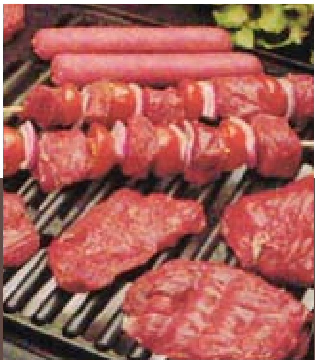
Australian Government

Rural Industries Research and Development Corporation

Kangaroo Industry Strategic Plan
2005 – 2010



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Australian Government

Rural Industries Research and Development Corporation

Kangaroo Industry Strategic Plan

2005-2010

A report for the Rural Industries Research and Development Corporation

By John Kelly, Lenah Consultancy

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Foreword

This is the second kangaroo industry Strategic Plan, the first having been funded by the Australian government and released in 1994. This Plan will guide industry, government, researchers, consultants and R&D priorities for the kangaroo industry over the next five years. The Plan was developed in extensive consultation with the kangaroo industry.

This project was funded by RIRDC using industry levies matched by the Australian Government.

This Plan is an addition to RIRDC's diverse range of over 1200 research publications and forms part of our New Animal Product R&D Program which aims to accelerate the development of viable new animal industries.

Most of our publications are available for viewing, downloading or purchasing online through our website:

- downloads at www.rirdc.gov.au/fullreports/index.html
- purchases at www.rirdc.gov.au/eshop

Peter O'Brien
Managing Director
Rural Industries Research and Development Corporation

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Executive Summary

Five species of kangaroos are commercially harvested by the kangaroo industry on mainland Australia. The number harvested is limited by an annual quota determined by the Australian Government. Over two million kangaroos are usually harvested per annum by harvesters licensed by a State authority. Harvested kangaroos are processing into a range of primal and value added products at government approved processed establishments which must have an approved quality assurance system and Hazard Analysis Critical Control Points (HACCP). The establishments are audited by government inspectors to ensure meat hygiene practices.

Kangaroo meat is sold in Australia for human consumption to the food service industry and retail outlets. The meat is also marketed in Australia for the pet food industry. Since 1959 kangaroo meat has been exported for human consumption and pet food with 5,000 to 6,000 tonnes exported annually in the early 2000s. Between 1.5 million and 2 million skins were exported annually during these years.

This is the kangaroo industry's second Strategic Plan. The first was released in 1994 and has been fully implemented.

This Strategic Plan has been developed through extensive consultation with the kangaroo industry. All kangaroo processors and harvester organisations were invited to contribute to it's content at consultative meetings in each State. The Plan was then further refined via extensive consultation with the Board of the Kangaroo Industries Association of Australia and the RIRDC Kangaroo Industry R&D Committee. It is therefore seen to accurately represent the the industry and its R&D priorities.

Like the first plan these priorities have been divided into six areas of 'Key Issues' relevant to industry needs:

- Industry Image
- Industry Management
- Marketing & Quality
- Industry Practices
- Resource Sustainability
- Industry Viability.

Within these R&D Objectives have been listed and suggested strategies to deliver the objectives detailed. These strategies have been ranked by priority. The Industry sees these three strategies to be of clear overriding priority:

- information flow to product users and government on the industries responsible conduct
- rationalising industry entry
- diversifying markets for human consumption manufacturing meat.

1. The Industry

Structure

The kangaroo industry operates in all States except Victoria and the NT, with the largest numbers of kangaroos being harvested in NSW and Qld. Each state operates under a Kangaroo Management Plan controlled by the conservation authorities and overseen by the Federal authority. Each Plan lays out specific requirements and operational procedures.

For the purpose of this Strategic Plan 'The Kangaroo Industry' will be taken to comprise the range of enterprises shown in Fig1. These vary in size from 'one man shows' to major exporters employing over 100 staff.

Fig 1: Kangaroo Industry product flow chart

Harvesters
↓
Field Chiller Operators (also know as Box Operators)
↓
Carcass transport (either by independent contractors or in house)
↓
Meat processors (be it pet meat or human consumption)
↓
Skin dealers or processors

Outside of these and also vital to the 'industry', but not normally considered a part of it are:

- Food distributors
- Food retailers e.g. supermarkets
- Export agents etc

The 'Industry' generally thinks of itself as being divided into 4 sectors, viz. harvest, pet meat processing, human consumption meat processing and skins.

