



Department of
Primary Industries

General position paper

Development of the goat industry in NSW

www.dpi.nsw.gov.au

Published by the NSW Department of Primary Industries

General position paper – development of the goat industry in NSW

First published March 2018

More information

www.dpi.nsw.gov.au

© State of New South Wales through the Department of Industry, 2018. You may copy, distribute and otherwise freely deal with this publication for any purpose, provided that you attribute the NSW Department of Primary Industries as the owner.

Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (March 2018). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of the Department of Primary Industries or the user's independent adviser.

Contents

Executive summary	3
An overview of the rangeland goat industry	5
Export value and trends	6
The supply chain of the Australian goat industry	7
Global consumption trends driving growth	8
An overview of other goat enterprises in NSW	9
NSW DPI Agricultural Industry Action Plan	9
NSW DPI Strategic Plan 2017 – 2019	9
The Goat and Livestock Industry Strategic Plan 2020	10
DPI research and development activities	10
Conclusion.....	13
NSW DPI’s perspective on the development of the goat industry in NSW	13
References	14
Appendix 1 - Summary of NSW DPI activities and capabilities relevant to the Goatmeat & Livestock Industry Strategic Plan 2020.....	15

Executive summary

The NSW Department of Primary Industries (NSW DPI) recognises the value of the goat industry to the state of NSW and the importance of supporting its future development. This is consistent with the sector's positive maturity and growth trajectory, which is underpinned by robust global demand for live goats and goat meat, favourable prices, improving supply security, and investments in relevant infrastructure.

In the rangelands of NSW, the farm gate value of the rangeland goat industry has increased to an estimated \$102 million in the 2016 calendar year¹. At a farm level, an economic analysis conducted by Khairo *et al.* (2011a) found that a strategic investment in an opportunistic harvesting and value adding of rangeland goats could generate an income estimated at about \$830,000 per farm over 20 years. Given that this study was conducted at comparatively low goat prices, the result would be significantly higher if current prices were used in the analysis.

The commercial use of rangeland goats can also contribute to an improvement in resource conditions and conservation objectives because of reduced total grazing pressure (TGP) if mixed livestock diversification is undertaken (Choquenot *et al.*, 1995; Braysher, 1993).

However, like many maturing industries, the goat industry has had periods of varying productivity and profitability, seasonal fluctuations in supply, and limited reliable information on the costs and benefits of production, processing and marketing. The unmanaged goat population in the NSW rangelands is also threatening the long-term sustainability of the rangeland production system.

To address some of these problems, the Goat Industry Council of Australia (GICA), in collaboration and consultation with stakeholders, developed the Goatmeat and Livestock Industry Strategic Plan 2015-2020. The plan aims to address the identified challenges and explore new opportunities for investment in improving on-farm profitability and productivity, processing productivity, marketing and diversification, and collaboration with stakeholders.

NSW DPI has reviewed the plan and, in line with DPI's Strategic Plan 2017 – 2019, has provided feedback and recommendations for the goat industry and relevant industry stakeholders in NSW. Specific comments in response to the plan (with particular reference to NSW DPI activities and capabilities) are outlined in appendix 1.

¹ Estimated herd offtake in 2016 cal. year = 1.2 million (NLIS Limited, Atkinson unpublished), Goat price per head = \$84.98 (average of MLA OTH goat prices in 2016 calendar year of \$5.56/kg and an average carcass weight of 15.28kg per goat - MLA, 2015). Therefore, goat income = 1,203,862 x \$84.98 = \$102 million

Box 1: NSW DPI perspectives on the NSW goat industry**Review summary:**

1. NSW DPI has significant capability to help the goat industry achieve its strategic objectives in the short and medium term. Collaboration and partnership between NSW DPI and the goat industry will deliver mutually beneficial outcomes.
2. A NSW rangeland landholder survey conducted as part of an economic analysis into goat control identified a key risk for the industry – a “fall in price can potentially lead to overgrazing” (Khairo *et al.* 2011b). The effect of low or unprofitable goat prices is likely to increase total grazing pressure (TGP) and increase resource degradation in areas where resource management is an issue. NSW DPI can work with industry to prioritise research objectives that will help the industry mitigate the risks of fluctuations in TGP by supporting the industry’s transition from unmanaged harvesting operations to actively managed production systems. This will help the industry achieve a balance between increasing productivity, profitability and resource conservation.
3. Reliable information on the size of the goat industry in NSW is not available because of a heavy reliance on the opportunistic harvesting of unmanaged rangeland goat herds. New initiatives should be targeted towards developing reliable information to enhance decision-making and improve the environmental and economic sustainability of the industry.
4. NSW DPI has significant experience in education, scientific research, industry development, regulation, biosecurity, and food safety services. The goat industry is encouraged to work with NSW DPI to explore possible avenues of co-investment. DPI will work with industry to target activities that help the industry’s growth and expansion and boost its long-term profitability, productivity and sustainability.

An overview of the rangeland goat industry

Information on the size of the rangeland goat population is limited because of variable population densities, abundance and distribution across NSW. A collaborative project between NSW DPI, Local Land Services (LLS), Meat and Livestock Australia (MLA), GICA and industry stakeholders will more accurately record population numbers in the future, but it is evident that the NSW rangeland goat industry is relatively small when compared with other livestock industries in the state.

