchroides</i>
37	New Holland Honeyeater	<i>Phylidonyris novaehollandiae</i>
38	Osprey	<i>Pandion haliaetus</i>
39	Pacific Black Duck	<i>Anas superciliosa</i>
40	Painted Button-quail	<i>Turnix varia</i>

**MOUNT HALLOWELL BIOBLITZ 2023**

BIRDS		
NO.	COMMON NAME	SCIENTIFIC NAME
41	Pallid Cuckoo	<i>Cacomantis pallidus</i>
42	Port Lincoln Ringneck	<i>Barnardius zonarius</i>
43	Purple-crowned Lorikeet	<i>Parvipsitta porphyrocephala</i>
44	Rainbow Bee-eater	<i>Merops ornatus</i>
45	Red Wattlebird	<i>Anthochaera carunculata</i>
46	Red-capped Parrot	<i>Purpureicephalus spurius</i>
47	Red-eared Firetail	<i>Stagonopleura oculata</i>
48	Red-winged Fairy-wren	<i>Malurus elegans</i>
49	Restless Flycatcher	<i>Myiagra inquieta</i>
50	Rufous Treecreeper	<i>Climacteris rufa</i>
51	Sacred Kingfisher	<i>Todiramphus sanctus</i>
52	Scarlet Robin	<i>Petroica multicolor</i>
53	Shining Bronze-Cuckoo	<i>Chrysococcyx lucidus</i>
54	Silveryeye	<i>Zosterops lateralis</i>
55	Southern Boobook	<i>Ninox boobook</i>
56	South-western Spotted Scrubwren	<i>Sericornis maculatus maculatus</i>
57	Splendid Fairywren	<i>Malurus splendens</i>
58	Spotted Pardalote	<i>Pardalotus punctatus</i>
59	Square-tailed Kite	<i>Lophoictinia isura</i>
60	Striated Pardalote	<i>Pardalotus striatus</i>
61	Tawny Frogmouth	<i>Podargus strigoides</i>
62	Tawny-crowned Honeyeater	<i>Gliciphila melanops</i>
63	Tree Martin	<i>Petrochelidon nigricans</i>
64	Twenty-eight Parrot	<i>Barnardius zonarius semitorquatus</i>
65	Varied Sittella	<i>Daphoenositta chrysoptera</i>
66	Wedge-tailed Eagle	<i>Aquila audax</i>
67	Welcome Swallow	<i>Hirunclo neoxena</i>
68	Western Gerygone	<i>Gerygone fusca</i>
69	Western Rosella	<i>Platycercus icterotis</i>
70	Western Shrike-tit	<i>Falcunculus leucogaster</i>
71	Western Spinebill	<i>Acanthorhynchus superciliosus</i>
72	Western Thornbill	<i>Acanthiza inornata</i>
73	Western Whistler	<i>Pachycephala fuliginosa</i>
74	Western Yellow Robin	<i>Eopsaltria griseogularis</i>
75	Whistling Kite	<i>Haliastur sphenurus</i>
76	White-bellied Sea-Eagle	<i>Haliaeetus leucogaster</i>
77	White-breasted Robin	<i>Eopsaltria georgiana</i>
78	White-browed Babbler	<i>Pomatostomus superciliosus</i>
79	White-browed Scrubwren	<i>Sericornis frontalis</i>
80	White-faced Heron	<i>Ardea novaehollandiae</i>
81	Willie Wagtail	<i>Rhipidura leucophrys</i>
82	Yellow-rumped Thornbill	<i>Acanthiza chrysorrhoa</i>
<b>*Introduced (non-native) species</b>		

