



**Macedon
Ranges**
Shire Council

Macedon Ranges Bird Survey Report 2019



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Cover image Golden Whistler by William Terry

Background

The Macedon Ranges Shire Council Biodiversity Strategy recommends the implementation of a shire wide biodiversity monitoring program that incorporates citizen science and utilises a focal species approach to assess landscape health. Birds surveys are one of the monitoring approaches proposed.

This monitoring program focuses on birds as environmental indicators of change. Different birds tend to use different habitats – and their presence or absence may act as indicators of habitat type and quality. This data will help Council monitor what changes in biodiversity are potentially occurring across the Macedon Ranges.

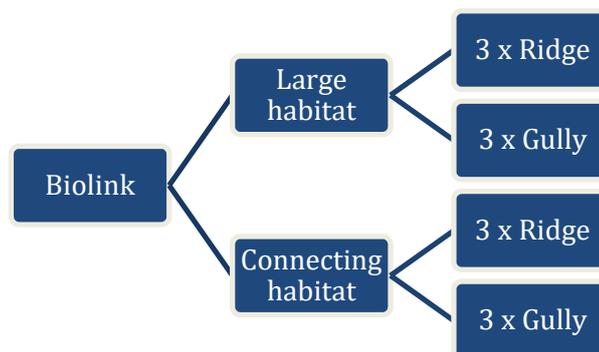
This report provides a basic summary of the results of the surveys that occurred in 2019. Further analysis of the data will be undertaken once consecutive surveys are completed in future years.

Aims

- Monitor changes in biodiversity with the development of a long-term data set.
- Provide opportunities for the broader public to be involved in the surveys to improve environmental educational outcomes and appreciation for natural assets.
- Contribute all data collected to the Victorian Biodiversity Atlas.
- Develop a greater understanding of bird populations in the Macedon Ranges.

