



Australian Government

Department of the Environment

Report on the commercial harvest of kangaroos in Australia

April 2014

The report has been prepared by the Australian Government Department of the Environment for submission to the California Department of Fish and Wildlife and includes information on the 2013 quota and harvest and the 2014 quota for the commercial harvest of kangaroos.

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Government roles in kangaroo harvesting

Under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) the Australian Government has responsibility for providing for the protection of the environment, promoting ecologically sustainable development and the conservation of biodiversity. The Australian Government Department of the Environment (the Department) has responsibility for administering the EPBC Act.

While Australia's laws concerning wildlife trade are some of the most stringent in the world, they are not intended to obstruct the sustainable activities of legitimate organisations and individuals. Instead, they have been designed to demonstrate that when managed effectively wildlife trade contributes to, and is entirely compatible with, the objectives of wildlife conservation.

The management goals of the commercial kangaroo harvest industry in Australia are based firmly on the principles of ecological sustainability.

Both the Australian Government and state governments have a role in the conservation of kangaroo populations. The states have responsibilities for regulating the harvest and processing industry, while the Australian Government controls the export of kangaroo products through the approval of kangaroo management programs and the granting of export permits.

Under the EPBC Act, the Australian Government has approved management plans for the harvest of four kangaroo species in four states: Queensland, New South Wales, South Australia, and Western Australia. Before approving any management plans that allow for the commercial harvest and export of kangaroo products, the Australian Government carefully considers factors such as the biology, population size and trends, and conservation status of all species. Management plans must demonstrate that the harvest does not have a detrimental impact on either the harvested species or their ecosystems. The plans must also establish adequate controls such as annual quotas based on regular population monitoring, animal welfare standards, a robust system of permits and an adequate compliance and enforcement regime for all levels of the commercial industry.

Commercial harvest of kangaroos

The species that are currently commercially harvested are:

- red kangaroo (*Macropus rufus*) in areas of Queensland, New South Wales, South Australia and Western Australia
- eastern grey kangaroo (*M. giganteus*) in areas of Queensland and New South Wales
- western grey kangaroo (*M. fuliginosus*) in areas of New South Wales, South Australia and Western Australia; and
- common wallaroo or euro (*M. robustus*) in areas of Queensland, New South Wales and South Australia.

All four species subject to commercial harvesting are common and none are listed nationally as threatened species. Red, eastern grey and western grey kangaroos are the most abundant species and make up about 90 percent of the commercial harvest.

Products derived from kangaroos include meat for human consumption and the pet food industry, and skins for leather products. Some skin and meat is used domestically, with the remainder exported.

Quotas

Quotas are set annually and as a proportion of estimated populations, established through population surveys undertaken by each state government's wildlife agency. Survey methods vary between and within states depending on the geography of the survey site, and are outlined in the state management plans. Survey methods and frequency also vary between species.

The scientific community and state government wildlife management agencies consider that **annual harvest levels in the order of 15 percent of the populations for grey kangaroos and wallaroos, and 20 percent for red kangaroos, are sustainable.** The sustainable harvest quotas are set at or below these rates, and represent an upper harvest limit independent of industry demand. To ensure that the harvest is not detrimental to any species in the wild in any region, each state is divided into zones for monitoring and quota-setting. Quotas are set for each zone, but are reported at the state jurisdiction level.

Quotas represent the maximum number of kangaroos that can be harvested. **The commercial harvest is generally significantly less than the quota, as the harvest is linked to market demand and the capacity of the industry to harvest the quota level.** The percentage of the quota that is used varies between years.

In addition to the sustainable harvest quotas, some states have 'special quotas'. Special quotas are used only when a management zone's commercial quota has been used and continuing damage from overgrazing by kangaroos has been demonstrated. This quota is only for the harvest of kangaroos that would otherwise be shot and left in the field. The special quota is set at a maximum of 1.5 percent of the estimated state population of each of the harvested species. Currently, only New South Wales and South Australia set special quotas. Special quotas are rarely used because state wildlife agencies will only release the special quota if there is a genuine damage mitigation need and the additional harvest will not negatively impact on the conservation of the species. The special quota was not utilised in 2013.

The **2013 and the 2014 quotas were set in accordance with the relevant management plans and are set as a percentage of the previous years' population estimates.** The sustainable harvest quotas are all set at or below the rate considered sustainable for each species. The harvest for 2013 was within the sustainable harvest quota and the **combined harvest for all states and species was 1,716,139 or 28.4 percent of the combined 2013 sustainable harvest quota.** The harvest for individual species within each state jurisdiction ranged from 11.15 to 76.5 percent of the sustainable harvest quota, depending on the state and species. Tables 1 and 2 in Appendix 1 contain further information on population estimates and quota and harvest statistics.

