

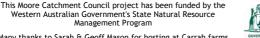


Saturday 5th & Sunday 6th September 2020 Carrah Farms, Western Australia

# Findings Report











#### What a weekend!



The 2020 Carrah Farms Bioblitz was organised by Moore Catchment Council, and hosted by Sarah & Geoff Mason, the owners of Carrah Farms.

**What is a Bioblitz?** A BioBlitz is a 24-hour event involving rapid collection of data about the biological diversity of a particular site; enabling scientists and other experts to identify as many plant and animal species as can be found in this limited time frame. It doesn't provide a complete inventory of species, but rather a 'snapshot' of the species that occur in the area.

A BioBlitz is a collaborative process, which brings together scientists, skilled amateurs, willing workers and interested 'others', with members of the local community, all working together to expand knowledge about the biodiversity of a particular location - you don't have to be a native flora and fauna whizz to join in!

The Carrah Farms Bioblitz took place 5-6th September 2020 with 45 people participating. The 24hr event intended to document as many flora, bird, bug and other animal species as possible. It was great fun and the event is best summed up by one of the participants

"Huge thanks for an incredible weekend. I had a horrible feeling I'd signed up for something that was way over my head- having to ID plants and birds but basically have a very limited knowledge.

What we actually just experienced was one of the most inclusive and family friendly events I've had the fortune to attend. Every "guru" was exceptionally open and accepting of all levels of knowledge and age. The kids are raving about things they got to do, pitfall traps, the loved the insect sessions, Joe's technical cameras- the whole thing was fabulous." Tracy Sievewright.









#### **Bioblitz location**



Carrah Farms is a working arable farm with 350ha of remnant Wandoo-Marri woodland and creek lines. Sarah's mum, Caroline Goodden, bought the farm in 2001 and now Sarah and Geoff Mason manage it. They have carried out many projects to protect and enhance the native bushland and riparian areas. The vegetation adjoins the Rica Erickson reserve to the south.

The farm is frequented by an array of wildlife including many bird species (inc. Carnaby's Black Cockatoo), echidnas, frogs, insects, bats etc September was the perfect time to view the Wandoo woodland wonderland.

There was much to explore at Carrah!



Carrah Farms is located at:

Participants camped at the Bioblitz HQ from Friday - Sunday. Carrah Farms cooked a delicious Saturday dinner and provided Sunday morning's eggs and bacon (which Graham Johnson, Rachel and children helped cook). Moora Citrus donated oranges. Additional activities included a Saturday night stalk with Joe and Sunday dawn birding session with Phil and Wayne. We were also blessed with good weather:)





# Surveying



- © Surveying consisted of 4 x 2hrs sessions 2 afternoon sessions on Saturday 5th September and 2 morning sessions on 6th September
- © Each session had 4 teams each with a 'guru' leader Flora, Insects, Bats/bugs/hole dwellers and Birds (Birds did split into 2 smaller teams for some of the sessions).
- © A scribe noted species found and recorded them on a provided survey sheet.
- There was no taking of flora and fauna away from the farm all ID was done in-situ and later referring to photos taken. Some insects were captured for investigation under the Bioblitz HQ microscope and then released.

#### The Carrah Farms Bioblitz recorded 256 flora and fauna species

- 170 flora species
- 42 bird species
- 44 insect morpho-species









### Team leaders





Phil Lewis I'm a long time BirdLife member having been interested in birds for many years. I am the convener of the Wheatbelt Avon Bird Group, a localised branch of BirdLife. I worked 5 years for WWF helping farmers look after remnant bushland on there farms. Mainly just funding for fencing out the stock but sometimes a conservation covenant. I'm also on the comity of the WA Malleefowl Recovery Team and coordinate the monitoring of Malleefowl mounds on 3 sites. Otherwise I just love all nature.

Flora



Kylie Payne I have worked in a variety of environmental roles in community landcare / natural resource management and with state and local government from the Goldfields, to the Midwest and South West and around Perth. I enjoyed my time in the Northern Agricultural Region 10 or so years ago as Biodiversity Support Officer till the funding dried up! I love meeting people and learning together about our amazing native flora. I also enjoy taking photos of our colourful flora and sunsets and love echidna's.

Flora



Veronica Metcalf I graduated from Murdoch late last century (1999) with an Environmental Science degree, and did Honours in dryland salinity issues, in particular, using computer modelling to assess the effectiveness of revegetation scenarios. I worked as Landcare Project Officer at Calingiri for nearly 3 years after graduating, then went overseas for a few years before working in landcare yet again for the Hotham Catchment, in Boddington. Have been a mum and small acreage farmer for the last 13 odd years, with a passion for our local fauna and flora.



Wayne O'Sullivan Wayne comes from a background in revegetation and remnant ecology protection in low rainfall parts of WA. After a lifetime of tree research and development, large scale revegetation and rehabilitation, community engagement and support, and advocacy, he's now a retired bird (and plant) nerd, who spends a fair bit of time as a mentor for natural history projects with Millennium Kids Inc.



Dilanka Mihindukulasooriya Dilanka is an Environmental Scientist at Astron and completed her PhD in environmental biology at Curtin University. She has significant field experience across a wide range of environmental fields, including the monitoring of soil, water and air quality and the survey of flora and fauna. Dilanka has two years of teaching experience as a University Lecturer on Pollution and Ecotoxicology. She has over ten years of experience insect taxonomy.



Joe Tonga Joe is the Batman! Passion for microbats. Works with schools to help build bat boxes and educate about bats and other bush animals. Has a great pole camera for spying in nests and hidey-holes. Plus lots of gizmos for night stalks - great for the kids!

Rachel Walmsley I've worked for Moore Catchment Council since early 2008 after emigrating to Western Australia in 2007. I enjoy exploring the natural environment and often disappear for a wander !! I also enjoy wildflower photography and actively promote the Moore's vast array of natural assets for conservation and eco-tourism on social media and through publications.

