



Ringtail Tally - Summary report Autumn 2020

Introduction

This is the seventh Western Ringtail Tally, the first being held as a pilot study in Autumn 2016, two surveys were then held in 2017 (Autumn and Spring), another in Autumn 2018 and two carried out in 2019 (Autumn and Spring). The results build a reliable set of observation data that will improve our knowledge about where Western Ringtail Possums are found and in what numbers. The main area of focus is the Geographe Catchment, where the greatest numbers of Western Ringtails are found, however, an increasing number of surveys have been carried out in the Dawesville Mandurah area, at the northern end of the species range.

This project idea was developed by the Geographe Catchment Council who have received funding from the National Landcare Program to deliver a "count" event in 2016, 2017, 2018, 2019 and 2020. The Wirambi Landcare group have co-ordinated the Tally in the Dawesville Mandurah area since Spring 2019.

Objectives of the Ringtail Tally

- To establish a set of suburban monitoring sites where western ringtail possums are counted annually using robust, repeatable methods.
- To capture data that will help to build our knowledge about Ringtail populations and distribution which can be used as a reference for population trends, future planning decisions and conservation projects
- To provide preliminary data on the distribution and abundance of Ringtails in the Geographe Catchment and Mandurah area. Ideally the data set could be used to help with better planning decisions that affect Ringtail populations and habitat.
- To raise awareness in the community about Ringtails, which are endangered
- To engage the community in citizen science to assist with endangered species conservation
- To provide a survey that is repeatable and provides a tool for future community Ringtail counts.



Methods

To participate in the Tally, observers were asked to choose a site approximately 50m x 50m and to survey that area for western ringtail possums over a four week period between April and May each year. The surveys gave us an indication of how many individual ringtail possums are in each of the survey sites and how this changes over time. This information is important for these highly territorial possums who may spend time in a number of dreys (stick nests) or homes across their territories.

The Ringtail Tally event is advertised to the community via local newspaper advertisements in the Busselton-Dunsborough area, GeoCatch Facebook, website and network email distribution list. The event was also promoted in 'Bushland News', the newsletter of the Department of Biodiversity, Conservation and Attractions (DBCA).

Participants were provided with a survey data sheet to record sightings (see Appendix 1). The data sheet, developed with assistance from DBCA, included the following:

- *Count method* – participants were requested to count the number of ringtails visiting their house block between half an hour before sunset and 10.00 pm, on any given day.
- *Number of counts*. People could do as many counts as they wish over the 30 day, four week period (max 30 counts) but we suggested a minimum of 2 counts per week, over the four-week survey period (minimum of 8 counts).
- *Survey effort* – Participants were not required to be on the lookout for ringtails the whole evening, but were asked to record the length of time spent keeping an eye out for ringtails.
- *Positive identification* – Observers were issued with photos of ringtail possums to help distinguish them from the common Brushtail Possum. They were asked to estimate how confident they were that they recorded ringtail possums (1 = uncertain, 5 = 100% certain). People were requested to send a photo of the ringtail where possible.
- *Number of individuals counted* - The maximum number of ringtails estimated to visit on any given night is based on the maximum number seen together at any one time. If two physically distinct animals visit at different times, they were counted as two separate animals.
- *Submitting data* - Participants provided data by hardcopy/post or electronically, via email.



Results

A summary of the data captured through the surveys is presented below. Key data were selected and presented as a “snapshot” (see appendix 2 – 2016 example) using infographics and published in the local newspaper to generate awareness of ringtails and the results of the event.

Summary information	2016 Autumn Tally	2017 Autumn Tally	2017 Spring Tally	2018 Autumn Tally	2019 Autumn Tally	2019 Spring Tally	2020 Autumn Tally
Main survey period (March to May)	1 April to 30 May 2016	16 March to 30 April 2017	21 Sept. to 10 Nov. 2017	16 March to 20 May 2018	1 April to 20 May 2019	15 Sept to 30 Nov 2019	10 April to 17 May 2020
Number of Active Observers	42	40	19	35	34	16	60
Number of sites surveyed	49	41	19	40	48	25	61
Total number of ringtail possum sightings during evening surveys (Activity measure, includes individuals counted twice)*	617 (n=260 surveys)	771 (n=312 surveys)	251 (n=95 surveys)	741 (n=279 surveys)	701 (n=263 surveys)	137 (n= 90 surveys)	1034 (n=413 surveys)
Number of sites with ringtail possums recorded as present.	46 (94%)	38 (93%)	18 (95%)	40 (100%)	48 (100%)	24 (96%)	57 (93%)
Average number of ringtail possums sighted per evening survey	2.4 (n=260 surveys)	2.5 (n=312 surveys)	2.6 (n=95 surveys)	2.7 (n=279 surveys)	2.7 (n=263 surveys)	2.4 (n= 90 surveys)	2.5 (n=413 surveys)



