Submission No 40

INQUIRY INTO IMPACT OF THE PHASE-OUT OF AUSTRALIAN LIVE SHEEP EXPORTS BY SEA ON NEW SOUTH WALES

Organisation: Animals Australia Federation

Date Received: 20 September 2024

20 September 2024

Portfolio Committee No. 4 - Regional NSW
NSW Legislative Council
Parliament House
6 Macquarie Street
Sydney NSW 2000
Submitted online: https://www.parliament.nsw.gov.au/committees/inquiries/

Dear Committee Members,

Animals Australia's Submission regarding the Inquiry into the impact of the phase-out of Australian live sheep exports by sea on New South Wales

Thank you for the opportunity to provide feedback regarding the above Inquiry.

Animals Australia is a peak animal protection organisation in Australia. On behalf of our individual members and supporters we are pleased to be able to provide this submission.

Animals Australia's formal submission is by way of full formal endorsement and adoption of the submission made by the Australian Alliance for Animals (**the Alliance**).

The Alliance represents six of Australia's leading animal protection organisations – which includes Animals Australia. The Alliance represents a combined supporter base of over 2 million people.

In addition to our adoption and endorsement of the Alliance submission, Animals Australia commissioned Pegasus Economics (Pegasus) to prepare a submission in response to this specific Inquiry. The Pegasus Report is **attached**. The executive summary of the Pegasus Report provides a comprehensive summary of the Report's findings. The Report ultimately concludes that, given NSW sheep farmers have been unable to access the live sheep export trade by sea supply chain since May 2018, it would appear the impact of the Commonwealth Government's phasing-out of the trade on NSW sheep farmers is largely mute.

Please contact me if you require additional information or references.

Sincerely,

Glenys Oogjes
Chief Executive Officer
Animals Australia Federation

Pegasus Economics

Submission to the Inquiry on the Impact of the Phase-Out of Australian Live Sheep Exports on New South Wales

Dr Alistair Davey

September 2024

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Pegasus Economics is a boutique economics and public policy consultancy firm that specialises in strategy and policy advice, economic analysis, trade practices, competition policy, regulatory instruments, accounting, financial management and organisation development.

This report has been commissioned by Animals Australia.

The views and opinions expressed in this report are those of the author.

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Front cover photograph shows sheep outside Cowra in New South Wales.

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Executive Summary

- In April 2018, video footage obtained by Animals Australia showed Australian sheep in severe heat stress while being transported to the Middle East on 5 consecutive voyages on the MV *Awassi Express*, with most footage taken during a voyage in August 2017 (the *Awassi* incident) (Department of Agriculture, 2019, p. 19).
- Since the *Awassi* incident and the response by the Commonwealth Government, there has effectively been a prohibition on the live sheep export trade during the Northern Hemisphere summer.
- Since May 2018 and the *Awassi* incident, there have been no live sheep exports by sea for slaughter from Eastern Australia.
- The available evidence does suggest that sheep reared by NSW sheep farmers did find their way into the live sheep export trade by sea supply chain in the past (prior to May 2018).
- While NSW has not been directly involved in the live sheep export trade by sea as no sheep are loaded for export through NSW seaports, it is also now the case that NSW sheep farmers are no longer even indirectly involved as they have been unable to sell their sheep to the live sheep export trade since May 2018.
- Similar to sheep farmers in South Australia, Victoria, and possibly even Queensland, sheep farmers in NSW have been unable to supply sheep to the live sheep export trade since the *Awassi* incident and the imposition of the prohibition on live sheep exports by sea during the Northern Hemisphere summer as no live sheep shipments for slaughter have departed from the traditional ports of Portland (Victoria) and Port Adelaide (South Australia).
- Given that it is international commodity prices for lamb and mutton that underwrite farm gate prices paid for Australian sheep, the phasing-out of the live sheep export trade is unlikely to have any discernible impact on NSW sheep prices.
- The level of sheep transfers from WA to the Eastern States is usually under half a million on average although it can occasionally escalate quite significantly.
- The major factor behind any significant escalation in the level of transfers appears to be changes in climatic conditions either in WA and/or the Eastern States.
- In the absence of the live sheep export trade, WA sheep farmers will transition towards what they perceive as their next most profitable option or options.
- Given that WA sheep farmers still have over three years to decide what the next best option available to them will be with the phase-out of the live sheep export trade, this should provide a sufficient period for them to facilitate an orderly transition.
- In turn, this should ensure there are no undue market disruptions imposed on NSW sheep farmers.

