

# 2018 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 2014–2018* under Aim 6, Action 17, Performance Indicator 30. This is the final report for the 2014-2018 Management Plan.

March 2019



Department of **Biodiversity,  
Conservation and Attractions**



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## 1. HARVEST STATISTICS

The statistics for Western Australia's red and western grey commercial kangaroo harvest are presented below in Tables 1.1 and 1.2 and Figures 1 and 2 (please refer to Appendix 1 for a breakdown of the harvest data by monitoring zone). Commercial harvest for red kangaroos in 2018 was 7.6 per cent of the allowable quota and 14 per cent for western grey kangaroos.

### 1.1. Red Kangaroos

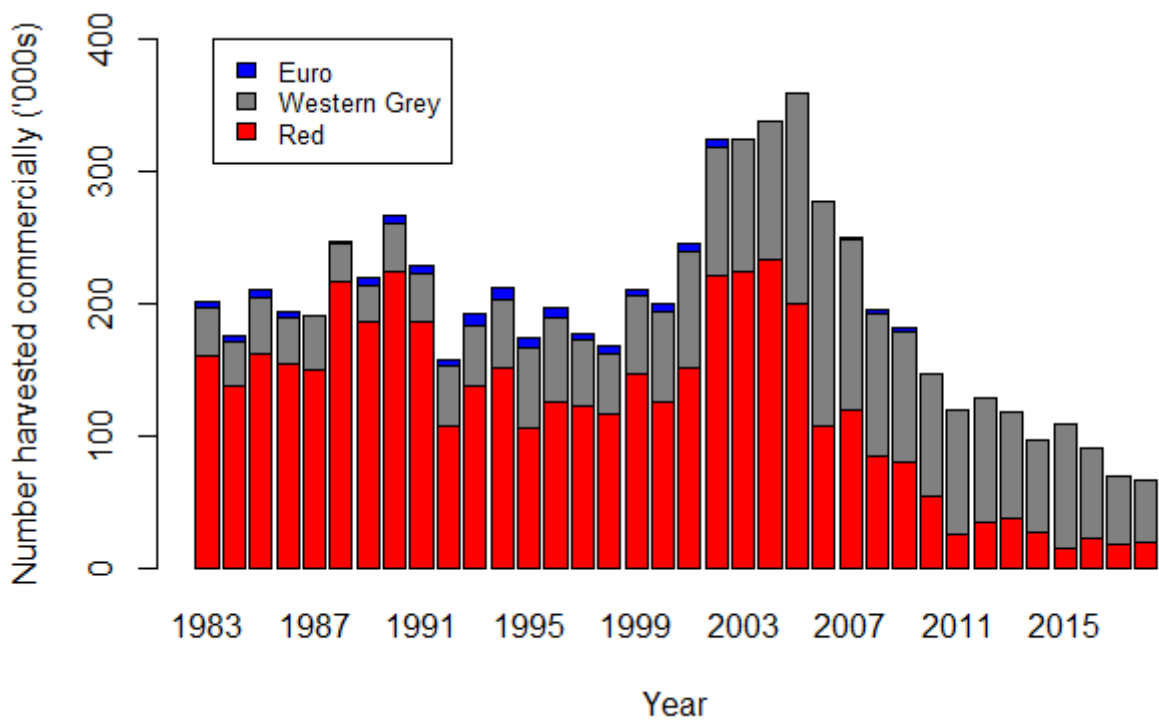
**Table 1.1. Commercial harvest figures for red kangaroos for the 2018 calendar year.**

Population Monitoring Zone	Number harvested	Sex ratio (% male)	Average male carcass weight (kg)	Average female carcass weight (kg)
Central	4,828	81.0	25.4	15.6
Northern	2,782	70.4	27.2	15.6
South East	11,434	96.2	28.8	16.1
<b>Totals (WA)</b>	<b>19,044</b>	<b>88.5</b>	<b>27.1</b>	<b>15.8</b>
State quota	248,920			
Proportion state quota harvested	7.6%			

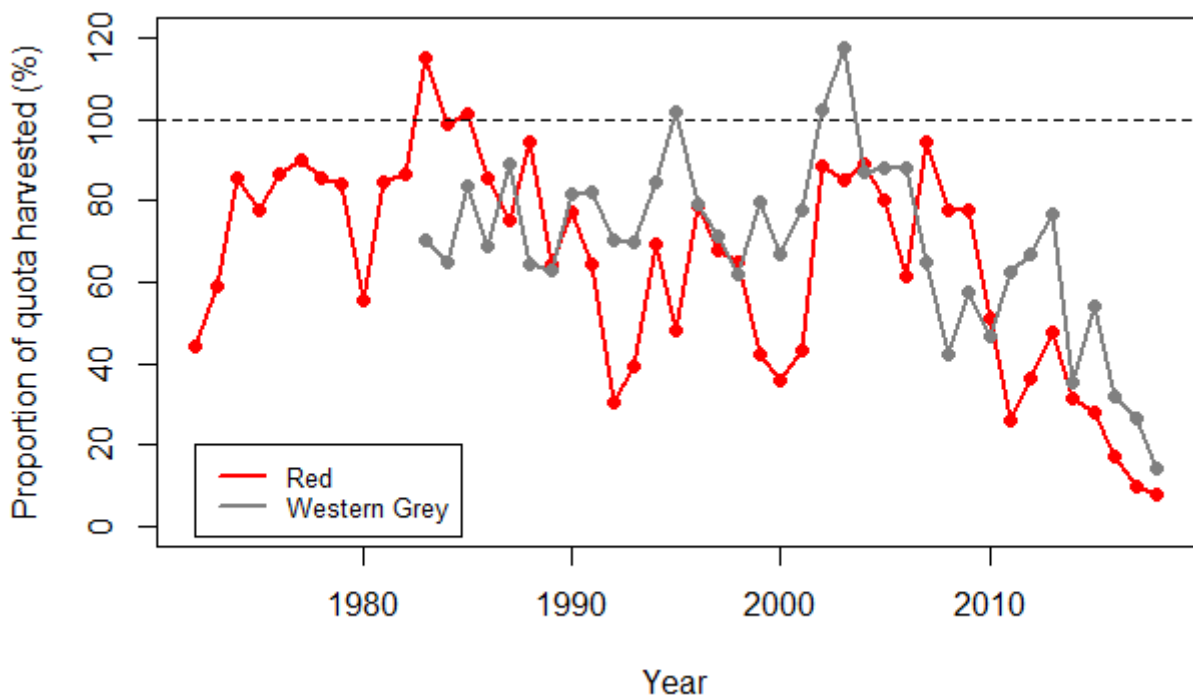
### 1.2. Grey Kangaroos

**Table 1.2. Commercial harvest figures for western grey kangaroos for the 2018 calendar year.**

Population Monitoring Zone	Number harvested	Sex ratio (% male)	Average male carcass weight (kg)	Average female carcass weight (kg)
Central	4,601	71.9	25.8	16.1
South East	6,729	99.2	30	15.9
South West	36,390	74.4	30.4	17.9
<b>Totals (WA)</b>	<b>47,720</b>	<b>81.8</b>	<b>28.7</b>	<b>16.6</b>
State quota	340,540			
Proportion state quota harvested	14%			



**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 2.1. Summary of compliance monitoring of the commercial kangaroo industry in Western Australia for the 2018 calendar year.**

Category	Commercial Activity			
	Regulation 6: Licence to Take Kangaroos for Sale	Regulation 7: Licence to Process	Regulation 8: Active Chiller Units <sup>*</sup>	Regulation 10: Licence to Deal in Skins
Licences issued	350	29 <sup>^</sup>	75 <sup>#</sup>	6
Licensees/premises inspected	33	12	3	0
Alleged offences	2	0	0	0
Type of alleged offence	Licence condition breach <sup>**</sup>			
Letters of warning issued	0	0	0	0
Caution notices issued	1	0	0	0
Prosecutions initiated	0	0	0	0
Convictions	0	0	0	0
Dismissals	0	0	0	0
Prosecutions pending	0	0	0	0

<sup>^</sup> Eight new processor licences were issued in 2018.

<sup>\*</sup> 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.

<sup>#</sup> Thirty three (33) chillers has less than ten shooting days in 2018.