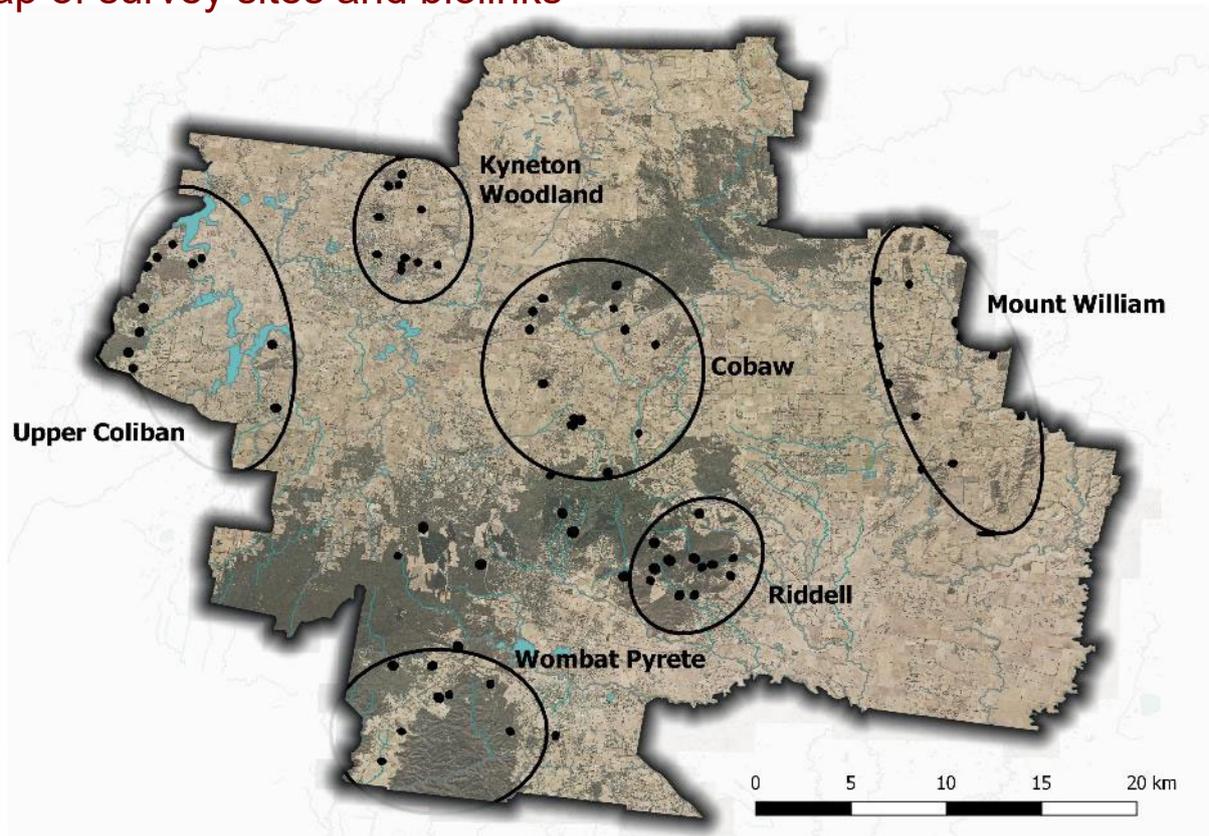
Methodology

Monitoring sites were carefully selected by using a stratification of the six biolink areas plus two forest blocks (Wombat, Cobaws), patch size (large patch, connecting site), and vegetation type (dry ridge, wet gully) giving 32 combinations of treatments. A minimum of three sites per treatment were selected. In the two large forest patches (Cobaws and Macedon) only large habitat sites were selected resulting in six survey sites.



Bird surveys were completed by using the standardized Birdlife two-hectare method in which an area of this size has all birds recorded within a 20 minute period. Surveys were completed in early spring. The surveys were manually recorded using a datasheet. The sheet also allowed for recording of incidental birds seen outside of the two-hectare study sites or outside of the permitted 20 minute timeframe. All birds recorded were added to the Victorian Biodiversity Atlas.

Map of survey sites and biolinks



Survey Site identification

Each survey site was given a unique code and wooden stakes were placed at either end of each bird monitoring transect to signify a start and a finish location.



Citizen science - the Bird Blitz

The Bird Blitz aimed to engage a broad range of people to be able to participate and contribute to the bird surveys. Small groups of volunteers assisted with surveying 3 to 4 sites. Each group had at least one 'leader' who was confident with bird identification from both sight and sound.

Feedback received from the Bird Blitz suggests that participants thoroughly enjoyed being involved. Event evaluation showed that 100% either rated the event as 'Very good' or 'Excellent'.

While the majority of bird surveys were completed during the Bird Blitz, additional surveys were completed by Council's Environmental Programs and Engagement Officer in partnership with the Woodend Bird Observers Group and other volunteers.

Results of the 2019 surveys

The 2019 Bird Blitz took place on Saturday 19 October with all participants meeting at Bald Hill Reserve. In total, 83 people participated in 17 teams. Throughout the day, 58 bird surveys took place across seven biolink areas. Following the Bird Blitz, in partnership with local bird groups and volunteers, an additional 21 surveys were completed. Hence 2019 saw 79 sites surveyed. Note that the Cobaw forest area was not surveyed this year.

In total **97** species were recorded including five threatened species. A full list of species is provided in Appendix 1. The surveys recorded **2,769** individual bird observations including **2127** inside of the two-hectare study areas and another **642** recorded as ‘incidentals’.

