Malleefowl Mound Monitoring 2022

in the Gawler Ranges Region

Final Report

Date of survey: 9 – 22 November 2022

Date report finalised: 26 November 2022

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for the

South Australian Arid Lands Landscape Board

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1 Scope of works

Monitoring of 94 known mounds and ground-truthing and monitoring of 43 potential mounds that have been located via LiDAR surveys in September 2022.

2 Requirements

The following requirements were set by SAAL:

- All aspects of planning, managing and conducting malleefowl mound assessments/surveys
- Data collection using dedicated CyberTracker software
- Record sightings of EPBC listed flora and fauna species for the Biodiversity Data Base of SA (BDBSA)
- Provision of a suitable vehicle
- Surveys within teams of a minimum two people
- To have appropriate health and safety protocols in place, including an ability to check-in with emergency contacts via InReach, sat phone oforimilar while working remotely

The following document outputs were requested by SAAL:

- Metrics for all mounds provided by SAAL entered into CyberTracker software
- A (brief) trip report summarising the work done, dates and times, mound activity and any notable observations, comments and/or issues encountered in electronic format
- Any Significant flora/fauna sightings (particularly threatened species) to be recorded (and if possible photographed)

3 Document outputs

3.1 *Metrics*

All metrics for the mounds provided by SAAL were entered into the CyberTracker app. The data was extracted following instructions from the National Malleefowl Recovery Team. The resulting CSV file with the complete data can be found attached to this email.

3.2 *Trip report*

3.2.1 Work done

A total of 141 mounds were monitored between 9 and 22 November 2022. Of these,

- 93 were known mounds that were revisited,
- 1 was a known mound that could not be found,
- 43 were potential LiDAR mounds that were ground-truthed, and
- 4 were newly found mounds (found while walking).

All potential rating 1 and 2 LiDAR mounds were found to be mounds.

3.2.2 Dates and times

Mound monitoring took place on the following dates:

Table 1 The date and total number of mounds monitored per day in each grid and the hours worked on that day. L = LiDAR, M = Monitoring. * Travel and preparations/post-processing.

	s79		s80		s81		s82		s83		Total	
Date	**L**	**M**	**L**	**M**	**L**	**M**	**L**	**M**	**L**	**M**	**Mounds**	**Hours**
***09/11/2022**										4	**4**	9.9
10/11/2022										15	**15**	10
11/11/2022									9		**9**	8.9
12/11/2022								18			**18**	9.1
13/11/2022							8	4			**12**	10.1
14/11/2022							10				**10**	9.6
15/11/2022						9					**9**	12.1
16/11/2022		14			5						**19**	12.4
17/11/2022	1	9									**10**	9.9
19/11/2022	1		8	1							**10**	10
20/11/2022			1	15							**16**	12.4
21/11/2022				9							**9**	9.8
***22/11/2022**												8.5

3.2.3 Mound activity

A total of 12 mounds (8.6% of 140 monitored mounds) were active (Table 3). None of the 4 newly found mounds was active.

Of the 12 active mounds,

- 9 (9.6% of known mounds) were known mounds, and
- 3 (7% of LiDAR mounds) were ground-truthed LiDAR mounds.

The following mounds were active:

Table 2 Active mounds by grid. LiDAR mounds are marked with L.

Grid number	Grid name	ID
s79	Scrubby Peak	11, 7597 (L)
s80	Mulindilla	23, 9, 11
s81	Gawler Ranges West	3, 4, 7, 9, 6345 (L)
s82	Pinkawillinie North	6, 357 (L)
S83	Yeltanna/Bungeroo	-

Most active mounds were found in grid s81 (5 mounds (36%) - Gawler Ranges West) and none in grid s83 (Yeltanna/Bungeroo). The remaining grids s79 (Scrubby Peak), s80 (Mulindilla) and s82 (Pinkawillinie North) had 2 (8%), 3 (8.8%) and 2 (5%) active mounds, respectively (Figure 1).

Table 3 Mound activity in the Gawler Ranges Malleefowl grids.