<sup>\*\*</sup> *Wildlife Conservation Act 1950*

### 3. UNUSUAL CIRCUMSTANCES

#### 3.1 Rainfall and Drought

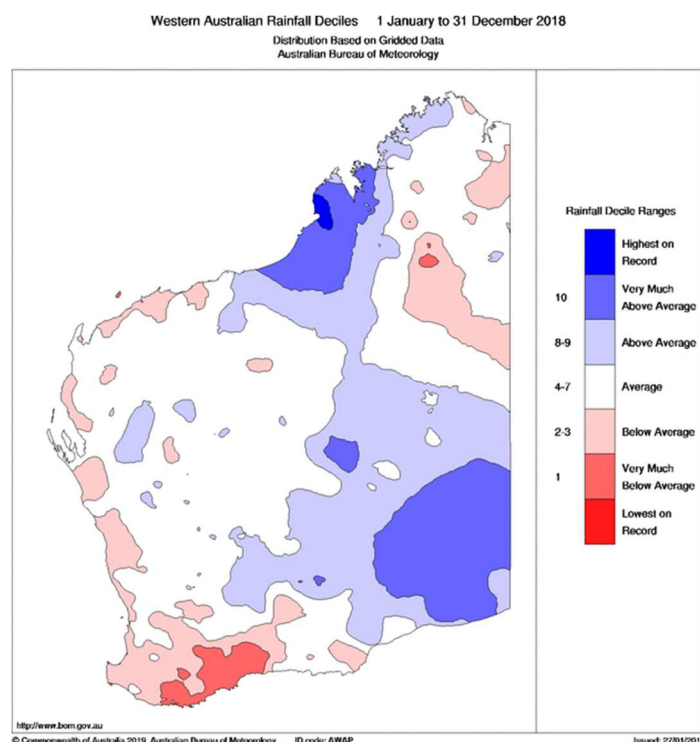
The following information is an excerpt taken from the annual climate summary for Western Australia published by the Bureau of Meteorology (product code IDCKGC51R0; accessed 1 February 2019). The full annual climate summary is available from <http://www.bom.gov.au/climate/current/annual/wa/summary.shtml>

2018 was a very warm year for Western Australia. Mean maximum temperatures were above average across the State, and the state-wide mean maximum temperature was the fourth-highest on record. Annual rainfall was slightly above average for WA as a whole, but with marked regional variation.

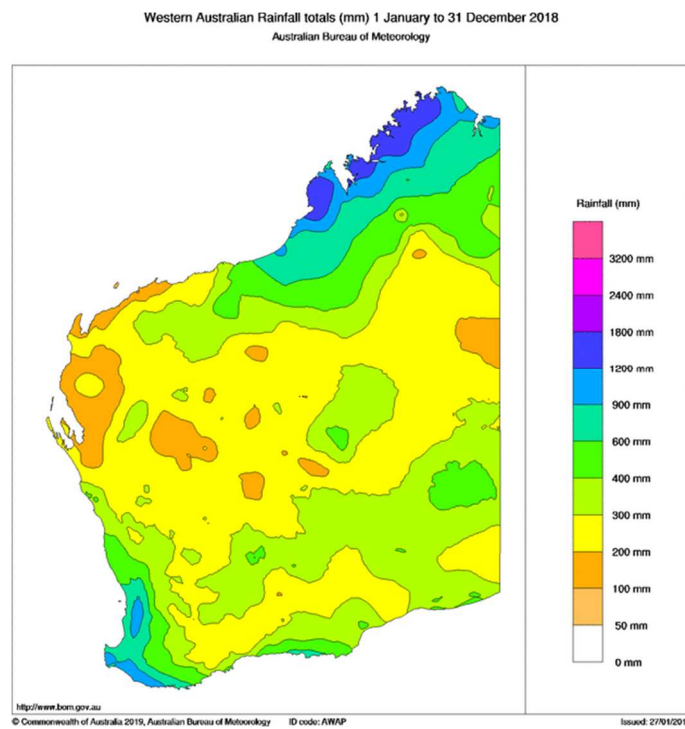
Overall WA saw above average temperatures across most of the State, was wet near the west Kimberley coast and dry in the southwest.

- 2018 was Western Australia's equal sixth-warmest year on record overall, with the State's mean temperature 0.81 °C above average
- Annual rainfall was 10% above average for WA as a whole, but drier than 2016 or 2017
- Annual rainfall was below average for the South West Land Division as a whole, along the west coast and in inland northeast
- A very wet year near the west Kimberley coast with most of the rain falling in January and February
- It was a very dry autumn (fifth-driest) for WA as a whole, in contrast to a very wet January (fourth-wettest)

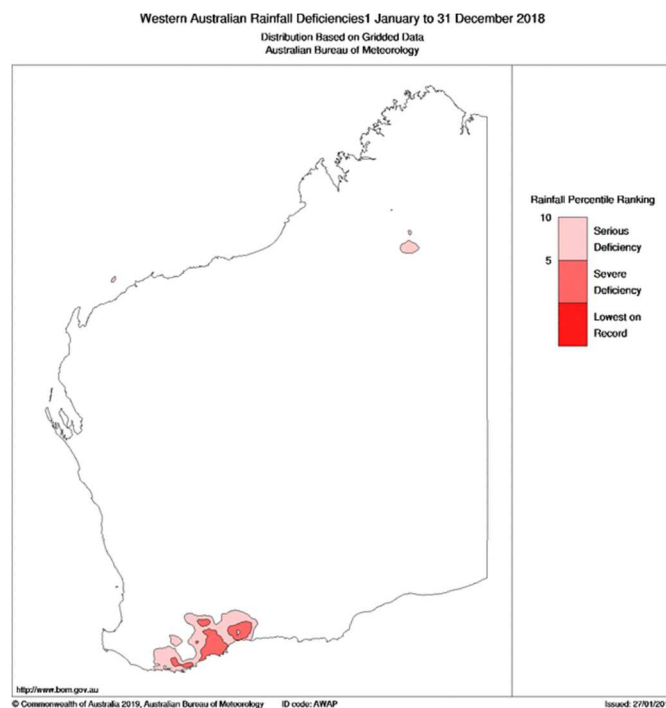
Rainfall, drought maps and pasture growth for WA are presented below (Figures 3.1A – D).



**Figure 3.1.A:** Rainfall deciles for Western Australia for the 2018 calendar year.

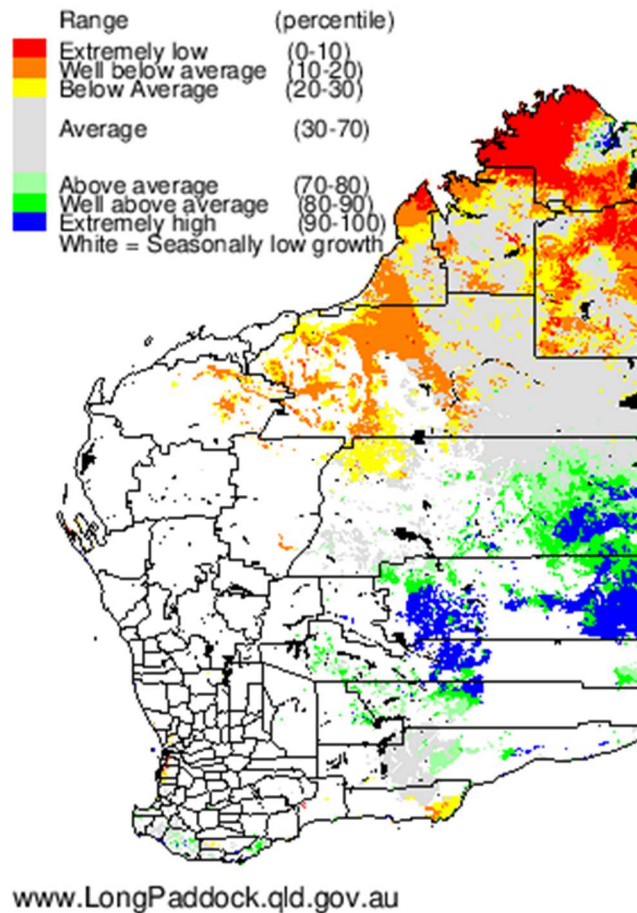


**Figure 3.1.B:** Rainfall totals for Western Australia for the 2018 calendar year.



**Figure 3.1.C:** Drought map for Western Australia for the 2018 calendar year.





**Figure 3.1.D:** Pasture growth in Western Australia from February 2017 to January 2018, 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 2018.