Aerial surveys conducted by the Office of Environment and Heritage estimated that the NSW rangeland goat herd was around 5.8 million in 2016, and declined by 40% to 3.4 million in 2017 (Office of Environment & Heritage, May 2017 and December 2017). The cause of the decline is unclear, although dry conditions, an unprecedented goat population in 2016, and high offtake have contributed to the decline. Table 1 shows the estimated goat population by kangaroo management zone and its corresponding density within this area. Population modelling conducted by Ballard *et al.* (2011) found that the NSW goat population is estimated to reach 7.5 million by 2020 without any population control.

Table 1: Office of Environment and Heritage aerial goat population estimates 2017

Kangaroo management zone	Density (goats/Km ²)	Goat population
Bourke	9.669	531,848
Broken Hill	10.810	987,322
Cobar	10.398	420,237
Coonabarabran	8.889	548,375
Griffith	3.684	388,067
Lower Darling	2.531	143,657
Narrabri	2.854	187,734
Tibooburra	5.173	284,856
Total	6.571	3,492,097

Rangeland goats contribute up to 90% of goat income in Australia (GICA, 2015). The supply of goats from the rangelands regions of western NSW underpins the goat meat export supply chain, as well as supporting processing facilities operations in VIC, QLD and SA. Phone interviews conducted by NSW DPI with processing facilities in 2013 found that the rangelands of western NSW support about 70% to 80% of the goat supply to processors in these states (T. Atkinson, per.com. April 2017).

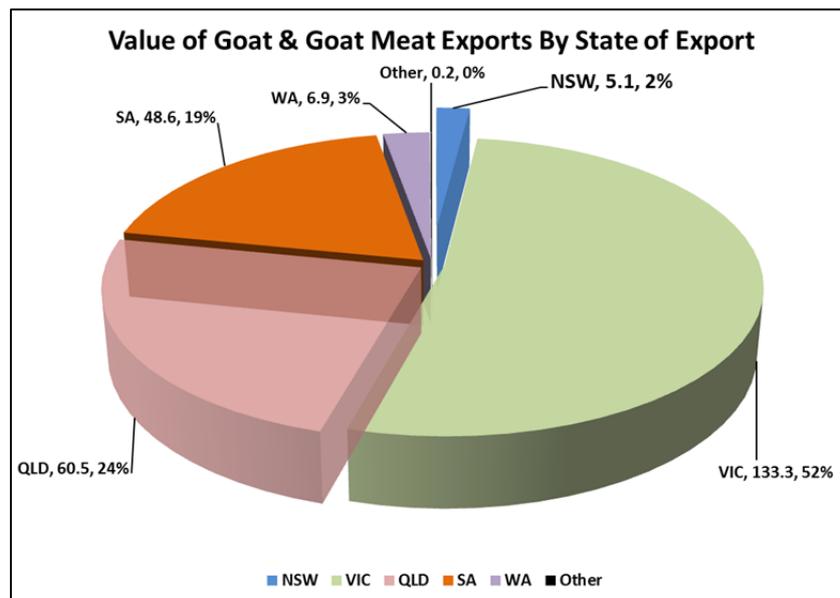
Extensive livestock grazing is the dominant land use in the rangelands area of NSW. In the Western Natural Resource Management (NRM) zone, extensive livestock grazing industries was valued at \$221 million or 1.8% of NSW gross value of production in the 2014-15 financial year (ABS, 2016)². Based on NSW DPI's estimate of the value of the goat industry (\$102 million in the 2016 calendar year), the industry is economically significant to the western region of NSW.

Export value and trends

With limited domestic demand, the goat industry is heavily dependent on export market demand for goat meat. Around 95% of national production is exported annually.

While Australia is a relatively small goat producer in comparison with many other countries, we are the largest exporter of goat meat globally (GICA, 2015). Nationally, the value of live goat and goat meat exports in 2016-17 grew to \$254.5 million, an increase of 107% on 2011-12, and 14% on the five-year moving average levels (GTA, 2017). The largest exporting state by export value in 2016-17 was Victoria at \$133.3 million. NSW live goat and goat meat exports were valued at \$5.1 million in 2016-17, a decline on the five-year moving average (GTA, 2017).