Active	**Method**	**Mound**	**Grids**					
			s79	**s80**	**s81**	**s82**	**s83**	**Total**
NO	LiDAR	New	1	9	4	17	9	**40**
	Monitoring	Known	22	21	5	20	16	**84**
		New		1		1	2	**4**
	Total		**23**	**31**	**9**	**38**	**27**	**128**
YES	LiDAR	New	1		1	1		**3**
	Monitoring	Known	1	3	4	1		**9**
	Total		**2 (8%)**	**3 (8.8%)**	**5 (36%)**	**2 (5%)**		**12 (8.6%)**
NOT FOUND	Monitoring						**1**	**1**
Grand Total			**25**	**34**	**14**	**40**	**28**	**141**

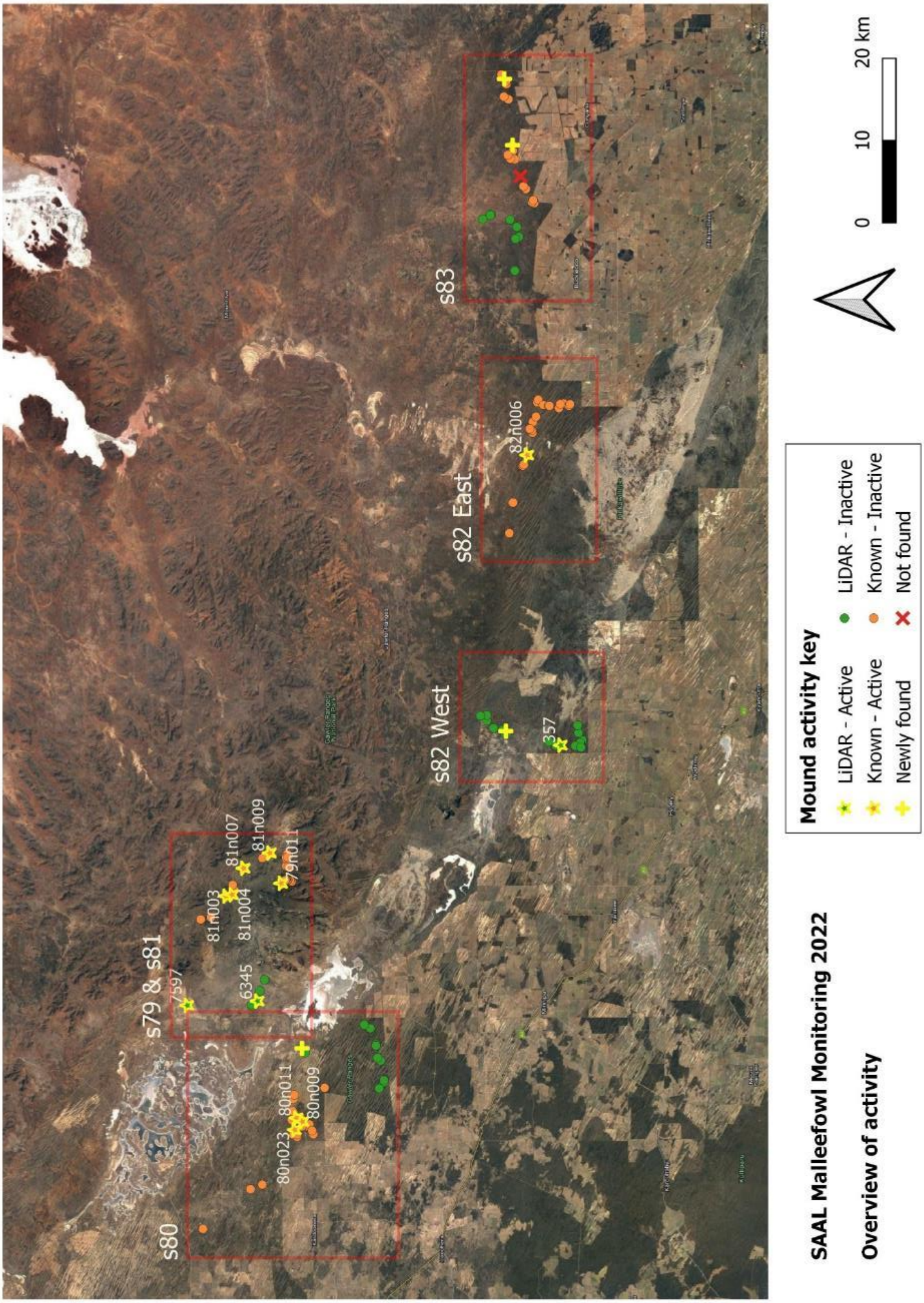

Figure 1 An overview of Malleefowl mound activity in the Gawler Ranges after completed monitoring in November 2022. LiDAR mounds are green, known mounds orange, active mounds are star-shaped and highlighted yellow, newly found mounds are plus-shaped in yellow and the mound that couldn't be found is a red cross.

3.2.4 Notable observations, comments and/or issues

- We found an exposed Malleefowl egg on an inactive mound (80n018).
- There were HyperFire cameras set up at mounds 81n003 (or this might have been 81n004) and 81n007.

3.3 Significant flora/fauna sightings

Three Malleefowl sightings were made in total, one of which was at an active mound, one at an inactive mound, and one on a road. One Yellow-footed Rock-wallaby was sighted on top of the Organ Pipes (Figure 2). Three rare plant species in the Gawler Ranges (According to Nadine Brown, the author of Rock, Sand, Salt: Native Flowering Plants of the Gawler Ranges (Brown, 2020) were recorded (Figure 3, Figure 4 and Figure 5) and are listed here (Table 4).

Table 4 Significant flora/fauna sightings made in the Gawler Ranges (GR) area during Malleefowl monitoring in November 2022.

Date	**Time**	**Common name**	**Scientific name**	**Conservation status**	**Coordinates**	**Notes**
