



2020 Annual report on the commercial harvest of kangaroos in Western Australia

This report is provided to the Australian Government as a requirement of the *Management Plan for the Commercial Harvest of Kangaroos in Western Australia 2019–2023* under Aim 6, Action 16, Performance Indicator 25.

March 2021



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Conservation and Attractions**

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March 2021

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1 Harvest statistics

The statistics for Western Australia's red and western grey commercial kangaroo harvest are presented below in Table 1 and Table 2 and Figure 1 and Figure 2. Commercial harvest for red kangaroos in 2020 was 13.8 per cent of the allowable quota and 26.1 per cent for western grey kangaroos.

1.1 Red kangaroos

Table 1. Commercial harvest figures for red kangaroos for the 2020 calendar year.

Population Monitoring Zone	Number harvested	Sex ratio (% male)	Average male carcass weight (kg)	Average female carcass weight (kg)
Central	6353	80.8	25.4	15.5
Northern	5999	62.3	26.7	14.9
South East	17670	77.9	23.9	15.4
Totals (WA)	30022	75.4	24.7	15.2
State quota	217360			
Proportion state quota harvested	13.8			

1.2 Western grey kangaroos

Table 2. Commercial harvest figures for western grey kangaroos for the 2020 calendar year.

Population Monitoring Zone	Number harvested	Sex ratio (% male)	Average male carcass weight (kg)	Average female carcass weight (kg)
Central	6709	71.1	25.1	15.8
South East	4763	67.6	29.1	16.6
South West	59399	65.7	30.3	17.7
Totals (WA)	70871	65.1	29.7	17.5
State quota	271770			
Proportion state quota harvested	26.1			

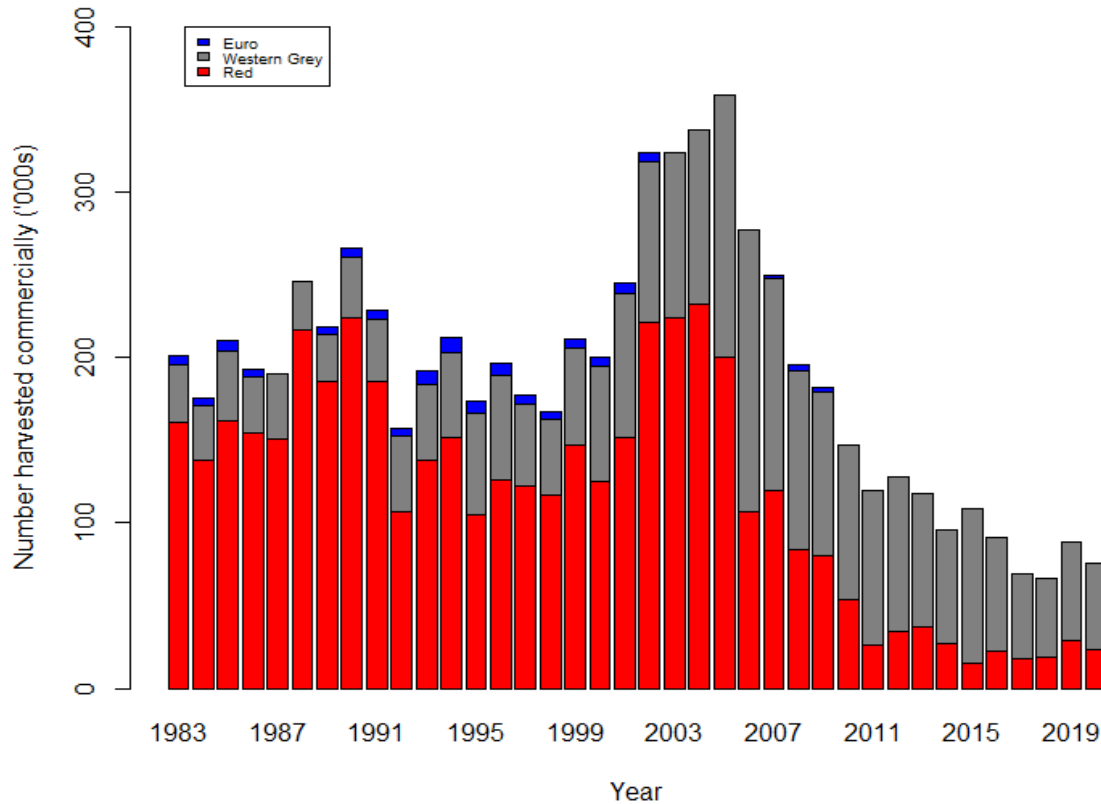


Figure 1. Total harvest in the State for red and western grey kangaroos.

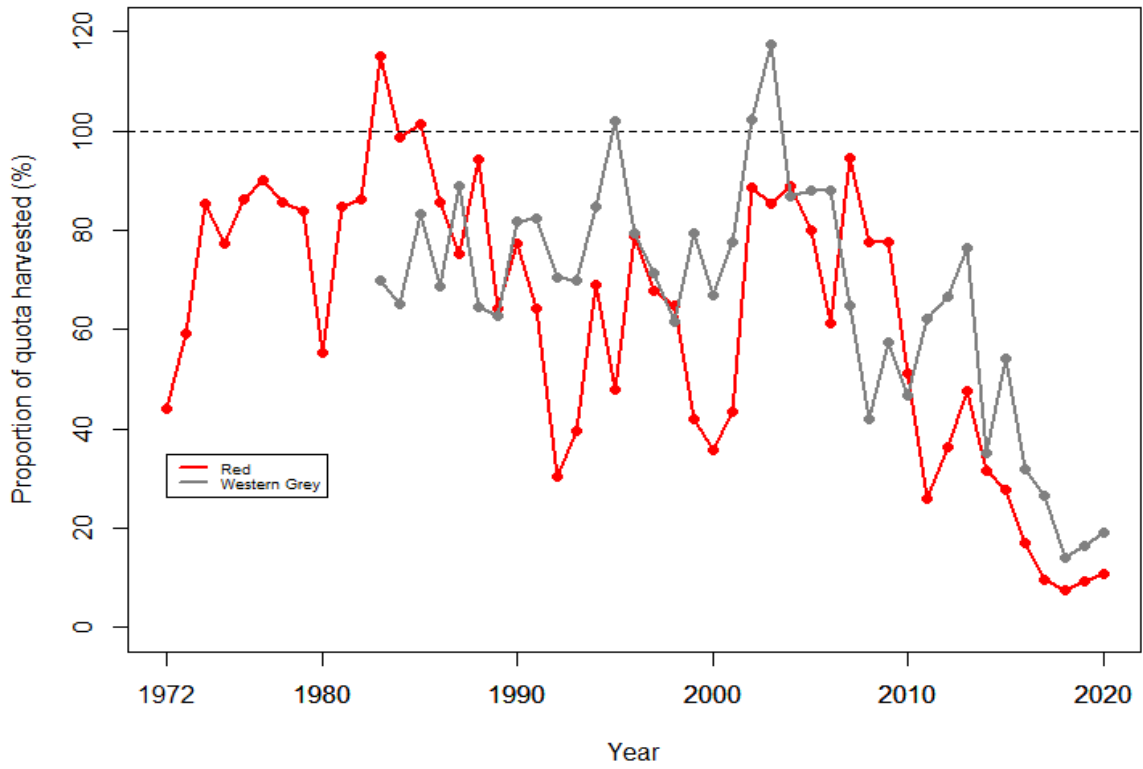


Figure 2. Proportion of quota harvested in the State for red and western grey kangaroos.

2 Industry compliance

Table 3. Summary of compliance monitoring of the commercial kangaroo industry in Western Australia for the 2020 calendar year.

Category	Commercial Activity			
	Regulation 23: Licence to Take Kangaroos for Sale	Regulation 37: Licence to Process	Regulation 23 or Regulation 38: Active Chiller Units*	Regulation 38: Licence to Deal in Skins
Licences current in 2020	330	31	93	1
Licensees/premises inspected	2	20	80	0
Alleged offences	6	2	0	0
Type of alleged offence	BCR R84 contravention of conditions of a licence. BCA S149(1) take fauna without lawful authority	BCA S158(2) processing fauna without authority of a licence. BCR R84 contravention of conditions of a licence.	0	0
Letters of warning issued	0	0	0	0
Caution notices issued	2	3	0	0
Prosecutions initiated	0	0	0	0
Convictions	0	0	0	0
Dismissals	0	0	0	0
Prosecutions pending	0	0	0	0

* Active chiller units are those chillers identified on shooter returns where there is at least one shooting day of effort assigned to that chiller during the year.