1. Introduction

Pegasus Economics (Pegasus) has been commissioned by Animals Australia to prepare this submission in response to the inquiry into the impact of the phase-out of Australian live sheep exports by sea on New South Wales (NSW) that has been established by the NSW Legislative Council Portfolio Committee No. 4 – Regional NSW.

The views and opinions expressed in this report are entirely those of the author.

2. Sheep Farming

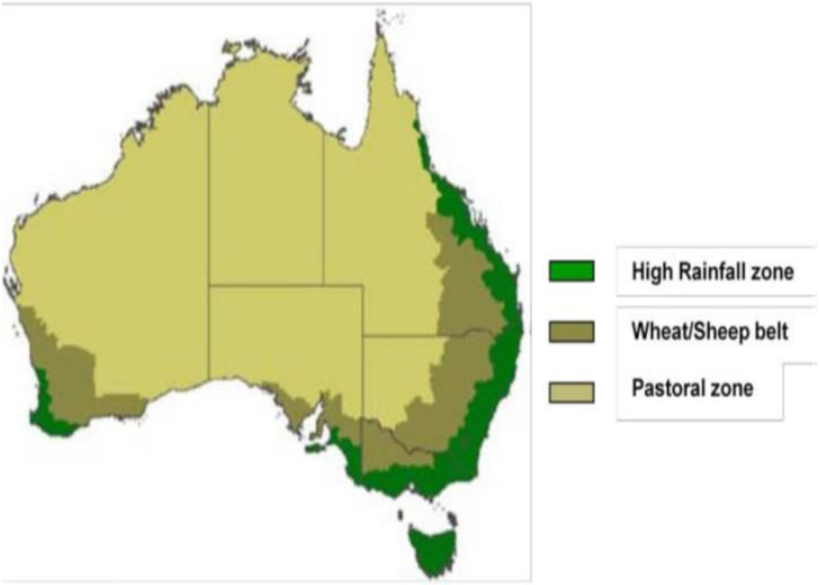
Sheep are farmed throughout the world, with most production constrained by temperature and rainfall to islands, coastal regions and the fringes of continental deserts (Sargison, 2008, p. 451). In some regions sheep are used to exploit pastures which are unsuitable for other agricultural purposes, while elsewhere sheep production is integrated into other agricultural systems to enable cost-effective and efficient grassland management or crop rotation.

There are three broad sheep grazing zones on the Australian mainland: the wheat-sheep zone, the high rainfall zone and the inland pastoral zone (Australian Surveying and Land Information Group, 1990, p. 44). The major factor differentiating between the zones is average annual rainfall, ranging from 500-1000mm for the high rainfall zone, 400-700mm for the wheat-sheep zone and 150-400mm for the pastoral zone (Cottle, Daly, & Hergenhan, 2014, p. 1.1). These differences in annual rainfall generate differences between zones in patterns of pasture growth and the opportunities for other enterprises such as cropping and dairying.

In the eastern half of Australia, the high rainfall zone lies on the wetter, coastal side of the wheat belt, where natural pastures are rich (Australian Surveying and Land Information Group, 1990, p. 44). The inland pastural zone lies on the drier, inland side of the wheat belt in the eastern half of Australia. Although the largest of the three zones, it carries the fewest sheep. Grazing is extensive because of low rainfall and poor native pasture.

A map of the three zones is provided in Figure 1 below.

Figure 1: Australian Broadacre Zones and Regions



Source: Stoutjesdijk (2013, p. 9).

Sheep farming gives rise to four products:

- wool
- sheep meat
- hides and skin
- milk.

Wool and sheep meat are the primary outputs from sheep farming, with market conditions for each commodity affecting the size and composition of the national sheep flock (Deards, et al., 2014, p. 6).

The Australian sheep industry was initially founded on wool production from Merino sheep (Keogh, Henry, & Day, 2016, p. 38) which provided the economic impulse that opened up the Australian continent (Harman, 1971, p. 41). Australian wool production is still based on the Merino and it remains the largest component of the Australian wool production industry (Tim Harding & Associates and Rivers Economic Consulting, 2014a, p. 19). However, global wool production has been in long-term decline (Australian Bureau of Agricultural and Resource Economics and Sciences, 2022, p. 66) as the use of wool in textiles has faced major competition from synthetic fibres (Sargison, 2008, p. 451).