Figure 1: Value of goat meat exports by state of export

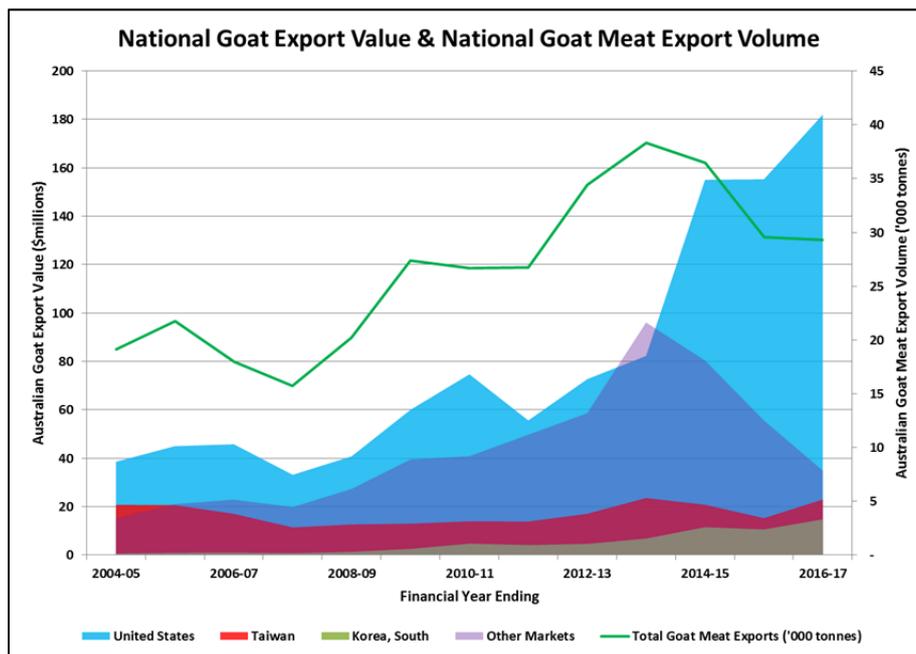


² At the time of writing there were no regional level statistics for the rangelands area of NSW, therefore the value of grazing industries (cattle, sheep and wool) in the Western Natural Resource Management (NRM) region were totalled for the most recent available ABS data.

Goat meat makes up the majority of goat exports (98%), with a national export value of \$249.8 million in 2016-17. In contrast, live goat exports were valued at \$4.7 million or 2% of total goat exports nationally. Although relatively small, NSW contributed 49% of the national live goat exports by value.

During 2016-17, Malaysia and the United Arab Emirates were the largest importers of Australian live goats and the US, Taiwan and South Korea were the major importers of Australian goat meat.

Figure 2: National goat export value and national goat meat export volume



While NSW carries most of the national rangeland goat population, exports from NSW contributed only 2% to the national export value for live goat and goat meat in 2016-17 (GTA, 2017). This is because most NSW goats are transported interstate for processing.

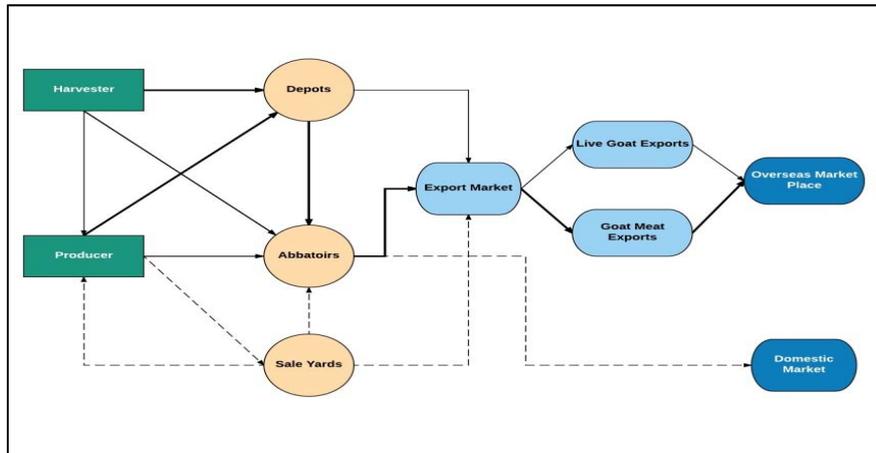
Construction is underway on a major goat abattoir located in Bourke in the rangelands of western NSW. The abattoir is expected to be operational in 2018, with estimates it will employ 200 people and process up to 6,000 livestock per day (goats, sheep or lambs) for export. This has the potential to significantly increase the reportable value of the goat industry for NSW.

The supply chain of the Australian goat industry

There are a number of different avenues for selling goat meat and live goats but access is often limited by geographic location. The Australian goat meat and livestock products supply chain illustrated in Figure 3 shows the positions and roles of key industry stakeholders

including producers, harvesters, depots, processors, sale yards, exporters and foreign destinations.

Figure 3: Goat industry supply chain. Heavier lines denote prominent supply chain flows.

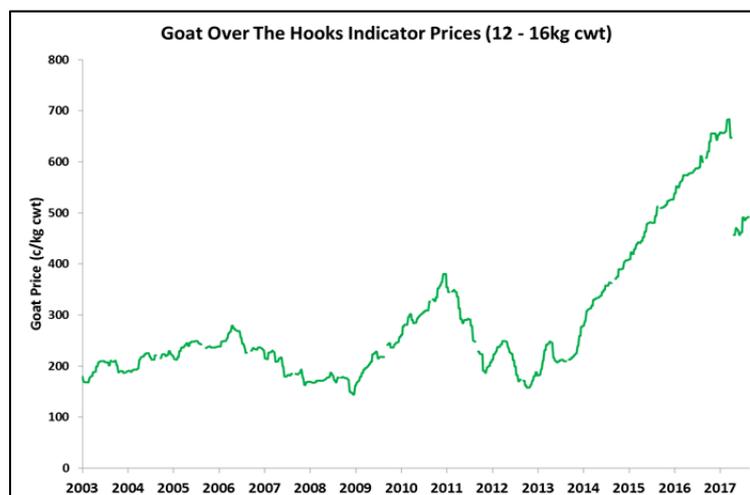


Global consumption trends driving growth

Goat meat has cultural importance in many developing countries. China leads the world in goat meat production – in fact the top 10 goat meat producing countries are located within the Asian and African continental regions. With living standards improving in major goat consuming countries, and protein consumption being directly correlated with such improvements, it is expected that the worldwide demand for goat meat will continue to increase.