** *Biodiversity Conservation Act 2016*

3 Unusual circumstances

3.1 Rainfall and drought

The following information is an excerpt taken from the annual climate summary for Western Australia published by the Bureau of Meteorology (product code IDCKGC51R0; accessed 22 March 2021). The full annual climate summary is available from <http://www.bom.gov.au/climate/current/annual/wa/summary.shtml>

2020 was the second-warmest year on record for Western Australia, after the record warm year of 2019. Annual mean maximum temperatures were very much above average (warmest 10 percent of years) for almost the entire state. Annual mean minimum temperatures were above average across most of the state. Rainfall was below average in the west, though above average rainfall in the north and central WA largely due to heavy falls from tropical systems at the start and the end of the year.

Overall, it was dry in the west, wet in the northern and central parts.

- Annual rainfall in 2020 was slightly below average for Western Australia as a whole.
- WA had the eighth-driest winter on record.
- For the South West Land Division, it was the seventh-driest southern cool season (April-October) on record, and driest since 2012.
- Parts of northern and central WA recorded above average rainfall in 2020, from tropical cyclone Blake (early January), severe tropical cyclone Damien (early February), and ex-TC Esther (end of February and early March) and several tropical lows both at the start and end of the year.
- Due to a record wet December, Cygnet Bay in the west Kimberley had its highest annual rainfall on record, and Derby Aero had its highest annual rainfall since 2000.
- Several all-month highest daily rainfall records were broken in the Kimberley, Pillara, east Gascoyne and Southern Interior.

A cold front and associated low pressure system produced heavier falls between 80 and 110 mm around Albany on 4 August, and Karralea had its all-month highest daily rainfall on record. Rainfall, drought and pasture growth maps are shown in Figure 3 to Figure 6.

Western Australian rainfall deciles 1 January to 31 December 2020

Australian Gridded Climate Data

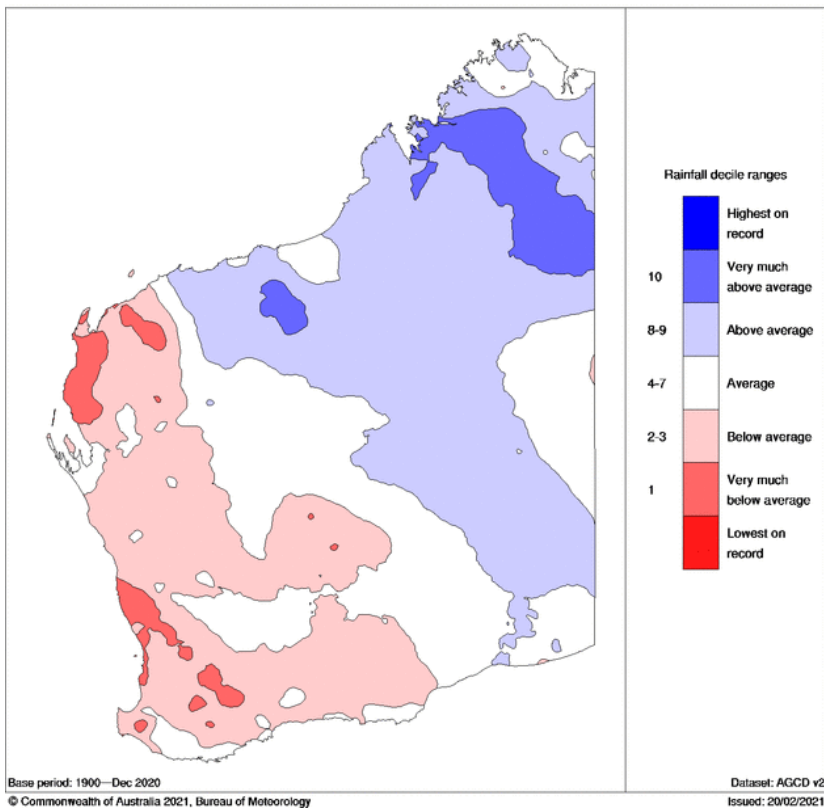


Figure 3. Rainfall deciles for Western Australia for the 2020 calendar year.

Western Australian total rainfall (mm) 1 January to 31 December 2020

Australian Gridded Climate Data

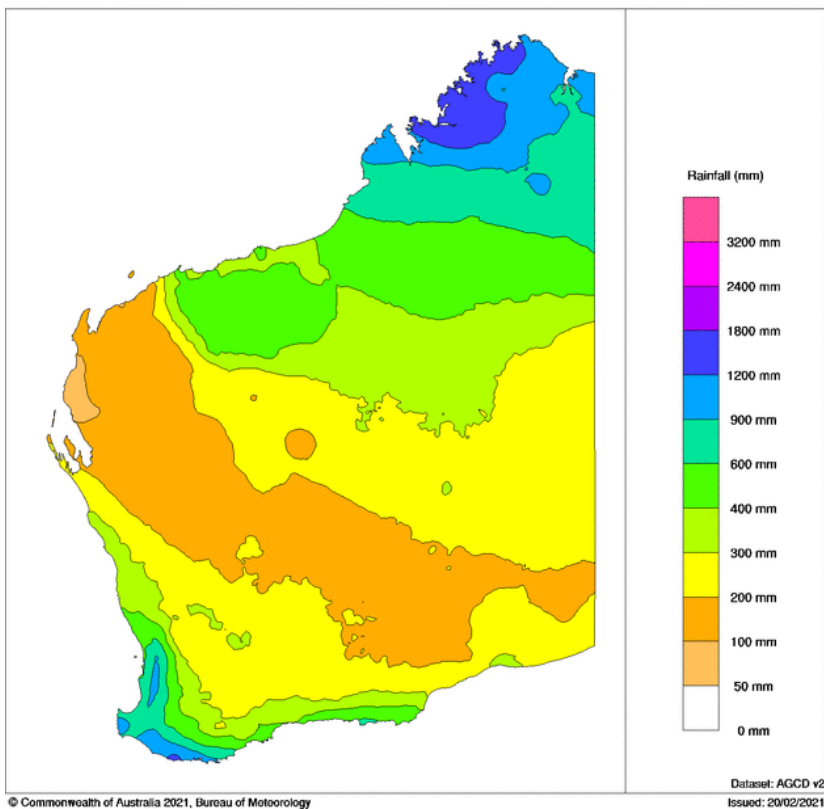


Figure 4. Rainfall totals for Western Australia for the 2020 calendar year.

Western Australian rainfall deficiencies 1 January to 31 December 2020
 Australian Gridded Climate Data