Historically, the sheep meat industry has developed as a by-product of the wool industry (Jones, 2004, p. 1). Sheep are inferior as convertors of their feed to meat relative to poultry and pigs, largely because of the overhead costs of breeding stock and replacements, however, they can inhabit and yield a product on land unfavourable to other forms of agriculture (Morris, 2009, p. 59).

Sheep meat produced from young sheep with no permanent adult teeth is referred to as lamb while sheep meat produced from more mature sheep (with at least one adult tooth) is referred to as mutton. The colour of lamb meat ranges from pale pink to pale red and is generally lean while its mild flavour makes it very versatile for a number of uses (Prakash, 2016). On the other hand, mutton has a deep red colour and is much fattier than lamb; its flavour is strong and gamey and the meat is often stewed to help tenderise it (Prakash, 2016). Mutton can have a distinctive odour and flavour that can be unattractive to consumers (Sheep CRC, 2008). Mutton typically attracts a lower price than lamb due to age, fat content, flavour, and eating quality (Meat & Livestock Australia, 2016b).

Sheep skins and hides are often considered a by-product of the sheep meat manufacturing process (Sargison, 2008, p. 451). In Australia, skins are valued on the live animal to determine skin size and quality at the abattoir (Meat & Livestock Australia Limited, 2018).

While there are more sheep milked each day than cattle worldwide, sheep dairying is a relatively small industry in Australia (Biosecurity Tasmania, 2014, p. 1). On average, around 5,500 sheep are milked in Australia on 13 commercial farms (AgriFutures Australia, 2017). The majority of dairy sheep farmers in Australia focus on manufacturing cheese and yogurt as commercial products.

3. Animal Welfare Issues

3.1 Welfare of Sheep

One of the world's longest sea transport routes of live sheep for slaughter is from Australia to the Middle East (Carnovale & Phillips, 2020). Voyages departing Fremantle in Western Australia (WA) to the Persian Gulf in the Middle East generally arrive after 15 days. While the Middle East region has traditionally been the largest destination for Australian live sheep exports, the trade has a documented history of large-scale animal suffering (Bruce, 2012, p. 292).

Heat stress has been identified as a significant factor contributing to high mortality in some live sheep export voyages (Caulfield, Cambridge, Foster, & McGreevy, 2014, p. 223). There is a particular risk to animal welfare in voyages departing Australia in the Southern Hemisphere winter and arriving

in the Persian Gulf in the Northern Hemisphere summer, because of the rapid transition from cold to hot temperatures (Carnovale & Phillips, 2020). The contributing factors to heat stress in the export of livestock from Australia in winter to the Middle East in summer are:

- high temperature and humidity; reduced variation in circadian temperature
- high stocking densities which increase heat production and limit opportunities for sheep to mitigate heat load effects
- the presence of excreta
- variable ventilation rates (Phillips, 2016, p. 84).

A study identifying the main causes of mortality in live sheep exports found that salmonella induced enteritis was the most common cause of mortality (34.4%), followed by inanition (23.9%), enteritis/inanition (18.2%) and 9.5% for heat stress (Makin, House, Perkins, & Curran, 2010). Enteritis causes the swelling or inflammation of the small intestine (Fitzgibbon, 2015). Inanition is an exhausted state of prolonged under nutrition or starvation (Blood & Studdert, 1999).

Enteritis in sheep can be caused by a number of infectious agents (Makin, House, Perkins, & Curran, 2010, p. 133). The most common cause in live export trade sheep is salmonellosis. Salmonellosis refers to the clinical disease associated with salmonella infection (Perkins, House, & Barnes, 2010). The common clinical signs of salmonellosis in sheep include anorexia, fever, diarrhoea, depressed mentation, and death.