#### Flora/general



Sarah Mason Sarah grew up in England and Zambia and has always loved the wilder areas of wherever she is. Arriving in Australia in 1988 she realised that she had been born in the wrong country and

spent many years trying to find a way to stay here. She married a bloke from the bush; Bencubbin, and was granted residency. Once this happened her mum decided to buy a farm in WA. Carrah Farms is the result and this led to Sarah joining the local Calingiri/New Norcia LCDC and then becoming sec/treas of that and then onto Moore Catchment Council.



# Flora walks summary



Flora report by Kylie Payne

The Flora walks were conducted at 4 different sites for the 4 different sessions. Please refer to the Map. Veronica Metcalfe and Kylie Payne co-led the flora walks with a great diversity of participants. It was great to have the kids involved too.

All together we found approximately 170 flora species across the 4 sites: There were 22 species found at all 4 sites, 25 species found at 3 sites, 32 species at 2 sites and 92 species were found at only 1 of the sites. Sites 1 and 3 had the most similar species.

Tetratheca pilifera

A Priority 3 species was found at Site 2, *Tetratheca* pilifera. Synaphea grandis (Priority 4) and Hibbertia elegans, a known Priority 1 species were found at Site 4. The Priority species are poorly known species and

need further study, so it was exciting to find a couple more Priority species during the flora sessions.

Attached is a list of all the species found, including scientific name and common names, and description from the field sheets. The list also shows which sites each species was found at.

Please note: The identifications are tentative due to being done mostly from photos. Some plants were not in flower or we didn't have a photo of, so a few are still unknown, but most have now been identified.



0 0.25 0.5 1 Kilometers Carrah Farms

BIOBLITZ - SEPTEMBER 2020 - FLORA WALKS

Site Location No of Description species 77 South East (closest to Open Wandoo **BioBlitz Headquarters**) woodland Central Laterite ridge 92 3 West Open Wandoo 73 woodland North, closest to 4 Wandoo marri 76 house Woodland

Also attached are photo pages showing most of the species that were photographed at each site.

Special thanks to other photographers who supplied their photos and assisted with identifications: Andrew Hunter, Dannielle Reed, Neville Horner, Sharon Lewis and Rachel Walmsley. Also, a big thank you to Michael Hislop, Robert Davis, Juliet Wege and Ryonen Butcher from the WA Herbarium who helped with ID's and any others who assisted. Thanks again to everyone for participating in the flora walks and if we go back again it would be great to build on this already impressive list.

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#### FLORA SPECIES LIST - SITES 1 TO 4

**CARRAH BIOBLITZ - SEPTEMBER 2020** 

Species we don't have photos of

Some of these are easy to identify but would still be nice to have a photo of; others we need for identification purposes

Scientific name	Common Name	Description	Site 1 South East	Site 2 Central	Site 3 West	Site 4 North	Tally (# of sites found at)
Acacia leptospermoides subsp. leptospermoides		Fine fleshy leaf			1	1	2
Acacia pulchella sens. lat.	Prickly Moses		1	1	1	1	4
Acacia sp. ?		Typical elliptic leaf shape drawn		1			1
Acacia ?andrewsii				1			1
Acacia ?drummondii	Drummond's Wattle	Grey green leaf, golden new growth in seed		1			1
Acacia ?lasiocarpha	Panjang or Glow Wattle		1	1			2
Acacia urophylla	Pointed leaved Acacia, Tall-leaved Acacia, Veined Wattle or Net-leaved Wattle	Leaves only		1		1	2
Adenanthos cygnorum	Common Woollybush	hairy leaves		1	1	1	2
Allocasuarina ?huegeliana		more likely to be Allocasuarina humilis?		1			1
Allocasuarina humilis	Dwarf Sheoak	red flowers and nuts	1		1	1	3
Amyema sp.		Mistletoe on Eucalypt		1			1
Anigozanthos humilis	Catspaw		1		1		2
Asteraceae sp.		daisy small white				1	1
Asteraceae sp.		yellow daisy				1	1
Austrostipa sp.	Speargrass or Stipa		1		1		2
Banksia bipinnatifida subsp. multifida		Not in flower, leaves only		1			1
Banksia dallanneyi	Couch Honeypot	was Dryandra Iindleyana	1	1	1	i	4
Banksia fraseri			1		1		2
Banksia grandis						1	1
Banksia nivea			1			1	1
Banksia nobilis subsp. nobilis	Golden Dryandra					1	1





Banksia polycephala	Many-headed Dryandra		1	1			2
Banksia sessilis	Parrot Bush		1	1		1	3
Banksia squarrosa	Pingle	was Dryandra carduacea		1	1	1	3
Billardiera sp.				1		1	2
Boronia ovata						1	1
Borya sphaerocephala	Resurrection Plant, Pin Cushions		1		1	1	3
Bossiaea eriocarpa	Common Brown pea		1	1	i	1	4
Bossiaea spinescens		Dark yellow and red flowers		1			1
Caesia micrantha	Pale grass-lily	tiny white flower 6 petals		1			1
Caladenia denticulata subsp. denticulata	Yellow Spider Orchid			1			1
Caladenia denticulata subsp. rubella	Clumped Spider Orchid	Wispy petals – red tips		1			1
Caladenia flava	Cowslip Orchid		1	1	1	1	4
Caladenia longicauda subsp eminens	Stark White Spider Orchid	very tall and large, many of them Site 2	1	1	1	1	4
Calandrinia ?granulifera	Pygmy Purslane	white or pink flower - 5 petal, groundcover	1				1
Calothamnus quadrifidus	One-sided Bottlebrush				1	1	2
Calothamnus sanguineus	Silky-leaved Blood flower	Not flowering	1	1			2
Calytrix leschenaultii						1	1
Calytrix variabilis	Purple Starflower or Fringe Myrtle	purple flower		1	1		2
Chamaescilla corymbosa	Blue squill		1	1	1	1	4
Cheilanthes sp. ?		fern, maybe Banksia bipinnatifida subsp. multifida		1			ì
Comesperma volubile	Love creeper	Blue/purple flowers	1	1			2
Conostylis ?candicans		grey tough leaf				1	1
Conostylis setigera	Bristly Cottonhead		1		1	1	3
Conostylis sp.	Yellow Cottonhead	tiny		1			1
Conostylis ?aurea	Golden Conostylis		1				1
Corymbia calophylla	Marri		1	1	1	1	4