Summary information	2016 Autumn Tally	2017 Autumn Tally	2017 Spring Tally	2018 Autumn Tally	2019 Autumn Tally	2019 Spring Tally	2020 Autumn Tally
Number of sites where ringtail possums were observed with young (combined across surveys)	17 (35%)	16 (40%)	7 (37%)	26 (65%)	25 (53%)	16 (64%)	25 (52%)
Number of ringtails seen per hour of survey (averaged across sites and data sheets*)	5.4 (n=227 surveys)	6.5 (n=268 surveys)	7.0 (n=83 surveys)	6.3 (n=258 surveys)	7.3 (n=247 surveys)	6.1 (n=90 surveys)	6.3 (n=413 surveys)
Survey Effort:							
Total number of evening surveys*	227	268	83	258	248	97	413
Average number of evening surveys per site	5.3	7.6	5.0	7.0	5.3	3.6	6.7
Average time spent surveying each evening*	26 minutes	28 minutes	26 minutes	32 minutes	28 minutes	23 minutes	26 minutes
Total number of hours spent surveying (across all sites)*	100 hours	123 hours	36 hours	139 hours	116 hours	35 hours	181 hours



Summary information	2016 Autumn Tally	2017 Autumn Tally	2017 Spring Tally	2018 Autumn Tally	2019 Autumn Tally	2019 Spring Tally	2020 Autumn Tally
% of feeding observations on Coastal Peppermint trees	55% (total of 55 reports of feeding)	44% (total of 48 reports of feeding)	46% (total of 28 reports of feeding)	50% (total of 38 reports of feeding)	51% (total of 37 reports of feeding)	14% (total of 42 reports of feeding)	51% (total of 37 reports of feeding)
Number of sites where food is provided for ringtail possums (mostly fruit).	8 (17%) (n=48 reports)	11 (31%) (n=36 reports)	2 (12%) (n=17 reports)	8 (30%) (n=27 reports)	9 (21%) (n=44 reports)	3 (12%) (n=25 reports)	23 (29%) (n=79 reports)
Site description:							
Suburban Garden	30 (48%)	33 (61%)	14 (56%)	28 (51%)	21 (44%)	49 (56%)	37 (62%)
Park/sports field	13 (21%)	9 (17%)	1 (4%)	9 (16%)	4 (8%)	0 (0%)	2 (3%)
Semi-rural House Block	11 (18%)	9 (17%)	5 (20%)	11 (20%)	7 (15%)	31 (36%)	16 (27%)
Native Bushland	8 (13%)	3 (6%)	5 (20%)	7 (13%)	16 (33%)	7 (8%)	5 (8%)

*Surveys run for less than 10 minutes, or longer than 1.5hrs were excluded.