13/11/2022	14:00	Malleefowl	*Leipoa ocellata*	Vulnerable in SA	-32.78824° 135.51075°	
15/11/2022	12:00	Malleefowl	*Leipoa ocellata*	Vulnerable in SA	-32.40620 135.26420	
15/11/2022	14:43	Dogwood Haeckeria	*Haeckeria Cassiniforma*	Rare in SA Rare in GR	-32.450297 135.311635	Along boundary track (Figure 4)
15/11/2022	14:44	GVD Hibiscus	*Alyogyne sp. Great Victoria Desert*	Rare in GR	-32.450318 135.311828	Along boundary track (Figure 3)

15/11/2022		Skeleton Fanflower	*Scaevola depauperata*	Rare in GR	-32.4858876 135.353581	Figure 5
16/11/2022	18:00	Yellow-footed rock wallaby	*Petrogale xanthopus xanthopus*	Vulnerable in SA Near threatened (IUCN)	-32.537777 135.29640	On Organ Pipes (Figure 2)
17/11/2022	16:03	GVD Hibiscus	*Alyogyne sp. Great Victoria Desert*	Rare in GR	-32-537522 135.193170	
20/11/2022	9:46	Malleefowl	*Leipoa ocellata*	Vulnerable in SA		80m023 (active mound)

3.3.1 Pictures of significant sightings

Figure 2 A Yellow-footed Rock-wallaby *(Petrogale xanthopus xanthopus*) on 16/11/2022 on top of Organ Pipes in the Gawler Ranges National Park (-32.537777, 135.29640)

Figure 3 A Great Victorian Desert Hibiscus (*Alyogyne sp. Great Victoria Desert*) seen on 15/11/2022 in the Gawler Ranges National Park (-32.450318, 135.311828)

Figure 4 A Dogwood Haeckeria (*Haeckeria crassifolia*) seen on 15/11/2022 in the Gawler Ranges National Park (-32.450297, 135.311635)

Figure 5 A Skeleton Fanflower (*Scaevola depauperate*) seen on 15/11/2022 in the Gawler Ranges National Park (-32.4858876, 135.353581)

4 References

Brown, N.F. (2020) *Rock Sand Salt: Native Flowering Plants of the Gawler Ranges Northern Eyre Peninsula*. Nadine Brown. Available at: https://books.google.com.au/books?id=Dq7bzQEACAAJ.