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APPENDIX 5

Mammal species list - Mount Hallowell-Kooryunderup

MAMMALS			
NO.	COMMON NAME	SCIENTIFIC NAME	FAMILY
1	Australian Bush Rat	<i>Rattus fuscipes</i>	Muridae
2	Black Rat*	<i>Rattus rattus</i>	Muridae
3	Cat*	<i>Feline catus</i>	Felidae
4	Common Brushtail Possum	<i>Trichosurus vulpecula</i>	Phalangeridae
5	Dog*	<i>Canine familiaris</i>	Canidae
6	House Mouse*	<i>Mus musculus</i>	Muridae
7	Rat	<i>Rattus species</i>	Muridae
8	Red Fox*	<i>Vulpes vulpes</i>	Canidae
9	South-western Brown Bandicoot <b>PRIORITY 4</b>	<i>Isoodon fusciventer</i>	Perameledae
10	South-western Brush-tailed Phascogale <b>CONSERVATION DEPENDENT</b>	<i>Phascogale tapoatafa wambenger</i>	Dasyuridae
11	Western Grey Kangaroo	<i>Macropus fuliginosus</i>	Macropodidae
12	Yellow-footed Antechinus	<i>Antechinus flavipes</i>	Dasyuridae
13	White-striped Free-tailed Bat	<i>Austronomus australis</i>	Molossidae
14	Gould's Wattled Bat	<i>Chalinolobus gouldii</i>	Vespertilionidae
15	Chocolate Wattled Bat	<i>Chalinolobus morio</i>	Vespertilionidae
16	Western False Pipistrelle <b>PRIORITY 4</b>	<i>Falsistrellus mackenziei</i>	Vespertilionidae
17	Lesser Long-eared Bat	<i>Nyctophilus geoffroyi</i>	Vespertilionidae
18	Southern Forest Bat	<i>Vespadelus regulus</i>	Vespertilionidae
<b>*Introduced (non-native) species</b>			

APPENDIX 6

Reptile species list - Mount Hallowell-Kooryunderup

REPTILES			
NO.	COMMON NAME	SCIENTIFIC NAME	FAMILY
1	Black Tiger Snake	<i>Notechis ater occidentalis</i>	Elapidae
2	Bobtail	<i>Tiliqua rugosa</i>	Scincidae
3	Burrowing Skink	<i>Hemiegis peronii peronii</i>	Scincidae
4	Common South-west Ctenotus	<i>Ctenotus labillardieri</i>	Scincidae
5	Crowned Snake	<i>Drysdalia coronata</i>	Elapidae
6	Dugite	<i>Pseudonaja affinis affinis</i>	Elapidae
7	Karda	<i>Varanus rosenbergi</i>	Scincidae
8	King's Skink	<i>Egernia kingii</i>	Scincidae

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9	Marbled Gecko	<i>Phylladactylus marmoratus</i>	Gekkonidae
10	New Holland Skink	<i>Leiopisma trilineatum</i>	Scincidae
11	Smith's Skink	<i>Egernia napoleonis</i>	Scincidae
12	Square-nosed Snake	<i>Rhinoplocephalus bicolor</i>	Elapidae

**APPENDIX 7**

Amphibian species list - Mount Hallowell-Kooryunderup

AMPHIBIANS		
NO.	COMMON NAME	SCIENTIFIC NAME
1	Motorbike Frog	<i>Ranoidea moorei</i>
2	Nichollas Toadlet	<i>Metacrinia nichollsi</i>
3	Quacking Frog	<i>Crinia georgiana</i>
4	Slender Tree Frog	<i>Litoria adelaidensis</i>
5	Foam-nesting Ground Frogs	Heleioporus (Genus)

**APPENDIX 8**

Arachnids species list - Mount Hallowell-Kooryunderup

ARACHNIDS		
NO.	SCIENTIFIC NAME	COMMON NAME
1	<i>Aldabrinus species</i>	Pseudoscorpion
2	<i>Arachnura higginsii</i>	Scorpion-tailed Spider
3	<i>Araneus cyphoxis</i>	Western Bush Orbweaver
4	<i>Araneus senicaudatus</i>	Tailed Orbweaver
5	<i>Arkys walckenaeri</i>	Walckenaer's Studded Triangular Spider
6	<i>Austracantha minax</i>	Christmas Jewel Spider
7	Australomimetes (Genus)	Australasian Pirate Spiders
8	<i>Australomisidia pilula</i>	Lozenge-shaped Crab Spider
9	<i>Austrarchaea</i> `sp.`	Pelican Spiders
10	Bomis (Genus)	Crab Spiders
11	Cheiracanthium (Genus)	Longlegged Sac Spiders
12	<i>Chelifer cancroides</i>	House Pseudoscorpion
13	<i>Chenistonia</i> `paludigena`	Wishbone Spiders
14	<i>Chenistonia</i> `sp. indet.`	Wishbone Spiders
15	Clubionidae (Family)	Sac Spiders
16	Euophryini (Tribe)	Typical Jumping Spiders
17	Habronestes (Genus)	Zodariid Spiders