Export assembly depot receival and load-out yards are frequently contaminated with salmonella and the level of environmental contamination is considered to rise during the assembly phase prior to load out of an assembly feedlot (Kelly, 1996 as cited by (Perkins, House, & Barnes, 2010). Under periods of high demand, assembly depots have a heavy use pattern with new animals arriving very soon after a previous shipment has been loaded out (Perkins, House, & Barnes, 2010). This provides an opportunity for salmonella loads in the yard environment to build in a cumulative fashion over time. The expected pattern of disease associated with salmonella infection in sheep exposed to the microbe after arrival at the feedlot is low incidence of any disorder initially with a rise in incidence during the latter phase of the assembly period and on occasion continuing into the voyage component of the process.

Inanition is associated with a low interest in eating, but other influences such as the farm of origin, metabolic or biochemical disturbances within the animal, or changes in behavioural patterns when onboard ship are also involved (Davis, 1995, p. 27). Whatever the cause, there are some sheep which do not make the transition from a grass diet to the pelleted ration which is fed on the ships and subsequently die through failure to eat.

Pneumonia can also be a problem as the disease is carried on to the ship from the farm and can be exacerbated by shipboard conditions at the hottest and the most humid parts of the voyage (Davis, 1995, p. 27). Pneumonia is characterised by inflammation in the chest cavity and congestion of the lung tissue (Makin, House, Perkins, & Curran, 2010, p. 137). Mortality from pneumonia is highest in animals younger than 1 year of age, but cases occur in sheep of any age (Davis, 1995, p. 27).

The phenomenon of smother is a behavioural problem that may lead to death (Davis, 1995, p. 27). Any person who has handled large numbers of sheep in small areas will understand that, as a response to a certain stimuli, a rush to one point can occur and animals which go down can die by smothering. On board ship the sounds of buckets being moved about can provoke such a response, particularly in ram lambs. In the resultant crush at the trough, animals that fall and are not rescued, may be smothered. Feed trough smothering is associated with the strong feeding drive of young

sheep and is the opposite of inanition in this respect. Both feed trough smothering, and inanition can be largely eliminated by ad lib feeding rather than a strict scheduled routine. Another site for smothers is the ventilator openings where, during the night when the temperatures and humidities are high, some animals will become overlain as they try to access the opening.

Sheep may also suffer considerable distress on live export voyages without necessarily dying (Carnovale & Phillips, 2020). Other welfare concerns that have been recognised include irritation of eye, nose and mouth mucosal surfaces because of ammonia, loss of balance and fatigue because of ship motion and stress during exposure to high temperatures.

Over the years, evidence has also indicated that cruelty experienced by sheep does not stop with the transport ships (Bruce, 2012, p. 293). Sheep are housed in feedlots awaiting slaughter and in summer months temperatures and humidity can be extreme. All of the sheep exported to Persian Gulf countries are slaughtered while fully conscious.

3.2 Past Reviews of the Live Sheep Export Trade

In 1985, the Australian Senate Select Committee on Animal Welfare (1985, p. xiii) concluded that:

> *… if a decision were to be made on the future of the trade purely on animal welfare grounds, there is enough evidence to stop the trade. The trade is, in many respects, inimical to good animal welfare, and it is not in the interests of the animal to be transported to the Middle East for slaughter.*

On 5 August 2003 the MV *Cormo Express*, a live sheep export transport ship loaded with 57,937 sheep departed Fremantle and arrived at Jeddah in Saudi Arabia on 21 August 2003 (Keniry, Bond, Caple, Gosse, & Rogers, 2003, p. 29). However, a veterinarian from the Saudi Arabian Ministry of Agriculture subsequently rejected the shipment on the grounds that 6% of the sheep were infected with 'scabby mouth', which was above the 5 % normal acceptance level for the trade to Saudi Arabia. The shipment was eventually donated to Eritrea where the sheep were finally unloaded in Massawa on 24 October 2003 after 80 days on the vessel with a total of 5,691 deaths. The shipment was subsequently labelled as the *ship of death* (Agence France Presse, 2003).

