Co Production of Kangaroos and Livestock

A review of opportunities and impediments to integrated regional kangaroo management

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Conservation through Sustainable Use (CSU) of kangaroo - hardly a new idea

1. **Opportunity**
   - Animal welfare benefit
   - Environmental adaptations
   - Numbers and current value
   - Harvest not used

2. **Impediments**
   - Why CSU not taken up
   - Animal rights
   - National icon
   - Livestock more valuable

3. **Option**
   - Collective Management
     - Overseas
     - Trials in Aus

4. **A way forward**
   - Further investment
     - Big pastoral industry
     - Venture capitalists
     - Meat and Livestock Australia
   - Alternative management
Advantages of using kangaroos

• Humane production system
  • Field shooting has animal welfare advantages
  • Even if a problem presentationally

• Minimal use of energy and infrastructure
  • No transport of live animals to slaughter
Opportunity

Healthy grass-fed meat

• Low fat and cholesterol
• High protein 24%
• High in CLA (conjugated linoleic acid)
• High omega-3 fatty acids, iron, zinc

• High-strength-for-weight leather
Favourable boning percentages

Average production per carcass

- Kangaroo: 35kg
- Carcass dressed: 23kg (66%)
- Meat: 12kg (60%)
- Prime cuts: 4.8kg (40%)
- Trim cuts: 7.2kg (60%)
Better than cattle

- 500kg steer
- 260kg carcase (52%)
- 190 kg yield steaks and roasts (50%)
- 52kg trimmings (20%)
- Bone and fat (30%)


Livestock figures highly variable depending on fatness and water content.
Opportunity

Favourable meat production efficiency
• If a kangaroo is 0.5 DSE and a steer is 12 DSE
• 24 kangaroos eat same as 1 steer

Producing 288 kg useable meat compared to 240 kg

Although they do it more slowly eating complementary parts of pasture.
Well-adapted to Australia’s environment

- Lower food and water requirements
- Kangaroo metabolic rate - thirty percent lower

Kangaroo
1.5 L / day

Dry beef cattle
80 L / day

Adult dry sheep
11 L / day

Figures developed for predominantly dry pasture/saltbush diet in arid rangelands
Subject to daily temp, water quality (e.g. salinity), feed quality, stock breed, weight, age
Favourable greenhouse gas production

Kangaroos different digestive systems
Produce less carbon emissions

1.67 tonnes of CO$_2$ per year
25 kg CO$_2$ eqv for 1 Kg meat

0.003 tonnes of CO$_2$ eqv per year
0.75 kg CO$_2$ eqv for 1 kg roo meat

0.14 tonnes of CO$_2$ per year

Rates for kg usable meat, pre-process; based on 2 years growth for cow and 3 years growth for a kangaroo (see NSW Dept of Environment 2009, and Hardman 1996 for average yields).
Opportunity

• Gait conserves energy
• Low physical impact
  o Padded feet
  o Soft on soils and riparian areas
• Evidence:
  o Golfers tolerate many more kangaroos than sheep
Demand for kangaroos could be higher

![Graph showing kangaroo numbers and harvest information over years]

Animals rights opposition
Kangaroos are the national icon
Impediments

Kangaroos are *vermin* to most landholders

- compromise best practice pasture management
- No landholder wants to increase kangaroo numbers
- Focus on ‘real’ meat producing animals.
Kangaroos asset value

Focusing on the rangelands in commercial zone

40 million kangaroos

- If an average carcase weighed 23 Kg
- valued at 0.60c kg
- Each kangaroo worth $13
- Population valued at $550m
Conventional livestock much more valuable

- **Cattle**
  - 7.5 million cattle on rangelands
    - where most of the commercial kangaroo industry operates.
  - at $800 a head - an asset value of $6 billion,

- **Sheep**
  - 37 million sheep approximately
  - at $100 a head - an asset value of $3.7 billion

- **Goats**
  - 3 million feral goats in the rangelands
  - each goat at $70 – an asset value of $230 million.
Learn from overseas precedents to improve value

- Scottish Deer Management Groups
  - Landholders develop coordinated plans
- Government as regulator
  - Scottish Natural Heritage
    - Formerly Scottish Deer Commission
  - Conducts surveys
Options

