Report on "citizen science" deployment of video camera traps near Western Creek, Tasmania, years 2024-2026

This document describes the use of video cameras to detect wildlife (both birds and mammals, with the occassional reptile) in the vicinity of the headwaters of the Western Creek in the Great Western Tiers region of Tasmania.

This document is an update of the report submitted to NRE Tasmania in August 2025, which deals with camera placements in the year prior to that date. Maps and tabular summaries in this report relating to species sightings are aggregated to cover both years. Submitted concurrently is a spreadsheet in NVA entry format (SS3.xlsx), including new, previously unentered, data only.

NRE Permit

Data were obtained from 28 different camera sites in the first year (2024-25) and from 18 additional sites in the recent year (2025-26), mostly in the Tasmanian Wilderness World Heritage Area (TWWHA) pursuant to Authority number FA 24132 issued by the Department of Natural Resources and Environment and effective from 15/08/2024 until 15/08/2025. This permit was renewed for another year.

At some stages during both periods cameras were placed at sites outside the TWWHA, but nearby.

Project Objectives and General Discussion

The permit was issued to Dr Laurence Goldsworthy for a project entitled "Study of Small Mammals on the Great Western Tiers using Wildlife Cameras". Two other people were named as Joint Authority Holders, but in the event only Dr Goldsworthy and Dr Neil Smith, both residents of Western Creek 7304, participated in deployment and retrieval of cameras and collating of the data resulting.

Although both participants do have extensive scientific experience, it is in areas not related to zoology or ecology. Hence, project aims have been very general – simply investigating the differences in occurrence of different species at a series of locations with considerable variations in altitude, surrounding forest communities and local features such as fallen logs, water pools and visually apparent animal tracks. We did not have specific aims such as detecting breeding or migration times or disease occurrence.

Six cameras have been available to us. The first year did give us some experience in site selection (although some sites are still turning out vastly more interesting than others in terms of animal numbers; whether this relates directly to population density per hectare or just the attractions of things like horizontal logs is an unknown). We'd guess the latter.

Camera battery life and digital storage space has always proved to be more than adequate (even in situations with many false triggers resulting from wind in shrubbery), and in this second year we have left the cameras for generally longer periods at each site than we did in 2024-25. Mostly when returning to a site we'd upload the data to a laptop computer, check condition of batteries (sometimes replacing them with newly-charged spares) and possibly relocate the camera to a new site.

Two of the sites used this time are second placements at 2024-25 sites (and cameras were left in place for longer), in the hope that somebody might be able to draw conclusions as to seasonal variations in mammal occurrence, etc. This is noted further below.

Whilst the smaller mammals (such as long-tailed mouse, antechinus, pygmy possum and bettong) were our initial primary focus, there were obviously video triggers from birds, pademelons, quolls, devils etc, so the formal spreadsheet contribution to the Natural Values Atlas which forms part of this report includes these timed and dated sightings as well. We have also included the occurrences of feral cats which we recorded at many sites at many different altitudes.

Included also are things we could not identify positively, or completely so, recorded as "Cercatetus sp." for example, or "small mammal". In most cases we have shown these files to people much more experienced than we (Kristen Lang KL, Michael Driessen MD, Sarah Lloyd SL, Laura Smith LS) and many have been resolved. Of the others most animals are quite distant and/or transitory in the video files, but should any other experts be interested in helping we could provide the files.

In conjunction with this report, we are providing two spreadsheet files. One is named AD13.xls, and this includes three separate sheets, one ("Location") being a list of the sites used with easting, northing and altitude, short description and dates deployed etc. Sheet "Species Codes" lists common and scientific names against our easy-to-use arbitrary numeric species codes. "Data Files" is ordered by site identifying number and includes all of the video file numbers and species occurrences for the whole project period to date, along with observer names and comments. It is clearly split into two parts – data reported in 2025 at the top and later data below. Location and species name information is inserted into this sheet by formulae referencing the other sheets.

The second spreadsheet SS3.xlsx is in Natural Values Atlas (NVA) data entry format (sorted by species, with birds at the top) and includes *only* the data not previously reported - since we now know that the earlier data will already have been placed into the NVA by an NRE officer after we supplied it (as SS2.xlsx) in 2025.