### 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 number of new small processor licences were issued in 2018, however this has not significantly increased capacity for processing and has not resulted in an increased harvest.

## 4. RESEARCH ACTIVITY

No research or adaptive management experiments related to the commercial harvesting of kangaroos were undertaken or sponsored by the Department in 2018.

## 5. ASSESSMENT OF PLAN ACTIONS AGAINST PERFORMANCE INDICATORS

Performance Indicator	Description	Year						Comments
		2013	2014	2015	2016	2017	2018	
1	Random audits of licences issued for commercial activities are conducted annually to ensure licences are being issued in accordance with WA legislation and departmental policies.	✓	✓	✓	✓	✓	✓	
2	Databases are maintained to ensure licensee information is current and accurate.	✓	✓	✓	✓	✓	✓	
3	Licence conditions are reviewed annually and where necessary amended.	✓	✓	✓	✓	✓	✓	
4	Licensees are advised in writing of any changes to licence conditions within one month of such changes being approved by the Director of Science and Conservation or delegate.	✓	✓	✓	✓	✓	✓	
5	Licence conditions for professional shooters and processors will stipulate that kangaroos cannot be shot, sold or received unless they have been taken in accordance with the National COP.	✓	✓	✓	✓	✓	✓	
6	Copies of the National COP will be made available from the department's website.	✓	✓	✓	✓	✓	✓	

Performance Indicator	Description	Year						Comments
		2013	2014	2015	2016	2017	2018	
7	The Department will participate and support any revisions to the current, nationally-endorsed code of practice.	n/a	n/a	n/a	n/a	✓	✓	The Department is participating in the review of the Code of Practice.
8	All prospective professional shooters must have completed an accredited test of marksmanship and completed NSW TAFE Course 5725 (Australian Game Meat, Hygiene and Handling) as a pre-requisite before being issued with a professional shooters' licence.	✓	✓	✓	✓	✓	✓	357-R1011V01 - Game Harvester Skill Set
9	All kangaroo processing works are inspected by authorised departmental officers at least annually during the life of the Management Plan to ensure compliance with Western Australian legislation.	✗	✗	✗	✗	✗	✗	The decline of the commercial kangaroo industry in Western Australia has impacted a number of processors. In 2018 many were operating at a very small scale and often only as the need arose.
10	Twenty percent of active chillers are inspected by authorised departmental officers annually during the life of the Management Plan to ensure compliance with Western Australian legislation.	✓	✗	✓	✓	✓	✗	Four percent of active chillers were inspected in 2018. Of the 75 licenced chillers, 33 of these reported less than ten shooting days (many of the chillers inspected were empty at the time of inspection).
11	The vehicles of licensed professional shooters loaded with kangaroo carcasses are inspected opportunistically during the life of the Management Plan to ensure compliance with Western Australian legislation.	✓	✓	✓	✓	✓	✓	

Performance Indicator	Description	Year						Comments
		2013	2014	2015	2016	2017	2018	
12	Develop and implement improved procedures for reporting on actions included under Performance Indicators 9 to 11.	✓	✓	✓	✓	✓	✓	
13	Reports of unlicensed activities and activities in breach of legislation are investigated to the fullest extent possible and, where sufficient evidence is available, offenders are issued with expiation notices or prosecuted as appropriate.	✓	✓	✓	✓	✓	✓	
14	During the life of this plan, all incoming industry returns are scrutinised and discrepancies are investigated and resolved.	✓	✓	✓	✓	✓	✓	
15	A compliance database is maintained.	✓	✓	✓	✓	✓	✓	
16	Aerial surveys are undertaken annually and population estimates are calculated in accordance with this management plan.	✓	✓	✓	✓	✓	✓	
17	Commercial harvest quotas are set in accordance with the management plan.	✓	✓	✓	✓	✓	✓	
18	Regional quotas and the state-wide quotas are never exceeded.	✗	✓	✓	✓	✓	✓	
19	The Australian Government is advised of commercial harvest quotas for the following calendar year by 30 November.	✓	✓	✗	✓	✓	✓	

Performance Indicator	Description	Year						Comments
		2013	2014	2015	2016	2017	2018	
20	Following endorsement by the Australian government department responsible for administering the EPBC Act, the quota submission will be made available to the public via the department's website.	n/a	n/a	✓	✓	✓	✓	
21	Sudden or acute changes in the average carcass weights are investigated to identify possible causes of the change.	n/a	n/a	n/a	n/a	n/a	n/a	
22	Sudden or acute changes in the sex ratios of harvested kangaroos are investigated to identify possible causes of the change.	n/a	n/a	n/a	n/a	n/a	n/a	Over the last 3 to 5 years of the life of the plan there has been an increasing bias in harvesting male kangaroos. This has been due to a combination of factors including economic (a reduction in the value of kangaroo carcasses and increased cost of operation) and social (move away from taking female animals with the potential to be carrying pouch young) factors.
23	Commercial harvest rates will be reduced or the commercial kangaroo harvest suspended if density estimates reach the thresholds identified in the management plan and suspensions or reductions will remain in place until surveys indicate that kangaroo densities have increased above the density threshold.	✓	✓	✓	✓	✓	✓	
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.	✓	✓	✓	✓	✓	✓	

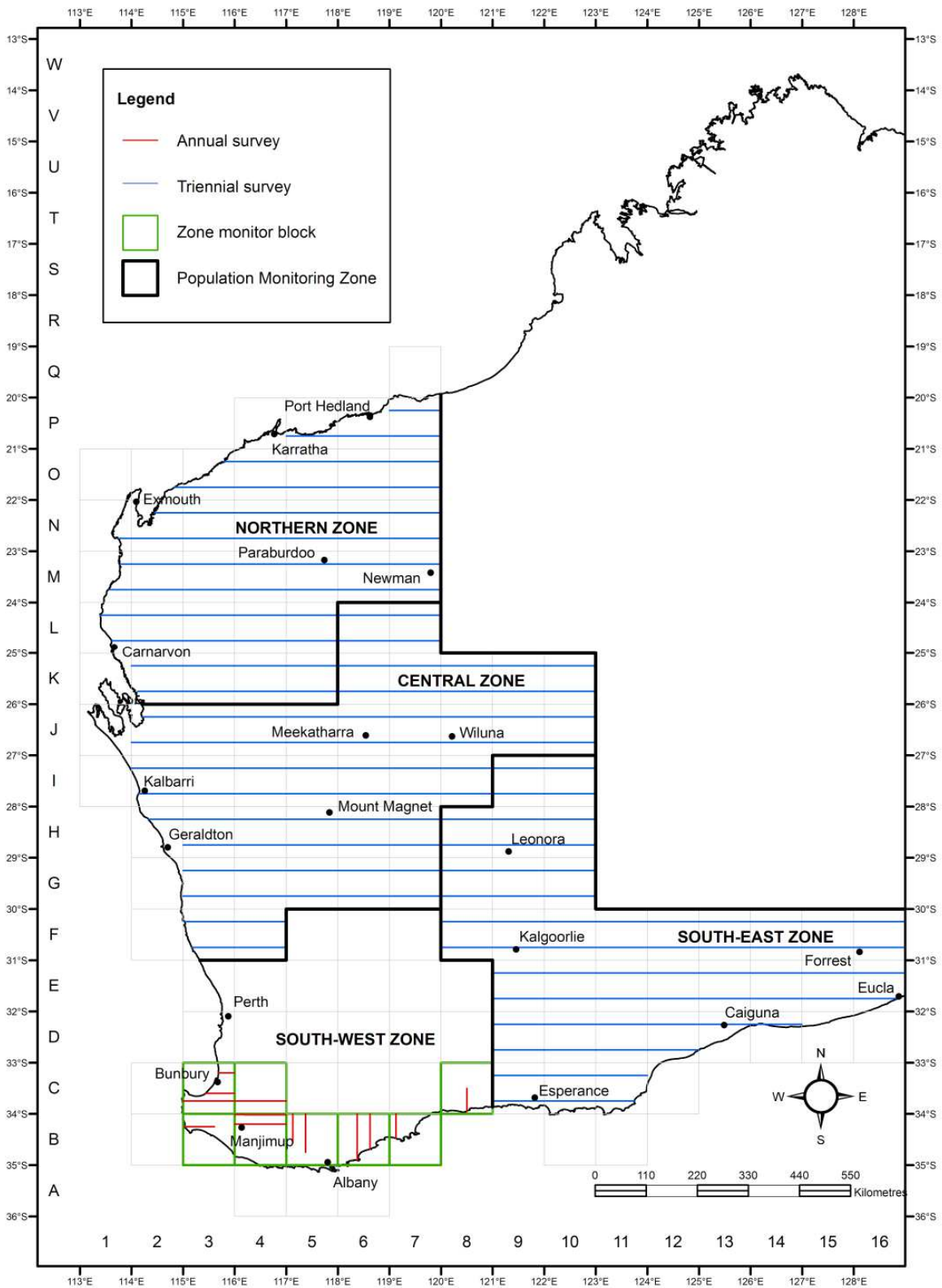
Performance Indicator	Description	Year						Comments
		2013	2014	2015	2016	2017	2018	
25	All proposals to undertake active adaptive management experiments are reviewed and assessed by the Department in accordance with the criteria outlined in this management plan.	n/a	n/a	n/a	n/a	n/a	n/a	
26	All necessary approvals are obtained prior to the commencement of any experiments that test deliberate management interventions.	n/a	n/a	n/a	n/a	n/a	n/a	
27	All adaptive management experiments are continuously monitored and conducted according to approval conditions.	n/a	n/a	n/a	n/a	n/a	n/a	
28	Results of all experiments testing deliberate management interventions are published in an appropriate forum.	n/a	n/a	n/a	n/a	n/a	n/a	
29	During the life of this plan, the Department will support research on the ecology of harvested species of kangaroos or commercial harvest management as appropriate.	n/a	n/a	n/a	n/a	n/a	n/a	
30	An annual report will be provided to the Commonwealth by 31 March of the following year.	✓	✓	✓	✓	✓	✓	