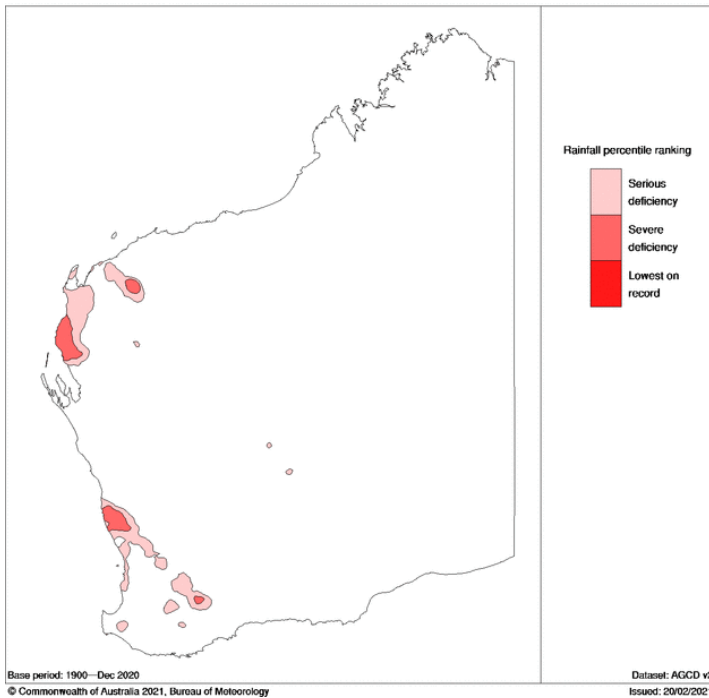
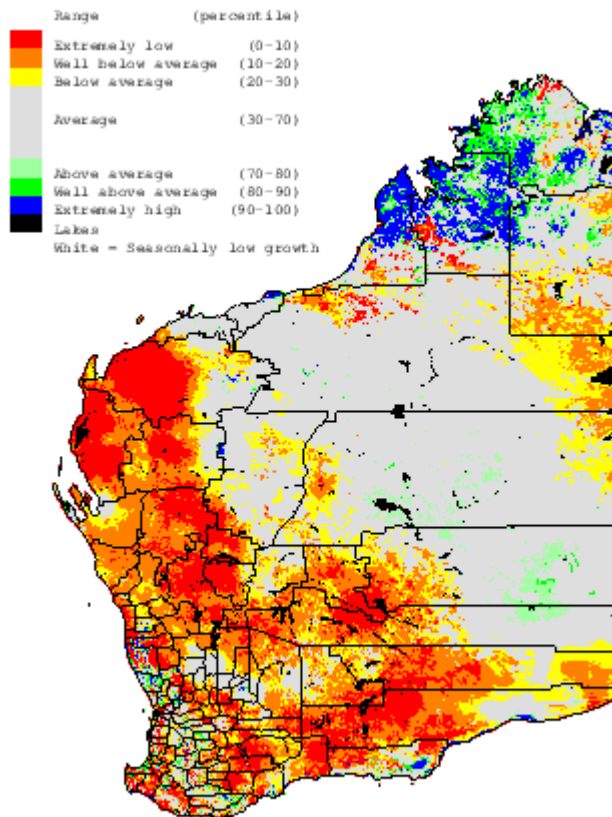


Figure 5. Drought map for Western Australia for the 2020 calendar year.

January to December 2020



www.LongPaddock.qld.gov.au

Figure 6. Pasture growth in Western Australia relative to historical records from 1957.

3.2 Disease

No significant disease outbreaks were detected or reported in populations of commercially harvested kangaroo species in Western Australia in 2020.

3.3 Market factors

Limited demand for carcasses from processors, exacerbated by the closure of V.I.P. Petfoods in 2016, continues to contribute to the significant reduction in active shooting of kangaroos for commercial purposes. A few small processors have been established however this has not significantly increased demand across the industry.

4 Research activity

No research or adaptive management experiments related to the commercial harvesting of kangaroos were undertaken or sponsored by the Department in 2020.

5 Assessment of plan actions against performance indicators

Table 4. Assessment of Plan against performance indicators.

Performance Indicator	Description	Year					Comments
		2019	2020	2021	2022	2023	
1	Licence conditions for the commercial taking, processing and dealing of kangaroos will stipulate that kangaroos cannot be shot, sold or received unless they have been taken in accordance with the Commercial Code.	✓	✓				
2	Copies of the Commercial Code will be made available from the department's website.	✓	✓				See: http://www.dpaw.wa.gov.au/plants-and-animals/animals/kangaroo-management-in-western-australia
3	The department will participate in and support any revisions to the nationally-endorsed Commercial Code.	✓	✓				The Department participated in the review of the Code of Practice 2020.

Performance Indicator	Description	Year					Comments
		2019	2020	2021	2022	2023	
4	All prospective commercial kangaroo shooters must have completed an accredited test of marksmanship and completed accredited vocational training in Game Harvester Skill Set as a prerequisite before being issued with a licence to take fauna for commercial products.	✓	✓				900-80638V01 - Game Harvester Skill Set.
5	Audits of licences issued for commercial activities are conducted annually to ensure licences are being issued appropriately in accordance with relevant legislation and departmental policies.	✓	✓				
6	Databases are maintained to ensure licensee information is current and accurate.	✓	✓				
7	Licence conditions are reviewed as required, and amended where necessary.	✓	✓				The Department participated in the review of the Code of Practice 2020.

Performance Indicator	Description	Year					Comments
		2019	2020	2021	2022	2023	
8	Licensees are advised in writing of any changes to licence conditions within one month of such changes being approved by the CEO or delegate.	✓	✓				
9	All active kangaroo processing establishments are inspected by authorised departmental officers annually to ensure compliance with legislative requirements.	✗	✗				Sixty-five percent of processors were inspected in 2020. This is an increase of 52% compared to 2019.
10	At least thirty percent of active chillers are inspected by authorised departmental officers annually to ensure compliance with legislative requirements.	✗	✓				

Performance Indicator	Description	Year					Comments
		2019	2020	2021	2022	2023	
11	Reports of unlicensed activities and activities in breach of legislation and licence conditions are investigated to the fullest extent possible and, where sufficient evidence is available, offenders are issued with expiation notices or prosecuted as appropriate.	✓	✓				
12	Incoming industry returns are reviewed, and discrepancies are investigated.	✓	✓				
13	A compliance database will be maintained and improved to support investigations and inspections.	✓	✓				A revised compliance database is in development.
14	Aerial surveys are undertaken triennially for each monitoring zone and population estimates are calculated in accordance with the Management Plan.	✓	✓				
15	Commercial harvest quotas are set in accordance with the Management Plan.	✓	✓				

Performance Indicator	Description	Year					Comments
		2019	2020	2021	2022	2023	
16	Population Monitoring Zone quotas and the state-wide quotas are never exceeded.	✓	✓				
17	The Commonwealth Government is advised of commercial harvest quotas via a quota report for the following calendar year by 30 November.	✗	✗				The Commonwealth was advised of the commercial harvest quota on 18 December 2020.
18	The quota report will be made available to the public via the department's website.	✓	✓				See: http://www.dpaw.wa.gov.au/plants-and-animals/animals/kangaroo-management-in-western-australia
19	Sudden, sustained or acute changes in the information provided through harvest returns will be investigated to identify possible causes of the change.	✓	✓				

Performance Indicator	Description	Year					Comments
		2019	2020	2021	2022	2023	
20	Commercial kangaroo harvest rates will be reduced or the commercial kangaroo harvest suspended if density estimates reach the thresholds identified in the management plan (WAKMP 2019-2023 Table 2). Any suspensions or reductions will remain in place until surveys or data indicates that kangaroo densities have increased above density thresholds.	✓	✓				
21	Changes to the kangaroo management program will be communicated to relevant stakeholders via the department's website and directly to stakeholders where appropriate.	✓	✓				
22	During the life of the Management Plan, the department will support research on harvested species of kangaroos or commercial harvest management as appropriate.	✓	✓				

Performance Indicator	Description	Year					Comments
		2019	2020	2021	2022	2023	
23	All proposals to undertake active adaptive management experiments are reviewed and assessed by the department in accordance with the criteria outlined in the Management Plan.	✓	✓				
24	As a minimum, trends in population estimates, harvest tallies, carcass weights and sex ratios will be analysed annually and published on the department's website in annual and quota reports.	✓	✓				
25	An annual report will be provided to the Commonwealth Government by 31 March of the following year.	✗	✓				
26	KMAC meets at least once per year to review the progress of the Management Plan in relation to the goal and aims of the plan.	✓	✓				

Performance Indicator	Description	Year					Comments
		2019	2020	2021	2022	2023	
27	KMAC is provided with annual updates on the commercial harvest and issue of tags issue throughout the life of the Management Plan.	✓	✓				
28	KMAC is provided with other relevant information as required or as necessary throughout the life of the Management Plan.	✓	✓				
29	<p>Throughout the life of the Management Plan, the department's website will contain the following information as a minimum standard:</p> <ul style="list-style-type: none"> • the current management plan; • the current quota report; • the current annual report submitted to the Commonwealth Government; • information sheets on kangaroo biology and management; • the Commercial Code; and • relevant contact information. 	✓	✓				<p>See: http://www.dpaw.wa.gov.au/plants-and-animals/animals/kangaroo-management-in-western-australia</p>