As the majority of goat and goat meat ends up in the export market, international demand plays a very important role in determining domestic goat meat prices. Strong export demand, particularly from the United States has resulted in three years of significant growth in the price of goats domestically, with goat prices in 2017 reaching record levels before tapering off in late 2017, as shown in Figure 4.

Figure 4: Historical Goat 'Over The Hooks' (OTH) indicator prices. Source: MLA (2017).



An overview of other goat enterprises in NSW

While rangeland production systems dominate the Australian goat industry, there are also other goat meat, milk and fibre-producing enterprises run on a relatively small scale.

Boer goats are the only breed bred specifically for meat and are recognised as the world's premium breed for meat production. The major destinations for the live export of Boer goats are Asia and the Middle East.

The development of the Angora goat has reached a stage where the availability of stock, infrastructure, management systems and markets are comparable to other livestock fibre production industries. The industry has expanded since the 1970s, using the rangeland goat as a breeding base.

The Dairy Goat Society of Australia was formed in 1935 and is dedicated to the breeding and promotion of pedigreed dairy goats. The society provides information to new goat keepers, develops the goat's reputation in the community as a highly productive animal, and provides guidance in goat management and husbandry practices in NSW.

NSW DPI Agricultural Industry Action Plan

The Agricultural Industry Action Plan (AIAP) outlines the NSW Government's commitment to agricultural industries in NSW. It recognises the dynamic nature of agricultural industries and puts a high demand on these industries to identify challenges and respond accordingly.

The AIAP sets out the NSW Government's commitment to growing the agricultural sector by:

1. Driving productivity through sharing innovation and knowledge, partnering for research and development that creates value, and positioning industry by planning for the future.
2. Building a dynamic workforce and businesses through providing accessible high-quality and relevant training, identifying the skills needed for the future, and promoting a new and creative way of doing business.
3. Enabling business through cutting red-tape to make it easier, growing exports and attracting investment and connecting consumers, stakeholders and the community.

NSW DPI Strategic Plan 2017 – 2019

The NSW DPI Strategic Plan 2017 - 2019 outlines the NSW DPI's role in driving economic growth and increasing the value of primary industries in NSW. NSW DPI is responsible for

leading agricultural sector development consistent with NSW Strategic Plan 2017 -2019 outcomes and programs.

The NSW DPI vision is for *'NSW (to be) a place where people want to live and work and businesses choose to invest and grow'*.

The first of two major outcomes of the strategic plan is *"Economic growth through research and innovation to improve resilience, productivity and sustainability"* by supporting programs that *"Increase productivity, profitability and innovation in agriculture"*. The second major outcome of the strategic plan is *"Risks to community and industry confidence managed and reduced"* which is supported by programs that *"Manage and mitigate biosecurity, food safety and animal welfare risks"*.

The key measure of success outlined in the strategic plan is to achieve a total primary industries output of \$20 billion by 2020.

The Goat and Livestock Industry Strategic Plan 2020

While the goat industry enjoys robust demand in the international market, it faces several challenges in building a consistent supply to meet growing demand. The main focus of the goat industry strategic plan is to address these challenges through investment in four major areas:

1. On-farm productivity and profitability
2. Processing productivity
3. Market growth diversification and supply chain
4. Leadership and collaborative culture

A department-wide review of the Goatmeat and Livestock Industry Strategic Plan 2020 against current projects and areas of potential collaboration is summarised in Appendix 1.

DPI research and development activities

DPI is conducting research and development activities that support improved data access and supply forecasting, on-farm productivity, and grazing management for the goat industry. A summary of recently completed or current projects, which are directly supporting goat industry development, is shown in Table 2.

Table 2: Recently completed and current goat research and development projects

Project title	Funding partner	Project description	Project status
Goat industry data collation	Meat and Livestock Australia	The project is delivering to industry population and supply models, improved access to production and supply-chain data,	In progress (July 2016)

Project title	Funding partner	Project description	Project status
and tracking (Project lead: Trudie Atkinson)	B.GOA.123	and capacity to forecast goat meat supply.	– Feb 2020)
Publication of <i>Managing Dorper sheep and rangeland goats in the southern rangelands of Australia</i> booklet (Project lead: Trudie Atkinson)	Lower Murray Darling CMA Western Local Land Services	A booklet for southern rangeland producers that summarises findings from investigations of grazing behaviour, diet selection, and digestive efficiency.	In progress
Tactical grazing management training (Project lead: Trudie Atkinson)	Western Local Land Services	Grazing management training for western NSW sheep, goat and cattle producers. The training increases the adoption of grazing management principles, which improve livestock productivity while maintaining or improving resource condition.	Ongoing
Goat depot audits (Project lead: Biosecurity compliance)	N/A	This project was initiated to investigate and report on voluntary compliance of NSW goat depots with the National Livestock Identification System (NLIS). It also aims to raise awareness within the industry of DPI's important role in managing the state's biosecurity risks.	Ongoing
GPS wild dog monitoring (Project lead: Vertebrate Pest Research Unit)	Invasive Animals CRC Australian Wool Innovation Murray & Riverina Local Land Services	This project is tracking wild dogs in the Northern Tablelands, Riverina and Murray Local Land Service districts to map their movement behaviour and population responses to control. The data will be used to conduct more targeted and efficient wild dog control programs. The program framework has the potential to be expanded to the rangelands of NSW where goat and sheep industries are impacted by wild dog predation.	Completed
Wild dog alert (Project lead: Vertebrate Pest Research Unit)	Australian Government Department of Agriculture & Water Resources	Uses camera traps to remotely monitor the density of wild dogs in New England. It involves individual recognition of wild dogs from camera trap images, and sends alerts to livestock producers, LLS and biosecurity staff. The project will also help to determine wild dog density estimates and population responses to landscape-scale control programs. The model could potentially be adapted and	In progress