In the aftermath of the MV *Cormo Express* incident, the then Commonwealth Government Minister for Agriculture Fisheries and Forestry established a review into the livestock export industry that was chaired by Dr John Keniry (Keniry Review) that concluded:

> *… recent incidents which have had unacceptable welfare and mortality outcomes, with the unexpected rejection of the Cormo Express shipment being the latest, have attracted widespread criticism of the trade within Australia and internationally. (Keniry, Bond, Caple, Gosse, & Rogers, 2003, p. 4)*

In turn, the Keniry Review recommended:

> *The Review concluded that there must be recognition that the livestock export industry cannot afford more bad outcomes and therefore all higher risk voyages should be eliminated. In those circumstances where there is clear evidence of a risk that demonstrably contributes to adverse outcomes on a predictable basis, exports should not be permitted. (Keniry, Bond, Caple, Gosse, & Rogers, 2003, p. 42)*

The Keniry Review (Keniry, Bond, Caple, Gosse, & Rogers, 2003, p. 42) went on to recommend that in order to better manage heat stress in live sheep export shipments there should be a prohibition on

exports from areas such as Portland and Adelaide during periods of the year when the risks are greatest, principally May-October inclusive. However, this recommendation was not accepted by the Commonwealth Government (Farmer, 2011, p. 51).

The Keniry Review eventually led to the enactment of the first iteration of the Australian Standards for the Export of Livestock (ASEL) in 2005 (Brand, 2015, p. 4).

The day after revelations of cruel treatment of Australian beef cattle being slaughtered in a number of Indonesian abattoirs on the Australian Broadcasting Corporation (ABC) Four Corners program on 30 May 2011, the then Commonwealth Minister for Agriculture, Fisheries and Forestry announced an independent review into the livestock export trade chaired by Bill Farmer AO (Farmer Review) (Farmer, 2011). In response to the recommendations of the Farmer Review, the Commonwealth Government instituted the Exporter Supply Chain Assurance Scheme (ESCAS). The ESCAS operates to create a farm-to-killing-floor assurance of animal welfare by placing a greater onus on the exporter to ensure that the animal welfare conditions inside the importing nation are at an acceptable standard (Brand, 2015, p. 5).

Recommendation 6 from Farmer Review (2011, p. XXV) was for a comprehensive review of the ASEL to be undertaken, including an examination of the policy on export of sheep from southern ports to the Middle East in winter months, with a view to:

- mitigate feedlot and shipboard losses in adverse weather conditions
- mitigate losses from heat stress and inanition during the voyage.

The review of the ASEL completed in 2013 said there was a lack of consensus on the part of the ASEL Steering Committee established to look at the policy of exporting sheep from southern ports to the Middle East in winter months and hence no recommendation was made on the matter (Department of Agriculture, Fisheries and Forestry, 2013, p. 16).

3.3. *Awassi* Incident

In April 2018, video footage obtained by Animals Australia, a non-government animal welfare organisation, showed Australian sheep in severe heat stress while being transported to the Middle East on 5 consecutive voyages on the MV *Awassi Express*, with most footage taken during a voyage in August 2017 (the *Awassi* incident) (Department of Agriculture, 2019, p. 19).

In response to the *Awassi* incident, the then Commonwealth Minister for Agriculture and Water Resources, the Hon. David Littleproud MP, established the independent review of the conditions for the export of sheep to the Middle East during the during the Northern Hemisphere summer chaired by Dr Michael McCarthy (McCarthy Review) (McCarthy, 2018). According to the McCarthy Review (McCarthy, 2018, p. 3):

> *The recent release of footage covering on-board treatment of sheep, over a series of voyages to the Middle East, last year shocked the Australian community, undermining public confidence in the trade. For the livestock export trade to continue, the public expects the Australian industry to uphold and comply with the highest animal welfare standards throughout the entire supply chain.*

The McCarthy review provided recommendations on conditions and actions required to improve health and welfare outcomes for sheep being transported to the Middle East during the Northern Hemisphere summer (HSRA Technical Reference Panel, 2019, p. v). On 17 May 2018 the then Commonwealth Government accepted all 23 recommendations made by the McCarthy Review (Littleproud, 2018). There were immediate changes imposed by the Commonwealth Government,

including increasing the space for sheep and reducing stocking densities on voyages for the upcoming 2018 Middle Eastern Summer. The Commonwealth Government also introduced a requirement for an independent observer to be on every livestock maritime export shipment. However, in December 2022 it was reported that no reports of independent observers had been published since June 2020 (Knaus, 2022). Data presented to the Senate in February 2023 indicated that independent observers sailed on only 11 of 78 eligible live export voyages between May and the end of December 2022 (Knaus, 2023).