Performance Indicator	Description	Year					Comments
		2019	2020	2021	2022	2023	
30	Publicly available information on kangaroo management is provided to interested parties as soon as practicable on request.	✓	✓				
31	Relevant departmental staff will participate in interviews with the media where appropriate.	✓	✓				
32	Media releases are prepared for issues of interest to the community when appropriate.	✓	✓				
33	As a minimum, all first time commercial kangaroo licence holders, or those who have not held a valid licence during the term of the current Management Plan, will be provided with an up to date information pack to make licence holders aware of relevant requirements and responsibilities.	✓	✓				

Appendices

Appendix 1 Harvest statistics for monitoring zones

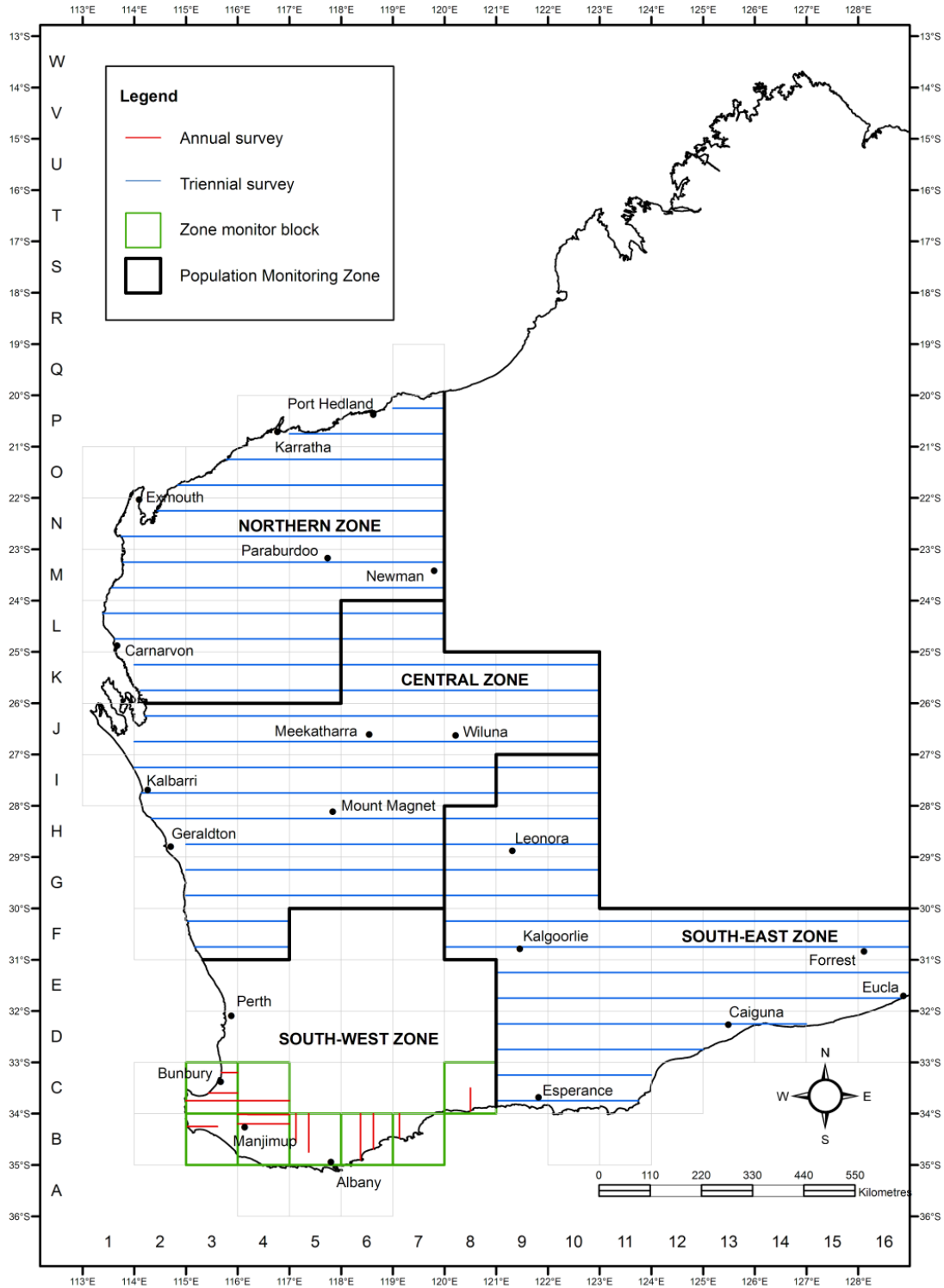


Figure 7. Map of Population monitoring zones for commercial harvesting of kangaroos in Western Australia.

Northern zone

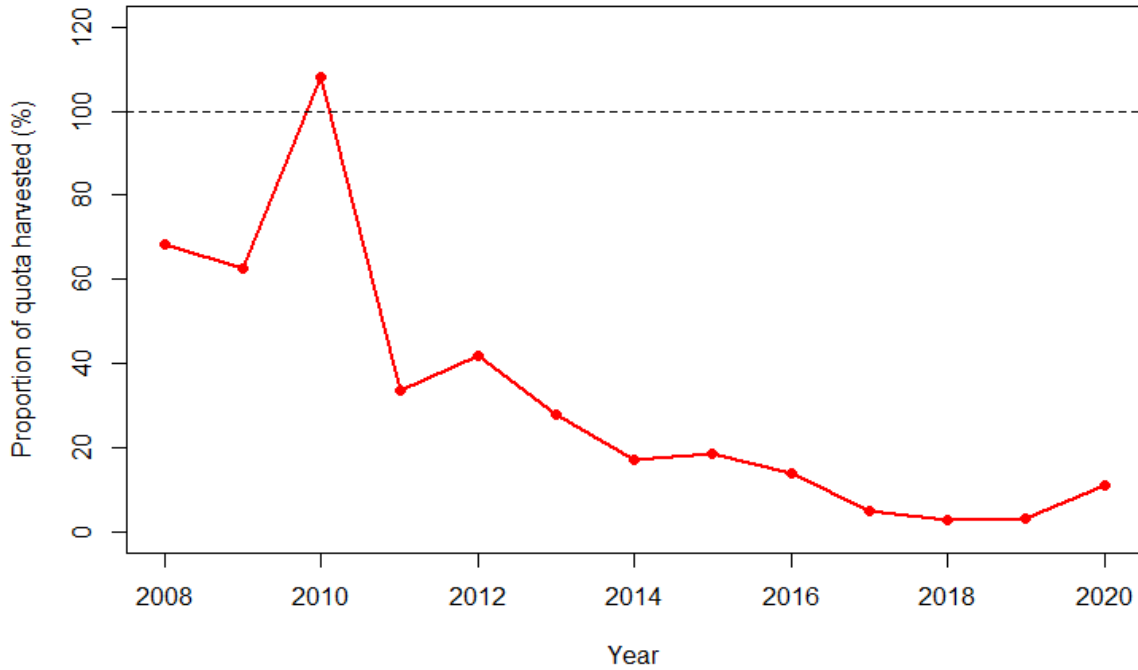


Figure 8. Proportion of total quota harvested (%) for red kangaroos in the Northern Zone between 2008 and 2020.