Cryptandra arbutiflora	Waxy Cryptandra	Cream to pink tubular flowers 2 photos	1				1
Cryptandra nutans		(see photo in full flower- pink, apricot, cream flower)	1				1
Cyanicula gemmata	Blue China Orchid		1				1
Dampiera lavandulacea		Flower colours dark purple to mauve, white, pink - Grey furry leaf	1	1	1		3
Dampiera lindleyi		Long flat upright leaf	1	i			2
Daviesia angulata		spiky leaves and pods		1		1	2
Daviesia decurrens	Prickly Bitter-pea				ĭ		1
Daviesia hakeoides subsp. subnuda		No leaves, triangle shaped orange/red fruit	1	1	1		3
Desmocladus ?asper	Sedge 1	twisty, spirals	- AU		1		1
Dianella revoluta	Blueberry Lily		1	1	1	1	4
Dillwynia laxiflora	Parrot Pea		1	1	1		3
Diuris corymbosa	Common Donkey Orchid	some with small face		1		i	2
Diuris corymbosa complex	Donkey Orchid	finished flowering	1	1	î	1	4
Dodonaea ericoides	Hopbush	fruit looks like Lechenaultia buds		1			1
Drosera erythrorhiza	Red Ink Sundew	flat plant/ leaves	1	1	1	1	4
Drosera glanduligera	Pimpernel Sundew					1	1
Drosera macrantha or D. menziesii or D. pallida	Bridal rainbow	White flower, long climber	1	1	1	1	4
Ericksonella saccharata	Sugar Orchid		1		1		2
Ericomyrtus tenuior		STABM pink/apricot flower			1	1	2
Eucalyptus accedens	Powderbark Wandoo			1	1		2
Eucalyptus drummondii	Drummond's Gum					i	1
Eucalyptus wandoo	Wandoo		1	1	1	1	4
Gastrolobium ?spathulatum	Poison Bush		1	1			2
Gastrolobium spinosum	Prickly poison	not in flower	1	1		1	3
Glischrocaryon aureum	Common Popflower			1		i	2
Glischrocaryon flavescens?	Pale Yellow Pop- flower	No flowers or leaves		1			1





Gompholobium marginatum	Wedge Pea or Glory Pea	Yellow flowers	1		1		2
Gompholobium sp. ?		Leaves only ? Acacia?		1			1
Goodenia ?berardiana	Goodenia	yellow flower	1				1
Goodenia ?pusilliflora	Smallflower Goodenia					1	1
Goodenia sp.					1		1
Grevillea pilulifera	Woolly-flowered Grevillea	Cream flower with red and yellow ends		1			1
Grevillea sp.		Red flower low ground		1			1
Grevillea synapheae	Catkin Grevillea		1	1	1	1	4
Grevillea umbellata		Cream flower		1			1
Haemodorum sp.	Bloodroot or Mardja		1	1		1	3
Haemodorum spicatum	Bloodroot, Mardja				1		1
Hakea ?erinacea	Hedge-hog Hakea	Hakea - in thicket		1			1
Hakea ruscifolia		elliptical pointed leaves, no flowers				1	1
Hakea ?sulcata	Furrowed Hakea	Very small fruit		1			1
Hakea lissocarpha	Honey Bush	One white flower	1	1	1		3
Hakea sp.		tall, white summer flower		1		1	2
Hakea trifurcata	Twin-leaf Hakea or Dead Dog Hakea				1		1
Helichrysum leucopsideum ?	Unknown	?weed, no flowers, many plants under wandoo	1				1
Hemigenia incana	Silky Hemigenia	Mauve flower, very furry leaves		1			1
Hibbertia ?hemignosta						1	1
Hibbertia elegans		Priority 1				1	1
Hibbertia hypericoides	Yellow Buttercup		1	1	1	1	4
Hibbertia sp.		Large flower				1	1
Hibbertia sp.		prostrate shrub, grey green leaves, yellow flowers in bud			1		1
Hovea chorizemifolia	Holly-leaved Hovea	Holly leaves		1			1
Hovea pungens	Devils Pins	No flowers, in fruit	1	1	1	1	4
Hypocalymma angustifolium	Myrtle					1	1
Isotropis ?juncea	Slender Lamb Poison	Maybe Isotropis cuneifolia	1				1





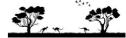
Jacksonia sternbergiana	Stinkwood				1		1
Kennedia prostrata	Running Postman, Scarlet Runner				1	1	2
Lawrencella rosea	Pink everlasting					1	1
Lechenaultia biloba	Blue Leschenaultia		1		1	i	3
Lepidobolus preissianus	-	Segmented sedge, Site 2 could be Lyginia imberbis	1	1	1		3
Leptospermum ?erubescens	Roadside Teatree?		1				1
Leucopogon pulchellus	Beard-heath	white hairy cross flowers	1	1		1	3
Lomandra sp.?	Matrush		1		1		2
Lyginia imberbis		1		1	1		1
Macrozamia fraseri	Zamia			1	1	1	3
Melaleuca radula	Graceful Honeymyrtle	White flower		1			1
Melaleuca scabra	Rough Honeymyrtle					1	1
Mesomelaena ?tetragona	Sedge	Unknown - Strappy - no flowers			ì		1
Mesomelaena preissii	Sedge			1	1		2
Mesomelaena sp.		in pic w Red Ink Drosera	1				1
Mirbelia spinosa	Spiny Mirbelia	Pea, prickly like Acacia pulchella		1			1
Myrtaceae sp.		STABM?		1			1
Myrtaceae sp.		red/brown flower?			1		1
Myrtaceae sp.		wiry ground Grevillea?			1		1
Myrtaceae sp.		Grevinea:	-		- 1	-	
Neurachne alopecuroidea	Foxtail Mulga Grass		1	1	1	1	4
Olearia rudis	Rough Daisybush or Azure Daisy Bush		1	1	1	1	4
Opercularia vaginata	Dog Weed		1		1	1	3
Orthrosanthus laxus	Morning iris		1	1			2
Petrophile serruriae	Coneflower			1	1		2
Petrophile striata	Sticky Petrophile	yellow flowers	1		1	1	3
Pheladenia deformis	Blue Beard or Blue Fairy Orchid			1			1
Phyllanthus calycinus	False Boronia		1	1	1	1	4
Pimelea sp.	Rice Flower				1		1
Platysace cirrosa	Karna				1		1
Podolepis gracilis	Slender Podolepis	white daisy Site 2, same in Site 1 but not in flower there	1	4			2