When multiple animals were seen in the same frame, this is noted in column K of the data file AD13.xls. Virtually never were animals of different species seen in the same frame, with the exception of a few unidentified spiders and moths (also noted in AD13.xls).

The cameras

The six cameras used in this project were Swift Enduro. They were obtained by Dr Goldsworthy after getting a "2A4" grant from environmental benefactor Dr John Hunter. We greatly thank Dr Hunter for his generosity.

Three of the cameras (arbitrarily designated by us as 62, 63 and 81) are "standard angle" (in Swift's terminology) with focal length 1.5 metres, one (61) is standard angle but optimal focus distance readjusted to 1.0 metre, and two (82 and 83) are "wide angle" (with focal distance 1.5m).

All are seemingly capable of quite sharp imagery at distances between about 1 metre and 6 metres or so. Although all cameras have microphones to record audio simultaneously with the video, the audio seemed initially to be only at the noise level. During the year, however, Dr Goldsworthy did obtain a firmware upgrade from the Swift Enduro dealer and this was installed on some of the cameras, improving audio quality somewhat (useful particularly for bird identification).

Cameras were generally set to record video for 10 seconds after trigger (N Smith) or for 20 seconds (L Goldsworthy).

Camera sites and selection criteria

The 28 camera sites used in the first year are listed in ascending order of altitude in Table 1, and the 18 additional sites used in the second year in Table 2 (two of these were second placements at previous sites). Sites have each been given a code name to indicate roughly the location, e.g.

"WCTB" for "Western Creek Track B" and "HIG1" for "Higgs Track 1". Camera deployment was done by each of the two participants singly as opportunities arose, and (somewhat fortuitously) numeric suffixes were chosen by Laurie Goldsworthy (LG) and alphabetic ones by Neil Smith (NS).

In addition to this abbreviated summary, the actual geographic positions (easting and northing), record of camera type, operator name, dates deployed at the site, names of files created, and a brief description of the site are listed in (almost) chronological order in the spreadsheet file AD13.xls which forms part of this report. This information is in the leftmost columns A to Q of "sheet 2" named "Location".

All camera sites used are also shown in map form in Figure 1 below. This was produced using the Tasmanian LISTMAP service via a screenshot. The same map, with perhaps better resolution, and zoom capability, can be seen on LISTMAP by following the link:

https://maps.thelist.tas.gov.au/listmap/app/list/map?bookmarkId=1317970

As can be seen from the map, most sites are in the highly-incised gully of the Western Creek, and accessed via the named Western Creek Track (with two alternate options at the downstream end). There are also four sites readily reached via Dale Brook Road and the walking track which then leads down into Western Creek (DBRTA etc).

Four other sites are reached via Higgs Track (HT1, HIGB etc). And in the first year three other sites were chosen in the vicinity of the old disused logging spur "Westrope 1", with one of these (WES1C) being right on the boundary of the TWWHA. And then there are FDA and FDB at relatively low altitude in an informal reserve we know locally as "Fred Duncan Reserve" after the biologist instrumental in the reservation.

Sites added in the second year (shown with red lettering in figure 1) include eastward expansion to Syds Track and Mother Cummings Peak track, as well as more sites in the Western Creek gorge and one on a creekside in the section designated as logging coupe WC289B.

All cameras were placed off tracks to avoid any interference by walkers.

Sites were often selected in places where we felt animal movement was relatively more likely, such as an obviously used track, or beside a small water source. Actively flowing streams were avoided, since sunlit water movement often caused camera triggering. It turned out that placing the camera so that it looked at a horizontal fallen stem or branch often resulted in numerous clear images, as animals such as quolls, ringtail possums, mice and bassian thrush often walked along them. An example is the site WCTB, which had both a branch and a small wet area underneath it.

In a couple of instances cameras were set up near small "caves" in cliffs which were thought to be possible "dens". We were expecting multiple images of the same animal, or family, but in the event most sites were poorly selected and nothing resulted. Looking too closely at a cliff generally reduces the field of view and so reduces the number of animals recorded. An example is from the sites WCTC and WCTD – the former very close to a crack in a major cliff, and the latter surveying a small clearing only tens of metres away, which had many more animal occurrences in the same time.