In 2013 the combined sustainable harvest quota for all state jurisdictions and species was 6,039,400; this was **an increase of 35.4 percent from the previous year's quota.** The increased quota was due to an increase in the estimated kangaroo population. The largest population increases occurred in Queensland. **Queensland's overall 2013 population estimate of 32.8 million represented an increase of 8.7 million from the 2012 estimate.** The increase is consistent with **historical records which demonstrate that such rapid increases typically follow the breaking of drought conditions.** Kangaroos are highly fecund. For example, female red kangaroos are able to have three young simultaneously at different stages of development, with one in embryonic diapause (i.e. suspended development of the embryo), one pouch young and one young-at-foot. Other species generally have two dependent young at any one time—one pouch young and one young-at-foot. The normal

intervals between young for red kangaroos, eastern grey kangaroos and wallaroos are 8 months, 12 months and 8–9 months, respectively (Pople and Grigg, 1999). In addition, juvenile survival is usually high (85 to 100 percent) during favourable conditions (Newsome, 1965; Shepherd, 1981) in contrast to drought conditions (or where foxes or dingoes are abundant), where juvenile mortality can be as high as 85 percent (Banks *et al.*, 2000; Shepherd, 1987).

The estimated wallaroo population in Queensland increased by 72 percent between 2012 and 2013. Before 2011 helicopter surveys consistently underestimated the density of wallaroos, and a correction factor of 1.85 has therefore been applied to common wallaroo population estimates in Queensland since 2011.

Western Australia's overall 2013 kangaroo population estimate of 1.84 million was an increase of 52.8 percent from the previous year. Fluctuations in kangaroo populations are normal, but Western Australia's 2012 survey effort took place in hotter than usual conditions, when kangaroos were less active and more difficult to detect; the 2012 population may therefore have been an underestimate.

The *Management Plan for the Commercial Harvest of Kangaroos in Western Australia 2014–18* was signed by the Minister for the Environment on 20 March 2014. Suitable trigger points that reflect lower kangaroo population densities were developed for the plan in consultation with the Department of the Environment and the Australian Bureau of Agricultural and Resource Economics and Sciences.

Western Australia has proposed a 2014 quota of 282,600, which is 44.2 percent more than the 2013 quota. The 2013 quota was based on a conservative estimate of the state population in 2012 and represented a lower level of harvesting than in previous years. The proposed 2014 quotas for red and grey kangaroos are set at 19.8 percent and 14.1 percent, respectively, which are below the rates considered to be sustainable.

Sustainability of harvest

Kangaroos have been harvested and monitored in Australia for more than 25 years, during which time kangaroo populations have demonstrated a strong capacity to recover from the regular occurrence of drought. For example, the drought of 1981–83 drove kangaroo populations in harvested areas down to almost half of the estimated pre-drought population; they subsequently recovered to exceed pre-drought figures within seven years. In response to the drought of the early 1990s in Queensland, kangaroo populations also went through a period of decline, before recovering after good rainfall. Throughout this period, kangaroos in Queensland were harvested at rates close to 20 percent, demonstrating that the harvest did not impede the kangaroos' natural ability to recover quickly following drought. Several years of above average rains have recently driven a great increase in the Queensland kangaroo population. In the past year alone, kangaroo populations in Queensland increased by 36.2 percent.

Humane harvesting practices

Animal welfare considerations are a priority of national environment law. The legislation requires the Australian Government to ensure proposals for the sustainable use of wildlife observe strict welfare requirements.

Kangaroos are harvested by being shot by skilled professional shooters. All commercial shooters must undertake training, pass a shooting accuracy test, use a high-powered rifle with a telescopic sight and comply with the *National code of practice for the humane shooting of kangaroos and wallabies for commercial purposes* (the Code), which outlines an achievable minimum standard of humane conduct in regard to the shooting of kangaroos

and wallabies. The code was developed after a long process of consultation involving industry, government, animal welfare groups, the scientific community and the public.

All state and territory jurisdictions also have legislation regulating animal welfare matters and can prosecute offenders.

Regulation of harvest

There are sufficient regulations and monitoring in place to ensure that **quotas are not exceeded and that non-commercially shot kangaroos do not enter the trade**. All state governments issue numbered tamper-proof tags. These tags must be affixed to the carcass. A record of tag numbers issued to each holder (usually the shooter) is kept by the state management agency. The number of the tag on a particular carcass or skin can be matched with the records to identify the person who shot the animal. Tags are retained on the carcass or skin until processing commences. The state governments issue tags only up to the number allowed under the quota.

Processors can buy only from licensed commercial shooters. Both commercial shooters and processors are required to report to the relevant state government management agency. Each state government has officers who check licence holders' returns and carry out inspections of the harvesting and processing operations. These inspections involve checking that tags are used and properly attached, as well as checking for body-shot kangaroos.