Performance Indicator	Description	Year						Comments
		2013	2014	2015	2016	2017	2018	
31	KMAC meets at least once per year to review the progress of the Management Plan for the Commercial Harvest of Kangaroos in Western Australia 2014–2018 in relation to the goal and aims of the plan.	✓	✓	✓	✓	✓	✓	
32	KMAC is provided with annual updates on commercial harvest and tag issue throughout the life of this plan.	✓	✓	✓	✓	✓	✓	
33	KMAC is provided with other relevant information as required or as necessary throughout the life of this plan.	✓	✓	✓	✓	✓	✓	
34	Throughout the life of this plan, the Department's website will contain the following information as a minimum standard: <ul style="list-style-type: none"> <li>the current management plan;</li> <li>the current quota submission document;</li> <li>the current annual report submitted to the Commonwealth;</li> <li>information sheets on kangaroo biology and management; and</li> <li>relevant contact information.</li> </ul>	✓	✓	✓	✓	✓	✓	See: <a href="http://www.dpaw.wa.gov.au/plants-and-animals/animals/kangaroo-management-in-western-australia">http://www.dpaw.wa.gov.au/plants-and-animals/animals/kangaroo-management-in-western-australia</a>
35	Publicly available information on kangaroo management is provided to interested parties as soon as practicable on request.	✓	✓	✓	✓	✓	✓	

Performance Indicator	Description	Year						Comments
		2013	2014	2015	2016	2017	2018	
36	Relevant departmental staff will participate in interviews with the media where appropriate.	✓	✓	✓	✓	✓	✓	
37	Media releases are prepared for issues of interest to the community when appropriate.	✓	✓	✓	✓	✓	✓	
38	<p>As a minimum, all prospective kangaroo shooters who are issued with a Licence to Take Kangaroos for Sale for the first time, or who have not held a valid licence during the term of the current management plan, will be provided with written information on the following:</p> <ul style="list-style-type: none"> <li>• pre-requisites for obtaining a licence</li> <li>• licence conditions;</li> <li>• regulations for taking kangaroos for damage mitigation;</li> <li>• open and close season areas for red and western grey kangaroos;</li> <li>• a copy of the National Code Of Practice; and</li> <li>• Fauna Notes 29 (western grey kangaroo) and 31 (red kangaroo) and any revisions thereof that are available on the department's website.</li> </ul>	✓	✓	✓	✓	✓	✓	