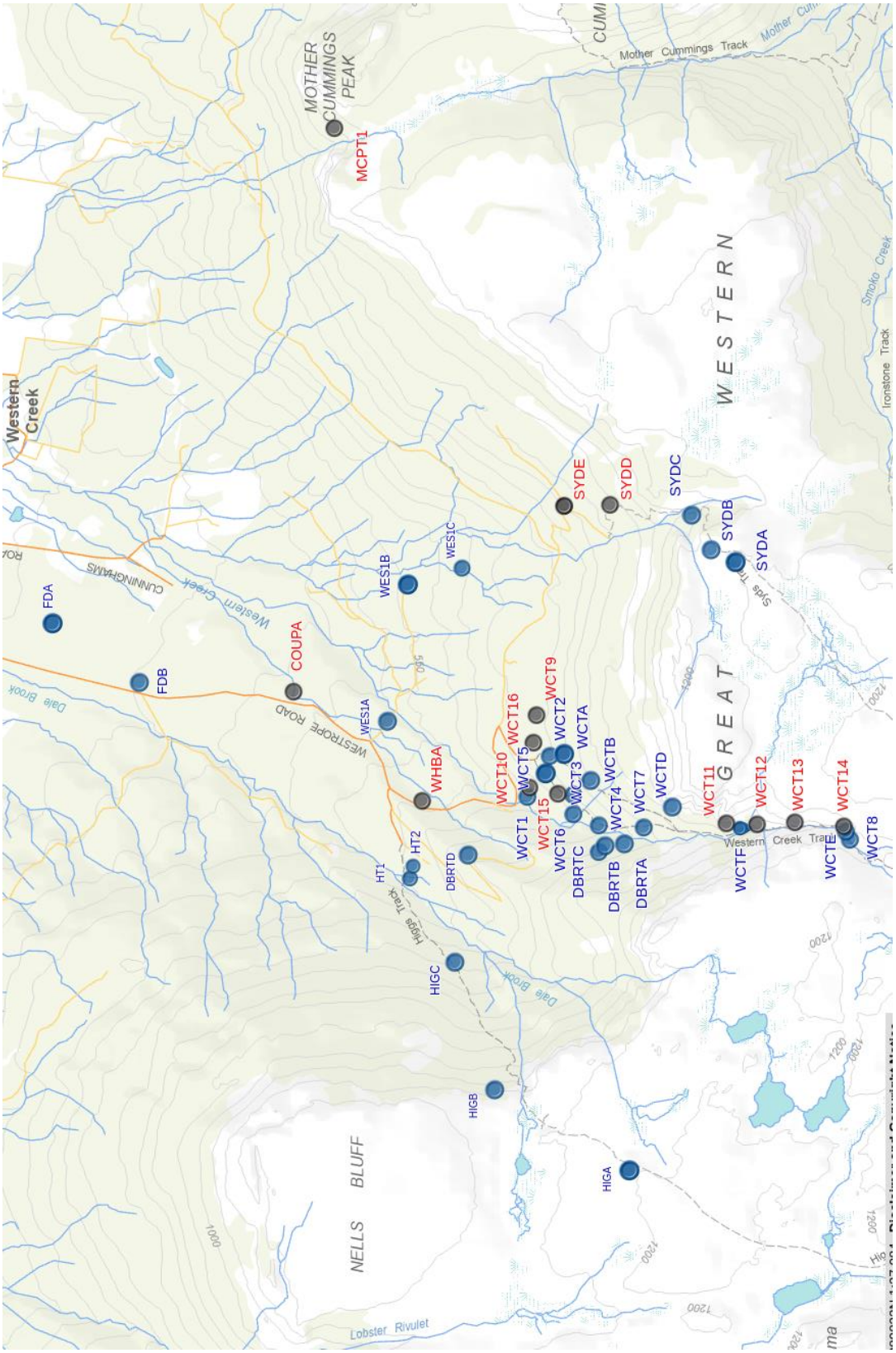

Figure 1. Locations of video camera traps, Western Creek

New placements since last report shown in red.