Harvest

Virtually all harvesters are independent small businesses. They are generally paid on a per kg basis for the kangaroos they supply to processors, although in Queensland there is also a small 'skin only' harvest in which the harvesters remove the skin in the field and are paid for the skin. Individual harvesters generally supply one processor (via contract field chillers), however they can and do readily switch alliances.

All Harvesters must be accredited and licensed by State agencies. They must operate under strict hygiene and animal welfare Codes of Practice. Kangaroos are delivered directly to processing premises or to field chillers with the Codes giving strict controls over delivery conditions to ensure a hygienic product.

Field chillers are generally operated by independent contractors, who are often also harvesters in their own right. The operator will generally be contracted to one processor, although some are independently owned and operated.

Pet meat processing

This comprises the largest portion by volume of the industry with about 60-70% of kangaroos taken being processed for pet meat. The pet meat sector operates within an independent supply chain, kangaroos are taken by harvesters, delivered to dedicated pet meat field chillers and processed within premises registered to only process pet meat. Hygiene and operational standards are high, but not as stringent as within the human consumption processing chain. Virtually all pet meat kangaroo is sold domestically.

Human consumption processing

Kangaroos processed for human consumption must be taken by harvesters appropriately licensed, delivered to dedicated and licensed human consumption field chillers and only processed in human consumption registered premises.

A human consumption premise can be registered either for the domestic market only or also for various export markets. Approximately 70% of human consumption production is exported.

Skins

Skins are sourced from the meat processing sector or from the skin only harvest (which operates only in Queensland). There are a range of dedicated skin agents and processors. Some of the larger meat processors operate their own skin processing premises. Almost all skins are exported. The level of value adding varies from a raw (salted) form, to partially processed (pickled or wet blue) or as finished leather produced by dedicated kangaroo tanners.

Kangaroo leather is widely used in the manufacture of first class sporting shoes and gloves as well as dress shoes and accessories. It's recognised internationally as the strongest light weight leather available.

The Resource

The kangaroo industry harvests five species of macropods (kangaroos) on Mainland Australia and two species of wallaby in Tasmania. Total populations within the commercial harvest zones are monitored every year by aerial population surveys and a sustainable harvest quota is then set by the conservation authorities. The harvest is closely monitored by highly developed systems to ensure the take does not exceed the quota.

Total populations vary widely according to seasonal conditions as demonstrated in fig 2.

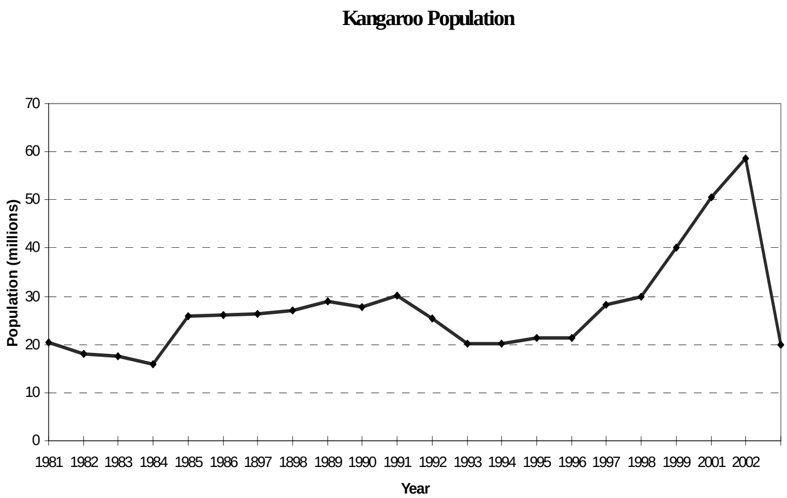

Fig 2: Kangaroo populations vary with seasonal conditions (from Dept Environment and Heritage data)

This variation has not greatly bothered the industry in the past as takes have always been well below quotas. However the industry has a long term average annual growth rate in take of 7%, this coupled with population declines as a result of the ongoing drought since 2003 have lead to the situation where the industry is highly likely to take the entire annual quota through the next few years. In some areas this is even likely to happen well before years end.

Performance

The Kangaroo Industry can boast a twenty year average growth in productivity of 7% per annum. Few, if any, industries in Australia (let alone rural industries) can boast that sort of sustained growth. As demonstrated by the graphs below export growth, in both volume and value is equally dramatic.