Scottish deer

• Wild harvest - significant income
  o Venison passes to market
Southern Africa

- **Wildlife Conservancies**
  - Groups of properties manage wildlife collectively
  - Address over-stocking and land degradation
  - Aim to be more resilient to drought
Australian Trials

Barrier Area Rangecare Group

Barkindji Biosphere - Murray Darling Rangelands
Options

• Sustainable Wildlife Enterprise Trials a decade ago
  o National Landcare Program
  Rural Industries Research and Development Corporation,
  University of NSW and FATE program

• Aimed for landholders to
  o Become partners with harvesters and industry
  o Support industry growth and quality

• Maranoa Kangaroo Harvesters and Growers Co-op Ltd
  o Still operating in modest way
  o However planned outcomes have not happened

• Why?
  o Lack of consistent, strong leadership
  o Inability / lack of opportunity to collaborate with processors
  o Unable to get ongoing financial support and investment
Continuing investment would be larger

- If there wasn’t the threat of industry shut down
  - Animal rights activists
- With better industry capacity to
  - Manage quality and cleanliness
  - Describe its products accurately and consistently
    - Species, age or sex
  - Maintain reliable supply
    - due weather, - floods and droughts
- With ownership certainty
  - Managing without State intervention
  - Investors are attracted to assets they control
A way forward

Development needs champions and leaders enthusiastic about the opportunity

• Landholders (producers)
  o To collaborate with processors

• Restauranteurs and celebrity chefs
  o To promote product

• Corporate investors
  o To deliver the finance

• Government departments
  o To support the industry and research
  o To regulate
    ▪ focusing on quality, food safety and animal welfare
A way forward

Improve objectives

Current
• Harvest quotas set as 15% of population estimate

Alternatively
• Set minimum population
  • say 10 million
  • Allocate regionally, depending on other grazing animal density
A way forward

Devolve responsibility

• Landholders to collaborate to manage the minimum nominated density (or higher)
  o Regional organisations such as Landcare groups, cluster groups,
  o cooperatives or single companies

• Given a form proprietorship
  o Permits to keep
  o Reverse of current situation

• Regional decisions on
  o Harvest size
  o Weight limits and
  o Males versus females & joeys

• Regional branding and quality improvement
  o Paroo Roo campaign
A way forward

State and Federal Governments

- Continue as the regulator
  - Retain ultimate licensing responsibility
  - Animal welfare

- Monitor populations to ensure minimum
  - Only responsibility of wildlife agency

- Devolve quotas
  - enables greater landholder and industry responsibility

- Encourage kangaroo industry
  - Automate industry documentation processes
    - Reducing compliance costs
  - Enable research

- Facilitate market access overseas
  - Government to government agreements
    - being done by DFAT and D of E
Way forward

Policy push to expand Australian Agricultural production

Increase red meat production

• Rapidly growing Asian demand for protein

More cattle is the aim

Why not satisfy the demand with kangaroo meat?
Reducing methane emissions

- MLA Climate Clever Beef Program
  - Plans to increase cattle numbers
  - and methane emissions

- Lowering livestock by 20% in rangelands
  - Would reduce Australia's GHG by 3%

- Produce same amount of meat from 155 m kangaroos

- Suggestion was met with derision in 2008
  - No Government funding followed

- Is it time to have another look?
Increase kangaroo production

Increase the harvest to 25% of the population

- avoid population peaks, and subsequent crashes
  - less animal welfare issues and land degradation issues

Expand the population

Models of potential red kangaroo density

Annual earnings from an expanded kangaroo population if worth same as feral goats per kilo

$5 billion per year
A way forward

Involve corporate investors

• Previously support from
  o smaller family scale pastoral enterprises,
  o Landcare, regional NRM bodies
  o Government funders such as RIRDC

• Now time to present the case to
  o superannuation funds, venture capitalists,
  o big pastoral houses and listed companies?