Location code	Altitude ASL	Days in place	Dates
FDA	380	14	16/12 to 30/12
FDB	400	54	13/3 to 6/5
WES1A	530	12	8/10 to 20/10
WES1B	562	47	19/3 to 5/5
HT2	589	40	19/12 to 28/1
HT1	597	42	7/11 to 19/12
WCT1	624	38	6/11 to 14/12
WES1C	643	47	19/3 to 5/5
WCT3	723	29	19/12 to 17/1
DBRTD	734	26	9/11 to 5/12
WCT5	735	31	17/2 to 20/3
WCT6	737	55	27/2 to 23/4
WCT4	756	60	19/12 to 17/2
HIGC	758	37	23/1 to 1/3
WCT2	776	53	19/10 to 11/12
DBRTB	794	37	26/9 to 2/11
WCTA	797	14	5/8 to 19/8
DBRTA	809	16	26/9 to 12/10
DBRTC	809	21	12/10 to 2/11
WCT7	860	54	27/2 to 22/4
WCTB	861	14	5/8 to 19/8
WCTC	969	37	2/11 to 9/12
WCTD	970	37	2/11 to 9/12
WCTF	1029	44	9/12 to 22/1
HIGB	1060	37	23/1 to 1/3
HIGD	1129	<1	22/1 to 23/1
WCT8	1133	33	20/3 to 22/4
WCTE	1140	44	9/12 to 22/1
HIGA	1200	38	22/1 to 1/3

Table 1. Camera locations (as reported in 2025), ordered by altitude

Location code	Altitude ASL	Animal sightings recorded (note 1)	Days in place	Dates
COUPA	495	29	58	11/4/26 to 7/6/26
WHBA	603	43	107	11/4/26 to 26/7/26
HT2 second placement	613	57	112	14/5/25 to 2/9/25
WCT10	694	19	91	4/6/25 to 2/9/25
WCT15	733	44	128	21/12/25 to 27/4/26
WCT16	740	105	131	21/12/25 to 30/4/26
WCT9	751	95	91	4/6/25 to 2/9/25
SYDE	849	22	101	20/8/25 to 28/11/25
WCTB second placement	861	258	153	20/8/25 to 19/1/26
SYDD	951	14	101	20/8/25 to 28/11/25
MCPT1	1016	51	43	5/7/26 to 16/8/26
WCT11	1016	21	65	11/9/25 to 14/11/25
WCT12	1024	14	43	11/9/25 to 23/10/25
SYDC	1091	zero	62	30/5/25 to 30/7/25
WCT13	1108	37	64	11/9/25 to 13/11/25
WCT14	1134	93	82	14/11/25 to 3/2/26
SYDB	1168	36	62	30/5/25 to 30/7/25
SYDA	1208	62	62	30/5/25 to 30/7/25

Table 2. Camera locations (not previously reported), ordered by altitude

Note 1: animal numbers do not include the same animal appearing in two or more successive video triggers. Of course, the same species seen at multiple dates/times may be the same individual.

Recording of observations

Virtually all of the video files in which an animal is present have been listed in "sheet 1" of the spreadsheet AD13.xls (the sheet named as "Data Files"), columns A to R. These have been grouped into rows for each camera site. In addition to the site code names (e.g. WCTA) the sites have been allocated a simple number (1 through 19 for the Goldsworthy sites and 21 through 48 for the Smith sites) which allow the eastings, northings, altitudes etc to be inserted into appropriate columns by lookup from the associated "Location details" sheet using a formula, rather than requiring cutting-and-pasting.

Observations originally grouped by site (in AD13.xls) have also been sorted into species-by-species order for basic analysis and for copying into the NVA spreadsheet provided as part of this report (SS3.xlsx). In order to facilitate this sorting we have allocated an arbitrary numeric identification code to each species, selected so that all birds appear at the top (when sorted "ascending"), followed by larger mammals, then smaller etc. These codes are manually entered into column G of the "Data Files" sheet when the files are visually scanned and identifications made.