Figure 1: Number of sites surveyed and number of observers

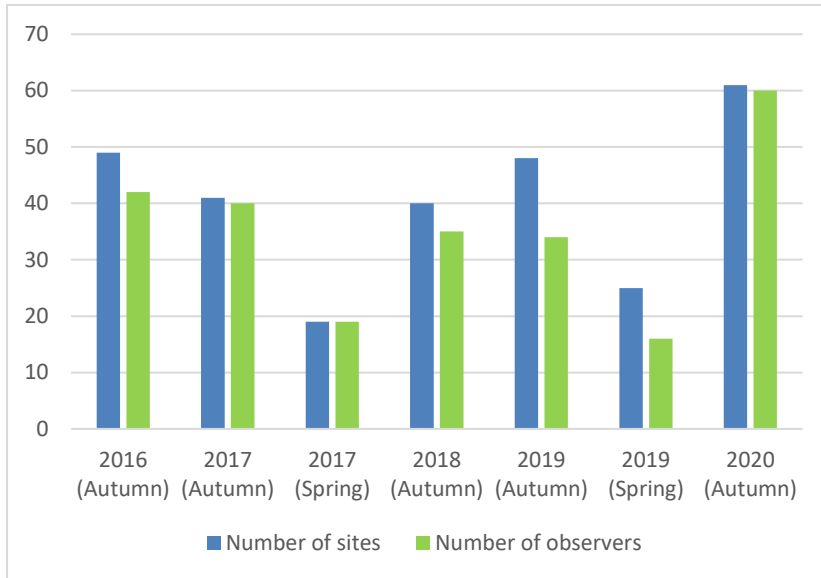


Figure 2: Average number of Ringtails counted per evening survey (\pm SE)

The number of surveys, n=260 for Autumn 2016, n=312 for Autumn 2017, n=95 for Spring 2017, n=279 surveys for Autumn 2018, n=263 surveys for Autumn 2019, n=90 for Spring 2019, n=413 for Autumn 2020)

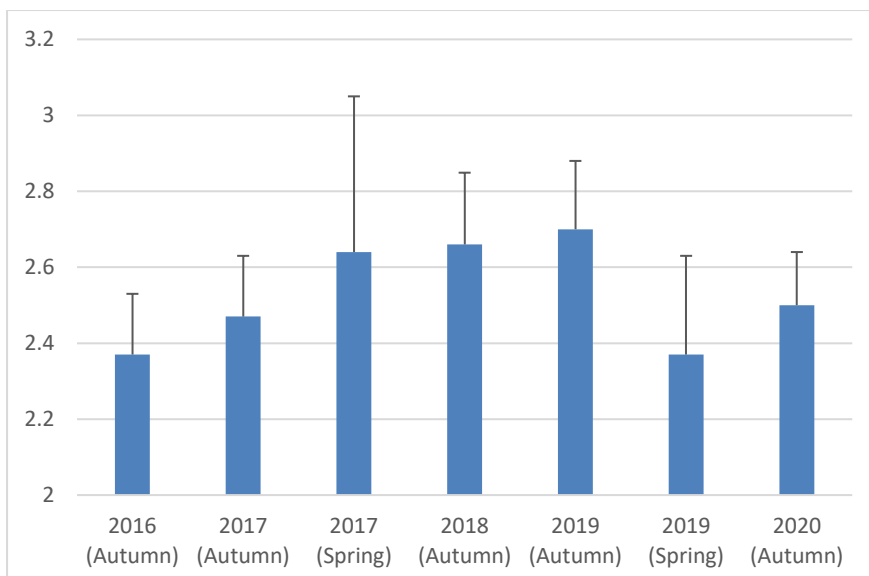
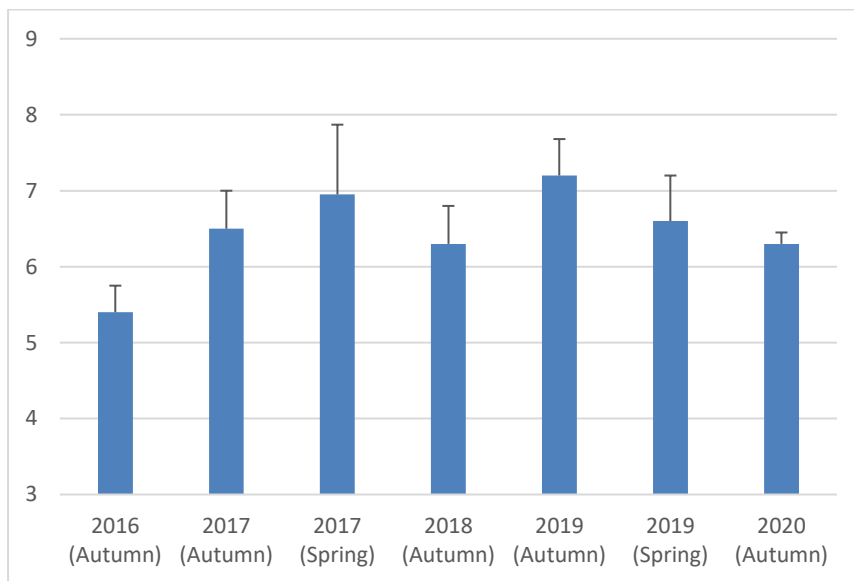