Project title	Funding partner	Project description	Project status
	(Federal) University of New England	integrated into goat management models in the rangelands of NSW.	
Predators, Prey, Plants and People (Project Lead: Vertebrate Pest Research Unit)	Invasive Animals CRC University of New England	Investigating the effect of wild dog control on wild dog, fox, feral cat and quoll populations and the resulting effect on herbivore populations and vegetation. The economic and social impact of wild dog control will also be investigated. The economic and production models could potentially be adapted and integrated into goat management models in the rangelands of NSW where the distribution of wild dog predation is increasing.	Ongoing
Curriculum working group – goat representative (Project lead: Trudie Atkinson)	Meat and Livestock Australia	DPI staff participated in the curriculum working group (CWG) for MLA's Extension and Adoption pilot program. Goat production curriculums were developed for feed base, value chain, reproduction and genetics. The curriculums provide a framework to deliver an effective extension/adoption program, which will achieve practice change and whole-farm business performance improvement.	Completed 2016
Trial design development to determine expected growth rates of young goats (Project lead: Dr Yohannes Alemseged)	Meat and Livestock Australia B.GOA.0109	Design experiments to study the potential growth rate of rangeland goats and to compare the economic and environmental impact of goat and dorper enterprises. Project reports detail four experimental designs intended to achieve the objectives of MLA and GICA and a review of literature on factors that influence goat growth rate.	Completed 2015

Conclusion

While the NSW goat industry is relatively small in size, it has significant regional importance to the rangelands of NSW, and is also well placed to grow. The delivery of reliable information from production through to marketing will help the industry to grow. The NSW government is prepared to assist in the development of a joint vision for the industry to 2020 and identify collaborative ways for the industry to achieve its strategic goals.

Given NSW's status as the largest producer of rangeland goats in Australia, improvements to the profitability and productivity of the industry are a priority.

NSW DPI is currently engaged in a range of activities to develop the goat industry. Improving the collaborative culture within the industry is an area of particular importance for NSW DPI.

NSW DPI's perspective on the development of the goat industry in NSW

1. NSW DPI has significant capability to help the goat industry achieve its strategic objectives in the short and medium term. Collaboration and partnership between NSW DPI and the goat industry will deliver mutually beneficial outcomes.
2. A NSW rangeland landholder survey conducted as part of an economic analysis into goat control, identified a key risk for the industry — a "fall in price can potentially lead to overgrazing" (Khairo *et al.* 2011b). The effect of low or unprofitable goat prices is likely to increase total grazing pressure (TGP) and increase resource degradation in areas where resource management is an issue. In such cases, NSW DPI can work with industry to prioritise research objectives that will help the industry mitigate the risks of fluctuations in TGP, by supporting industry transition from unmanaged harvesting operations to actively managed production systems. This will help industry achieve a balance between increasing productivity, profitability and resource conservation.
3. Reliable information on the size of the goat industry in NSW is not available because of a heavy reliance on the opportunistic harvesting of unmanaged rangeland goat herds. New initiatives should be targeted towards developing reliable information to enhance decision-making and improve the environmental and economic sustainability of the industry.
4. NSW DPI has significant experience in education and extension advice, scientific research, industry development, regulation, biosecurity, and food safety services. The goat industry is encouraged to work collaboratively with NSW DPI and explore possible avenues of co-investment. DPI will work with the industry to identify activities that will promote the industry's growth and expansion and boost its long-term profitability, productivity and sustainability.

References

Ballard, G., Fleming, P., Melville, G., West, P., Pradhan, U., Payne, N., Russell, B. and Theakston, P. (2011) Feral Goat Population Trends in Western New South Wales Rangelands. Unpublished final report to the Western Catchment Management Authority, May 2011 (NSW Department of Primary Industries: Orange)

NSW Office of Environment & Heritage (2017). Unpublished data sourced from the agency, 2016 and 2017 data provided May 2017 and December 2017 respectively.

DAF QLD (2016). Feral Goat (*Capra hircus*), Department of Agriculture and Fisheries Factsheet, Queensland Government

GICA (2015). Goatmeat and Livestock Industry Strategic Plan 2020, Goat Industry Council of Australia

ABS (2016). Cat. No. 7503.0, Value of Agricultural Commodities Produced, Australia, 2014-15 (Table 2): Australian Bureau of Statistics

IHS Global Trade Atlas - GTA (2017). Unpublished data sourced via subscription, last accessed February 2017

Braysher, M. (1993). Managing vertebrate pests : principles and strategies. Canberra: Australian Govt. Pub. Service.