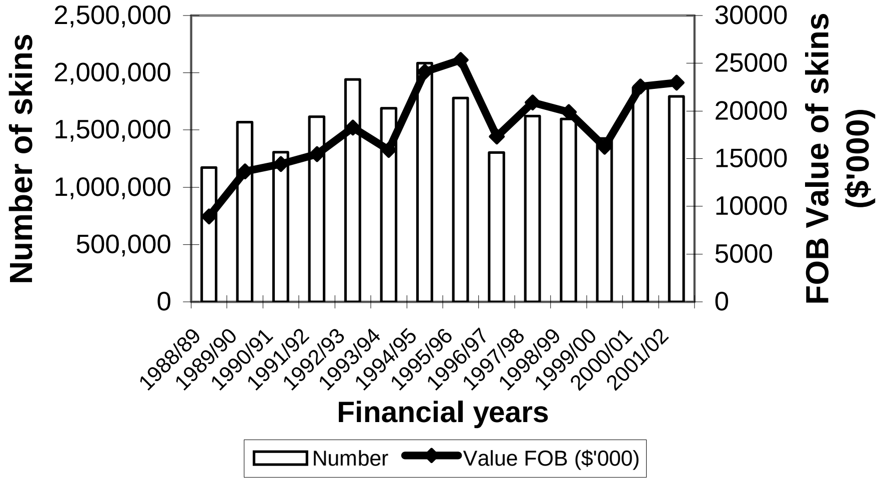

*Fig 3. :Kangaroo Skins Exported and Value of Skins (Aust.$) 1988/89 to 2001/02.(*Hercock and Tonts 2004).

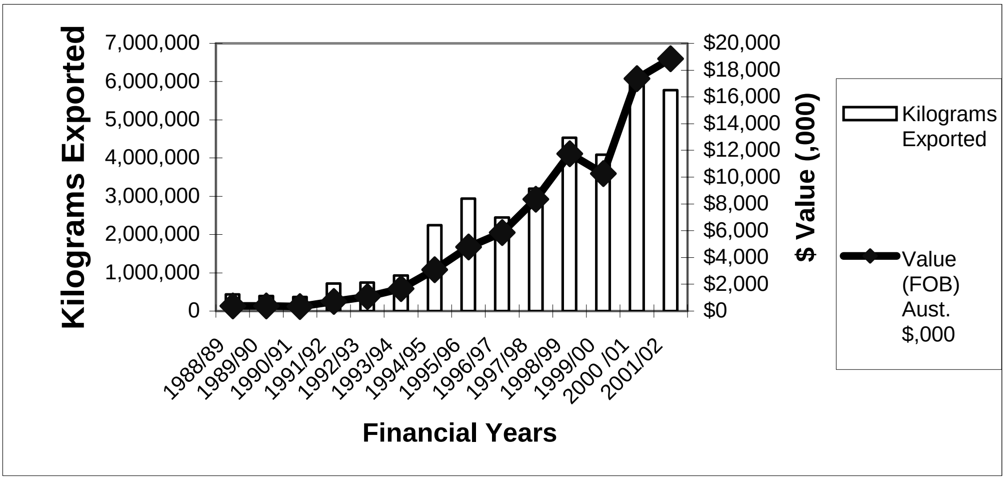

Fig 4: Exports of Kangaroo Meat (for human consumption and pet food 1988/89 to 2001/02

.(Hercock and Tonts 2004).

It should be noted that the graphs given in fig 3 & 4 are taken from ABS data, which industry experience has shown doesn't fully capture all exports, so whilst the trends may be accurate, the actual volumes and values may not be.

The kangaroo industry is currently worth approx $230 M/year to the Australian economy. It creates about 4000 full time jobs, the vast bulk based in rural and remote regions. Kangaroo meat, skins and leather are exported to over 60 countries around the world.

Regulatory Control

The kangaroo industry is regulated by various government mechanisms. It's activities are controlled by a wide range of Codes of Practices and Management Plans. Some of the major ones being:

Government control mechanism	*area of oversight*
Individual State Kangaroo Management Plans	*sustainable utilisation of kangaroo resources,*
these require example an annual population estimate to determine harvest quotas	
Code of Practice for the Humane Harvesting of kangaroos.	*ensures humane welfare outcomes*
Standard for the Hygienic Production of Game Meat for Human Consumption.	*controls all aspects of meat production*
Standard for the Hygenic Production of Kangaroo Meat for Pet Food.	*controls all aspects of pet food production*
Standard for the Hygienic Transport of Meat	*controls all aspects of kangaroo meat transport*
Kangaroo Harvester accreditation requirements	*each State has a TAFE course which harvesters must pass in order to gain licences.*