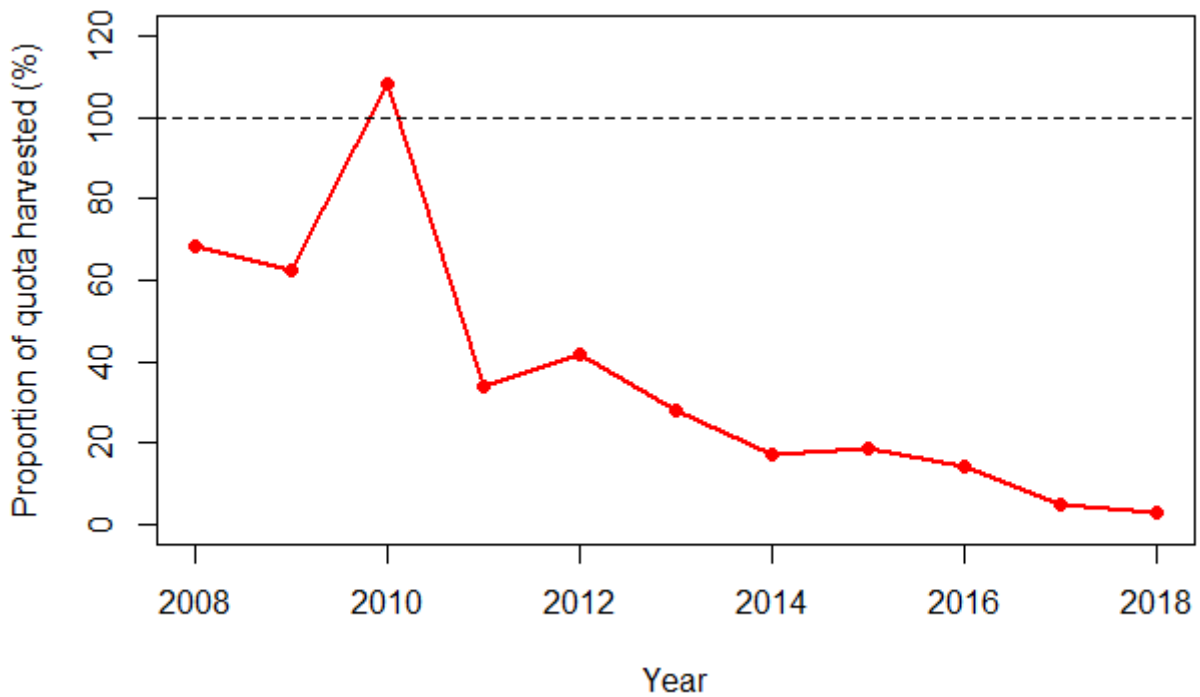


# Appendix 1. Harvest statistics for monitoring zones

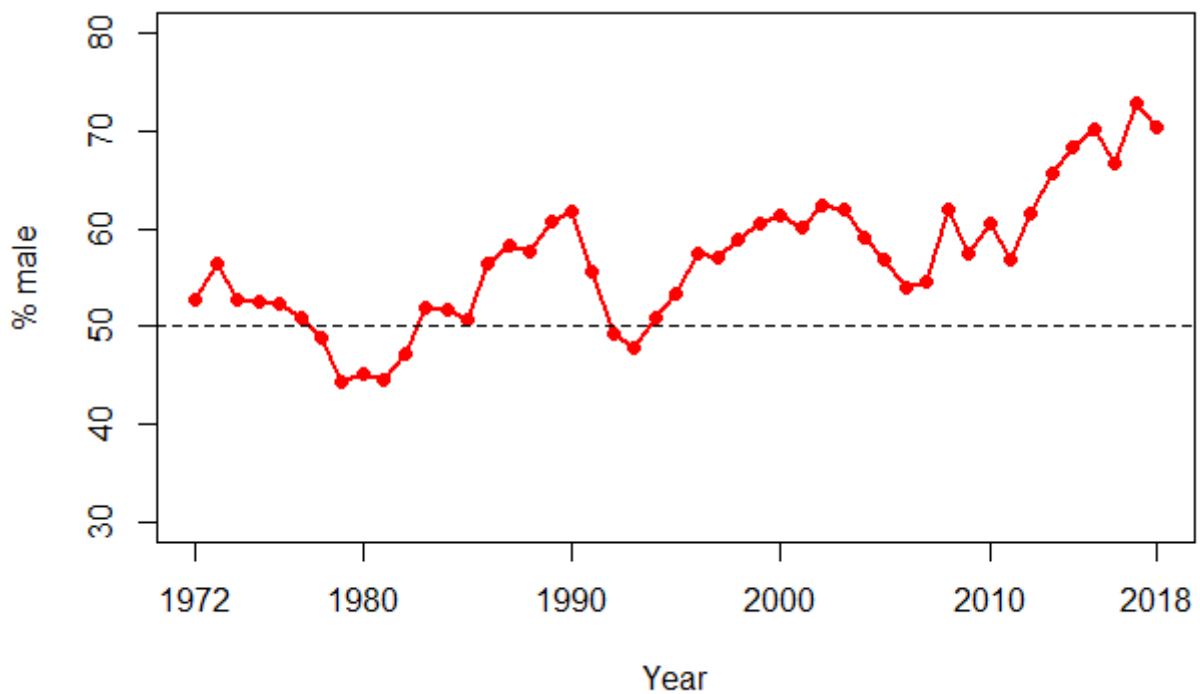


Map of Population monitoring zones for commercial harvesting of kangaroos in Western Australia.

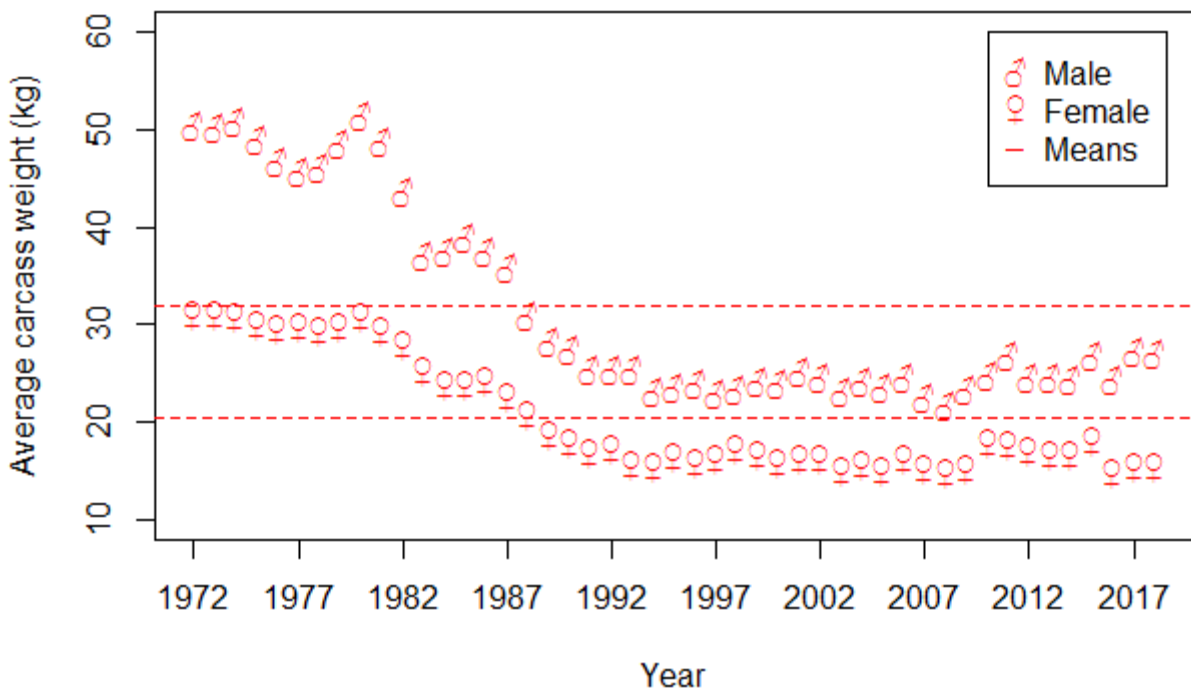
## 1. Northern Zone



**Figure A1.1.** Proportion of total quota harvested (%) for red kangaroos in the Northern Zone between 2008 and 2018.



**Figure A1.2.** Sex ratio (expressed as a percentage) of male to female red kangaroos harvested in the Northern Zone between 1972 and 2018.

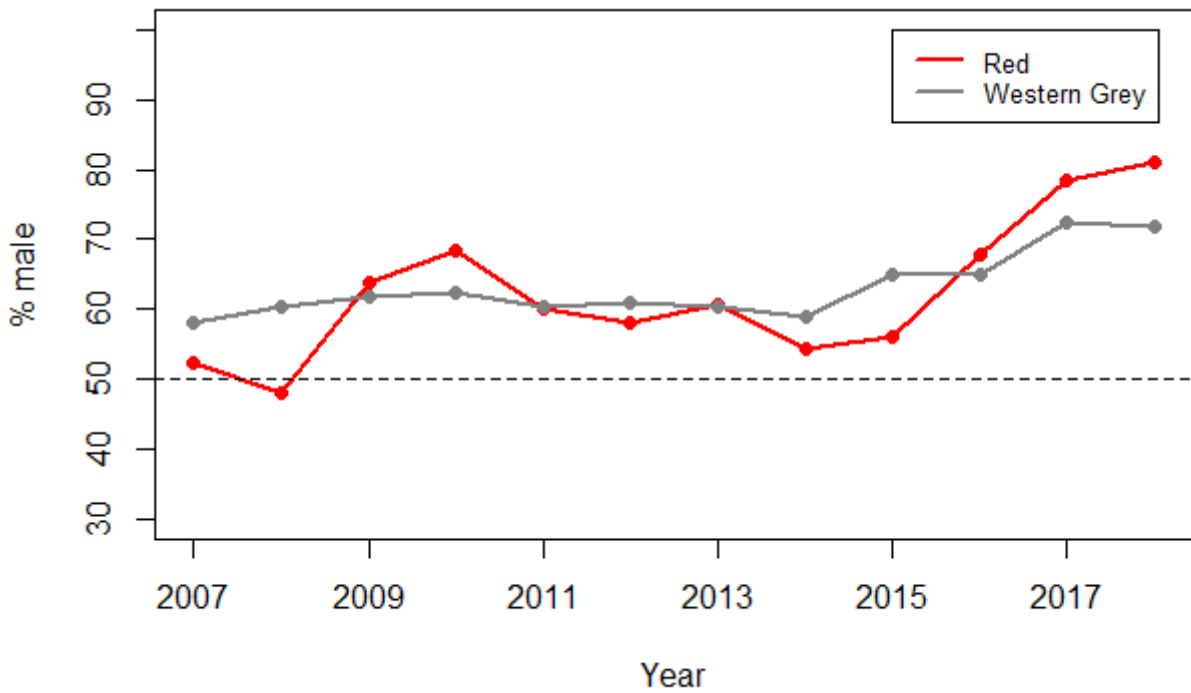


**Figure A1.3.** Average carcass weight of male and female red kangaroos harvested in the Northern Zone between 1972 and 2018. The upper red dashed line represents the average carcass weight for male kangaroos across all years and the lower red dashed line is the average carcass weight for females.