Prasophyllum hians	Yawning Laughing	grows to 50cm tall					
Prasophynam mans	Leek Orchid	grows to sociii taii	1				1
Pterostylis brevisepala	Short-eared Snail Orchid					1	1
Pterostylis recurva	Jug Orchid	Some post flowering, forming seed.	1	1	1		3
Pterostylis sp.	Greenhoods	Finished, in Macrozamia		1			1
Pterostylis sp in the Pterostylis vittata complex	Banded Greenhood	After flowering	1		1		2
Ptilotus manglesii	Pom Poms. Mulla	Leaves only	1		1		2
Pyrorchis nigricans	Red Beak Orchid	Leaves only		1			1
Restionaceae sp.		sedge 1				1	1
Restionaceae sp.		sedge 2				1	1
Restionaceae sp.		sedge 3				1	1
Santalum acuminatum	Quandong		1		1	- )	2
Sowerbaea laxiflora	Purple Tassels				1		1
Sphaerolobium medium			1				1
Stackhousia pubescens	White Candles, Downy Stackhousia			1	1	1	3
Stylidium affine	Queen Triggerplant	Thick strappy plant in bud	1				1
Stylidium androsaceum	Book Triggerplant	No basal leaf		1			1
Stylidium bindoon	like Common Butterfly Triggerplant	cream yellow flower, common at most sites	1	1	1	1	4
Stylidium cilium		leaves only, little green soft spiky tufts	1	i	1	1	4
Stylidium sp.		possibly pink butterfly				i	1
Stylidium sp. ?repens	Matted Triggerplant	or S. adpressum Trigger-on-stilts	1				1
Stylidium tenue subsp. majusculum	Showy Fountain Triggerplant	pink flower spike, most not in flower some in bud, green stalks with buds	1		1	1	3
Stypandra glauca	Bling Grass or Nodding Blue Lily		1	1	1		3
Styphelia pallida	Kick Bush	white flower (was Astroloma pallidum)	1	1	1		3
Styphelia sp.		Red flower (was Astroloma sp.)		1			1





Styphelia sp.		was Astroloma sp.				1	1
Styphelia tenuiflora	Common Pinheath	green buds, 3 pics with fruit	1				1
Synaphea grandis	Priority 4 (poorly known)	flat blue green leaves with yellow flower spikes				1	1
Templetonia drummondii	Yellow flowered pea	Yellow climbing sprawling pea			1		1
Tetratheca confertifolia	Pink Eyes, Pink Bells or native Black Eyed Susan		1	1	1	1	4
Tetratheca pilifera	Priority 3 (poorly known)	dark green ovate leaves		1			1
Thysanotus manglesianus or patersonii	Fringe Lily	Small sprawling	1		1	1	3
Trachymene pilosa	Native Parsnip	white flower	1	1	1	1	4
Trachymene ornata	Spongefruit	white spongy, tiny plant growing on laterite	1				1
Tripterococcus brunonis	Winged Stackhousia	Stackhousia like – yellow	1		1	1	3
Trymalium ledifolium var. lineare	Thin-leaved Trymalium or Soap Bush	long thin leaves	1	1		1	3
Waitzia sp. ?		Everlasting - white flower, in bud		1			1
Xanthorrhoea drummondii	Drummond's Balga			1			1
Xanthorrhoea sp.	Grass Tree					1	1
Xerochrysum macranthum	Golden everlasting	large bright yellow paper flowers		1			1
			77	92	73	76	

Fungi and Lichen					
Coltricia cinnamomea	Cinnamon fungus			1	1
	Lichen	ground-hugger mossy lichen	1		1







# Flora species





Anigozanthos humilis Catspaw Photo: Andrew Hunter



Banksia fraseri Photo: Kylie Payne



Banksia polycephala Many-headed Dryandra Photo: Kylie Payne



Borya sphaerocephala Pincushions or Resurrection Plant Photo: Kylie Payne



Bossiaea eriocarpa Common Brown Pea Photo: Kylie Payne



Caladenia flava - Cowslip Orchid And Neurachne alopecuroidea Foxtail Mulga Grass Photo: Kylie Payne