On 1 June 2018 the then Commonwealth Department of Agriculture, Water and the Environment ordered Emanuel Exports, the operator of the MV *Awassi Express,* to "show cause" as to why it should hold an export licence (Australian Associated Press, 2018). On 22 June 2018 the then Commonwealth Department of Agriculture, Water and the Environment suspended the export license of Emanuel Exports (Department of Agriculture, Water and the Environment, 2018). At that time, Emanuel Exports was responsible for more than 70% of the live sheep export in Australia (Thompson, 2018).

The decision by the Commonwealth Government to accept the recommendations of the McCarthy Review coupled with the export license suspension of the largest live sheep exporter effectively imposed a moratorium on the live sheep export trade during the Northern Hemisphere summer of 2018. Following the departures from Australia of the MV *Al Messilah* carrying a consignment of 57,428 sheep bound for the Middle East on 6 June 2018 and the MV *Bahijah* carrying a consignment of 9 227 sheep bound for Israel on 10 June 2018 (Independent Observer, 2019; 2018), there were no further live sheep exports from Australia by sea until September 2018.

As an interim measure for 2019 only, the Commonwealth Government implemented an order to prohibit live sheep exports to the Middle East from 1 June 2019 to 22 September 2019 (Department of Agriculture, 2019, p. 17). Following consultation, the Commonwealth Government prohibited live sheep exports in 2020 from 1 June to 14 September with additional prohibited periods for Qatar and Oman.

However, this prohibited period falls short of the period in which ambient climatic temperatures exceed the heat stress thresholds of Australian merino sheep. The Technical Reference Panel appointed by the Commonwealth Government to review the industry's Heat Stress Risk Assessment (HSRA) model in 2019 made recommendations that would have stopped the trade from the period of May to October, inclusive (Department of Agriculture, 2019, p. 53):

> *The revised HSRA model would have the impact of effectively stopping live sheep exports for the Northern Hemisphere summer period. The revised HSRA model would destock voyages entirely or permit stocking rates that are too low to be economical, which effectively prohibits the trade for 6 months.*

The outcome recommended by the Technical Reference Panel was also consistent with the position of the Australian Veterinary Association (2018, p. 33), which found that regardless of changes to stocking densities, the thermoregulatory physiology of sheep will continue to predispose them to heat stress during the entirety of the May to October period.

Since the *Awassi* incident and the response by the Commonwealth Government, there has effectively been a prohibition on the live sheep export trade during the Northern Hemisphere

summer. Since this time, there have been no live sheep exports by sea for slaughter from Eastern Australia.[1]

4. NSW and the Live Sheep Export Trade by Sea

Historically, Fremantle in Western Australia has been the major port of loading for the live sheep export trade by sea. Other major seaports have been Port Adelaide in South Australia and Portland in western Victoria. Live sheep exports were previously loaded from Devonport in Tasmania until 2006 (Deards, et al., 2014, p. 53).

When the supply of sheep available for live export by sea in Western Australia was sufficient, voyages to the Middle East were usually loaded in Fremantle (Deards, et al., 2014, p. 53). It took less time to reach the Middle East from Fremantle than Port Adelaide or Portland and the voyage was less costly. Where consignments could not be filled in Western Australia, or sheep could be purchased at sufficiently less cost elsewhere, exporters could purchase and load sheep from other states, most commonly South Australia and Victoria.

The available evidence does suggest that sheep reared by NSW sheep farmers did find their way into the live sheep export trade by sea supply chain. According to the Australian Senate Select Committee on Animal Welfare (1985, p. 21)

> *In New South Wales, sheep for the live export trade have traditionally come from the western, low rainfall areas, but in 1984 there was an increasing interest in sheep for the trade from the high rainfall tablelands.*

The LIVE.123 project investigated mortality in exported sheep and lambs from Adelaide and Portland in order to determine the rate, causes and predisposing factors of mortality for live export sheep as well as the relative mortality risk for different lines of sheep (Makin, House, Perkins, & Curran, 2010, p. 3). Shipboard mortality data was collected from 27 voyages between September 2005 and June 2008 (Makin, House, Perkins, & Curran, 2010, p. 4).