Choquenot, D., O'Brien, P. & Hone, J. (1995). Commercial use of pests: can it contribute to conservation objectives? In Conservation through Sustainable Use of Wildlife, 251-258 Queensland: Centre for Conservation Biology, University of Queensland.

Khairo, S. A., Hacker, R. B., Atkinson, T. L. & Turnbull, G. L. (2011a). Economic Analysis of Feral Goats Control within the NSW Rangeland. In Economic Research Report, Vol. 47Trangie: NSW DPI.

Khairo, S. Hacker, R. (2011b). Economic Analysis of Feral Goat Control within the Western Rangeland. Western Catchment Authority.

O'Connor, J (2016). Australian goat industry summary 2016, Meat & Livestock Australia Limited

Appendix 1 - Summary of NSW DPI activities and capabilities relevant to the Goatmeat & Livestock Industry Strategic Plan 2020

Table 3: Goatmeat & Livestock Industry Strategic Plan 2020 On-farm productivity and profitability

Goatmeat & Livestock Industry Strategic Plan deliverables	DPI activities and capabilities
<p>1.1.1 Collation and tracking of industry data including population, managed herd numbers, producers, depots and production by state to monitor performance.</p>	<p>DPI tracks rangeland goat populations to understand the sustainability of the goat industry. This data helps to develop the goat industry and detect changes in the industry performance.</p> <p>DPI is leading a national project 'Goat industry data collation and tracking' funded by Meat and Livestock Australia. The project is providing industry with data including: the number of producers; managed and unmanaged goats; depots and processors; goat entering the supply chain via depots versus direct to processors; goats processed. It is modelling forecasted population changes and the sustainability of supply under different harvest rates. In 2017, the project provided industry with the required information, processes and capacity to forecast export goat meat supply.</p> <p>DPI keeps track of slaughter, production and export data based on the publicly available statistics and reports. This information may be better utilised to forecast industry trends and inform the industry.</p>
<p>1.1.2 Implementation of a producer cost of production benchmarking program.</p>	<p>Benchmarking goat meat businesses allows industry development and informs research, development and extension activity priorities.</p> <p>NSW DPI recognises that the key to any management intervention is to maintain low-cost production. DPI's quality research and development trials can help achieve this. .</p> <p>NSW DPI is seeking opportunities to collaborate through co-funded projects.</p> <p>NSW DPI can provide expert advice and analysis of the costs and benefits of alternative goat management strategies.</p> <p>The DPI Agriculture unit has experience in establishing and facilitating rangeland producers' groups to benchmark costs of production.</p> <p>The Vertebrate Pest Research Unit has experience in the assessment of feral animal harvesting.</p>

Goatmeat & Livestock Industry Strategic Plan deliverables	DPI activities and capabilities
1.2.1 Identification of gaps within best practice resources and review of existing materials and tools, which could be modified for the goat industry with prioritisation of activities.	DPI staff completed the goatmeat curriculums for MLA's Extension and Adoption Pilot Program as part of the Curriculum Working Group. DPI has the ability, skills and materials to help services contingent on resourcing.
1.2.2 Provision of an increased range of on-label treatment options for endemic disease, pest and parasite management	DPI may have input into the registration approval process via the biosecurity requirements and ensure rigour throughout the registration process.
1.2.3 Demonstration of the value of genetic evaluation through KIDPLAN, trials, 'proof of profit' demonstration sites and case studies	DPI's research and development trials can provide insight into this action. DPI is looking at opportunities to collaborate through co-funded projects, and has capabilities through its internationally recognised livestock research geneticists.
1.2.4 Improved understanding of growth rates and associated management practices for young rangeland animals	NSW DPI completed a literature review of factors affecting growth in goats and prepared four experiments and operational plans to determine the expected growth rates of young goats. Read the literature review NSW DPI has considerable experience in running collaborative trials with rangeland producers. More involvement is possible with co-funded projects
1.3.1 Delivery of an adoption program targeting key business profit drivers, data based decision making and supported practical on-farm implementation with a culture of monitor and measure	NSW DPI staff were actively involved in the curriculum working group (CWG) for MLA's Extension and Adoption pilot program. Goat production curriculums have been developed for feed base, reproduction and genetics, and value chain. More involvement is possible through co-funded projects.
1.3.2 Improved linkages with cross industry networks, research and development programs, projects and funding for maximum extension and communication efficiency	NSW DPI can contribute to industry development and export related funding such as ATMAC by collaborating with other organisations and agencies such as DPC and Austrade.
1.3.4 Fostering positive PR for and about industry and development of industry champions.	This is primarily the role of the industry via its levy servicing body - MLA. NSW DPI collaborates with industry and provides communication support where required. The International Engagement Unit can help improve NSW's goat industry profile in international markets relevant to live export..