Caladenia longicauda subsp eminens Stark White Spider Orchid Photo: Kylie Payne



Calandrinia ?granulifera Pygmy Purslane Photo: Kylie Payne



Conostylis setigera Bristly Cottonhead Photo: Kylie Payne



# Flora species





Cryptandra arbutiflora Waxy Cryptandra



Cryptandra nutans Photo: Kylie Payne



Cyanicula gemmata Blue China Orchid Photo: Andrew Hunter



Dampiera lavandulacea Photo: Kylie Payne



Dampiera lindleyi Photo: Andrew Hunter



Drosera erythrorhiza Red Ink Sundew Photo: Kylie Payne



Gastrolobium ?spathulatum Poison Bush Photo: Kylie Payne



Gompholobium marginatum Wedge pea Photo: Kylie Payne



Grevillea synapheae Catkin Grevillea Photo: Kylie Payne







Hibbertia hypericoides Yellow Buttercups Photo: Kylie Payne



Isotropis juncea Slender Lamb Poison Photo: Kylie Payne



Lechenaultia biloba Blue Leschenaultia Photo: Kylie Payne



Lechenaultia biloba Blue Leschenaultia Photo: Kylie Payne



Leucopogon pulchellus Beard Heath Photo: Kylie Payne



Olearia rudis Rough Daisybush Photo: Kylie Payne



Orthrosanthus laxus Morning Iris Photo: Kylie Payne



Petrophile striata Sticky Petrophile Photo: Kylie Payne



Prasophyllum hians Yawning Leek Orchid Photo: Kylie Payne







Ptilotus manglesii Pom poms Photo: Kylie Payne



Santalum acuminatum Quandong Photo: Kylie Payne



Sphaerolobium medium Photo: Kylie Payne



Stylidium bindoon Photo: Kylie Payne



Stylidium tenue subsp. majusculum Showy Fountain Triggerplant Photo: Kylie Payne



Stypandra glauca Nodding Blue Lily or Blind Grass Photo: Kylie Payne



Trachymene ornata - Spongefruit and Calandrinia ?granulifera Photo: Kylie Payne



Styphelia tenuiflora Pinheath Photo: Kylie Payne



Tetratheca confertifolia Pink-eyes Photo: Kylie Payne



Tripterococcus brunonis Winged Stackhousia Photo: Kylie Payne







Acacia pulchella Prickly Moses Photo: Kylie Payne



Acacia urophylla Veined or Pointed-leaved Wattle Photo: Rachel Walmsley



Banksia dallanneyi Couch Honeypot Photo: Kylie Payne



Bossiaea spinescens Photo: Kylie Payne



Caladenia denticulata subsp. denticulata Yellow Spider Orchid Photo: Kylie Payne



Caladenia denticulata subsp. rubella Clumped Spider Orchid Photo: Kylie Payne



Caladenia longicauda subsp. eminens Stark White Spider Orchid Photo: Kylie Payne



Caladenia longicauda subsp eminens Stark White Spider Orchid Photo: Kylie Payne



Calytrix variabilis Purple Starflower Photo: Dannielle Reed







Comesperma volubile Love Creeper Photo: Rachel Walmsley



Dampiera lavandulacea Photo: Kylie Payne



Daviesia angulata Bitter Pea Photo: Kylie Payne



Dillwynia laxiflora Photo: Kylie Payne



Diuris corymbosa Donkey Orchid Photo: Andrew Hunter



Drosera ?macrantha Climbing Sundew Photo: Kylie Payne



Grevillea pilulifera Photo: Dannielle Reed



Grevillea umbellata Photo: Kylie Payne



Hakea erinacea Hedgehog or Porcupine Hakea Photo: Kylie Payne







Hakea lissocarpha Honey Bush Photo: Rachel Walmsley



Hemigenia incana Photo: Kylie Payne



Leucopogon pulchellus Beard Heath Photo: Kylie Payne



Macrozamia fraseri Zamia Photo: Kylie Payne



Diuris sp. and Pterostylis sp. growing in Macrozamia fraseri Orchids growing in Zamia Photo: Kylie Payne



Melaleuca radula Graceful Honeymyrtle Photo: Rachel Walmsley



Mesomelaena preissii Sedge Photo: Kylie Payne



Mirbelia spinosa Photo: Dannielle Reed



Olearia rudis Rough Daisybush Photo: Rachel Walmsley





#### FLORA WALK - SITE 2 - CENTRAL - LATERITE RIDGE



Petrophile serruriae Photo: Kylie Payne

Pheladenia deformis Blue fairy orchid or Blue Beard Photo: Kylie Payne



Phyllanthus calycinus False Boronia Photo: Dannielle Reed



Podolepis gracilis Slender Podolepis Photo: Kylie Payne



Pterostylis recurva Jug Orchid Photo: Kylie Payne



Stackhousia pubescens Downy Stackhousia Photo: Kylie Payne



Stylidium bindoon Triggerplant Photo: Kylie Payne



Stylidium cilium Photo: Kylie Payne



Stylidium androsaceum **Book Triggerplant** Photo: Kylie Payne







Tetratheca confertifolia
Photo: Rachel Walmsley



Tetratheca pilifera
Priority 3 species (poorly known —
needs further survey)
Photo: Rachel Walmsley



Tetratheca pilifera Priority 3 Photo: Kylie Payne



Trymalium ledifolium var. lineare Thin-leaved Trymalium or Soap Bush Photo: Dannielle Reed