Public Support

Numerous professional and credible environmental management organisations have published guidelines for the sustainable utilisation of wildlife resources including:

- **CSIRO**
- **Australasian Wildlife Management Society**
- **International Union for the Conservation of Nature (IUCN)**
- **World Wide Fund for Nature.**

In all cases the kangaroo harvest fits perfectly or very tightly to the criteria for sustainable utilisation. Indeed the first two organisations have openly endorsed the kangaroo industry as fitting their criteria. For example CSIRO (Australia's peak scientific research body) states:

"Kangaroo harvesting clearly meets most of the principles of sustainable use of wildlife" (CSIRO 1998).

The Australasian Wildlife Management Society, the peak representative body for professionals actively involved in wildlife management, state:

"AWMS supports the idea of achieving a conservation benefit from a government regulated, high value, sustainable kangaroo industry" (AWMS 1998).

Even many non government 'conservation' groups are vocal in supporting the utilisation of kangaroos. The South Australia Nature Conservation Society told a Senate Inquiry into Wildlife Utilisation that:

"We are in full agreement that regulated commercial utilisation eg. Kangaroo harvesting, on private lands are a potent driving force for the retention of habitats." (SANCS 1997)

Indeed many Australian NGO's dedicated purely to wildlife preservation support commercial kangaroo harvesting as delivering conservation benefits. The Australian Wild Life Preservation Society is actually the oldest conservation NGO in Australia, and regularly comment on the industry.

"There is no problems with harvesting native wildlife given adequate controls as well as no cruelty in the gathering." (WLPS 1998)

The level of support for the kangaroo harvest amongst professional Australian ecologists and conservationists sometimes astounds international commentators. Public groups vocal in supporting the industry or with position papers in support of kangaroo use include:

- The Australian Veterinary Association
- The Australasian Wildlife Management Society
- Australian Association of Veterinary Conservationists and Biologists
- Ecological Society of Australia
- Wildlife Preservation Society of Australia
- Wildlife Preservation Society of Queensland
- Conservation Council of South Australia
- Nature Conservation Society of South Australia

Research has indicated that the majority of the Australian public also support the sustainable utilisation of kangaroos. Market research published by RIRDC has shown that in response to the question "Do you think kangaroos are a valuable natural resource and we should make use of their meat and leather", **77% of Australians said yes, 16% had no opinion whilst only 4% said no** (RIRDC 1998). The study also demonstrated that over 50% of Australians have tried kangaroo meat.

More details on the industry can be found at www.kangaroo-industry.asn.au

2. Vision

The kangaroo industry will be a profitable, sustainable and resilient industry delivering economic and environmental benefits to all Australians

In ten years time the kangaroo industry sees itself as:

- consistently and profitably utilising the full sustainably available kangaroo resource.
- being broadly recognised by the Australian public as delivering an essential and valuable environmental management tool.
- marketing 80% of its meat product within Australia at prices 10% (in real terms) above current levels.

In formulating this vision the industry recognises that with respect to meat:

- sales of kangaroo meat, be it for human consumption or pet food, within Australia are, on a national red meat market scale, tiny. There is huge room for growth.
- Even if all kangaroos which could be taken were taken, and all the product was sold domestically, sales would only represent approx 4.5% of the domestic red meat market.
- Exporting kangaroo meat is difficult, expensive and subject to huge risks in loss of market access or anti-industry campaigns.
- On the other hand acceptance of the kangaroo industry domestically is strong, improving and easier to manage. Whilst actually selling kangaroo domestically may, especially in the past, be more difficult than internationally, the market must be considered more secure.

3. Kangaroo Industry S.W.O.T. Analysis

Strengths	Weaknesses
A great message to sell, ie the industry delivers positive environmental benefits for the kangaroo population and rangelands.	Supply is independent of demand (eg. quota fluctuations due to seasonal conditions) limiting responsiveness in supply to increased demand.
A unique product.	Low recruitment rates of new harvesters.
Industry levy means good funding pool for R&D projects now available.	Small low-tech meat processing systems.
	Complex and variable regulatory environment.
	Industry representative organisations have low funding levels.
Human Consumption Sector	**Human Consumption Sector**
Broad health benefits in meat identified for human consumption by medical fraternity but public knowledge still limited.	Still some problems with consumer perceptions of kangaroo.
Australian consumers increasingly more prepared to try new foods.	Domestic restaurant trade uptake low.
At current prices and supply, demand is exceeding supply.	Limited technical information sharing between processors, eg no benchmarking study.
	Product variability.
	Taste can be challenging.
	No generic product marketing.
	The bulk of export production is sold to the consumer as ‘meat’ not ‘kangaroo’.
	Low price points.