Goatmeat & Livestock Industry Strategic Plan deliverables	DPI activities and capabilities
1.3.5 Building capacity within industry's network of service providers	NSW DPI has investigated models to establish a goat industry development officer, based in western NSW. DPI will continue to be involved in establishing a funding model that works for industry and government. NSW DPI is also working on programs such as open data and digitalisation of agriculture.
1.3.6 Provision of accessible communication channels and tools to communicate key information including providing a digital and interactive version of the <i>Going into Goats</i> guide.	<p>NSW DPI collaborates with industry and can provide communication support where required.</p> <p>NSW DPI views MLA's existing communication channels and tools (eg the <i>Going Into Goats</i> guide and the <i>Goats On The Move</i> newsletter) along with GICA linkages as the primary tools for communicating with and delivering information to the goat industry. NSW DPI will continue to contribute to these resources to deliver research and development findings.</p> <p>NSW DPI may be able to facilitate accessible tools to achieve this action. NSW DPI will continue to facilitate public forums via the Performance and Engagement branch and facilitate industry related social licensing discussions.</p>
1.4.1 Collaboration with key stakeholders to drive strategic investment and action for improved predation management.	<p>NSW DPI collaborates with industry and provides communication support where required.</p> <p>NSW DPI may be able to facilitate accessible tools to achieve this action. NSW DPI can also be involved in facilitating public forums via the Performance and Engagement branch and facilitating industry related social licensing discussions. NSW DPI is also involved via projects conducted at the Vertebrate Pest Management and rangeland units.</p>
1.4.4 Preparedness plans and risk assessments for emergency disease outbreaks are maintained and regularly tested including communications readiness.	<p>The NSW DPI Vertebrate Pest Research Unit undertakes research in vertebrate pest management and emergency disease epidemiology across managed and unmanaged goats, between feral and domestic small livestock, and across private and public tenures.</p> <p>NSW DPI participates in emergency animal disease preparedness activity via the National Biosecurity Incident Communication Network</p> <p>NSW DPI develops, implements, tests and reviews risk-based plans and communications to ensure NSW effectively prevents, prepares for, responds to, and recovers from emergency animal diseases.</p>
1.4.5 Development of goat industry welfare standards and guidelines in partnership with fibre and milk producers and other stakeholders	NSW DPI can play a role in developing animal welfare guidelines in conjunction with GICA and other national and state agencies. NSW DPI is focused on ensuring goat industry standards and guidelines are implemented into legislation.

Goatmeat & Livestock Industry Strategic Plan deliverables	DPI activities and capabilities
	NSW DPI would welcome collaboration with the goat industry to achieve this.
1.4.6 Communication of goat industry welfare standards and guidelines to producers and other stakeholders	NSW DPI believes communication with producers and industry stakeholders is critical in the development of animal welfare standards and guidelines. NSW DPI is actively engaged in this activity and able to provide further support if needed. This is also a key role for industry.
	NSW DPI Performance & Engagement drives strategic communications and engagement with stakeholders and the community to support productivity and mitigate risk.

Table 4: Goatmeat & Livestock Industry Strategic Plan 2020 processing productivity

Goatmeat & Livestock Industry Strategic Plan deliverables	DPI activities and capabilities
2.1.1 GICA and MLA are working with the processing sector to identify and investigate constraints and opportunities for operational, business and environmental efficiency gains. Innovations in pathology prevalence and intervention technologies should be a focus.	<p>DPI may be involved in working with the processing sector to help identify constraints and opportunities, particularly the development of processing facilities.</p> <p>DPI is working with GICA and MLA on modelling unmanaged goat population estimates and forecasting, which will help the processing sector to more accurately forecast demand for services into the future.</p> <p>The International Engagement Unit can help processing plants search for foreign direct investment as a way to improve their capabilities.</p>
2.1.2 Development of stronger linkages with across industry networks, programs and funding for maximum efficiency	<p>Across industry linkages is potentially an area of market failure. NSW DPI may be involved in working with the processing sector (sheep and goats), the production sector, and the harvesting sector to better ensure continuity of supply across sectors</p> <p>The International Engagement Unit could contribute to industry development, export related funding such as ATMAC and programs by collaborating with other organisations and agencies such as DPC and Austrade..</p>

Table 5: Goatmeat & Livestock Industry Strategic Plan 2020 market growth, diversification and supply chain integrity

Goatmeat & Livestock Industry Strategic Plan deliverables	NSW DPI commitments and capabilities
3.1.1 Improved producer and depot compliance with NLIS and NVD systems to underpin the integrity of the industry	The NSW DPI Biosecurity branch can help with compliance education and advice for depot operations. NSW DPI may be able to further engage with industry to achieve better compliance rates.
3.1.3 Residue risks proactively managed through property audits and residue monitoring programs with appropriate communication back to producers	DPI is involved in the monitoring and management of residues in collaboration with the Local Land Services across the state. This includes the reporting and investigation of issues or incidents. District veterinarians in the western division are able to provide feedback and advice in residue monitoring.
3.1.4 Residue monitoring programs continue to meet overseas and domestic market requirements	<p>NSW DPI coordinates the management of residue and contaminant risks in NSW livestock to ensure residues and contaminants do not interfere with market access. This includes coordinating the reporting and investigation of issues or incidents.</p> <ul style="list-style-type: none"> • The NSW DPI state residue coordinator oversees the investigation of contaminants detected in NSW food producing animals and animal food commodities, in collaboration with the National Residue Scheme and LLS. • NSW DPI and LLS staff investigate detections of contaminants in the field and liaise with the state residue coordinator for chemically affected food producing animals and animal food commodities. • NSW DPI and LLS implement programs for detection, monitoring and compliance enforcement of chemically affected food producing animals, animal food commodities and stock foods as per the procedures for lead affected food producing animals, National Organochloride Residue Management (NORM) and National Antibacterial Residue Minimisation (NARM). • NSW DPI and LLS maintain accurate and up-to-date records of chemically affected animals. <p>NSW DPI investigates reports of non-compliance with the stock food regulations.</p>
3.1.5 Implementation of farm biosecurity tools supported by appropriate communication back to producers to support industry integrity.	<p>NSW DPI administers the NSW Caprine Arthritis Encephalitis (CAE) accreditation scheme.</p> <p>NSW DPI also maintains information on goat biosecurity and goat health at https://www.dpi.nsw.gov.au/animals-and-livestock/goats/health</p>