Unknown Gompholobium sp? Photo: Kylie Payne



Xanthorrhoea drummondii Drummond's Balga Photo: Kylie Payne



Landscape: Eucalyptus Wandoo and Xanthorrhoea drummondii Photo: Rachel Walmsley



Xerochrysum macranthum Golden Everlasting Photo: Andrew Hunter







Acacia leptospermoides subsp. leptospermoides Photo: Kylie Payne



Acacia pulchella Prickly Moses Photo: Dannielle Reed



Allocasuarina humilis Dwarf Sheoak Photos: Andrew Hunter



Anigozanthos humilis Catspaw Photo: Kylie Payne



Banksia fraseri Photo: Kylie Payne



Banksia squarrosa Pingle Photo: Dannielle Reed



Borya sphaerocephala Resurrection Plant or Pin Cushions Photo: Kylie Payne



Caladenia flava Cowslip Orchids Photo: Kylie Payne



subsp. eminens
Stark White Spider Orchid
Photo: Andrew Hunter







Chamaescilla corymbosa Blue Squill Photo: Kylie Payne



Conostylis setigera Bristly Cottonhead Photo: Kylie Payne



Conostylis setigera Bristly Cottonhead Photo: Kylie Payne



Dampiera lavandulacea Photo: Kylie Payne



Dampiera lavandulacea Photo: Kylie Payne



Dillwynia laxiflora Parrot Pea Photo: Kylie Payne



Drosera ?macrantha Bridal rainbow Photo: Kylie Payne



Drosera ?macrantha Photo: Kylie Payne



Ericksonella saccharata Sugar Orchid Photo: Andrew Hunter







Ericomyrtus tenuior Photo: Kylie Payne



Eucalyptus wandoo Wandoo Photo: Kylie Payne



Gompholobium marginatum Wedge Pea Photo: Kylie Payne



Goodenia sp.
Photo: Sharon Lewis



Grevillea synapheae Catkin Grevillea Photo: Sharon Lewis



Hibbertia sp. ? Photo: Kylie Payne



Hibbertia hypericoides Yellow Buttercups with *Drosera* sp. Photo: Kylie Payne



Hibbertia hypericoides Yellow Buttercups Photo: Sharon Lewis



Hovea pungens Devils Pins Photo: Kylie Payne







Lechenaultia biloba Blue Leschenaultia Photos: Kylie Payne







Lechenaultia with Drosera

Lechenaultia bilobo Photo: Dannielle reed

Lechenaultia biloba with Conostylis setigera











Lepidobolus preissianus Photo: Kylie Payne



Mesomelaena preissii Sedge Photo: Kylie Payne



Neurachne alopecuroidea Foxtail Mulga Grass Photo: Kylie Payne



Olearia rudis Rough Daisybush or Azure Daisy Bush Photo: Dannielle Reed



Petrophile serruriae Photo: Kylie Payne



Petrophile striata Sticky Petrophile Photo: Dannielle Reed



Stackhousia pubescens White Candles or Downy Stackhousia Photo: Kylie Payne



Stylidium bindoon Photo: Kylie Payne



Stylidium cilium Photo: Kylie Payne







Stylidium tenue subsp. majusculum Showy Fountain Triggerplant Photo: Kylie Payne



Stypandra glauca Blind Grass or Nodding Blue Lily Photo: Sharon Lewis



Styphelia pallida Kick Bush Photo: Kylie Payne



Templetonia drummondii Photo: Kylie Payne



Tetratheca confertifolia Photo: Kylie Payne



Thysanotus ?manglesianus Twining Fringe Lily Photo: Andrew Hunter



Trachymene pilosa Native Parsnip Photo: Kylie Payne



Unknown Photo: Kylie Payne



Unknown Photo: Kylie Payne







Acacia leptospermoides subsp. leptospermoides Photo: Neville Homer



Acacia pulchella Prickly Moses Photo: Neville Horner



Adenanthos cygnorum Common Woollybush Photo: Neville Horner



Allocasuarina humilis Dwarf Sheoak Photo: Neville Horner



Banksia nobilis subsp. nobilis Golden Dryandra Photo: Rachel Walmsley



Banksia nobilis subsp. nobilis



Billardiera sp. Appleberry Photo: Neville Homer



Banksia sessilis Parrot Bush Photo: Neville Homer



Photo: Neville Horner



Boronia ovata Photo: Rachel Walmsley



Borya sphaerocephala Pin Cushions Photo: Neville Horner







Bossiaea eriocarpa Common Brown Pea Photo: Neville Horner



Caladenia flava Cowslip Orchids Photo: Neville Horner



Caladenia longicauda subsp. eminens Stark White Spider Orchid Photo: Neville Horner



Calytrix leschenaultii Purple Starflower Photo: Neville Horner



Coltricia cinnamomea Cinnamon fungus Photo: Neville Horner



Chamaescilla corymbosa Blue Squill Photo: Neville Horner



Conostylis setigera Bristly Cottonhead Photo: Neville Horner



Corymbia calophylla Marri Photo: Rachel Walmsley



Daviesia angulata Photo: Neville Horner



Diuris corymbosa Donkey Orchid Photo: Neville Horner



Drosera erythrorhiza Red Ink Sundew Photo: Neville Horner



Drosera glanduligera Pimpernel Sundew Photo: Neville Horner







Ericomyrtus tenuior
Photo: Neville Horner



Gastrolobium spinosum Prickly Poison Photo: Neville Horner



Glischrocaryon aureum Common Popflower Photo: Neville Horner



Goodenia ?pusilliflora Photo: Neville Horner



Grevillea synapheae Catkin Grevillea Photo: Neville Homer



Hakea ruscifolia Photo: Neville Horner



Hibbertia elegans
Priority 1 species
Photo: Neville Horner



Hibbertia hemignosta Photo: Neville Horner



Hibbertia hypericoides Yellow Buttercups Photo: Neville Horner



Hypocalymma angustifolium White myrtle Photo: Neville Horner



Lawrencella rosea Pink everlasting Photo: Rachel Walmsley



Lechenaultia biloba Blue Leschenaultia Photo: Neville Horner







Leucopogon pulchellus Beard Heath Photo: Neville Horner



Petrophile striata Sticky Petrophile Photo: Neville Horner



Phyllanthus calycinus
False Boronia
Photo: Neville Horner



Pterostylis brevisepala Short-eared Snail Orchid



Stackhousia pubescens White Candles/ Downy Stackhousia Photo: Neville Horner



Stylidium bindoon Photo: Neville Horner



Stylidium cilium Photo: Neville Horner



Stylidium tenue subsp. majusculum Showy Fountain Triggerplant Photo: Neville Horner



Synaphea grandis (Priority 4) Photo: Neville Horner



Tetratheca confertifolia Photo: Neville Horner



Tripterococcus brunonis Winged Stackhousia Photo: Neville Horner



Trymalium ledifolium var. lineare Thin-leaved Trymalium or Soap Bush Photo: Neville Horner



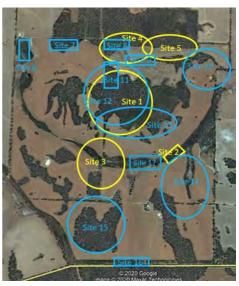
#### **Birds**



42 species of bird were spotted around Carrah Farms over the weekend. Phil Lewis and Wayne O' Sullivan led the birding groups.

Bird report by Wayne O' Sullivan

"We did two sorts of bird surveys at Carrah. The most common were area surveys, where a patch was surveyed for whatever time was available. This allows time to photograph, admire, and discuss the birds and their habits. It's also a nice easy introduction to birding for those with less experience. Additionally, we did some more specific 2ha 20 minute surveys, a more formal methodology, with the surveys matched to GPS locations. These surveys have gone onto the BirdLife database and the locations can be resurveyed over coming years to give a snapshot of change over time.