Figure 3: Average number of Ringtails per evening per hour (\pm SE). Surveys less than 10 minutes and greater than 1.5 hrs were excluded. The number of surveys, n=227 for Autumn 2016, n=268 for Autumn 2017, n=83 for Spring 2017, n=258 surveys for Autumn 2018, n=247 surveys for Autumn 2019, n=90 for Spring 2019 and n=413 for Autumn 2020)



Ringtail Deaths

Cause of death	2016 Autumn (n=22 reports)	2017 Autumn (n=29 reports)	2017 Spring (n=11 reports)	2018 Autumn (n=20 reports)	2019 Autumn (n=20 reports)	2019 Spring (n=10 reports)	2020 Spring (n=23 reports)
Roadkill	82% (18)	86% (25)	73% (8)	85% (17)	94% (16)	60% (6)	74% (17)
Dog	5% (1)	10% (3)	18% (2)	10% (2)	6% (1)	10% (1)	13% (3)
Cat	0%	7% (2)	36% (4)	10% (2)	6% (1)	10% (1)	0%
Fox	0%	0%	5% (1)	0%	0%	0%	0%
Raven	0%	0%	0%	5% (1)	0%	0%	0%
Fire	5% (1)	4% (1)	0%	0%	0%	0%	0%
Drowning	0%	0%	0%	5% (1)	0%	0%	0%
Not specified /other	9% (2)	4% (1)	18% (2)	5% (1)	12% (2)	20% (2)	13% (3)



Identification

Photos were submitted from six sites, five were ringtails (one uncertain). In almost all cases, observers were confident in their identification of Western Ringtail Possums, as determined by phone interviews, for 79 out of 81 observers (98%).

Location (2016 to 2019)

Where we saw ringtails (shading identifies areas with fewer than three observers – so not necessarily representative of the suburb, Blue identifies suburbs in Swan Region)

Location	No. Observers	No. Evening Surveys	Average number of Ringtails seen per survey*
Bouvard	6	95	6.0
Geographe	9	99	3.1
Quindalup	5	38	3.5
Dawesville	4	39	3.4
Busselton	44	481	2.7
Dunsborough	24	180	2.4
West Busselton	18	100	2.1
Leschenaultia (LCC)	17	124	1.3
Margaret River	6	63	1.3
Broadwater	6	96	1.3
Wonnerup	6	47	1.3
South Bunbury	6	14	1.3
Yallingup	4	30	1.2
Capel	4	21	1.2
Wannanup	1	1	3.0
Peppermint Grove Beach	2	40	2.0
Cowaramup	1	8	2.0
Lake Clifton	2	2	1.5
Vasse	2	134	2.0
Witchcliffe	1	10	1.2
Bunbury	2	96	2.0

*Note that these averages are not adjusted for survey effort (time spend surveying)



Conclusion

Interest in the Ringtail Tally continued into this seventh year of survey, with 60 observers taking part in the 2020 Autumn survey (compared with 34 observers in Autumn 2019), who carried out 413 surveys in 61 sites (compared with 48 sites in Autumn 2019). A total of 1034 sightings of possums were recorded, the highest level of ringtail activity recorded so far (there were 701 records of ringtails in Autumn 2019).

It is pleasing to see that the overall count of number of possums per hour remains pretty constant across all surveys completed since 2016. Peppermint trees (*Agonis flexuosa*) are still the favoured tree species for ringtails in suburbs and roads are a significant cause of mortality.

The opportunity to hold future Ringtail Tally events looks promising with many other groups from different catchments expressing interest in taking part to supporting the event. Parks and Wildlife have also indicated their support to run the Tally again in 2021. Funding will need to be sought for promotional, coordination and reporting activities where other catchments or additional sites are to be included.


The Ringtail Tally has provided a new way to engage the community in citizen science and promote awareness of our endangered Western Ringtail Possums. Repetition of the survey in future years would provide a better understanding of where Western ringtail Possums occur and inform planning decisions that affect the survival of this endangered species.