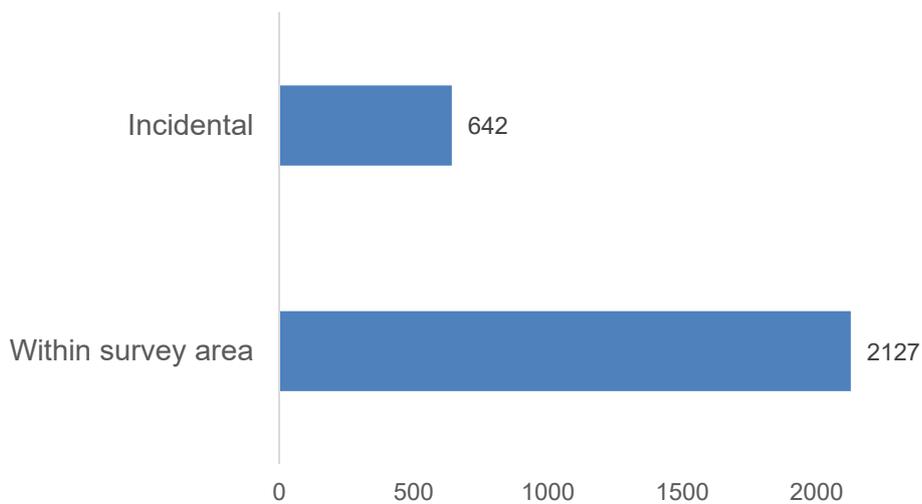


Figure 1. Total number of records during the 2019 bird survey period. Incidental observations made an important contribution to the data and recorded a number of species not found within the two-hectare study areas.



Participants at the 2019 Bird Blitz meeting location at Bald Hill Reserve.

Notable species recorded

- **Black-chinned Honeyeater** (threatened) was recorded in Cobaw with only one record in Macedon Ranges since 1977
- **White-bellied Sea-eagle** (threatened) was observed in the Pipers Creek area
- **Brown Treecreeper** (threatened) was recorded in Tylden
- **Pied Cormorant** (threatened) was recorded near Tylden
- **Hardhead Duck** (threatened) was recorded near Tylden
- **Fuscous Honeyeater** was recorded in Bullengarook which is the first record for the Macedon Ranges
- **Western Gerygone** was recorded on Mount Macedon with only one other record for Macedon Ranges in 1978
- **Restless Flycatcher** was recorded in Kyneton with last official record in Macedon Ranges in 2008
- **Jacky Winter** was discovered in Kyneton and is only the second recording in the last 20 years
- **Weebil** was recorded in Kyneton and has only been recorded three times in last 20 years in the Macedon Ranges
- **White-winged Triller** was thought to be an occasional visitor to the Macedon Ranges but our surveys found them to be widespread in the northern part of the shire

Top 30 species recorded

Species	Total
Australian Magpie	277
Crimson Rosella	231
Sulphur Crested Cockatoo	195
Grey Fantail	176
Yellow-faced Honeyeater	152
Striated Pardalote	122
Striated Thornbill	110
Red Wattlebird	105
Spotted Pardalote	92
Superb Fairy-wren	88
White-throated Treecreeper	81
Kookaburra	75
Little Raven	72
White-naped Honeyeater	72
Brown Thornbill	58
Long-billed Corella	55
White-winged Chough	49
Grey Shrike-thrush	46
Rufous Whistler	42
White-browed Scrubwren	41
Tree Martin	40
Fairy Martin	30
Welcome Swallow	28
Galah	26
Maned Duck	25
Common Starling	22
Common Blackbird	21
Pied Currawong	20
White-winged Triller	18
New Holland Honeyeater	17



Brown Treecreeper photo by David Cook
White-browed Scrubwren by Kirsty Barnes

A White-bellied Sea Eagle was recorded in the Kyneton Woodlands biolink. Pairs are known to breed around the large water bodies in the shire. Despite their name, they are often found inland. Image by Albert Golden.



The Western Gerygone has only been sighted twice since 1978 making it a very unusual visitor to the region. Image by David Cook.



Differences between biolinks

The biolinks to the north of the shire had a higher number of bird species detected. The Cobaw, Kyneton Woodlands and Upper Coliban all recorded over 50 species. These sites were also the locations where the five threatened species were detected.