Goatmeat & Livestock Industry Strategic Plan deliverables	NSW DPI commitments and capabilities
3.1.6 Increased producer awareness of endemic diseases, potential impacts, and opportunity for improved product values through on-farm biosecurity plans.	NSW DPI provides advice on goat biosecurity and goat health at https://www.dpi.nsw.gov.au/animals-and-livestock/goats/health
3.1.7 Initiation and support of animal health surveillance projects to assure animal health status for market access.	<p>NSW DPI maintains a National Association of Testing Authority (NATA) accredited veterinary diagnostic laboratory, available for testing of notifiable animal diseases.</p> <p>NSW DPI partly or wholly funds the laboratory fees for initial diagnostic testing on suspected notifiable animal diseases. This encourages livestock managers and private veterinarians to report notifiable diseases.</p> <ul style="list-style-type: none"> NSW DPI and LLS Notifiable and Significant Disease Business Plan identifies targeted surveillance plans for significant, notifiable diseases where this information will be useful to livestock owners in increasing profitability and productivity.
3.2.1 Monitor and improve market access conditions including import tariffs, quotas, import/biosecurity regulations and technical barriers to trade and prioritise action items ensuring stakeholders are satisfied with the contribution of service providers.	DPI's International Engagement Unit can play a role in identifying and facilitating export opportunities. The team is actively engaged in facilitating market access improvement, along with trade and investment activities.
3.2.2 Continued collation of specific market intelligence to address the chronic data vacuum.	<p>DPI can help to track rangeland goat populations via aerial surveys, sales data and NLIS compilations. This would be contingent on co-funding project basis. DPI can also provide help in export/supply chain related market information and analysis.</p> <p>NSW DPI can further collaborate with industry on market analysis, and supply chain data through capabilities within the International Engagement Unit and the Economics and Analysis Unit. These units are currently tracking export data and international markets for a range of commodities, and would be able to work with the industry to identify and endeavour to fill the void in market intelligence.</p>
3.3.1 Delivery of a comprehensive market strategy based on objective market evaluations to assist industry in targeting high-value growth opportunities for goat products in key markets.	This is primarily the responsibility of MLA and GICA. However, DPI's International Engagement Unit is able to provide support, particularly in identifying export opportunities and facilitating market access improvement.

Goatmeat & Livestock Industry Strategic Plan deliverables	NSW DPI commitments and capabilities
3.3.4 Australian exporters highly supportive of industry marketing activities as revealed by surveys.	This is primarily the role of MLA and GICA. DPI's International Engagement Unit has partnered with the Mohair industry in marketing activities in the past. The unit may help the industry with export marketing opportunities in the future.
3.3.5 Evidence of industry marketing efforts and results in developing and establishing markets that provide a return to Australian producers.	This is primarily a role of the industry. MLA is responsible for industry development and marketing outcomes that benefit goat producers. When there are direct outcomes as a result of our support, DPI tracks the benefits.

Table 6: Goatmeat & Livestock Industry Strategic Plan 2020 leadership and collaborative culture

Goatmeat & Livestock Industry Strategic Plan deliverables	NSW DPI commitments and capabilities
4.1.2 Assessment of industry's appetite for a review of the levy process and rates	Changing the goat industry transaction levy is a prescribed legislative responsibility for GICA.
4.1.5 Agreed and upfront co-funding models developed and implemented for joint industry/government programs	NSW DPI has the skills and facilities to assist. Involvement in this activity is contingent on high-level negotiations between DPI and the industry to engage in co-funded project work.
4.2.1 Active engagement with relevant stakeholders and policy makers to streamline legislation, set reasonable producer compliance expectations, reduce regulation and improve understanding of the industry by external stakeholders	Government routinely undertakes reviews seeking to reduce unnecessary red tape.
4.2.2 Industry leadership skills strengthened with formal governance training for GICA representatives, state goat committees, regional forums and active consultation	NSW DPI is a registered training organisation and provides certified training at its Tocal facility. The provision of leadership skills training however would require further discussions and investigation.
4.2.7 Industry and individual sectors are well prepared to avoid, or mitigate the impact of any crisis through formalisation of an industry issues management and communication plan	NSW DPI can help quantify the potential risks of market failure and the associated impacts on natural resource management and production throughout large areas of the state that are inhabited by goats.