References

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Appendix 1

Table 1: 2013 Kangaroo Quotas and Harvest

	2012 population (1)	2013 Sustainable Quota	2013 Special Quota (2)	2013 Sustainable Quota as percentage of population	2013 Actual Harvest	Actual 2013 Harvest as percentage of Sustainable Quota
New South Wales						
Red (<i>Macropus rufus</i>)	4,148,316	705,214	62,225	17.0%	151,647	21.50%
Eastern Grey (<i>M. giganteus</i>)	6,297,955	944,693	94,469	15.0%	168,610	17.85%
Western Grey (<i>M. fuliginosus</i>)	855,892	121,328	12,838	14.2%	22,035	18.16%
Wallaroo (<i>M. robustus robustus</i>)	88,430	12,515	1,326	14.2%	4,354	34.79%
Total NSW	11,390,593	1,783,750	170,858	15.7%	346,646	19.43%
Queensland						
Red (<i>Macropus rufus</i>)	5,698,700	1,084,500	0	19.0%	327,013	30.20%
Eastern Grey (<i>M. giganteus</i>)	14,639,800	2,010,900	0	13.7%	586,772	29.20%
Wallaroo (<i>M. robustus</i>)	3,749,650	538,050	0	14.3%	226,792	42.10%
Total Qld.	24,088,150	3,633,450	0	15.1%	1,140,580	31.40%
South Australia						
Red (<i>Macropus rufus</i>)	1,439,393	273,800	7,100	19.0%	76,840	28.06%
Western Grey (<i>M. fuliginosus</i>)	799,891	107,100	3,900	13.4%	27,644	25.81%
Euro (<i>M. robustus</i>)	487,654	58,100	2,400	11.9%	6,480	11.15%
Total SA	2,726,938	439,000	13,400	16.3%	110,964	25.28%
Western Australia						
Red (<i>Macropus rufus</i>)	455,090	77,200	0	19.8%	36,862	47.7%
Western Grey (<i>M. fuliginosus</i>)	749,709	106,000	0	14.1%	81,087	76.5%
Euro (<i>M. robustus</i>)	--	0	0	--	0	--
Total WA	1,204,799	183,200	0	16.3%	117,949	64.3%
Grand Total	39,410,480	6,039,200	184,258	15.4%	1,716,139	28.41%

(1) Quotas are based on the previous year's population estimates. Population estimates are based on aerial and ground surveys and are for the areas within Australia where commercial harvesting occurs. The actual national populations would be significantly higher as these figures do not include estimates for areas not surveyed.

(2) The purpose of the special quota is to provide for the commercial utilisation of kangaroos that would have otherwise been shot under the normal non-commercial licensing system and left in the field. Special quotas are allocated only when the state management agency has determined that there is a need.

Table 2: 2014 Kangaroo Quotas

	2013 population (1)	2014 Sustainable Quota	2014 Special Quota (2)	2014 Sustainable Quota as percentage of population
New South Wales				
Red (<i>Macropus rufus</i>)	4,480,580	761,699	67,209	17.0%
Eastern Grey (<i>M. giganteus</i>)	8,896,284	1,334,443	133,444	15.0%
Western Grey (<i>M. fuliginosus</i>)	1,852,710	277,158	27,791	15.0%
Wallaroo (<i>M. r. robustus</i>)	100,825	15,124	1,512	15.0%
Total NSW	15,330,399	2,388,424	229,956	15.6%
Queensland				
Red (<i>Macropus rufus</i>)	8,102,000	1,529,450	0	19.0%
Eastern Grey (<i>M. giganteus</i>)	18,252,150	2,536,350	0	13.9%
Wallaroo (<i>M. robustus</i>)	6,449,750	945,500	0	14.6%
Total Qld.	32,803,900	5,011,300	0	15.3%
South Australia				
Red (<i>Macropus rufus</i>)	1,673,233	315,500	8,300	19.0%
Western Grey (<i>M. fuliginosus</i>)	1,061,830	139,700	5,300	13.2%
Euro (<i>M. robustus</i>)	487,654	57,100	2,400	11.7%
Total SA	3,222,717	512,300	16,000	15.9%
Western Australia(3)				
Red (<i>Macropus rufus</i>)	504,562	85,000	0	16.8%
Western Grey (<i>M. fuliginosus</i>)	1,336,939	197,600	0	14.8%
Euro (<i>M. robustus</i>)	--	0	0	--
Total WA	1,841,501	282,600	0	15.4%
Grand Total	53,198,517	8,194,624	245,956	15.4%

(1) Quotas are based on the previous year's population estimates. Population estimates are based on aerial and ground surveys and are for the areas within Australia where commercial harvesting occurs. The actual national populations would be significantly higher as these figures do not include estimates for areas not surveyed.

(2) The purpose of the special quota is to provide for the commercial utilisation of kangaroos that would have otherwise been shot under the normal non-commercial licensing system and left in the field. Special quotas are allocated only when the state management agency has determined that there is a need.

(3) The *Management Plan for the Commercial Harvest of Kangaroos in Western Australia 2013–17* has not yet been finalised and is awaiting approval by the Australian Government. Until approval is given, kangaroo products sourced from animals taken in Western Australia cannot be exported.