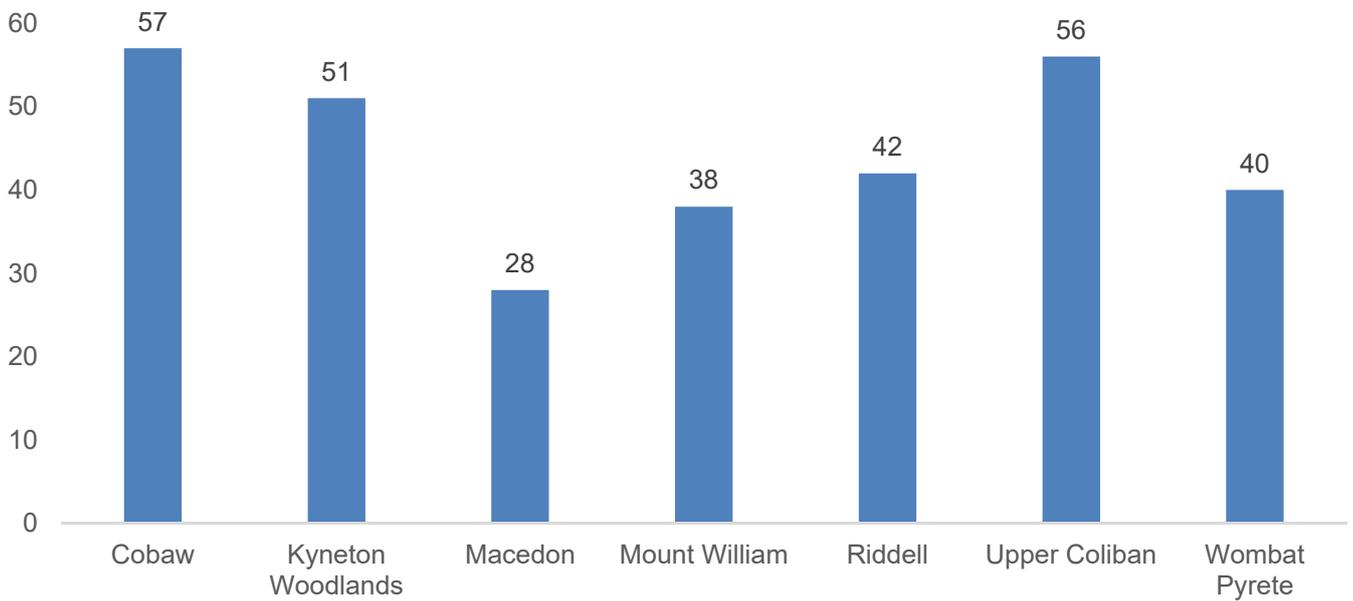


Figure 2. The number of species found in each biolink area. This data includes birds observed as incidentals. Note that the Macedon large habitat patch site only had six survey sites.



Black-chinned Honeyeater – photo by Brian McCauley

Gully vs ridges

Gullies often have higher amounts of moisture and better quality habitat, which could influence diversity of species. In our first year of surveys, there was a slight increase in diversity of species in gullies.