Report compiled by Nicole Lincoln (Geocatch; nicole.lincoln@dwer.wa.gov.au) and Geoff Barrett (Parks and Wildlife; geoff.barrett@dbca.wa.gov.au) on behalf of the Western Ringtail Action Group.



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Appendix 1 - Snapshot of results – example data sheet



2016 Western Ringtail Tally

Site Information								
Name of lead observer(s): <u>Jane Brown</u>	Telephone: <u>97810111</u>	Email: <u>JaneBrown@hotmail.com</u>						
Survey site address (e.g. residential street address or park name and suburb): <u>67 Stanford Dr Abbey</u>								
Estimate size of survey site: Standard search area is 50 metres x 50 metres. 50 metres = approx. 70 paces. If the block or reserve is large, select a practical survey site within it and estimate area in m ² .							___ m x ___ m or <u>500</u> m ²	
Description of survey site: <input checked="" type="checkbox"/> Suburban garden <input type="checkbox"/> Semi-rural house-block <input type="checkbox"/> Park/Sports field <input type="checkbox"/> Native bushland Other: _____ Tree species ringtails using: _____ No. trees on your house block: _____								
More location detail eg. GPS location, nearest crossroad, name and position in park/nature reserve								

Survey Data								
Survey is over four consecutive weeks from mid-April to mid-May. We ask that you try to record the number of ringtails visiting your site on two evenings per week (i.e. try for eight surveys).								
	Evening 1	Evening 2	Evening 3	Evening 4	Evening 5	Evening 6	Evening 7	Evening 8
Date (dd/mm/yy)	<u>20/4/16</u>	<u>24/4/16</u>	<u>27/4/16</u>	<u>3/5/16</u>				
Estimate total time spent looking each evening (min)	<u>20min</u>	<u>15min</u>	<u>30min</u>	<u>30min</u>				
Max number of ringtails seen on that evening	<u>1</u>	<u>0</u>	<u>2</u>	<u>1</u>				
Estimate total number of ringtails present at your site over the 4 week period.				TOTAL <u>4</u>		If you didn't see any ringtails, did you see <u>fresh</u> evidence at your site, such as scats, feeding mess or dreys? Y/N		

Additional Information
Have you seen any dead ringtails this year (inside or outside the survey site)? Write a number next to each relevant cause of death: Road kill: <u>6</u> Cat: ___ Dog: ___ Fox: ___ Swimming Pool: ___ Other: _____ Total: <u>6</u>
Any signs of breeding (females with young) at your site? (Y/N) <u>(Y)</u> No. of young seen over survey period: _____
Do you provide food specifically for ringtails? _____ If yes, <input type="checkbox"/> fruit/veg <input type="checkbox"/> oats <input type="checkbox"/> pet food Other: _____
Have you seen ringtails feeding from other sources such as food provided for pets? If yes, what? _____
Other native animals seen during the survey period? E.g. Owls, quenda, bats.
Other comments e.g. weather conditions, location of dead ringtails (attach a separate sheet if you need to):



Appendix 2 - Snapshot of the 2016 results

RINGTAIL TALLY RESULTS 2016



Western Ringtail
Action Group



GeoCatch

A survey of Western Ringtail Possums

The Western Ringtail Tally was held for the first time in 2016 to start building observation data that will improve our knowledge about where our endangered Western Ringtail Possums are found and in what numbers, within the Geopraphe Catchment.



43 residents took part in the Tally

A SNAPSHOT OF RESULTS April - May 2016

Of **45 sites** surveyed,

93% HAD RINGTAILS!

A total of **102 hours** were spent looking out for possums, across **243 evening surveys**

WHERE WE SAW RINGTAILS:



The **HIGHEST NUMBER** of possums per survey occurred at Wonnerup, Yalyalup, Busselton, Dunsborough, Yallingup and Vasse.

TO PROTECT OUR RINGTAILS, Protect your peppies, plant possum friendly gardens and keep pets inside at night.

Missed the tally?

Send any sighting info to fauna@dpaw.wa.gov.au where your important data will be added to the Western Ringtail Possum database.



Average number seen during a survey

2.3

549 sightings

of which 154 were identified as different individuals

of **49** reported deaths (seen this year), **(96%)** were due to road kills

63% of reports on ringtails **feeding** were in **peppermint trees**

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Department of Parks and Wildlife



Australian Government



National Landcare Program