While the diversity we saw in the 24 hours is impressive in its own right, what that diversity tells about the state of the property, and what this in turn implies of the management is a salient lesson. Birds can be used to indicate more than gas in coal mines, and their presence, absence, and abundance can all tell tales of state of the ecology. Take and apply the theories of intactness and connectivity, diversity of plants and habitats, diligent and persistent control of introduced predators and see what happens. This appears to be the Carrah Farm story, where we are seeing not just a fantastic number of species, but a range of birds with quite different requirements, including big numbers of birds considered vulnerable to change, declining conditions and predation. This was probably the highlight for me, to see big mixed flocks of small birds travelling together through the bush. " Wayne



Yellow-rumped Thornbill (Acanthiza chrysorrhoa)



Australian Pipit
(Anthus australis)



Nankeen Kestral (Falco cenchroides)



Rufous Whistler (Pachycephala rufiventris)



Scarlet Robin
(Petroica boodana)



Elegant Parrot
(Neophema elegans) 33





Species	1	2	3	4	5
Australian Magpie (Cracticus tibicen)	1		1		
Australian Owlet-nightjar (Aegotheles cristatus)					
Australian Pipit (Anthus australis)				2	1
Australian Raven (Corvus coronoides)	1	1		2	1
Australian Ringneck (Barnardius zonarius)	6	1		16	1
Black-faced Cuckooshrike (Coracina novaehollandiae)					
Brown Honeyeater (Lichmera indistincta)	37	1	1	10	1
Brown-headed Honeyeater (Melithreptus brevirostris)				3	1
Carnaby's Black Cockatoo (Calyptorhynchus latirostris)		1		2	1
Chestnut-rumped Thornbill (Acanthiza uropygialis)	1				
Common Bronzewing (Phaps chalcoptera)				8	
Dusky Woodswallow (Artamus cyanopterus)				2	
Eastern Barn Owl (Tyto delicatula)					
Elegant Parrot (Neophema elegans)					1
Galah (Eolophus roseicapilla)					
Grey Butcherbird (Craticus torquatus)			1		
Grey Fantail (Rhipidura albiscapa)			1		
Grey Teal ( <i>Anas gracilis</i> )					
Grey Shrikethrush (Colluricinla harmonica)	1	1		2	1
Inland Thornbill (Acanthiza apicalis)					
Laughing Kookaburra (Dacelo novaequinege)	1				



Black-faced Cuckooshrike (Coracina novaehollandiae)



Photo: P Lewis

Carnaby's Black Cockatoo (Calyptorhynchus latirostris)





	6	7	8	9	10	11	12	13	14	15	16	17	Species tally
Ī	2						4	1	3	3		2	17
I													1
			1				3						7
					3		2			2			12
	5	1	4	2	11	4	15	5	4	4		5	84
													1
I	8	9	3	2	7	3	6	5	10	5	6	20	134
Π			2					2					8
								2	8	2	1	8	25
Ī													1
						1	1			1			11
Ī													2
Ī													1
Ī							2						3
Ī							2	4					6
Ī								1					2
Ī	3						3		1	3	2	4	17
												2	2
I			2							1			8
							1						1
							3	3	1	1		2	11
Ī		2											2



Varied Sitella (Daphoenositta chrysoptera)



(Phaps chalcoptera)

**Common Bronzewing** 





Species	1	2	3	4	5
Quail (probably Stubble Quail Coturnix pectoralis??)					
Quail (possibly painted button Quail Turnix varius??)					
Red Wattlebird (Anthochaera carunculata)					
Red-capped Parrot (Purpureicephalus spurius)				6	
Red-capped Robin (Petroica goodenovii)	6				1
Rufous Whistler (Pachycephala rufiventris)	4	1		1	1
Scarlet Robin (Petroica boodang)					1
Silvereye (Zosterops lateralis)				10	1
Singing Honeyeater (Gavicalis virescens)					
Southern Boobook (Ninox boobook)	1				
Splendid Fairywren (Malurus splendens)	3				
Striated Pardalote (Pardalotus striatus)	6		1	1	
Varied Sitella (Daphoenositta chrysoptera)					
Weebill (Smicrornis brevirostris)	7			1	
Welcome Swallow (Hirundo neoxena)					
Western Gerygone (Gerygone fusca)	8	1	1	4	1
Western Thornbill (Acanthiza inornata)	4				
White-cheeked Honeyeater (Phylidonyris niger)				30	1
Yellow-plumed Honeyeater (Ptilotula ornata)	3			2	
Yellow-rumped Thornbill (Acanthiza chrysorrhoa)	4				1
Site tally	95	7	6	102	15



Dusky Woodswallow (Artamus cyanopterus)

Photo: P Lewis



Red-capped Robin (Petroica goodenovii)

Female

Photo: P Lewis





6	7	8	9	10	11	12	13	14	15	16	17	Species tally
							2					2
			2									2
		1										1
												6
2				1		2	4		1	3		20
								1		1	1	10
												1
5	2					3					2	23
2												2
												1
1						2		1		1	4	12
				3	1	8	2	2	2	1	4	31
						2						2
				9	2	8	8	8	3	3	5	54
												1
4	2		1	1	1	5	1	3	2	3	40	78
												4
	2	3	3			11						50
												5
			2	1		12		4				24
32	18	16	12	36	12	95	40	46	30	21	99	686



Red-capped Robin (Petroica goodenovii)

Photo: P Lewis

juvenile





Yellow-plumed Honeyeater (Ptilotula ornata)

Photo: P Lewis

37



#### Insects



44 species of insect were spotted at Carrah Farms over the weekend. Dilanka Mihindukulasooriya led the insect groups. Sites surveyed included creek riparian vegetation and woodland around the Bioblitz headquarters.

A mixture of insect spotting/trapping methods were used including makeshift pit fall traps, white sheet under trees, sieving soil and looking under logs/rocks.