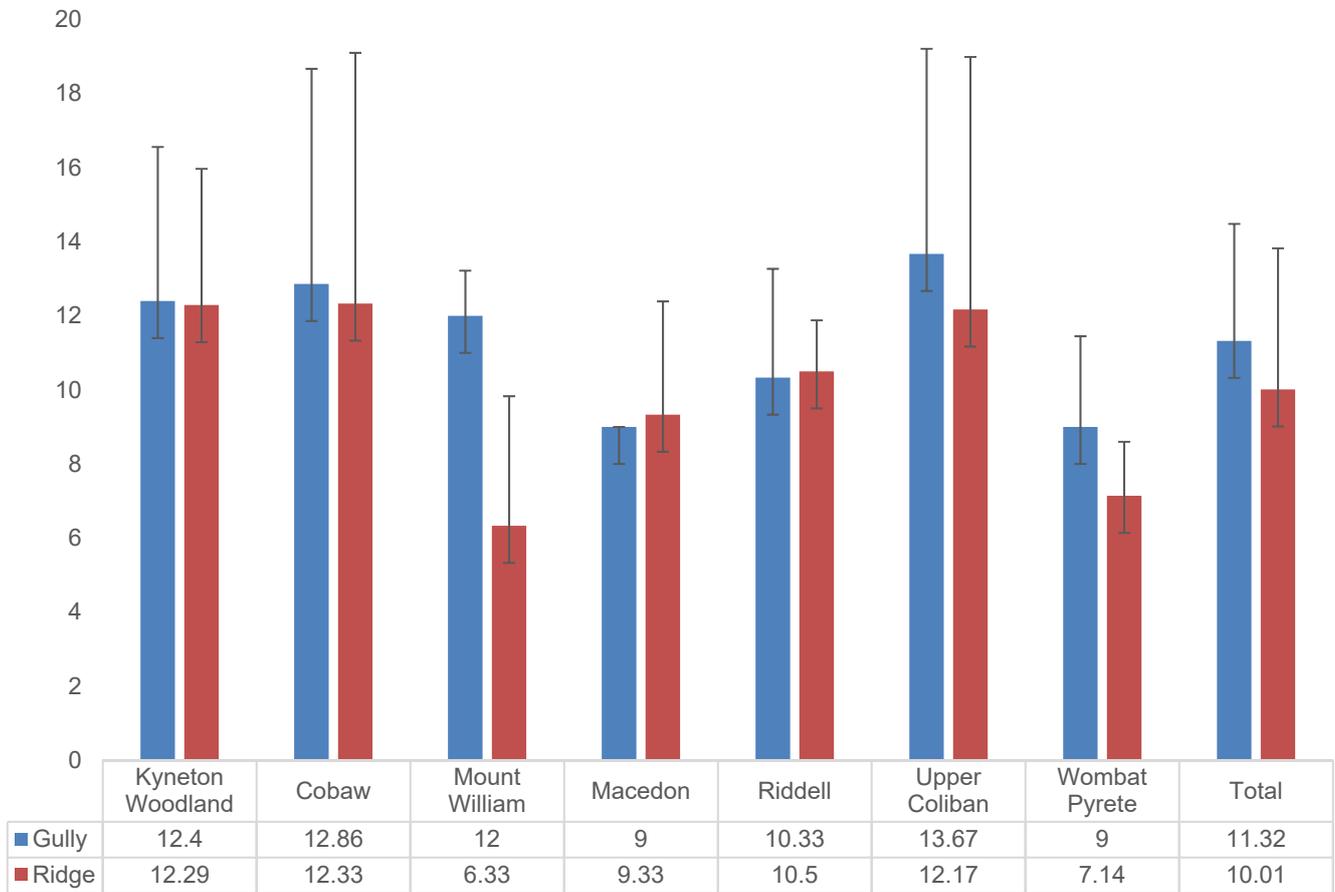
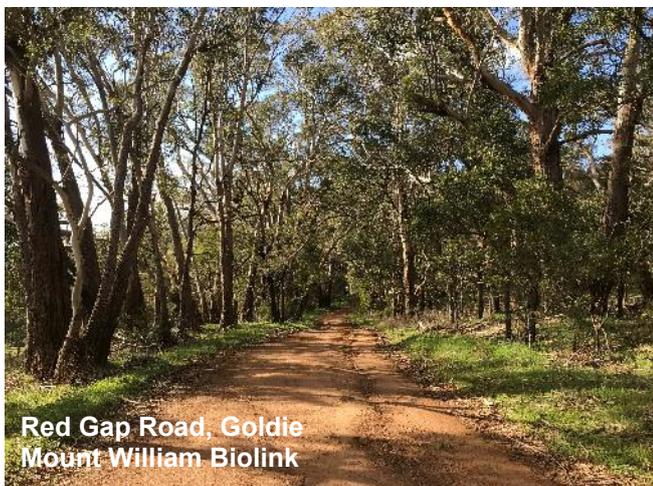


Figure 3. Mean number of species recorded in gullies versus ridges.

Example of a gully and ridge. Gullies generally had wetter conditions, taller trees and greener vegetation. Ridges usually consisted of drier conditions with less dense vegetation and shorter trees.



Large vs connecting habitat

Large habitat patches have been shown to support higher diversity of bird species. However, in the first year of surveys, our observations showed that connecting sites had a moderately higher diversity of species.

