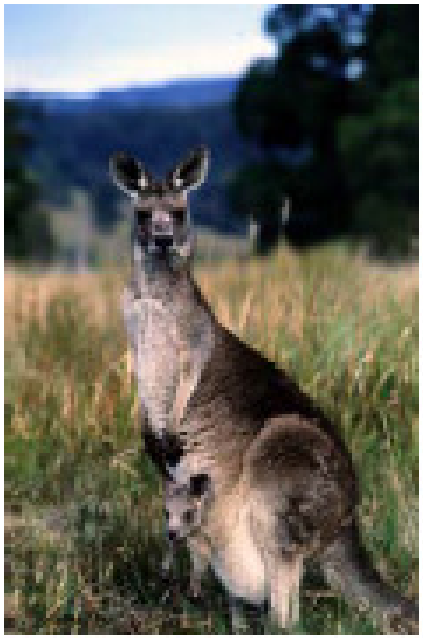
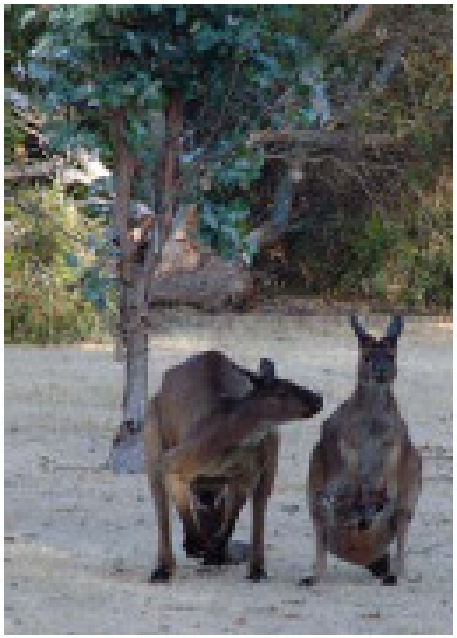
UNIVERSITY OF TECHNOLOGY SYDNEY

Do the means justify the end? Welfare and the kangaroo harvest

Dror Ben-Ami 2010

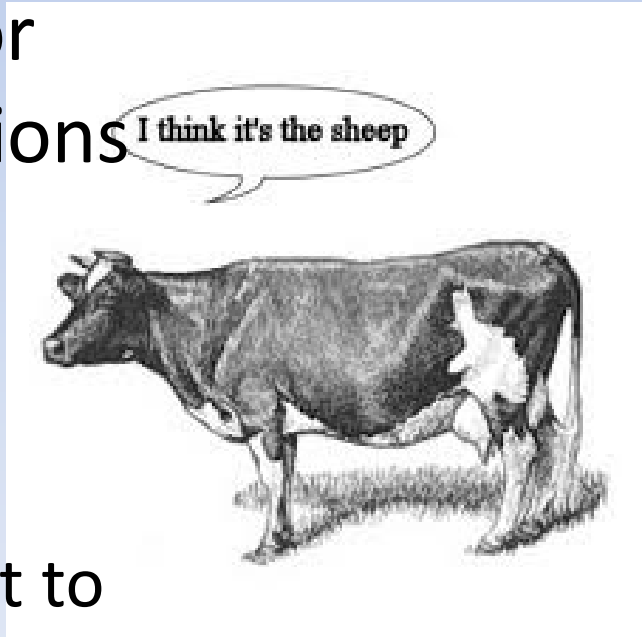
The big 4 (harvested) kangaroos

Distribution maps from Strahan 1998

Common beliefs

- Kangaroos are pests
- Replacement of livestock for biodiversity
- Replacement for methane emissions reduction
- Ethical
  - Not farmed
  - Shot with bullet to head



Welfare Issues

- Pouch young bashed
- Young at foot abandoned
- Adults miss-shot

Examine:

because there is no debate on the largest terrestrial wildlife cull on earth

- Available welfare literature - because not much is known
- Behavioural ecology and welfare
- Kangaroos today
- International comparisons
- Legal review

→ **Conclusion**

  - Sustainable ethos
  - Westernised values towards wildlife

How many females???
How many young???