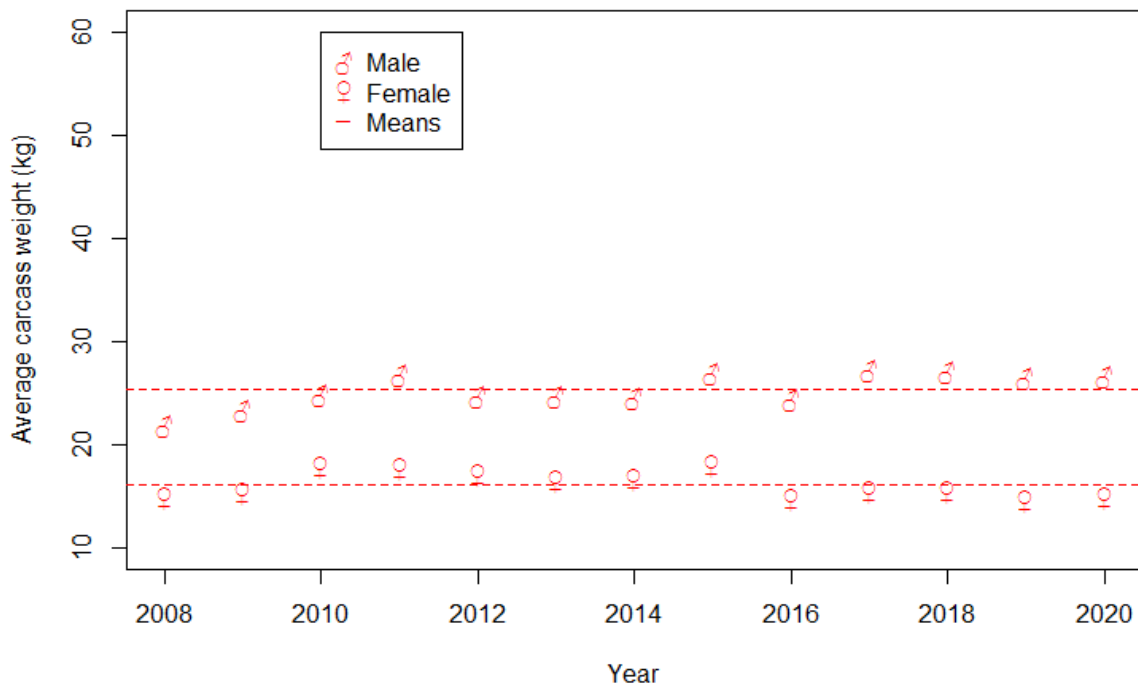


Figure 9. Average carcass weight of male and female red kangaroos harvested in the Northern Zone between 2008 and 2020. The upper red dashed line represents the average carcass weight for male kangaroos across all years and the lower red dashed line is the average carcass weight for females.

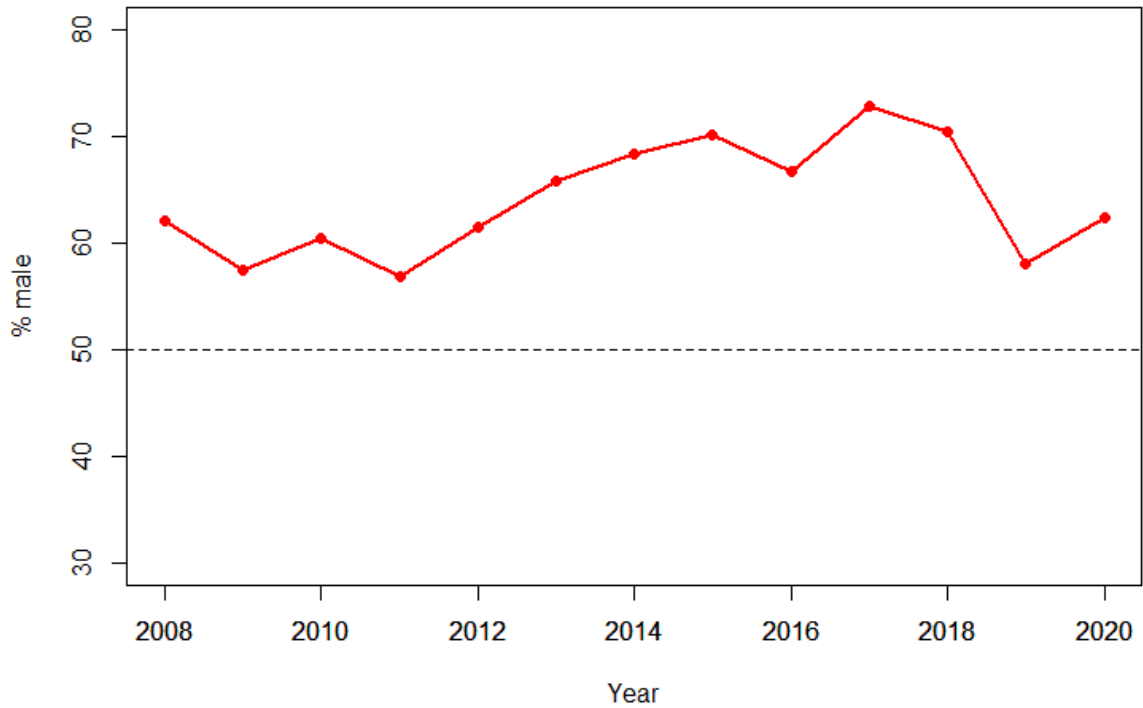


Figure 10. Sex ratio (expressed as a percentage) of male to female red kangaroos harvested in the Northern Zone between 2008 and 2020.

Central zone

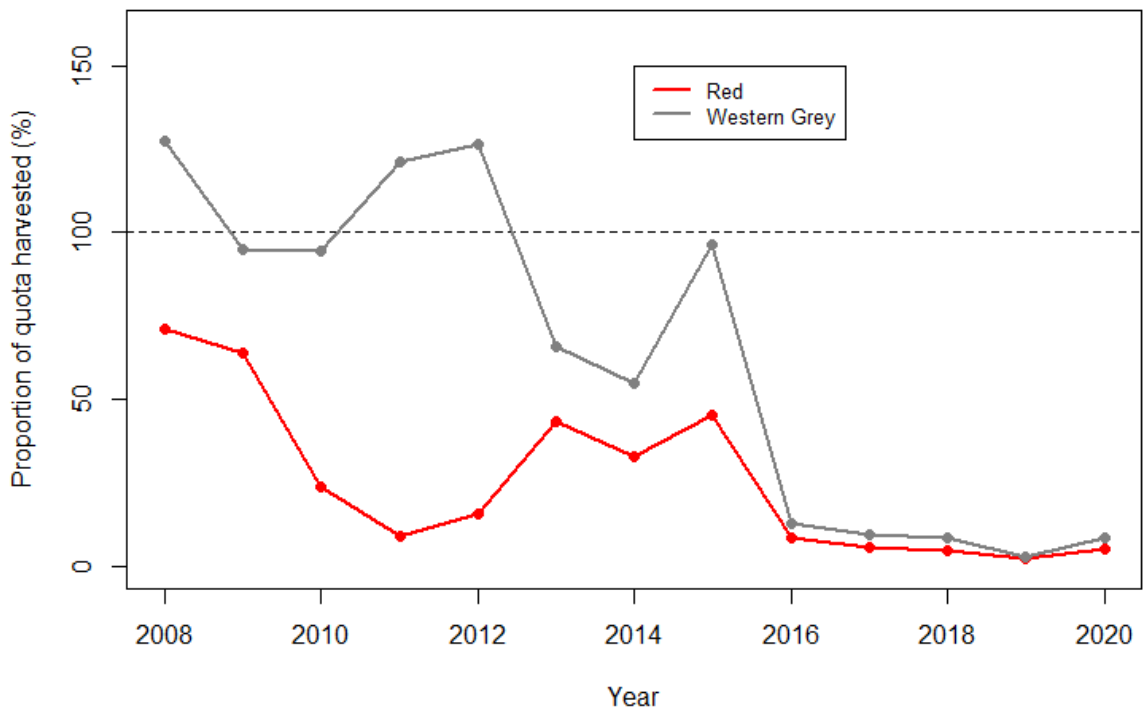


Figure 11. Proportion of total quota harvested (%) for red and western grey kangaroos in the Central Zone between 2008 and 2020.