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ARACHNIDS		
NO.	SCIENTIFIC NAME	COMMON NAME
18	<i>Leucauge dromedaria</i>	Silver Orb Spider
19	Linyphiidae (Family)	Sheetweb and Dwarf Weavers
20	Lycosidae (Family)	Wolf Spiders
21	<i>Maratus pavonis</i>	Common Peacock Spider
22	<i>Megalopsalis minima</i>	Megalopsalis minima-species group
23	Neosparassus (Genus)	Badge Huntsman Spiders
24	<i>Nicodamus peregrinus</i>	Red-and-black Spider
25	Opisthoncus (Genus)	Garden Jumping Spiders
26	Salticinae (Family)	Typical Jumping Spiders
27	Sidymella (Genus)	Square-ended Crab Spiders
28	<i>Socca pustulosa</i>	Knobbed Orbweaver
29	<i>Storosa tetrica</i>	Zodariid Spiders
30	Theridiidae (Family)	Cobweb Spiders
31	Trachycosmus (Genus)	Scorpion Flat Spiders
32	Triaenonychidae (Family)	Triaenonychid Harvestmen
33	Trombidia (Infraorder)	Velvet Mites, Chiggers, and Relatives
34	<i>Zephyrarchaea mainae</i> <b>VULNERABLE</b>	Main's Assassin Spider
35	<i>Zygometis xanthogaster</i>	Milky Flower Spider

## APPENDIX 9

### Insect species list - Mount Hallowell-Kooryunderup

INSECTS		
NO.	SCIENTIFIC NAME	COMMON NAME
1	Acanthomimini (Tribe)	Stick Insects
2	Acanthosomatidae (Family)	Shield Bugs
3	<i>Acrida conica</i>	Giant Green Slantface
5	<i>Adversaeschna brevistyla</i>	Blue-spotted Hawker
6	Amblyopone (Genus)	Vampire Ants
7	<i>Anax papuensis</i>	Australian Emperor
8	<i>Anophelepis telesphorus</i>	Short-winged Stick Insect
10	Aphidinae (Subfamily)	Aphids
11	Apioninae (Subfamily)	Pear-shaped Weevils
12	<i>Archaeosynthemis leachii</i>	Twinspot Tigertail
13	<i>Archaeosynthemis occidentalis</i>	Western Brown Tigertail
14	<i>Archimantis sobrina</i>	Mallee Grass Mantis
15	Assilinae (Subfamily)	Robber Flies
16	<i>Austroaeschna anacantha</i>	Western Darner
17	Bethylinae (Subfamily)	Flat Wasps
18	<i>Bibio imitator</i>	March Flies

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INSECTS		
NO.	SCIENTIFIC NAME	COMMON NAME
19	Callibracon (Genus)	Braconid Wasps
20	Calypterae	Calyptrate Flies
21	<i>Catasarcus impressipennis</i>	Broad-nosed Weevils
22	Cecidomyiidae (Family)	Gall and Forest Midges
23	Cerambycidae (Family)	Longhorn Beetles
24	Chironomus (Genus)	Non-biting Midges
25	<i>Choerocoris variegatus</i>	Variable Shield Bug
26	Cicadellidae (Family)	Typical Leafhoppers
27	<i>Circopetes obtusata</i>	Broken Leaf Moth
29	Coccidae (Family)	Soft scales
30	Coccoidea (Superfamily)	Scale Insects
31	Cochyliomorpha (Genus)	Tortricine Leafroller Moths
32	Complex <i>Chrysopasta elegans</i>	Bristle Flies
34	Corticariinae (Subfamily)	Minute Brown Scavenger Beetles
35	<i>Coryphistes ruricola</i>	Bark-mimicking Grasshopper
36	<i>Cryptocheilus bicolor</i>	Two-colored Orange Spider Wasp
37	Cryptodus (Genus)	Rhinoceros Beetles
39	Diphucephala (Genus)	June Beetles
40	<i>Ecnolagria aeneoviolacea</i>	Long-jointed Beetles
41	<i>Ectropis excursaria</i>	Twig Looper
43	<i>Endoxyla lituratus</i>	Leopard Moths
45	Eriopterini (Tribe)	Limoniid Crane Flies
46	<i>Euchaetis metallota</i>	Concealer Moths
47	Exoneura (Genus)	Allodapine Bees
48	<i>Gastrimargus musicus</i>	Australian Yellow-winged Locust
49	<i>Geitoneura klugii</i>	Klug's Xenica
51	Geron (Genus)	Bee Flies
52	Gryllotalpa (Genus)	Mole Crickets
53	<i>Hemicordulia tau</i>	Tau Emerald
54	<i>Hemisaga denticulata</i>	Common Sluggish Katydid
55	Heteromastix (Genus)	Soldier Beetles
56	<i>Heteronympha merope duboulayi</i>	Western Brown
57	Heteropsilopus (Genus)	Long-legged Flies
58	Iridomyrmex (Genus)	Rainbow, Tyrant, and Meat Ants
59	<i>Iridomyrmex conifer</i>	Rainbow Ants
60	<i>Lamprima aurata</i>	Golden Stag Beetle
61	Lasioglossum (Genus)	Sweat and Furrow Bees
63	<i>Laxta rieki</i>	Giant Cockroaches
64	<i>Leptotarsus costalis</i>	Common Brown Crane Fly
66	Membracidae (Family)	Typical Treehoppers
67	<i>Micromus tasmaniae</i>	Tasmanian Brown Lacewing
68	Monophlebulus (Genus)	Giant Scale Insects
69	<i>Mygalopsis pauperculus</i>	Coneheads
70	<i>Myrmecia imaii</i>	Bull and Dinosaur Ants