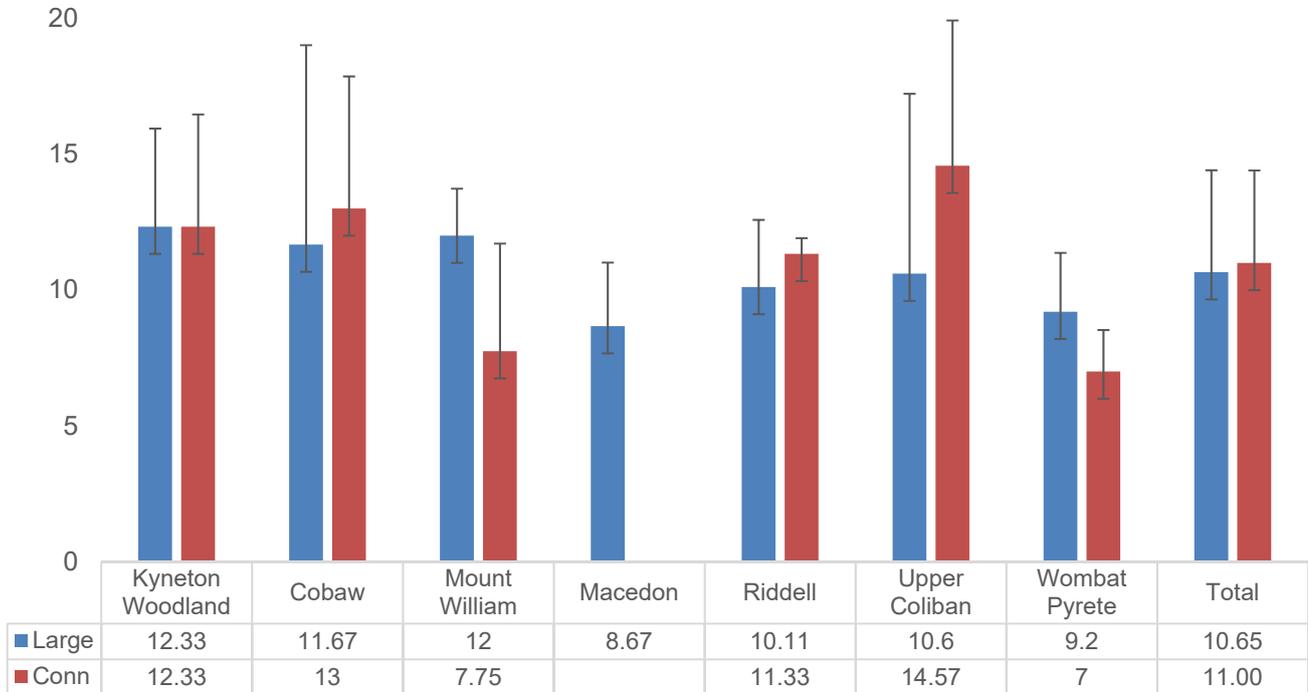


Figure 4. The diversity of bird species found on large habitat patch sizes vs sites with connecting habitat.

Example of large patch size and a connecting site. Large patch habitat sites usually had continuous canopy vegetation and were more intact with less disturbance from weeds and erosion. Connecting sites were usually surrounded by farming land with large distances between the site.



Introduced birds in connecting vs large habitat

Most of the introduced birds recorded were observed in the disturbed cleared areas in connecting sites. Interestingly, the Common Starling and Common Myna were not recorded in large habitat patches.