Pet Meat Sector Fresh kangaroo meat is addictive for cats and a great pet food product. Industry is very well regulated and conducted and delivers a wholesome product. **Skin Sector** Kangaroo leather is recognised as being truly unique, the strongest light weight leather in the world.	**Pet Meat Sector** Competing against HC prices for supply. Low use by major manufacturers. **Skin Sector** Product variability. Cost of tag removal and disposal. Most end products are sold to the consumer as ‘leather’, not ‘kangaroo leather’.

Opportunities	Threats
Strong good-will in government and public for wildlife utilisation and improvements in rangeland sustainability. Some resource in Vic, SA, NT, NSW not under current commercial use Management Plans. Some proportion of the resource falling to shoot and let lie takes.	Staff shortages due to buoyant economy, high employment and some harsh working environments. Freight a relatively high component of product cost and margins are therefore highly sensitive to fuel costs. The Australian education system is emphasising environmental issues and without a good understanding of the industry teachers can readily portray it as having negative environmental or animal welfare consequences. Public liability insurance for harvesters expensive and may be increasingly called for.
Human consumption Increasing domestic acceptance of game/ indigenous meats, especially at retail level. Improved exposure to kangaroo for trainee chefs. Strong potential for domestic market growth (including smallgoods), see appendix 1. Improved pricing for red meats generally domestically and demand for kangaroo exceeding supply may lead to potential for price increase. Buoyant export demand for manufacturing meat. Room for new product development eg ready to heat meals.	**Human Consumption Sector** Loss of access to high value export markets. High reliance on a few key markets especially for manufacturing meat. No significant domestic manufacturing meat market. Lack of confidence amongst consumers in how to use kangaroo meat may be limiting growth.

Pet Meat Sector Pet owners increasingly willing to pay for premium packaging/image.	**Pet Meat Sector** Low current supply due to low quota means that many consumers will have been lost to alternative products. Victorian use of beef cadavers for pet food Requirement to use blue dye.
Skin Sector Increased value adding prior to export.	**Skin Sector** Ongoing challenges from Animal Liberationist's, eg targeting the skin sector internationally. Substitution with cheaper but slightly inferior options such as goat or calf keeps a cap on prices.

4. The issues

The industry views its strategic needs as falling into six key areas:.

Industry image

The kangaroo industry is one of the few in the country forced to spend the bulk of its marketing effort simply defending what it does. The industry kills an iconic wildlife species for commercial gain. It has been demonstrated via several intensive and independent investigations to operate humanely and sustainably, although there are still many vocal opponents who campaign actively against it. Due to the unique and emotive nature of the industry these campaigners readily attract wide media attention which the industry is constantly having to counter or address.

Industry management

Covering the management of the industry associations, communication within industry and communication with governments.

Product Marketing and Quality

Covering all sectors of the industry, harvest, pet food production, human consumption meat production and skins.

Industry Practices

Kangaroo processors operate under one of the most complex regulatory environments in the Australian food and pet food industry. Keeping this environment workable is a constant task.

Resource sustainability

In a broader context this could even be taken to cover rangeland environmental sustainability issues in general. But for the purpose of this Strategic Plan it has been limited to kangaroo population sustainability.

Industry viability

Covering all fiscal influences on industry profitability.

Text in italics in the following sections after each Strategy/Project indicate date targets and priorities. “Highest” being those industry perceive as most urgent. Within in each block of objectives the strategies are listed by level of priority. Footnotes to individual objectives discuss their relevance to industry development.