- 3,000,000 million adult kangaroos harvested every year (DEWAH 2010)
- 40% females in harvest = up to 1,200,000 females (Hacker et al 2004)
- 25% of females are likely to have young at foot = 300,000 young at foot/yr (Bilton and Croft 2004, Witte 2005)
- 70% of females also have pouch young = 840,000 pouch young/yr (Bilton and Croft 2004, Witte 2005)
- Total **estimate** > 1,000,000 dependent young die annually as a result of harvesting

Available literature on welfare

Not harvesting

- Nutritionally deprived individuals (Grigg 1997)
- Over grazing impacts on other biota (Grigg 1995, McLeod 2010)

Harvesting

- Shot females result may result in inhumane death of dependent young (RSPCA 2002, Pople and Grigg 1999, McLeod 2010)
- Unprofessional shooters increase welfare issues (Pople and Grigg 1999)

- At least 100,000 kangaroos miss-shot and die inhumanely (RSPCA 2002)
  - Maybe more but no auditing
- Up to 40% may be miss-shot from evidence in chillers (Des Sibraa 2009)
- Killing methods of captured young may not be as humane as possible (RSPCA 2002)

Behavioural ecology

Dependent young – pouch young and young at foot (to weaning)

- High metabolic requirements (Dawson 1989, Munn and Dawson 2003)
- Vulnerability to predation (Banks et al 2000)
- Low recruitment, particularly in drought (Newsome 1977, Shepherd 1987)
- Low recruitment at average rainfall levels (Newsome 1965, Bilton and Croft 2004)
- Lactational demand peaks at permanent pouch exit (Croft 2004)
- Female kangaroos are most reproductive at older/larger age group 6-15 yrs (Bilton and Croft 2004)

Roo mothers do alot!

- Social learning by young from mother influences survival rate of young
  (Higgingbottom and Croft 1999)
- Diet preferences and ability to discriminate against plants learnt from mother
  (Provenza 2003)
- Training of offspring to perceive predation risk
  (Higgingbottoom and Croft 1999)

Social welfare

- Matrilines build amongst reproductively successful females (Johnson 1986, Stuart-Dick 1987)
- Known grazing partners enable better feeding (Carter et al 2009)
- Playfights between mixed age groups - training and assessment of potential competitors (Croft and Snaith 1991)

Fathers do alot too – maybe ...

- Shooting of large males may destabilise social structures (Grigg 1997)

International issues

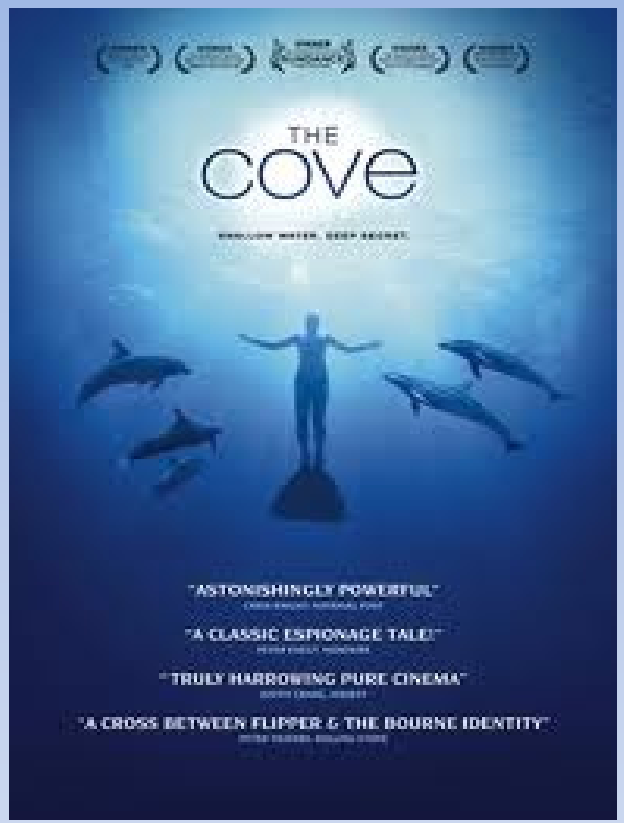
westernised countries for some comparison benefit

White tailed deer (*Odocoileus virginianus*)

- Lethal means unpopular in urban areas (Mesmmer et al 1997, Malcolm et al 2010)
- Lethal control common in remote areas
- Much fertility control research
- Effectiveness of either is questionable ????