These codes also allow species common names and scientific names to be looked up by formula from the "Species Codes" sheet (columns S, T and U), again avoiding manual cut-and-paste. High-numbered codes (997, 998 and 999) distinguish rows of no interest to the NVA, such as video shots of the operator arriving, examples of wind-induced false triggers, or mere spacer lines in the data file. These high numbers sort to the end of the list and are readily deleted before copying to the NVA-format spreadsheet.

The Swift Enduro filenaming standard is that standard-angle camera filenames begin with "SYPR" followed by a four digit number, and wide-angle has "SYPW" and a number. Almost all of the files recorded in the field have been copied to folders on desktop computers (a folder named for each camera), with flash-drive backups. The exception is that at a couple of sites there have been hundreds of false triggers due to wind moving vegetation, and no or almost no actual animal observations. In such cases some blocks of files have been deleted, which may possibly have missed something.

Column R of the "Data Files" sheet has been calculated to show both the camera number and numeric part of filename for each observation, and this has been copied to column W ("Notes") in the NVA file SS3.xlsx so that any requested video record may be readily supplied by us and replayed.

As stated above, the six cameras have been given numbers 61, 62, 63, 81, 82 and 83. The in-built SD cards are capable of storing many hundreds of the 10 or 20-second video files. But eventually the SD cards will need replacing, or, alternatively, the files will need to be deleted after copying to the computer. In one case (camera 81) this deletion has already occurred, so that the files recovered from site SYDA and later placements begin again at SYPR0001. To avoid confusion with the files already on the master computer, this camera is re-coded as "81A" rather than just "81", and a new folder created on the computer incorporating that name.

Column C (of both "Data Files" and "Location" sheets) in AD13.xls contains a "placement number". In most cases this is 1, but in two cases so far we have decided to place a camera a second time at a site used previously. These were HT2 and WCTB, both of which had special features such as small watering sites and horizontal logs, and which had attracted several animal species. Investigating the same sites at different times of the year and for longer periods has been interesting. This process could be continued.

Analysis by altitude

As stated above, this is still very much an exploratory project and there were no specific issues we were trying to investigate.

Site selection was very varied as far as terrain slope, water availability, local tree species etc. was concerned. However, there is one variable which is quite specific for each location – height above sea level in metres.

Table 3 below summarises the numbers of *mammals* seen as a function of altitude, for the whole period of the project from August 2024 to the present date. Altitude ranges in this table were selected to correspond very roughly to significant changes in forest type etc., whilst including a significant number of our camera locations and days on site.

In a similar fashion, table 4 summarises the *bird* sightings over the same altitude ranges. By far the most frequent bird seen (at all altitudes) was the Tasmanian Scrubwren, which tends to walk around on the ground within the forest a lot, so making camera trigger more likely. Other birds seen in significant numbers were the Bassian Thrush and the Black Currawong, the thrush often standing quite still, and the currawong frequently digging in moss deposits for food.

Most other bird species were seen very infrequently. Perhaps the most unusual would be the Latham's Snipe, seen at night during a rain event on the plateau at one of our highest sites (1200m ASL).

Reptile sightings were very uncommon. One blue-tongued lizard, two tiger snakes, and 5 "skinks" (not identified as to species) were recorded by the cameras.

The eight sites above 1100m are "on" the relatively open Central Plateau, or on benches just below, in contrast to most others which are in moderately dense forest. The plateau sites typically have problems with false triggers from shadows and wind-blown vegetation, and much care is needed with placement. We would hope to investigate this area close to the rim of the plateau more in the future.

Often a camera would be triggered several times in succession by the same animal, or in a few cases by a companion animal of the same species. When there were such successive files recorded with almost no time separation, it is listed as a single observation in Tables 3 and 4.