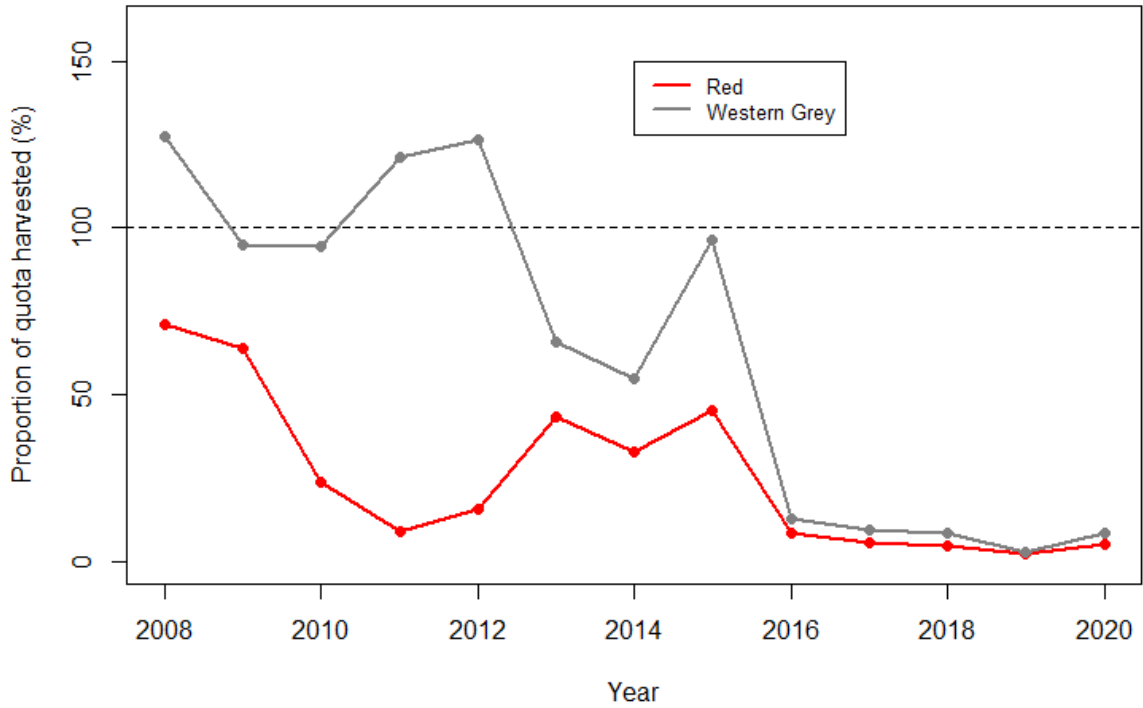


Figure 12. Sex ratio (expressed as a percentage) of male to female kangaroos harvested in the Central Zone between 2008 and 2020.



Figure 13. Average carcass weight of male and female red kangaroos harvested in the Central Zone between 2008 and 2020. The upper red dashed line represents the average carcass weight for male kangaroos across all years and the lower red dashed line is the average carcass weight for females.

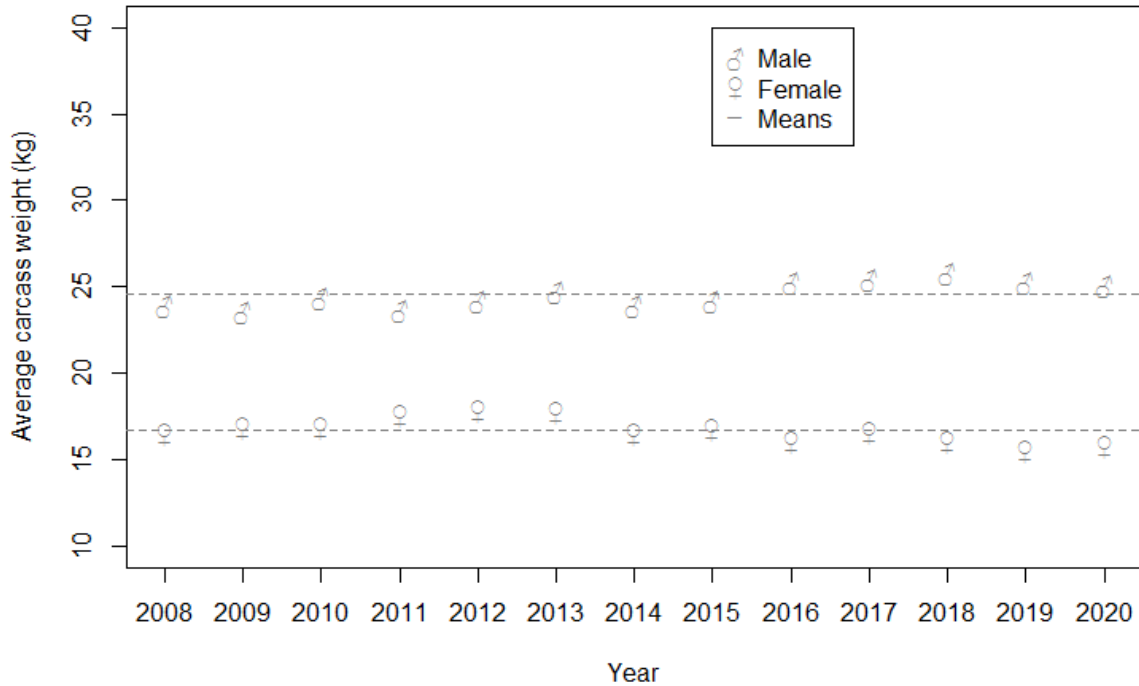


Figure 14. Average carcass weight of male and female grey kangaroos harvested in the Central Zone between 2008 and 2020. The upper grey dashed line represents the average carcass weight for male kangaroos across all years and the lower grey dashed line is the average carcass weight for females.

South east zone

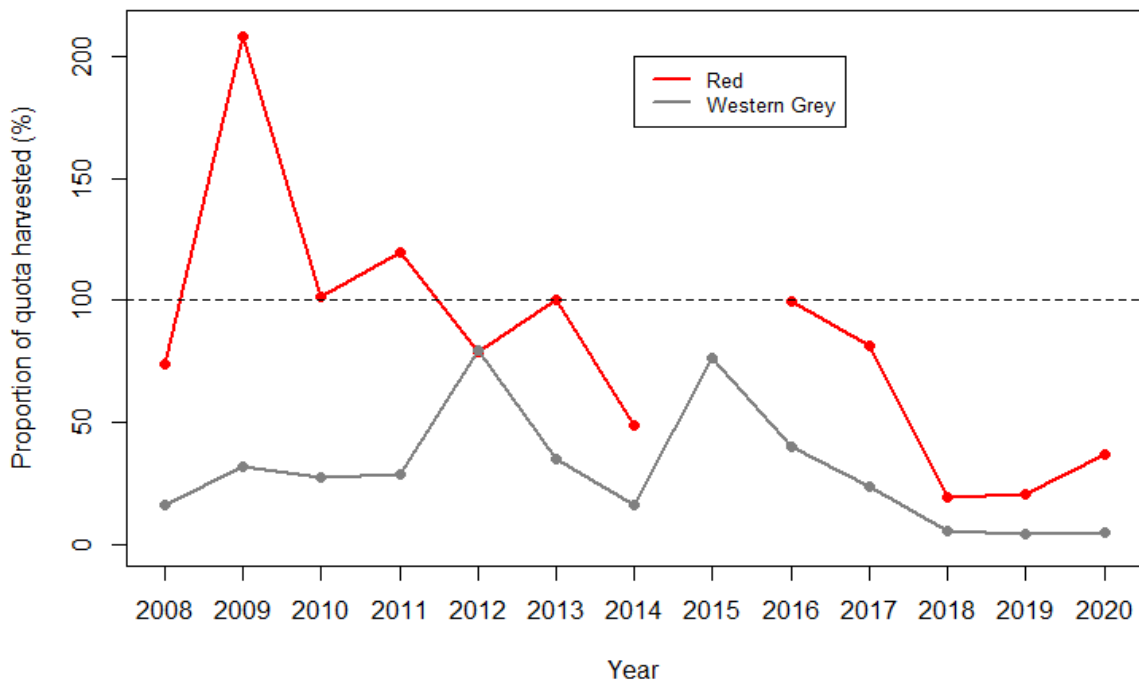


Figure 15. Proportion of total quota harvested (%) for red and western grey kangaroos in the South East Zone between 2008 and 2020. Note: No red kangaroo harvest was taken in 2015.