- Trapping
  - Common in the US, Canada and Russia
  - Foothold traps banned in the EU
- Canadian Harp Seals
  - High profile
  - Products banned in many countries
  - Bans intensifying
    - Commission Regulation (EU) No 1007/2009

- Dolphins
  - High profile documentary "The Cove"
  - Welfare based opposition
- Anti-whaling
  - Initially conservation based
  - Now welfare also a big issue
  - Australia leading the way



➔ Welfare concerns gain currency for wild iconic species

A whale of a hypocrisy!

- Rich whaling history
  - Main industry in early 19th century
  - Continued until 1970's
- Whaling Inquiry 1978
  - Australia to stop whaling
  - Australia should oppose whaling
- Today
  - Decision to prosecute Japanese government over whaling??
  - *Kangaroo harvesting going strong*

Paul Sheehan, 'A bloody mob of hypocrites', SMH, 19/10/2010
Illustration by Michael Mucci

Kangaroos today: how does current research inform us

- Population cycles are driven by rainfall (Caughley 1986)
- Competition for browse with sheep is negligible (McLeod 1995, Edwards et al 1996)
- Cull of kangaroos has little impact on improved sheep products (Grigg 2002, Munn et al 2008)
- The impact of artificial watering points on populations has been overstated (Motague-Drake and Croft 2004, Fukuda et al 2010)
- The sheep replacement hope has not materialised after 20 years (Croft 2000, Grigg 2002, Baumber and Ampt 2010)

And kangaroos are …

- Endemic to Australia
- Iconic (Coat of Arms , QANTAS, Socerroos)
- Top herbivores
- No longer considered pests in management programmes (NSW KMP 201
  - But are by much of the public

QANTAS
THE SPIRIT OF AUSTRALIA

The mindset …..

- Unfulfilled quotas are not viewed as cause for alarm as search cost >return
  - This may be risky as aerial population surveys are inaccurate
  - Survey only small portions of the landscape

Welfare policy

- Commercial code of practice
  - High powered rifle use only
    - Pouch young
      - Crushing of scull
      - Shot to heart or head
    - Young at foot to be shot in the head
    - Adults to be shot in the head
- Non-commercial code of practice
  - Use of shot gun admissible
    - 1080 levels have been reduced dramatically
    - One million wallabies killed in Tasmania last year

Legislation

- Legislative responsibility is unclear
  - Federal: *Environmental Protection and Biodiversity Conservation Act 1999*
    - Codes of Practice lack legal weight
    - Arguably inhumane
  - State: in NSW 'protected fauna' under the *National Parks and Wildlife Act 1974 (as species)*
    - Licensed shooters but voluntary compliance with Codes

‘Humane’ kangaroo killing issues

- Difficulties
  - Weak policies
  - Remote locations

- Outcome
  - ‘To some extent, cruelty to kangaroos has become institutionalised through the system of kangaroo management’ (Senate Select Committee on Animal Welfare 1988)
  - THINKKING people would argue – ‘to a large extent!’

Conclusion

- Not a pest
- Iconic wildlife
- No or minimal harvesting benefits:
  - Biodiversity
  - GHG emissions
  - Income to graziers
- Significant welfare issues
- Precedence with whales

→**By both national and international measures there should be stronger welfare consideration**

→**Welfare considerations should parameterise the cull/harvest**

THINKK's mission is to foster understanding amongst Australians about kangaroos in a sustainable landscape, through critically reviewing current kangaroo management practices and exploring non-lethal management methods that are consistent with ecology, animal welfare, human health and ethics.