• Corporates and Indigenous land owners don’t appear to consider kangaroos
Recent corporate transactions

- North Australian Pastoral Company
  - 13 cattle stations over 5.8 m ha
  - 200,000 head of cattle
- Kidman Pastoral Co
  - 10 m ha and 185000 cattle
- Jumbuck Pastoral
  - Kangaroos acquired would not have be a consideration
  - Nor the option of increasing numbers
Indigenous Landholders

- Also prefer to use cattle
- Indigenous Land Corporation
  - 97,500 cattle 2m ha 14 stations
  - No mention of kangaroos
- Indigenous Protected Areas Program
  - supports Rangers and conservation activities
  - use of wildlife is permitted
  - CSU is not supported in IPA strategies or government funding

Way forward
Further research

• Identify priorities set by potential investors, land and wildlife managers

• Some possibilities:
  o Comparing the impact of kangaroos and livestock
  o Studying the economics of comparative production
  o Understanding local kangaroo migration
  o Improving carcase tracking, monitoring meat quality, time temperature assessment.
  o Remeasuring methane emissions
A way forward

Challenge animal rights opponents

• Shutting down the kangaroo industry is a moral contradiction
  • Pastoralists will continue to regard roos as vermin and shoot them as damage mitigation
  • Indigenous Australians will be precluded from kangaroo use
  • Massive wastage of carcases
  • Animal suffering will expand through starvation and restriction of water
  • Shooting by the untrained will be more common
  • More kangaroos (and humans) will die in car accidents
  • Misallocation of scare conservation resources
A way forward

An innovation and investment opportunity going begging

• Kangaroo co production
  o A mainstream red meat industry
    ▪ within Meat and Livestock Australia
    ▪ a new addition like goat production
  o Attributes a marketers dream
    ▪ Adaptations to the environment
    ▪ Sustainable production
    ▪ Supports biodiversity conservation
    ▪ Increases the numbers and distribution of an iconic species
    ▪ Reduces Greenhouse Gas emissions
    ▪ Uniquely Australian product
Conclusion

A more secure future is needed for Australia’s 40m+ kangaroos

• Not vermin
  o Integrate into pastoral production systems to benefit landholders
  o Challenge the ideological warriors of animals rights movement
• Further investment in co production
• Participants
  • landholders / corporate agriculture / Indigenous landholders
  • venture capitalists and super funds
  • kangaroo processors
  • food marketers
  • research scientists and economists
  • Government
• References and further reading

• **Ampt, P and Baumber, A.** Building Cooperation and Collaboration in the Kangaroo Industry: [www.rirdc.gov.au](http://www.rirdc.gov.au)


• **Hardman, J. 1996.** The wild harvest and marketing of kangaroos. Qld Department of Primary Industries.

• **Martin, G. 2012** Game Changer – Animal Rights and the future of Africa’s Wildlife, Uni Calif Press, Berkeley


• **Wilson, G. and Mitchell, B. 2005.** A Strategic Plan for Trialing Sustainable Wildlife Enterprises: Guidelines for conservation-based enterprises as an incentive to restore on-farm habitat. Publication No. 05/106 Rural Industries Research and Development Corporation. Canberra, ACT.


• For other plans and reports visit:

Profitability of Cooperatives

- Success dependent on size and quality of harvest

20000 kangaroos per year would generate $15000 per year on current prices.

Maranoa region capable of producing >5X that number

Emulate field shot venison prices
Redefine competition and kangaroo status

• Integrate kangaroos into production
  o enable benefit to landholders
• Create a stronger kangaroo industry
  o need not compete with the existing livestock industries
• Kangaroos become an asset
  o just like feral goats in recent years
A way forward

Perhaps adjust or broaden the focus of CSU

- More emphasis on sustainable rural development and community based natural resource management
- IUCN Sustainable Use and Livelihoods Specialist Group (SULi)
  - Mission to promote both conservation and livelihoods through enhancing equitable and sustainable use of wild species and their associated ecosystems
A way forward

Investment

• Corporate funders
  o Industry, *processors and marketers*
  o Pastoralists, *the producers*
  o Regional bodies – *Landcare or similar*

• Innovation and development
  o Processing
    ▪ currently micro investment by RIRDC
  o Product development and value chain management
    ▪ Currently some private company investment
  o Integration with other products
    ▪ New goat program by MLA