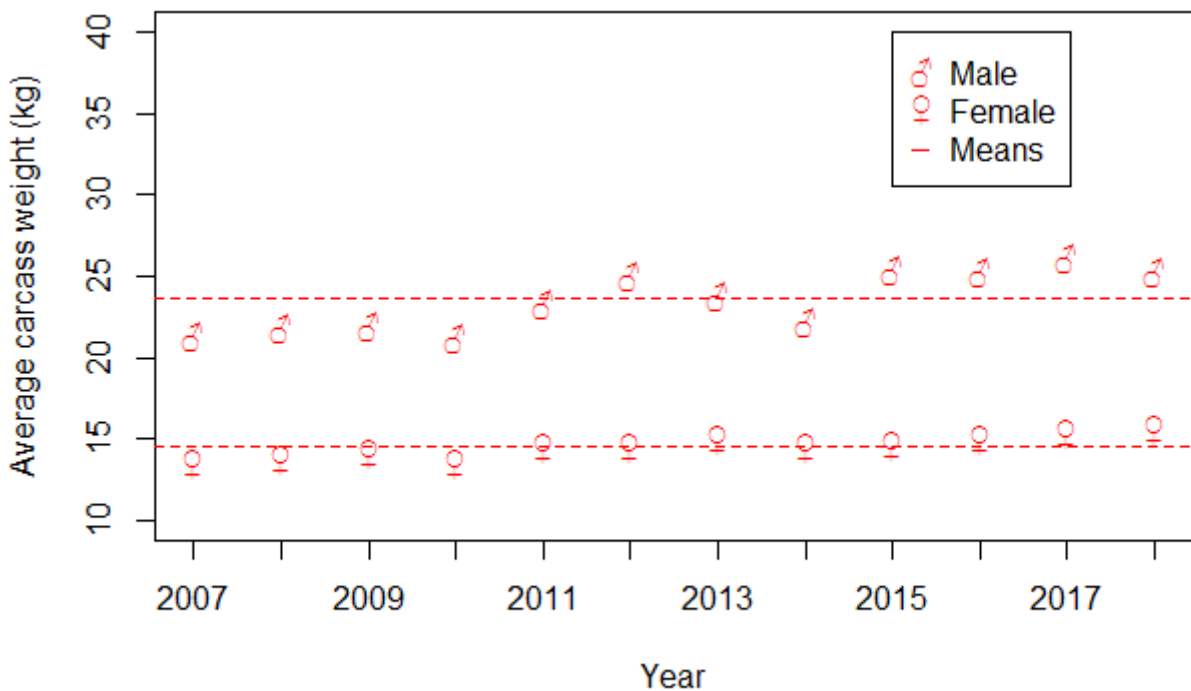
## 2. Central Zone



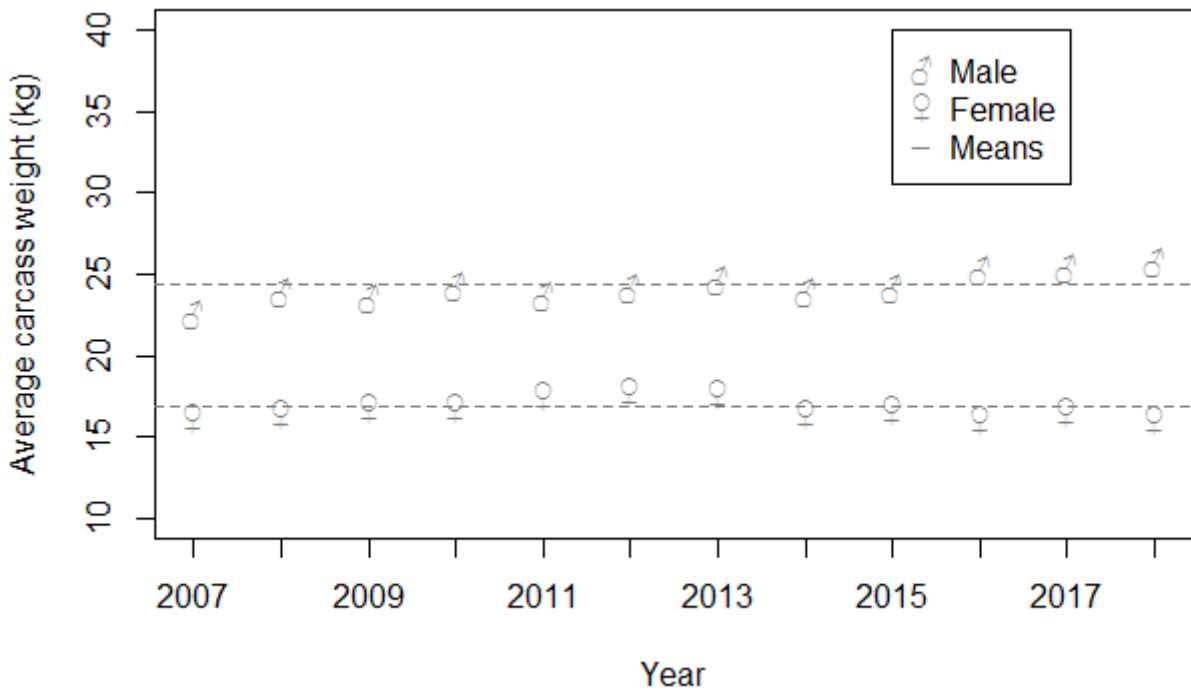
**Figure A2.1.** Proportion of total quota harvested (%) for red and western grey kangaroos in the Central Zone between 2007 and 2018.



**Figure A2.2.** Sex ratio (expressed as a percentage) of male to female kangaroos harvested in the Central Zone between 2007 and 2018.

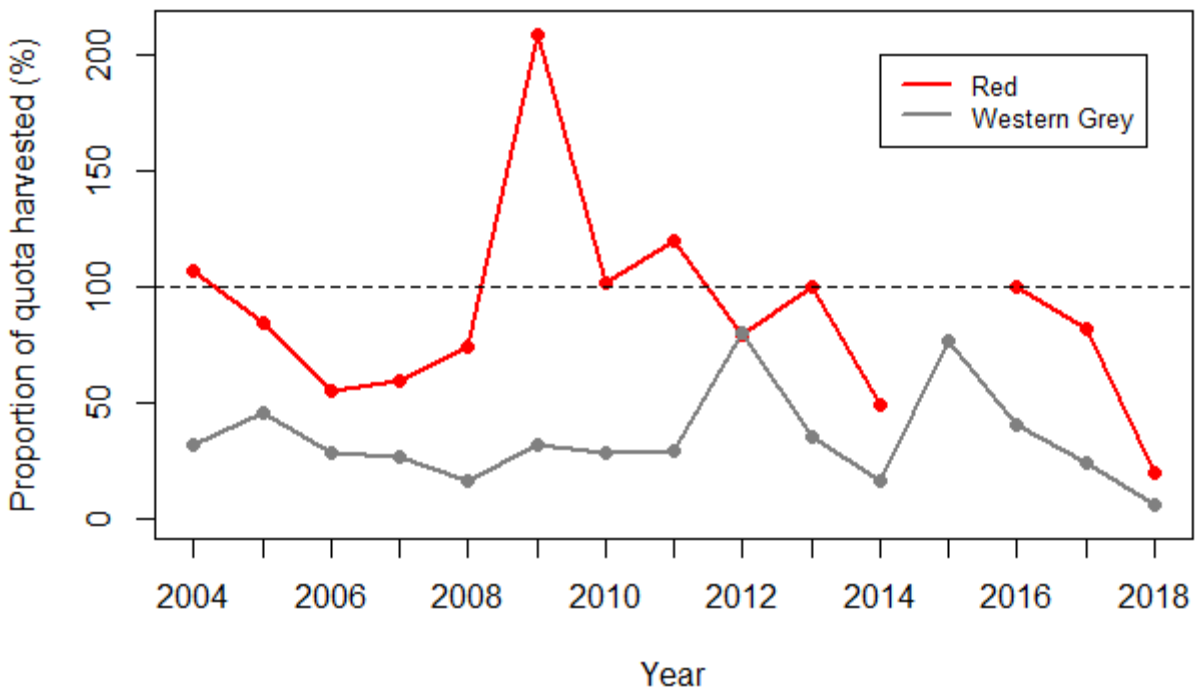


**Figure A2.3.** Average carcass weight of male and female red kangaroos harvested in the Central Zone between 2007 and 2018. The upper red dashed line represents the average carcass weight for male kangaroos across all years and the lower red dashed line is the average carcass weight for females.