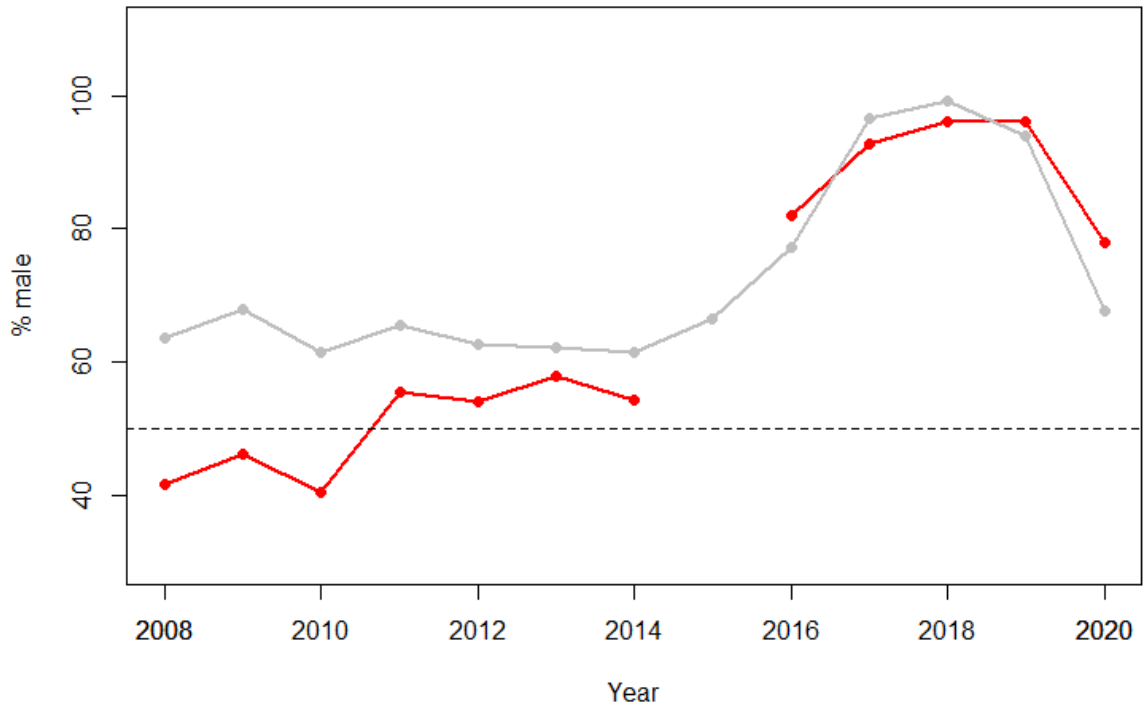


Figure 16. Sex ratio (expressed as a percentage) of male to female kangaroos harvested in the South East Zone between 2008 and 2020. Note: No red kangaroo harvest was taken in 2015.

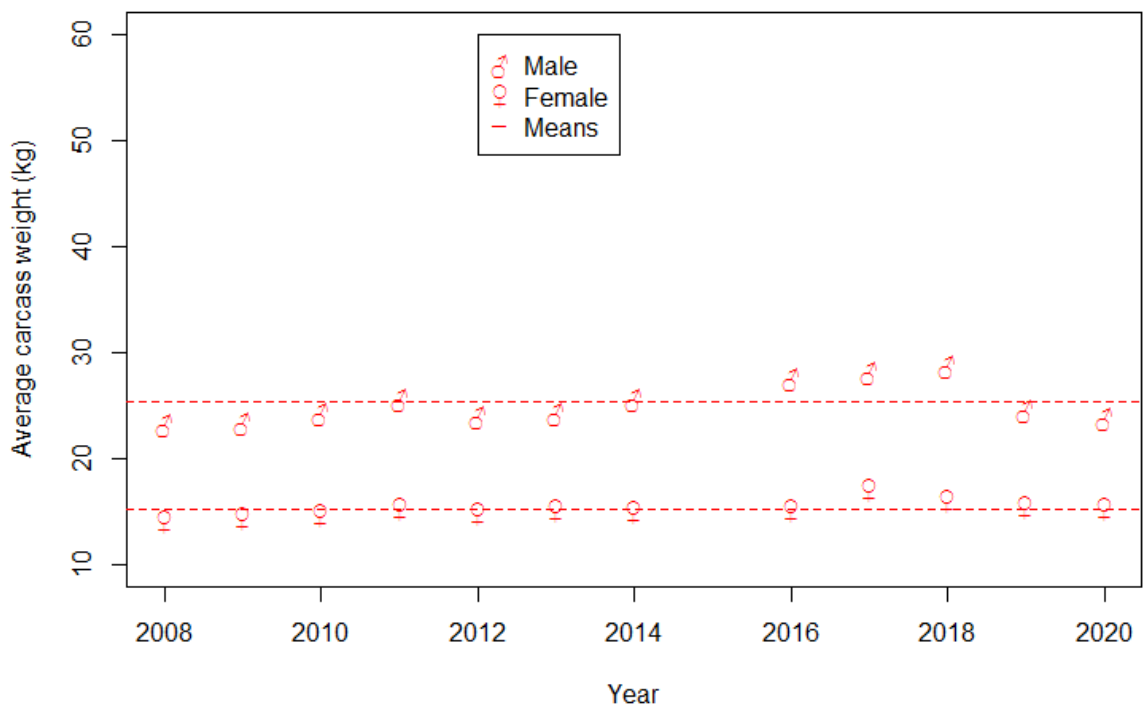


Figure 17. Average carcass weight of male and female red kangaroos harvested in the South East Zone between 2008 and 2020. The upper red dashed line represents the average carcass weight for male kangaroos across all years and the lower red dashed line is the average carcass weight for females.

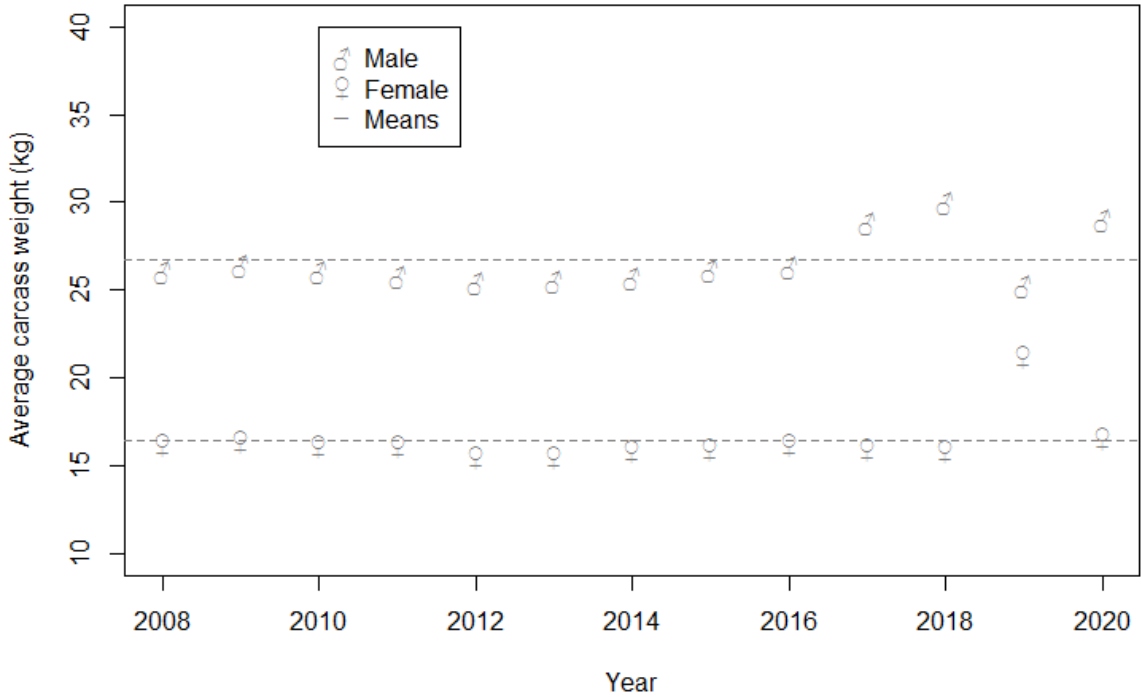


Figure 18. Average carcass weight of male and female grey kangaroos harvested in the South East Zone between 2008 and 2020. The upper grey dashed line represents the average carcass weight for male kangaroos across all years and the lower grey dashed line is the average carcass weight for females.