5. Key issues
Industry Image

Industry Image	Industry Management	Marketing & Quality	Industry Practices	Resource Sustainability	Industry Viability

Goal: An image highly appealing to the Australian public and understandable by the international public

Objectives	Strategies/projects to deliver objectives
Determine current domestic public image for the industry and its products	Conduct a market survey asking if the public supports the industry. This should give results on a regional basis and identify what factors influence or would influence their support. *(research released by 2007, High)*
Maintain/build a positive domestic industry image	Based on research, design and implement a domestic kangaroo industry image plan, Identify and map factors needed for achievable outcomes. This should have as an option a low key response based strategy. Other options to investigate could include: – an aggressive attempt to capitalise on the perceived environmental benefits of the industry – attempts to ensure the Australian education system portrays the industry as an environmental management model – a 'packaged media response kit and guidelines' to guide individual industry members response to media inquiry – a PR program which may for example attempt to harness debate in popular entertainment programs. All could be stand alone projects *(priority to be determined in light of first project)* Prepare a Guide of Best Practice for harvesters in community relations setting standards of how to operate to improve the industries image and stressing why the standards are important eg photos of what to do and what not to do and why. *(Guide released by 2009, Medium)* Improve the visual quality and circulation of the industry newsletter. *(New look Newsletter out by 2007, Medium)*
Manage international industry image	Formalise a response strategy to international anti industry campaigns based on case study research. *(Strategy developed by 2007, High)*

Industry Management

Industry Image	**Industry Management**	Marketing & Quality	Industry Practices	Resource Sustainability	Industry Viability

Goal: Professional and united industry representation

Objectives	Strategies/projects to deliver objectives
Ensure industry is perceived by government as an 'industry' not just a 'management tool'.	Conduct at least one KIAA Board meeting in Canberra each year. Invite appropriate government personnel. Present Industry fortunes paper and also deliver it to Ministers Offices. *(first meeting in Canberra by 2005, High)*
A strong industry representative body.	Determine appropriate ongoing funding needs for the KIAA and a fee structure to maximize membership. *(position in place by 2005, High)* RIRDC to inform industry members of R&D developments. *(first industry R&D update out end 2005, High)* Study best practice in industry representation. (*EO study completed by 2007, Medium)*

Marketing and Quality

Industry Image	Industry Management	Marketing & Quality	Industry Practices	Resource Sustainability	Industry Viability

Goal: Maximise industry returns

Objectives	Strategies/projects to deliver objectives
Human Consumption A strong domestic market in all HC sectors (food service, retail, manufacturing).	Develop use of Human Consumption (HC) meat by domestic smallgoods manufacturers. *(increased domestic HC meat sales by 2008, Highest)* Develop a program of stalls selling products at all major domestic food fairs which target consumers. Focus on use of secondary cuts, include local availability information. *(a schedule for stalls by 2007,Medium)* Ongoing projects to inform chefs about the industry and it's products. *(medium)* Produce a product development plan targeting the diet industry, dietitians, GP's and producers of ready to heat made 'diet' meals. *(plan developed by 2007, Medium)* Develop improved product image via increased exposure in food industry press. *(strategy developed by 2007, Low)* Develop and test-market new products such as ready to use meals for domestic market or kangaroo burgers into Pacific destinations. *(strategy developed by 2008, Low)*
Increased export market diversification, especially in manufacturing meat.	Facilitate market access negotiations to targeted new destinations. *(strategy developed and implemented by 2006, High)*
Pet Meat Increased use by major domestic pet food manufacturers.	Attitudinal research on major pet food manufacturers (especially targeting cats) to identify and act on barriers to use. *(research released by 2007, Low)*
Skin Sector Decrease the incidence of faults in raw skins.	Quantify significance of the various handling mistakes and transport deficiencies focusing on the processing sector and direct efforts to minimise them. End product should be a Code of Best Practice for processors. *(Code released by 2008, High)*

Industry Practices

Industry Image	Industry Management	Marketing & Quality	Industry Practices	Resource Sustainability	Industry Viability

Goal: A favourable regulatory environment

Objectives	Strategies/projects to deliver objectives
Efficient use of capital	Commission research investigating the benefits of rationalising industry entry to meet resource availability and giving a program to implement recommendations. Eg limiting the number of processing licences. See footnote 1: *(Report produced by end 2006, Highest)*
Remove impost of plastic tags on skin processors.	Research and design a more easily disposable and or biodegradable tag to be introduced in all states. *(new tag in use by 2009, High)*
Minimise the issue of shoot and lie quota.	Research the extent of useable resource lost to shoot and lie and recommend on developments to minimize. Footnote 2. *(report released with recommendations by 2008, High)*
Ensure industry is heard on regulatory issues	Develop an improved system to facilitate more effective industry input to KMAC meetings. At state level address the following issues: - introduction of minimum carcass sizes in WA & SA as a means of improving resource and industry sustainability. - document the regulatory and behavioural problems which regularly prevent full quota use especially in SA &NSW and seek to develop changes. Footnote 3. *(recommendations in place by 2008, Medium)*
Seek to make monitoring systems more efficient.	Examine the cost/benefit of the quota setting process. *(report released by 2010,Low)*