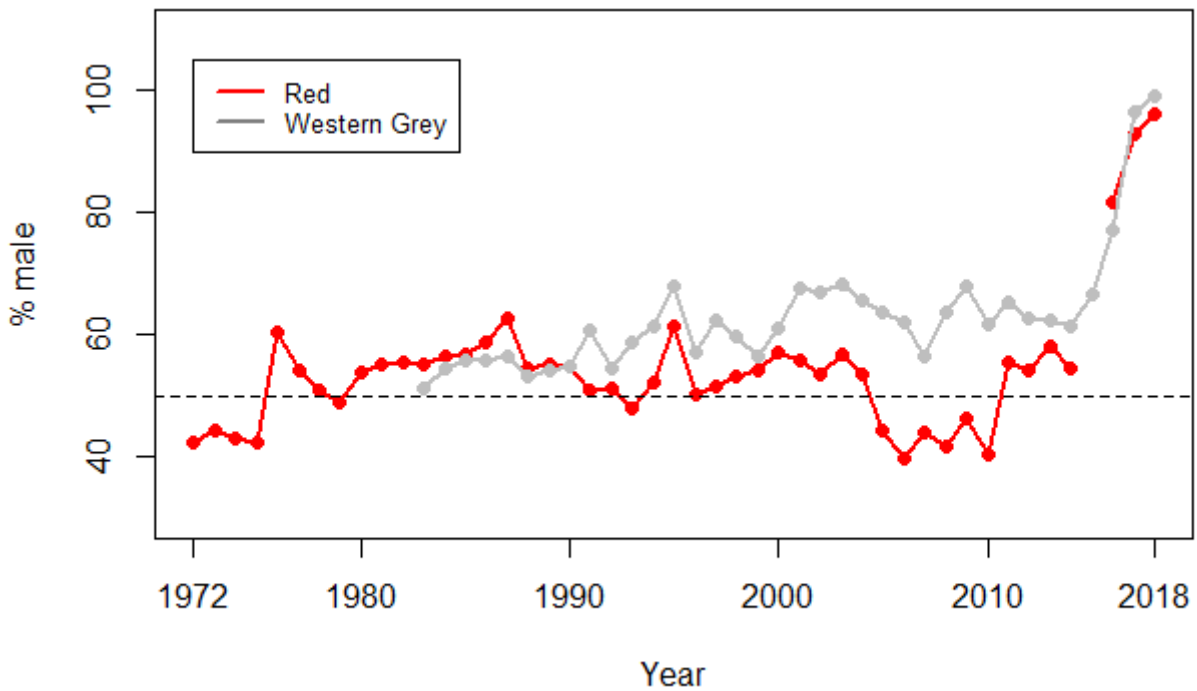


**Figure A2.4.** Average carcass weight of male and female grey kangaroos harvested in the Central Zone between 2007 and 2018. The upper grey dashed line represents the average carcass weight for male kangaroos across all years and the lower grey dashed line is the average carcass weight for females.

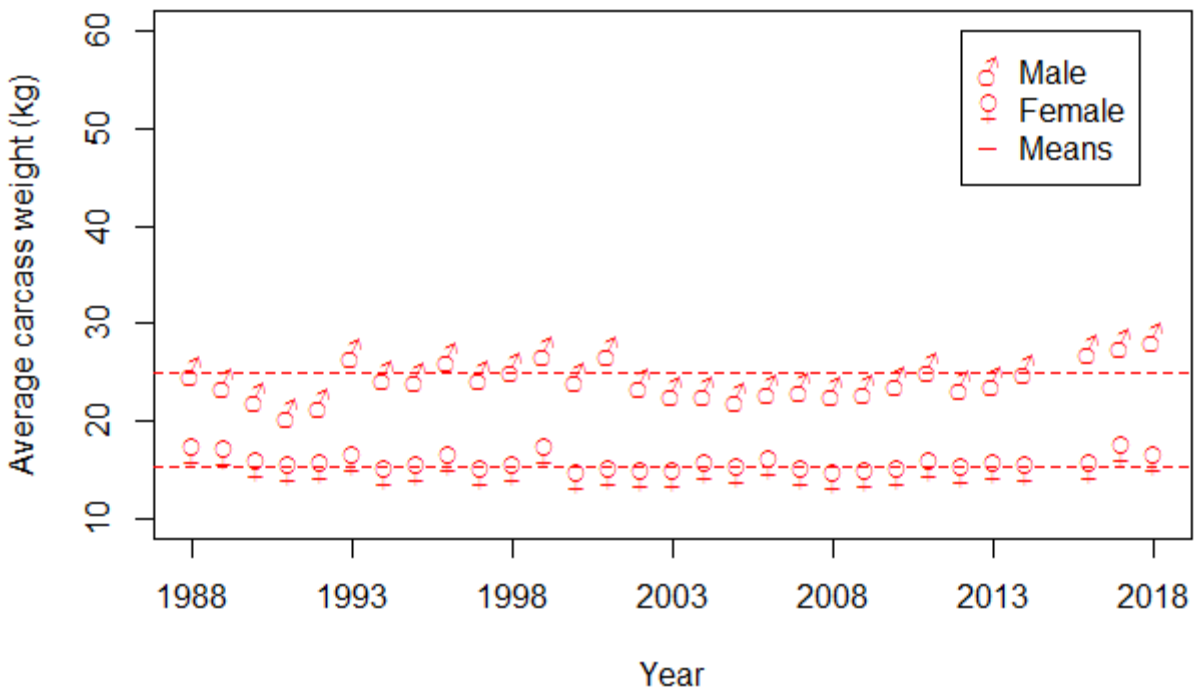
### 3. South East Zone



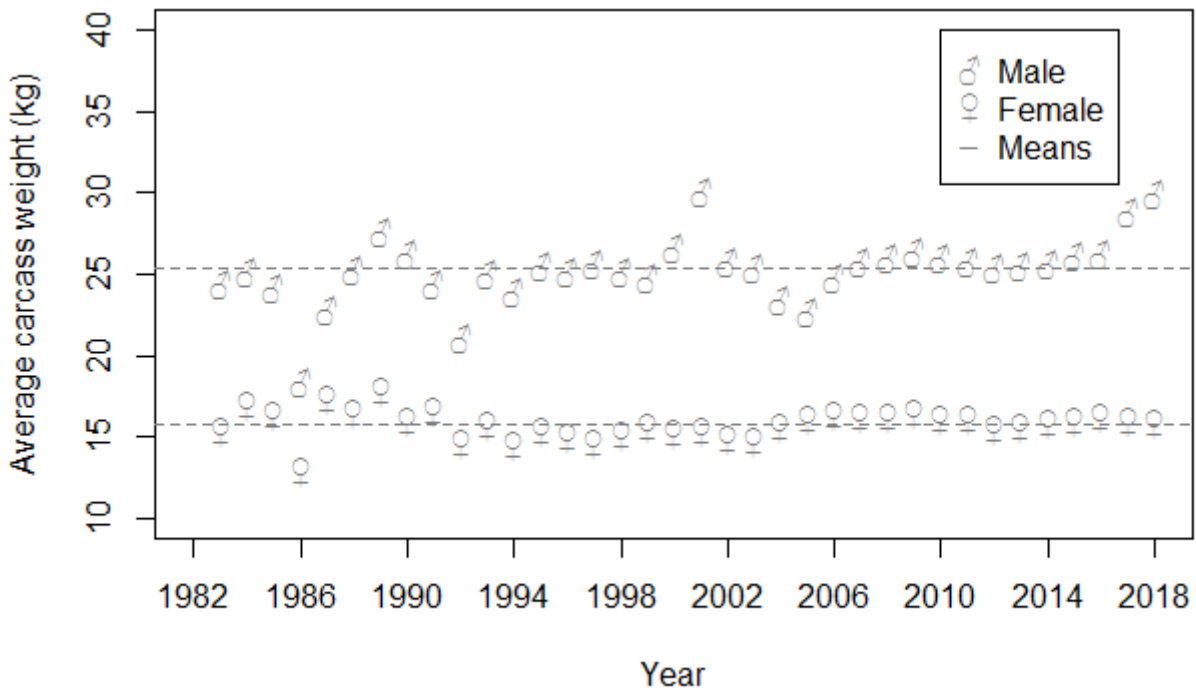
**Figure A3.1.** Proportion of total quota harvested (%) for red and western grey kangaroos in the South East Zone between 2004 and 2018. Note: No red kangaroo harvest was taken in 2015.



**Figure A3.2.** Sex ratio (expressed as a percentage) of male to female kangaroos harvested in the South East Zone between 1972 and 2018. Note: No red kangaroo harvest was taken in 2015.