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INSECTS		
NO.	SCIENTIFIC NAME	COMMON NAME
71	<i>Myrmecia michaelseni</i>	Bull and Dinosaur Ants
72	<i>Myrmecia nigriceps</i>	Black-headed Bull Ant
73	<i>Myrmecia regularis</i>	Bull and Dinosaur Ants
74	Mythimna (Genus)	Wainscot Moths
75	<i>Neolucia agricola</i>	Fringed Blue
76	<i>Opodiphthera helena</i>	Helena Gum Moth
77	<i>Orthetrum caledonicum</i>	Blue Skimmer
78	Orthotylini (Tribe)	Plant Bugs
79	<i>Papilio aegaeus</i>	Orchard Swallowtail
80	<i>Paraoxypilus tasmaniensis</i>	Southern Boxer Bark Mantis
82	<i>Paropsisterna basalis</i>	Leaf Beetles
83	<i>Paropsisterna debilis</i>	Leaf Beetles
84	Pergidae (Family)	Pergid Sawflies
86	<i>Phaulacridium vittatum</i>	Wingless Grasshopper
87	Physeema (Genus)	Tick-tock and Western Tickers
88	Pimelopus (Genus)	Rhinoceros Beetles
89	<i>Polyzosteria cuprea</i>	Household Cockroaches
90	<i>Prasinocyma semicrocea</i>	Common Gum Emerald
91	Pterolocera (Genus)	Anthelid Lappet Moths
93	Requena (Genus)	Spiny Predatory Katydids
96	Sciaridae (Family)	Dark-winged Fungus Gnats
97	<i>Sorama bicolor</i>	Prominent Moths
98	<i>Stigmodera cancellata</i>	Jewel Beetles
99	Symphyta (Suborder)	Sawflies, Horntails, and Wood Wasps
100	<i>Synemon directa</i>	Carpenter, Leopard, Goat, and Allied Moths
101	Tabaninae (Subfamily)	Horse Flies
102	<i>Tapeigaster paramonovi</i>	Heleomyzid Flies
104	<i>Thalaina angulosa</i>	Angled Satin Moth
105	<i>Vanessa itea</i>	Yellow Admiral
106	<i>Vanessa kershawi</i>	Australian Painted Lady

## APPENDIX 10

### Other invertebrate species list – Mount Hallowell-Kooryunderup

OTHER INVERTEBRATES		
NO.	SCIENTIFIC NAME	COMMON NAME
1	Armadillidae (Family)	Tropical Pill Woodlice
2	Atelomastix (Genus)	Forest Millipedes
3	<i>Atelomastix ellenae</i>	Millipede
4	Cormocephalus (Genus)	Common Centipedes

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OTHER INVERTEBRATES		
NO.	SCIENTIFIC NAME	COMMON NAME
6	<i>Cynotelopus notabilis</i> <b>ENDANGERED</b>	WA Pill Millipede
7	Entomobryidae (Family)	Slender Springtails
8	<i>Fletchamia sugdeni</i>	Canary Worm
9	Geophilomorpha (Order)	Soil Centipedes
10	<i>Hesperisiphon diversus</i>	Millipede
11	<i>Megalosiphon flavomarginatus</i>	Millipede
12	Siphonotidae (Family)	Camphor Millipedes



Bioblitz participants and leaders examining small frogs on the northern firebreak of Mount Hallowell-Kooryunderup

Photo: Melissa Howe, 28<sup>th</sup> October 2023