Report by Dilanka Mihindukulasooriya

Assessment of full species composition can be challenging when data for evaluation are absent or limited. Limitations may include any of the following:

- Poor survey coverage, e.g. the fauna of an area has not been sampled extensively enough to enable assessment of species distributions. The absence of a species from survey records may not mean that it is absent from the area.
- Poor taxonomic resolution, e.g. a species has not been subject to systematic investigation, and/or the identity is either difficult or impossible to determine. Good taxonomic resolution does not necessarily need to be in the form of published revisions, as it can be facilitated by any of the following:
- a researcher actively working on the group who can authorise identifications,
- a publicly accessible reference collection, and/or;
- assessment of species boundaries using genomic methods such as DNA barcoding.
- Identification issues, e.g. surveys sampled life stages of invertebrates that are impossible to identify based on morphological characters. Genomic methods have great potential to overcome this type of 38 limitation.

#### FINDINGS REPORT: Carrah Farms Bioblitz 5th & 6th September

Class	Order	Family	Species	0.00
Arachnida	Araneae	Badumna	Badumna sp 01	-1/
Arachnida	Araneae		Banded Garden Spider	
Arachnida	Araneae		Crab spider	1
Arachnida	Araneae		Daddy Long-leg spider	
Arachnida	Araneae		Huntsman spider	
Arachnida	Scorpiones		Scorpiones sp 01	
Arachnida	Scorpiones		Scorpiones sp 02	
Arachnida			Pseudoscorpion	NO THE STATE OF TH
Insecta	Blattodea	Blattodea	Periplaneta americana (American Cockroach)	
Insecta	Blattodea	Blattodea	Periplaneta fuliginosa	
Insecta	Blattodea		Isoptera sp 01	
Insecta	Blattodea		Isoptera sp 02	A FEET A
Insecta	Coleoptera	Carabidae	Carabidae sp 01	1
Insecta	Coleoptera	Carabidae	Carabidae sp 02	20
Insecta	Coleoptera	Carabidae	Carabidae sp 03	
Insecta	Coleoptera	Carabidae	Carabidae sp 04	
Insecta	Coleoptera	Chrysomelidae	Chrysomelidae sp 01	1
Insecta	Coleoptera	Cucujidae	Cucujidae sp 01	- See
Insecta	Coleoptera	Curculionidae	Curculionidae sp 01	The state of
Insecta	Coleoptera	Curculionidae	Curculionidae sp 02	TO SALES
Insecta	Dermaptera	Anisolabididae	Anisolabididae sp 01	
Insecta	Hemiptera	Cicadidae	Cicadidae sp 01	
Insecta	Hemiptera	Cicadidae	Cicadidae sp 02	
Insecta	Hemiptera	Coreidae	Coreidae sp 01	1
Insecta	Hemiptera	Coreidae	Coreidae sp 02	CHAPTER TO
Insecta	Hymenoptera	Apidae	Apidae sp 01	
Insecta	Hymenoptera	Apidae	Apidae sp 02	The Control of
Insecta	Hymenoptera	Apidae	Apidae sp 03	9
Insecta	Hymenoptera	Formicidae	Camponotus terebrans (Lowne)	
Insecta	Hymenoptera	Formicidae	Iridomyrmex bicknelli Emery	
Insecta	Hymenoptera	Formicidae	Iridomyrmex chasei Forel	
Insecta	Hymenoptera	Formicidae	Iridomyrmex discors Forel	100
Insecta	Hymenoptera	Formicidae	Iridomyrmex purpureus (F.Smith)	
Insecta	Hymenoptera	Formicidae	Myrmecia gulosa	A STATE OF THE STA
Insecta	Hymenoptera	Formicidae	Ochetellus glaber (Mayr)	
Insecta	Hymenoptera		Rhytidoponera metallica (F.Smith)	
Insecta	Hymenoptera		Vespidae sp 01	100
Insecta	Mantodea	Amorphoscelidae	Paraoxypilus tasmaniensis	
Insecta	Orthoptera	Acrididae	Acrididae sp 01	
Insecta	Orthoptera	Pyrgomorphidae	Pyrgomorphidae sp 01	No.
Insecta	Orthoptera	Stenopelmatidae	Stenopelmatidae sp 01	HILL
Insecta	Orthoptera		Black Field Cricket	
Insecta	Orthoptera		Katydid	20
Insecta	Phthiraptera		Phthiraptera sp 01	39



### **Attendees**



Elaine Hall

Max Howard

**Matt Fossey** 

**Chrissie Fossey** 

**Ruby Fossey** 

Heidi Fossey

Sam Fossey

Dilanka Mihindukulasooriya

Ross McGillivray

Martha Simpson

Jenna Brooker

Veronica Metcalf

**Toby Metcalf** 

Felix Metcalf

**Abby Metcalf** 

John Masters

Murray Blyth

Glenda Blyth

Wayne O'Sullivan

Rena O'Sullivan

Neville Horner

Kylie Payne

Dannielle Reed

Sarah Rule

Samantha Lock

Beth Bose

**Rob Bose** 

Jenny Irwin
Phil Lewis

Sharon Lewis

Adele Scarfone

**Ebonie Scarfone** 

Phoenix Scarfone

Andrew Hunter

Graham Johnson

Jean Dorrington

Tracy Sievewright

Aaron Manning

Eilidh Manning

**Rachel Walmsley** 

Sarah Mason

Jeanette Masters

Geoff Mason

Clinton Richter

Joe Tonga





# **Photos**



















# **Photos**



















# **Photos**

















### Saturday 5th & Sunday 6th September 2020 Carrah Farms, Western Australia

Many thanks to everyone who helped make this event a success. To Sarah and Geoff Mason for being gracious hosts, to the group leaders for their guru skills and contributions to this report, to the sponsors -State NRM Program for their funding and Moora Citrus for the oranges, and to all the participants who came along, had fun and got stuck in - hope you enjoyed it !!!



For further information regarding this event or any questions, please contact Rachel Walmsley at Moore Catchment Council on 0409 296 264 or mcc.nrmo@bigpond.com

More information about Carrah Farms, please visit http://www.carrah.com.au/

More information about Moore Catchment Council please contact on

9653 1355 or moorecc@bigpond.com

www.moorecatchment.org.au

Guide based on Bunjil Rocks Bioblitz 2017 guide. All photos by R Walmsley unless otherwise indicated





