



Rentails – Tailings Storage Facility
NATURAL VALUES ASSESSMENT
(Masked owl song meter survey results)

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For Bluestone Mines

BLU004



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1. BACKGROUND AND AIMS

In the spring, summer and autumn of 2022 and 2023 a natural values assessment of the Dunkley Creek TSF, access, pipeline and a processing area was completed. As part of that undertaking three song meters were placed in habitat containing mature trees with hollows. Song meter recordings detected masked owls in the TSF area. Further survey effort was recommended to establish whether nesting is likely to occur in the TSF. The effort was recommended to target the breeding season to assist in locating a nest tree if one is present.

During the breeding season the female occupies the nest for in preparation, incubation and brooding of young. The male provides food for the female and young during this period and then the male and female hunt and provide food until fledging. During this period the likelihood of locating a nest is higher than at any other time. Where particular trees are targeted it is possible to record regular calls and in particular begging calls of fledglings from the nest tree if the timing overlaps with recording efforts. However, the breeding period of the Tasmanian masked owl is not certain which makes coinciding recording with this evidence of calls related to breeding unpredictable. In this case we have assumed a late winter breeding effort extending into spring. This is a reasonable assumption based on winter breeding for the mainland subspecies and a delayed effort in colder Tasmania coinciding with increasing prey availability in later spring for fledglings.

2. METHODS

On the 14th of August of 2024, a series of 10 song meters were deployed at strategic locations throughout the project area as depicted in Figure 1 and were programmed to record calls for a total of 5 hours per day, including 3 hours in the afternoon/evening (commencing 1 hour before sunset) and 2 hours prior to sunrise. Deployment sites were selected on the basis of the presence of eucalypt forest, with particular emphasis on the southwest corner of the project area where mature habitat trees with hollows have previously been identified. The 10 song meters were retrieved from the field on the 26th of September 2024. One song meter (SM3, Figure 1) failed to successfully deploy and is believed to have suffered water damage during heavy rain events.

Field data was analysed using Raven Pro 1.6 to visualize 9 song meter datasets as spectrograms and manually scanning for masked owl vocalizations. The manual annotations were undertaken using the following spectrogram parameters: Window size 1381 samples, 0.115 s, overlap 50%, fast Fourier transform (FFT) size 2048 samples, and a Hann window for a spectrum filter bandwidth of 12.5 Hz.

Every hour of every day was analysed manually to determine the acoustic presence of masked owls. A masked owl was considered to be acoustically present if there were 1 or more screech calls or chatter calls present in the recordings.

3. RESULTS

Each of the 9 successfully deployed song meters recorded data for an average of 40.6 days and captured a total of approximately 1,830 hours of field data. From this data, no positive detections of the masked owl were identified. A summary table of these results is present in Appendix 1.

4. DISCUSSION

A song meter survey throughout the Dunkley Creek project area during an approximate 6-week period from 14th August 2024 to 26th September 2024 has failed to detect the presence of any masked owl calls. This survey was undertaken during an optimal period for detecting masked owls

and captures what is considered a peak of the masked owl breeding (and subsequent calling) activity. Given that there was a total of zero (0) masked owl calls detected during this time, we conclude that it is highly unlikely for masked owls to be occupying the Dunkley Creek project area, with an even lesser likelihood that the species is utilising the project area for breeding during the 2024/25 breeding period.