	Altitude range (metres ASL)				
	380 - 700	**700 - 850**	**850 - 1100**	**1100+**	
Camera sites	12	15	12	7	
Camera days	662	830	690	385	
Species seen					**total**
Long-tailed mouse	12	37	101	21	171
Swamp rat	13	5	3	0	21
Dusky Antechinus	0	12	5	1	18
Antechinus sp. (not further identified)	3	6	10	1	20
White-footed dunnart	0	1	2	0	3
Little pygmy possum	4	0	0	0	4
Eastern pygmy possum	0	1	1	0	2
Pygmy possum (not further identified)	20	4	6	0	30
Sugar glider	3	0	0	0	3
Ringtail possum	0	4	36	1	41
Brushtail possum	19	40	32	114	205
Spotted-tail quoll	8	13	15	3	39
Eastern quoll	1	0	0	3	4
Quoll (not further identified)	1	0	0	1	2
Tasmanian devil	3	0	10	0	13
Common wombat	4	0	2	6	12
Short beaked echidna	9	18	16	1	44
Long-nosed potoroo	12	15	1	0	28
Red-necked wallaby	1	4	13	27	45
Rufous-bellied pademelon	100	80	18	7	205
Cat	15	10	14	5	44

Table 3. Mammals observed, two-year period, by altitude range

	Altitude range (metres ASL)				
	380 - 700	**700 - 850**	**850 - 1100**	**1100+**	
Camera sites	12	15	12	7	
Camera days	662	830	690	385	
Species seen					**total**
Tasmanian scrubwren	19	126	106	23	274
Scrubtit	0	0	2	0	2
Olive whistler	1	20	1	0	22
Golden whistler	0	0	2	0	2
Tasmanian thornbill	0	1	1	0	2
Brown thornbill	0	0	1	0	1
Tasmanian silvereye	0	0	1	0	1
Crescent honeyeater	0	0	0	1	1
Yellow throated honeyeater	1	0	0	0	1
Robin (not further identified	0	2	2	0	4
Bassian thrush	11	27	21	19	78
Grey shrike thrush	3	2	0	0	5
Lathams snipe	0	0	0	1	1
Green rosella	2	1	0	0	3
Black currawong	14	5	15	16	50
Forest raven	0	1	1	0	2
Yellow-tailed black cockatoo	1	3	1	0	5
Laughing kookaburra	0	0	1	0	1

Table 4. Birds observed, two-year period, by altitude range

“Seasonal” example

The camera at site WCTB (altitude 861m ASL) was on a steep slope 70m or so above the Western Creek "loop" track. The camera pointed at an approximately horizontal log below which was a very small wet area (part of a semi-underground stream). When initially placed (5 to 19 August 2024) an interesting variety of animals/birds was detected, leading to a further placement from 20 August 2025 to 19 January 2026. Again, many of the same species were detected (and a few others).

In Table 5 these sightings are summarised on a "month by month" basis (with the two Augusts combined), as a possible indication of "seasonality" (although in most cases sample size is small). Of course, only August to January is represented, so a further placement February-July (2027) may be of some use.

Species seen at site WCTB	**August (27 days)**	**September (30 days)**	**October (31 days)**	**November (30 days)**	**December (31 days)**	**January (19 days)**
Tasmanian scrubwren	5	14	16	25	28	8
Scrubtit	1			1		
Golden whistler	1	1				
Robin (female, possibly pink robin)	1	1				
Brown thornbill		1				
Black currawong		2			3	
Laughing kookaburra		1				
Bassian thrush	6	3	1			2
Tasmanian devil			1			
Ring tailed possum	13	11	5	3		
Brushtailed possum		2	1	3		
Pygmy possum	1	1		1	1	
Pademelon		2	2		4	1
Spotted tail quoll	1		1	2		1
Antechinus sp.	5				1	1
Swamp rat	1					
Long tailed mouse		18	16	8	8	8
Short-beaked echidna		2		1	1	
Tiger snake			1			
Feral cat	1	2				

Table 5. Monthly data for one site (WCTB, forested, 861m altitude)

Declarations

No animals were taken or otherwise disturbed during the above activities.

No evidence was seen of any disease affecting any animals. Files featuring wombats were examined for any sign of sarcoptic mange. Generally only one side of the animal (and sometimes only the rear end) was seen, but there was no obvious sign of disease.

All the data have been provided to Michael Driessen, Senior Zoologist, Department of Natural Resources and Environment, for entry into the Natural Values Atlas.

Name of person submitting this report: Neil I Smith, on behalf of himself and Dr Laurence Goldsworthy.

Date: 28 September 2026

This report also includes spreadsheet documents AD13.xls and SS3.xlsx, submitted concurrently.