Resource Sustainability

Industry Image	Industry Management	Marketing & Quality	Industry Practices	Resource Sustainability	Industry Viability

Goal: A viable industry built on long term sustainable kangaroo resource

Objectives	Strategies/projects to deliver objectives
Ensure all kangaroo populations are sustainable managed	Commission research to assist the extension of Kangaroo Management lans within NSW and SA, and into NT and Vic. Footnote 4. *(new Plans submitted by 2008, High)*
Ensure population estimates and quota setting are economically effective in protecting populations	Improve the accuracy of population estimates. *(report released by 2010, Low)*
Increase long term supply of kangaroos	Investigate the economic feasibility of devoting feed resources to kangaroos. *(research commenced by 2009, Low)*

Industry Viability

Industry Image	Industry Management	Marketing & Quality	Industry Practices	Resource Sustainability	Industry Viability

Goal: A sustainable viable stable industry

Objectives	Strategies/projects to deliver objectives
Ensure industry has the freedom to operate	Prepare an annual brief covering - the industries fortunes in the past year and directions in year to come - improvements in regulatory environment - audit outcomes under the various Codes of Practice - market developments - societal developments. Circulation to include: - State and Federal Departments and Ministers - important industry customers - relevant NGO's. The first brief should include a schematic and easily digestible presentation of the regulatory controls over the industry. Ensure key personnel are updated regularly during the year on important industry issues. These must be very easily digestible and followed up to clarify any questions. Footnote 5: *(first brief by 2005, Highest)*
Attract new professional harvesters.	Improve Harvesters career path eg instigate a Kangaroo Harvesters Apprenticeship include business management training. *(recommendations by 2007, High)* Create a harvester business model. Footnote 6. *(Model in place by 2008, High)*
Improve the supply chain.	Detail the costs of each link in the chain and examine potential improvements. *(report released by 2008, Low)*
A supply chain more responsive to demand	Examine means of smoothing out supply variations. *(report released by 2009,Low)*

6. Footnotes

Footnote 1: Industry Entry. The kangaroo industry utilises a relatively small resource strictly limited by government decided quota. Yet only in NSW is industry entry restricted by regulation in any way, and then ineffectually. A intuitive argument can be presented that limiting entry will create a more favourable environment for industry investment and better facilitate higher value adding.

Footnote 2: Shoot and lie culls. All State Management Plans allow for pastoralists to destroy kangaroos causing economic loss if it appears commercial harvesting is not available. An unquantified number of animals are lost to the industry annually via these culls. A number of strategies could be employed to reduce this waste of resource and improve industry product supply. Given the current gross under-supply relative to demand, doing so would help alleviate a major (and recurring with every significant drought) development problem for industry.

Footnote 3: Input into KMAC's. Each state government operates a Kangaroo Management Advisory Committee comprising representation from pastoralists, animal welfare groups and the industry. Getting industry development initiatives past these committees is notoriously difficult, time consuming and beyond the resources of the unpaid individual industry KMAC representatives. An example is introduction of a minimum carcass size. This has two benefits, it improves the quality of industry skin product by eliminating under-size skins from the market place and it help ensures that all females have a chance to reproduce since the minimum. size is set above the sexually mature weight. Yet WA and SA steadfastly refuse to introduce a minimum weight and industry doesn't have the dedicated resources to effectively achieve this important elopement outcome.

Footnote 4: Extending available resource. There are substantial portions of Australia which do not have Kangaroo Management Plans in place to enable commercial harvesting. These include all of Vic, the NT and significant portions of NSW. In these areas kangaroos are killed for agricultural damage mitigation and the bodies left to rot. Given the industry is currently grossly under-supplied due to the extended drought and has more demand than it can possibly supply, this situation is a shamefully waste of a valuable resource. Extending Management Plans into these regions an important industry development.

Footnote 5: The freedom to operate. The kangaroo industry utilises an iconic species for food and leather. As a result it spends a large portion of its 'marketing' effort simply justifying what it does. This places it at a significant disadvantage to it's competitors. The industry needs on an ongoing basis to ensure it retains the simple freedom to operate. This represents the industries single greatest development need since it is under continual attack from groups who would have it shut down. The regular updates refereed to in this strategy would cover issues not necessary discussed in general circulation material and would include personal follow-up to key people to ensure they have been read and understood. Such key personnel would include Federal Ministerial Advisers, key customers such as Adidas etc.