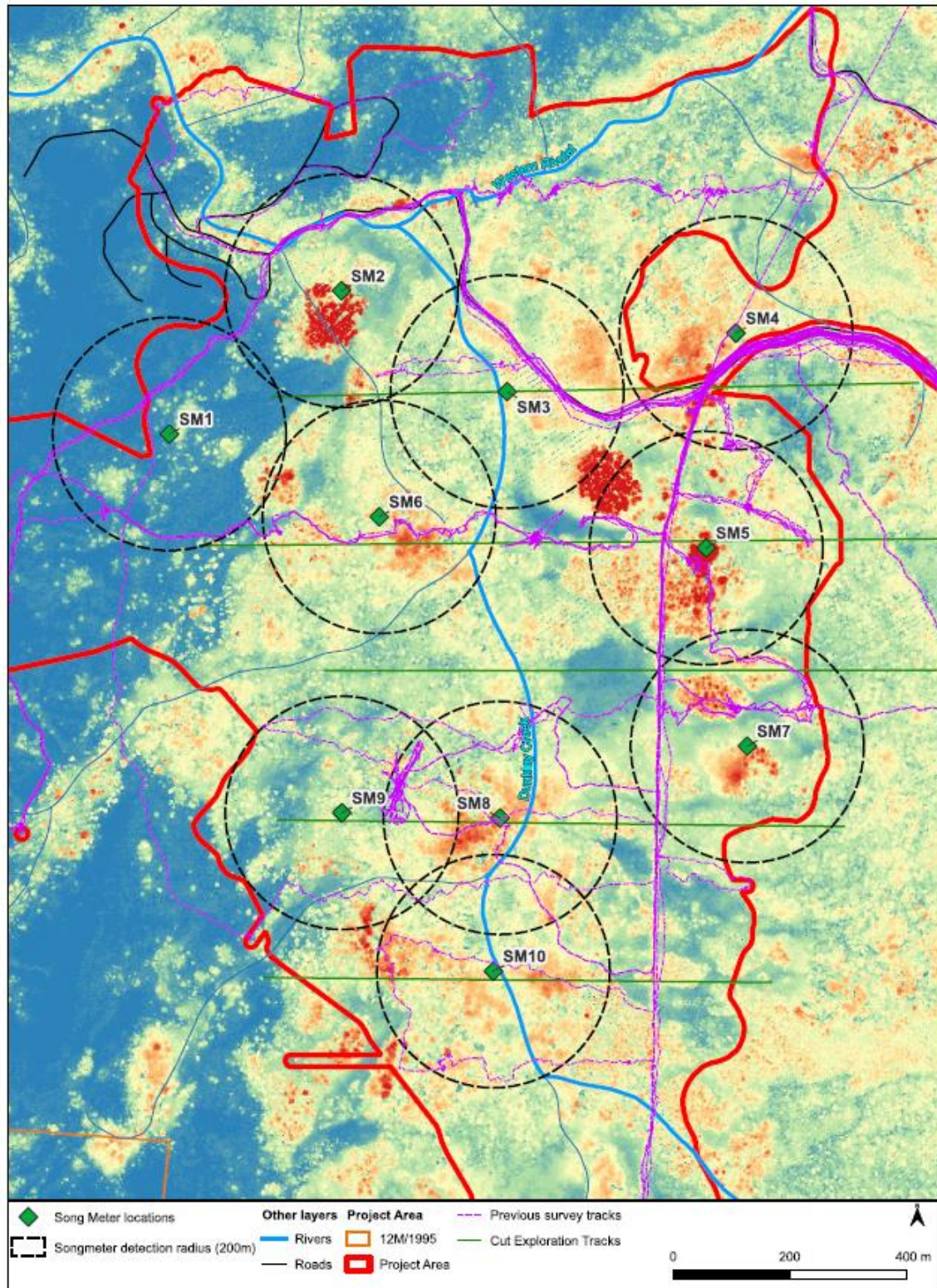


Figure 1. The location of song meter recorders and a 200 m radial buffer – estimated recording range

Appendix 1 – Dunkley Creek song meter survey results (14 August 2024 – 26 September 2024)

Location	Job Code	Song Meter	SD Card	East GDA	North GDA	Recording Start Date	Recording End Date	Days Recorded	Detections	TMO Calls	TMO Days	TMO Dates	TMO Time
10	BLU004	SM1	NBES #2 (A&B)	362906.2	5371675	15/08/2024	15/09/2024	32	Nil	Nil	Nil	Nil	Nil
10	BLU004	SM5	NBES #3 (A&B)	363827	5371480	13/08/2024	20/09/2024	39	Nil	Nil	Nil	Nil	Nil
10	BLU004	SM4	NBES #4	363878.1	5371849	16/08/2024	26/09/2024	42	Nil	Nil	Nil	Nil	Nil
10	BLU004	SM8	NBES #5	363473.6	5371017	15/08/2024	26/09/2024	43	Nil	Nil	Nil	Nil	Nil
10	BLU004	SM Mini 3	NBES #7	363485.5	5371748	16/08/2024	17/09/2024	33	Nil	Nil	Nil	Nil	Nil
10	BLU004	SM7	NBES #7	363897.6	5371140	16/08/2024	26/09/2024	42	Nil	Nil	Nil	Nil	Nil
10	BLU004	SM9	NBES #9 (A&B)	363202.3	5371025	20/08/2024	1/10/2024	49	Nil	Nil	Nil	Nil	Nil
10	BLU004	SM10	NBES #10	363461.9	5370754	15/08/2025	26/09/2024	43	Nil	Nil	Nil	Nil	Nil
10	BLU004	SM2	NBES #13	363201.3	5371921	15/08/2024	26/09/2024	43	Nil	Nil	Nil	Nil	Nil