South west zone

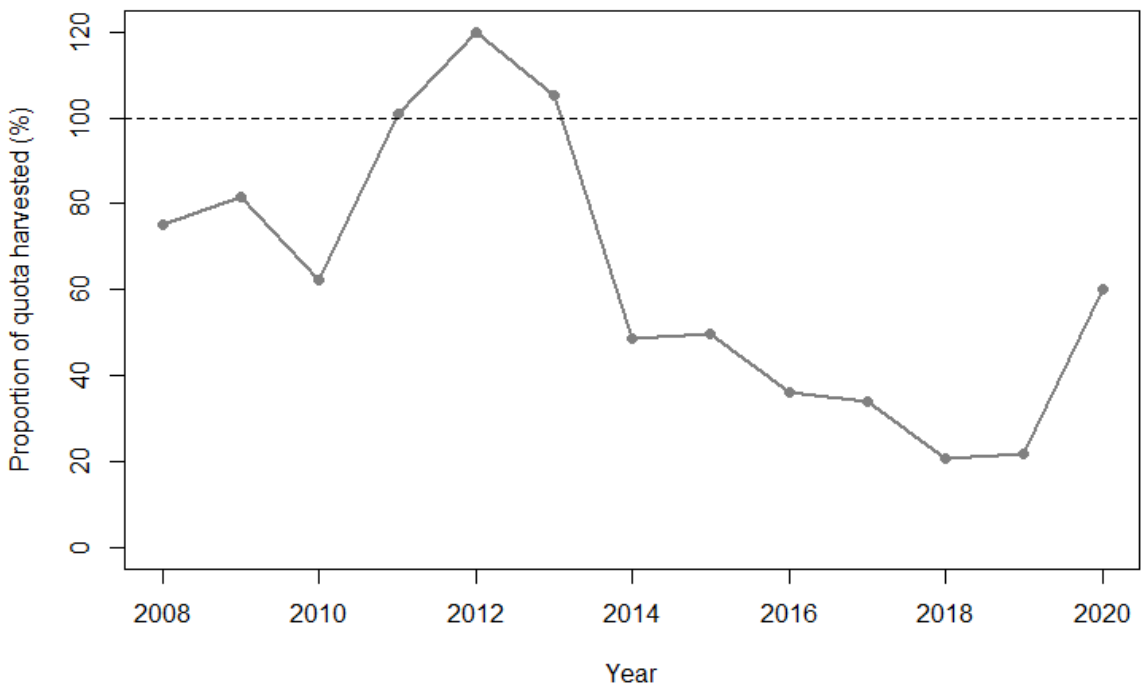


Figure 19. Proportion of total quota harvested (%) for grey kangaroos in the South West Zone between 2008 and 2020.

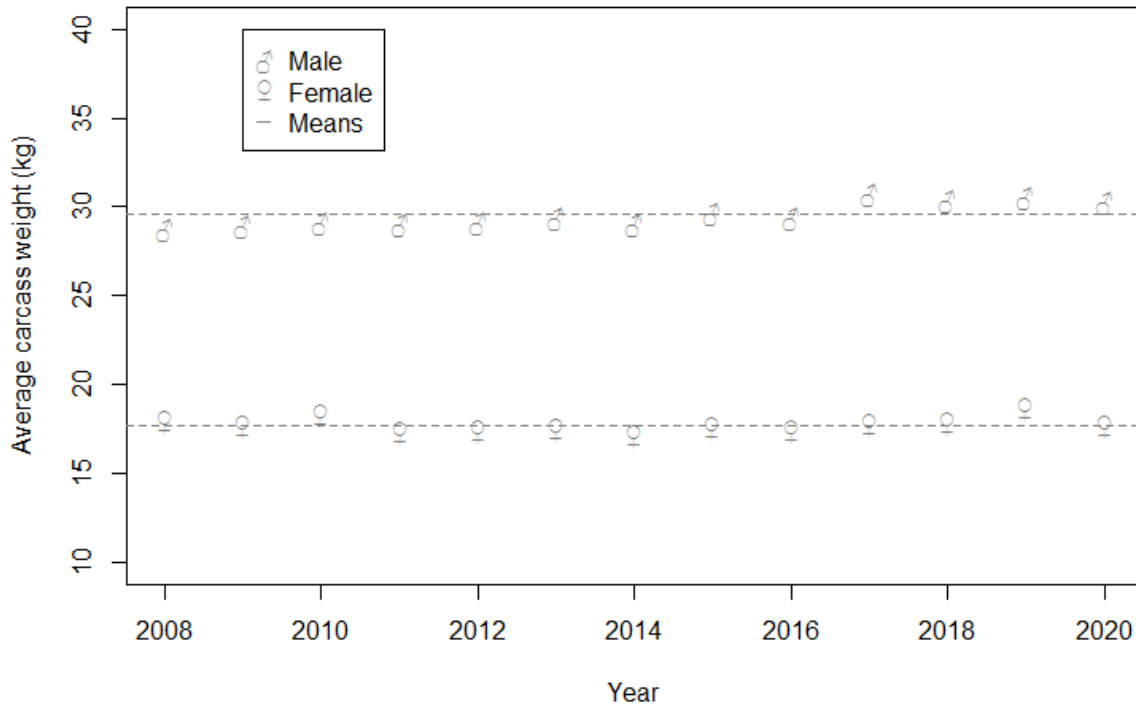


Figure 20. Average carcass weight of male and female grey kangaroos harvested in the South West Zone between 2008 and 2020. The upper grey dashed line represents the average carcass weight for male kangaroos across all years and the lower grey dashed line is the average carcass weight for females.

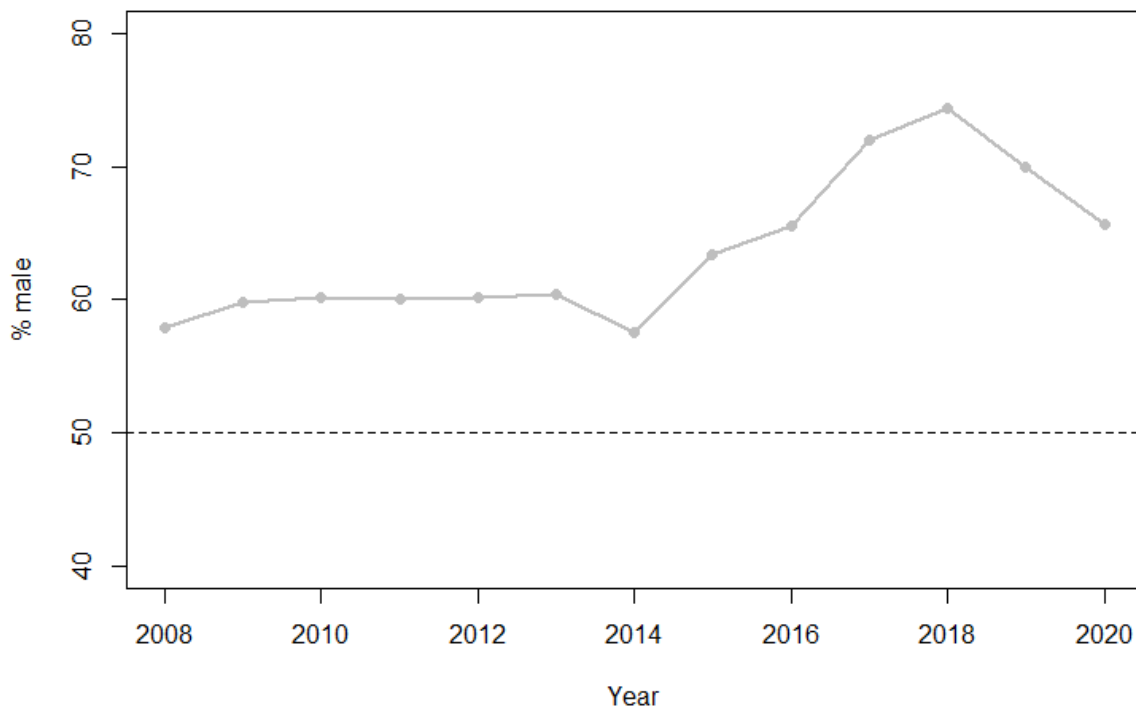


Figure 21. Sex ratio (as a percentage) of male to female grey kangaroos harvested in the South West Zone between 2008 and 2020.