Footnote 6: Retaining harvesters. Kangaroo harvesting is a unique occupation with very unique operating conditions. This is even more so in WA and SA where harvesters are most often based in bush camps rather than operating out of rural towns as in the Eastern states. Attracting people to this lifestyle in times of high employment is not easy. Ensuring ongoing product supply is critically important for the industry, hence anything which can make harvesting a good career option is an important development for the kangaroo industry.

7. Guidelines for Researchers and Consultants

Kangaroo Industry R&D has funding available via the RIRDC, however the industry also encourages Researchers and Consultants to seek funding from other sources. Researchers and Consultants are encouraged to use this Strategic Plan as a guide to the R&D activities the Kangaroo Industry sees as having the greatest priority. Projects designed to address Objectives and Strategies detailed in this Plan are most likely to receive funding. Current (2005) highest priority issues for industry are:

- information flow to product users and government on the industries responsible conduct
- rationalising industry entry
- diversifying markets for human consumption manufacturing meat.

However project submissions on areas outside those raised in this document will also be considered. Researchers and Consultants and indeed the industry as a whole should not consider this an exhaustive consideration of Kangaroo Industry R&D.

In any R&D application it should be remembered that to be successful the project must demonstrate that it will add significant value to the industry and its profitability.

8. How this Plan was developed

This Strategic Plan has been formulated in close consultation with the kangaroo industry. A series of meetings were held in each State to which all processors and representatives of the harvest sector were invited. Participants were lead through a facilitated process to identify their R&D ‘wish lists’ under the various Key Issues.

The results from all meetings were then consolidated and further refined by the Board of the Kangaroo Industry Association of Australia (KIAA).

Appendix 1

Domestic Human Consumption Volumes

Whilst the kangaroo industry has made huge gains in domestic human consumption sales over the past decade, there is still considerable room for improvement. This is particularly so in manufacturing meat sales for small goods production and sales of cuts to the restaurant sector.

Manufacturing meat sales: No major smallgoods producer in Australia uses kangaroo on a regular basis. However it has gained a strong reputation on export markets as an excellent manufacturing product. It's low fat content gives it very high water absorption capacities.

The restaurant sector: Sales of kangaroo meat to the Australian restaurant sector are well below what could be expected. Addressing this is identified as a potential priority in this Plan. Below is an analysis demonstrating the potential for sales in this sector.

1) The ATO reports that 29,551 restaurants are registered for the GST.

2) BIS Shrapnel reports that 36.1% of restaurants describe their cuisine type as "Modern Australian". Full break-ups being:

Modern Australian 36.1%,	Chinese 14.5%,	Seafood 9.2%,	Italian 9.1%
Thai 4.0%,	French 2.0%,	Japanese 1.9%,	Malaysian 1.1%
Greek 1.0%,	Other 21.1%		

3) The Restaurant and Caterers Association report the average seating capacity of Australian restaurants is **100** and average occupancy is **60%,** with restaurants opening on average **300 days/yea**r.

4) Let us conservatively assume that **10%** of diners eating in a restaurant with kangaroo on the menu would select the kangaroo and that average portion size will be **200 gm** of meat.

5) Let us also conservatively assume that **15%** of 'Modern Australian' restaurants and **1%** of all other restaurants could be expected to have kangaroo on their menu at any one time.

Under these assumptions it becomes possible to estimate the total domestic consumption of prime cuts of kangaroo meat in the domestic restaurant sector per year. The equation reads:

Consumption = {(Modern Australian restaurants * 15%) + (other restaurants * 1%)] * seating * occupancy * no trading days/year * rate of selection of kangaroo * portion size.

It only looks complicated, it's really a very simple equation giving an answer of:

[(29,551* .361 * .15) + (29,551 * 639 * .01)] * 100 * .6 * 300 * .1 * .2 = 643,748 kg

= say **645 tonne** of prime cuts per year consumed in the Australian restaurant sector alone, on very conservative assumptions which take no account of function menus, caterers, retail, specialist tourism operations etc.

Compare this with production. At least 3 million animals/year with at least 40% processed for HC yielding 1.5 kg each of prime cuts (fillets, topside, rump) = 1800 tonne/year.

This analysis suggests that with very conservative penetration into restaurant menus and conservative rates of selection of kangaroo by diners the domestic restaurant sector alone could consume about one third of total current production of prime cuts.

Industry estimates on the other hand suggest consumption is less than 10%.

9. References

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