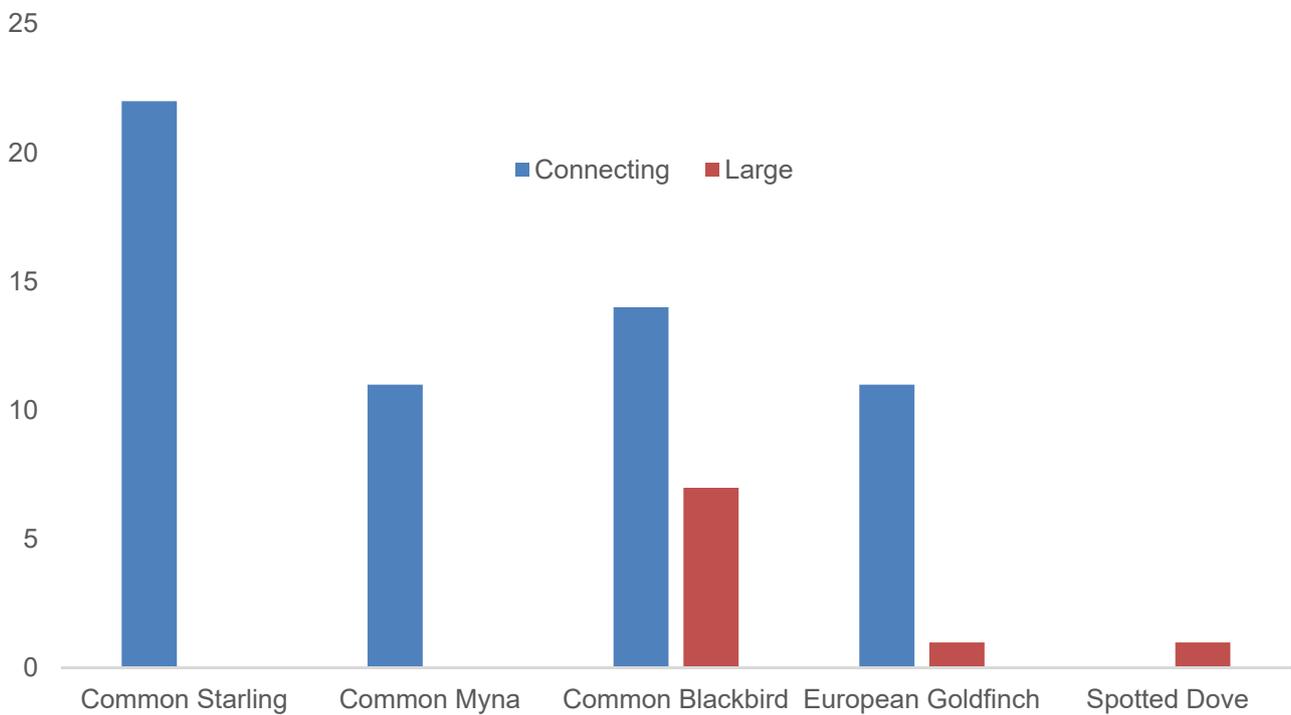


Figure 5. The number of introduced bird species in connecting and large habitat sites.

Conclusion

This report provides a summary of the key results for the first year of surveys. Future surveys are required to understand trends and landscape scale patterns. Council intends to complete surveys annually across all study sites. In 2020, the surveys will be extended to include the Cobaw large forest patch.

A number of locally uncommon birds (White-winged Triller, Western Gerygone and Black-chinned Honeyeater) were recorded. Future surveys will aim to determine if these species represent a growing trend in bird movements or if these are isolated observations.

Any enquires can be directed to the Council's Environment Team by emailing environment@mrsc.vic.gov.au

Sacred Kingfisher at Hanging Rock by Kirsty Barnes



Participant feedback:

"Thanks for organising yesterday. I went along initially to spend some time with my father who just turned 80 and wanted to take up bird watching as a new hobby. But after spending the morning with dad, our leader, and his wife surveying around the Wombat area I think I may have sparked a real interest myself. And being a part of the survey meant I learnt more about birds. I will definitely be attending again next year."

"Thank you so much for the great organisation of the Bird Blitz yesterday. I was in one of the groups which surveyed Riddells Creek. Your preparation made it easy to follow the instructions for each transect. I look forward to seeing the results once that huge amount of data is collated, and future environment events in the Shire."

Acknowledgements

Macedon Ranges Shire Council wishes to acknowledge the efforts of the many participants that assisted with the planning, surveys during the Bird Blitz, and the additional surveys.

We would like to acknowledge the enthusiasm and commitment of all the Bird Blitz participants.