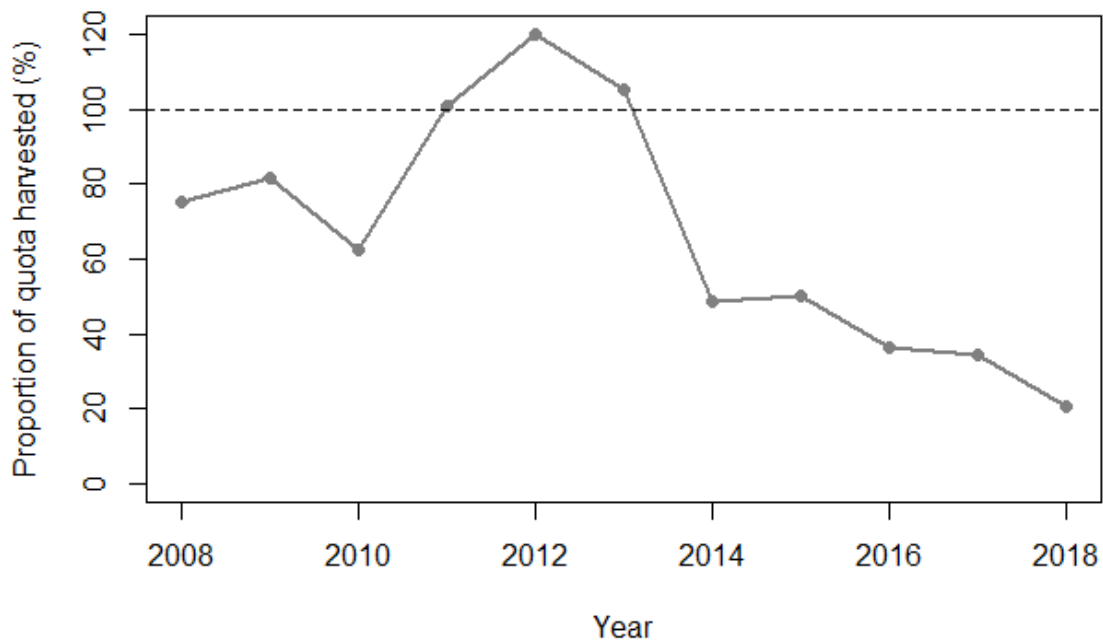


**Figure A3.3.** Average carcass weight of male and female red kangaroos harvested in the South East Zone between 1988 and 2018. The upper red dashed line represents the average carcass weight for male kangaroos across all years and the lower red dashed line is the average carcass weight for females.

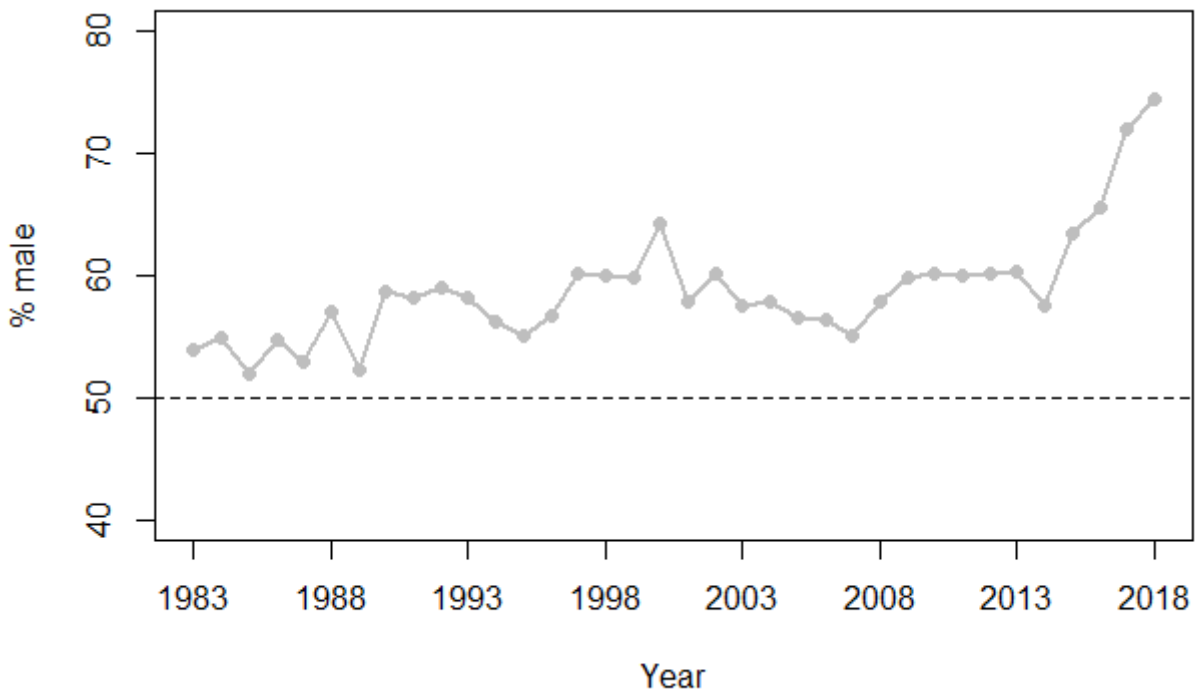


**Figure A3.4.** Average carcass weight of male and female grey kangaroos harvested in the South East Zone between 1982 and 2018. The upper grey dashed line represents the average carcass weight for male kangaroos across all years and the lower grey dashed line is the average carcass weight for females.

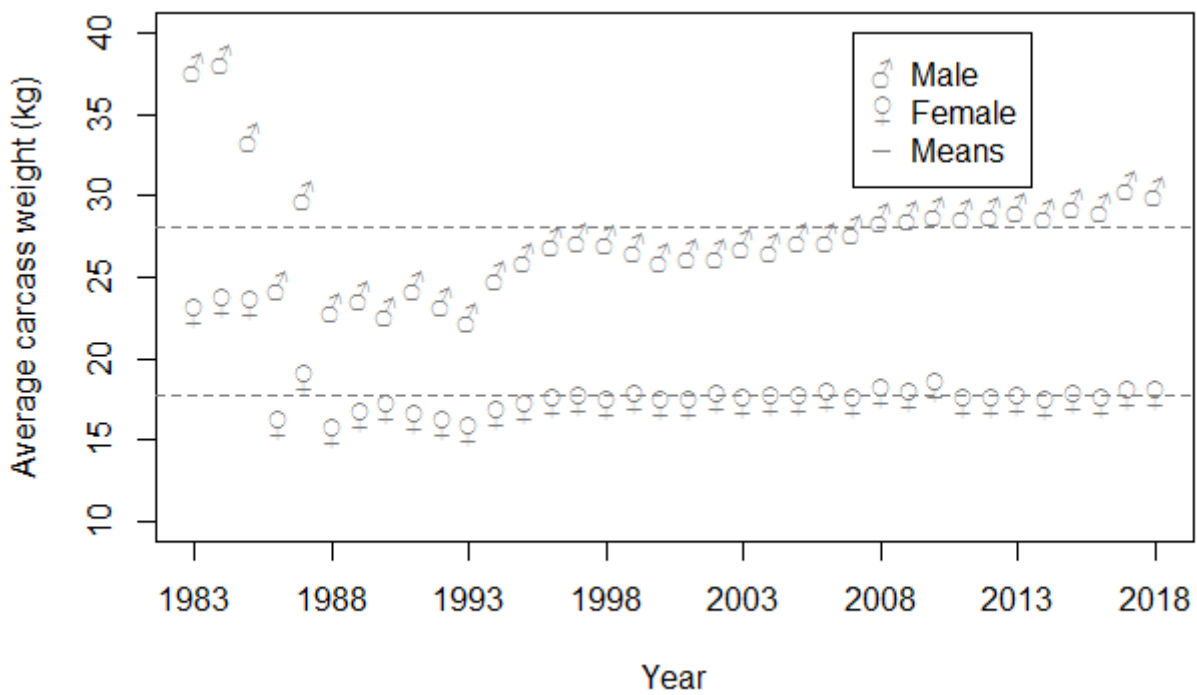
#### 4. South West Zone



**Figure A4.1.** Proportion of total quota harvested (%) for grey kangaroos in the South West Zone between 2008 and 2018.



**Figure A4.2.** Sex ratio (as a percentage) of male to female grey kangaroos harvested in the South West Zone between 1983 and 2018.



**Figure A4.3.** Average carcass weight of male and female grey kangaroos harvested in the South West Zone between 1983 and 2018. 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.