Our survey leaders deserve a special thank you: Mark Buckby, Rick Purcell, Jane Rusden, Sue Boekel, Iain Denham, Robin Ford, Ian Temby, Caitlin Griffiths, Lawrie Conole, Tony Mew, Kathy Newing, John Shaw, Elizabeth Wemyss, Joel North, Peter Webb and William Terry.

Thanks to Jess Lawton from Connecting Country for her assistance with developing the bird monitoring forms and for providing helpful advice for our surveys.

Thanks also to Jane Rusden from BirdLife Goldfields for initial discussions and for advice on planning the surveys.

Finally, Mark Buckby (Woodend Bird Observers Group) deserves special mention for his assistance with additional bird surveys and support during planning.



Appendix 1. Summary of birds recorded

In total 97 species were recorded. The below list does not include a further 26 birds that could not be confidently identified to species level due to the brief encounter during the survey.

Recorded threatened species are listed under the Flora and Fauna Guarantee Act (**FFG**) and/or the Department of Environment, Land, Water and Planning Threatened Fauna Advisory (**DELWP**) listings.

Species	Total	FFG	DELWP	INTRODUCED
Australian Magpie	277			
Crimson Rosella	231			
Sulphur Crested Cockatoo	195			
Grey Fantail	176			
Yellow-faced Honeyeater	152			
Striated Pardalote	122			
Striated Thornbill	110			
Red Wattlebird	105			
Spotted Pardalote	92			
Superb Fairy-wren	88			
White-throated Treecreeper	81			
Kookaburra	75			
Little Raven	72			
White-naped Honeyeater	72			
Brown Thornbill	58			
Long-billed Corella	55			
White-winged Chough	49			
Grey Shrike-thrush	46			
Rufous Whistler	42			
White-browed Scrubwren	41			
Tree Martin	40			
Fairy Martin	30			
Welcome Swallow	28			
Galah	26			
Maned Duck	25			
Common Starling	22			*
Common Blackbird	21			*
Pied Currawong	20			
White-winged Triller	18			

New Holland Honeyeater	17			
Black-faced Cuckoo Shrike	16			
Eurasian Coot	16			
European Goldfinch	16			*
Yellow-rumped Thornbill	16			
Eastern Yellow Robin	15			
White-eared Honeyeater	15			
Australian Raven	14			
Grey Currawong	14			
Common Myna	13			*
Black Swan	12			
Australian Golden Whistler	11			
Buff-rumped Thornbill	10			
Dusky Woodswallow	10			
Masked Lapwing	10			
Pallid Cuckoo	10			
Sacred Kingfisher	10			
Magpie Lark	9			
Black-chinned Honeyeater	8		*	
Scarlet Robin	8			
Wedge-tailed Eagle	8			
Australian White-Ibis	7			
Common Bronzewing	6			
Horsefield Bronze Cuckoo	6			
Olive-back Oriole	6			
Silvereye	6			
Eastern Rosella	5			
Fan-tailed Cuckoo	5			
Hardhead Duck	5		*	
Shining Bronze Cuckoo	5			
Willie Wagtail	5			
Yellow Thornbill	5			
Pacific Black Duck	4			
Australian Grebe	3			
Brown Goshawk	3			
Brown-headed Honeyeater	3			
Crested Shrike-tit	3			
Eastern Spinebill	3			

Nankeen Kestrel	3			
White-faced Heron	3			
Brown Treecreeper	2		*	
Little Corella	2			
Australian King Parrot	1			
Pied Cormorant	1		*	
Australasian Pipit	1			
Brown Falcon	1			
Fuscous Honeyeater	1			
Gang Gang Cockatoo	1			
Great Crested Grebe	1			
Hoary-headed Grebe	1			
Jacky Winter	1			
Noisy Miner	1			
Pelican	1			
Peregrine Falcon	1			
Red-rumped Parrot	1			
Red-browed Finch	1			
Red-browed Treecreeper	1			
Restless Flycatcher	1			
Rufous Fantail	1			
Skylark	1			
Spotted Dove	1			*
Straw-necked Ibis	1			
Varied Sittella	1			
Weebill	1			
Western Gerygone	1			
White-bellied Sea-eagle	1	*	*	