In the LIVE.123 project, there were 70 lines of pastoral sheep from New South Wales exported on 8 separate voyages out of Port Adelaide (Makin, House, Perkins, & Curran, 2010, p. 85). It was found that sheep sourced from the far west of NSW had the highest mortality with sheep from the former Rural Lands Protection Board districts of Milparinka, Broken Hill, Wanaaring and Wilcannia having the highest mortality. Overall, it was found that pastoral sheep from NSW had a significantly higher risk of mortality, being 3.29 times more likely to die than those not from pastoral areas (Makin, House, Perkins, & Curran, 2010, p. 94).

The LIVE.123 study also documented an elevated mortality risk for pastoral sheep from NSW in the period from May to October (Makin, House, Perkins, & Curran, 2010). Subsequently, the LIVE.123 study recommended:

> *The guidelines in the standards regarding pastoral sheep should be adjusted to exclude NSW pastoral sheep from the trade between May to October and to allow South Australian pastoral sheep during the same period. (Makin, House, Perkins, & Curran, 2010, p. 125)*

[1] See Department of Agriculture, Fisheries and Forestry (2024) and earlier editions.

5. Phasing out of the Live Sheep Export Trade by Sea

On 11 May 2024 the then Commonwealth Minister for Agriculture, Fisheries and Forestry, Senator the Hon Murray Watt (2024), announced the Commonwealth Government would end the live sheep export trade by sea from Australia on 1 May 2028. In turn, *Export Control Amendment (Ending Live Sheep Exports by Sea) Act 2024* came into effect on 10 July 2024 that gave legislative backing to the Commonwealth Government's decision.

According to the Chair of Portfolio Committee No. 4 for this inquiry, the Hon Mark Banasiak MLC:

> *The inquiry will investigate the impact of the Australian Government's phase-out of live sheep exports on regional communities in New South Wales, including, but not limited to, transport operators, fodder and grain producers and local meat processors. The inquiry will assess those impacts, along with other factors such as the implications for demand for New South Wales mutton and whether the phase-out will impact on the NSW Government's revenue and bottom line. (Legislative Council Portfolio Committee No. 4 - Regional NSW, 2024)*

However, according to the NSW Department of Primary Industries (2024):

> *NSW is not directly involved in the bulk live export trade - there is no export of live animals through NSW sea ports.*

While NSW is not directly involved in the live sheep export trade by sea as no sheep are loaded for export through NSW seaports, it is also now the case that NSW sheep farmers are no longer indirectly involved as they have been unable to sell their sheep to the live sheep export trade since May 2018 when the last live sheep export shipment left Port Adelaide bound for the United Arab Emirates.[2] Similar to sheep farmers in South Australia, Victoria, and possibly even Queensland, sheep farmers in NSW have been unable to supply sheep to the live sheep export since the *Awassi* incident and the imposition of the prohibition on live sheep exports by sea during the Northern Hemisphere summer as ships have only departed from Fremantle (WA) since 2018.

6. Pricing of Sheep

The contention that the live sheep export trade somehow underwrites farm gate prices for sheep has long been offered as a justification for the continuation of the trade. According to the Centre for International Economics (CIE) (2014, p. 6) in a report commissioned by the Wool Innovation Council:

> *It has been widely recognised that the export of live sheep underwrites the saleyard price of lambs and sheep nationally, and in particular Western Australia …*

Similarly, the Sheepmeat Council of Australia (2012) has previously commented:

> *The live export trade also underpins sheep prices received throughout the domestic markets in Australia.*

The concept of the *Law of One Price* (LOP) relates to the impact of market arbitrage and trade on the prices of identical commodities that are exchanged in two or more different geographical markets (Persson, 2008). In an efficient market there must be, in effect, only one price of such commodities regardless of where they are traded. If the price of a product is different in two different markets,

[2] See Department of Agriculture and Water Resources (2018).

then an arbitrageur will purchase the asset in the cheaper market and sell it where prices are higher in order to generate a profit.

The LOP does not imply that prices in two separate geographical locations should be identical, just that any price differential should reflect transport and transaction costs. Transaction costs can include:

- information costs that arise *ex ante* to an exchange and include the costs of obtaining price and product information and the costs of identifying suitable trading partners
- negotiating costs involved in undertaking the transaction and may include commission costs, the costs of physically negotiating an exchange and the costs of formally drawing up contracts
- monitoring or enforcement costs that occur *ex post* to a transaction and are the costs ensuring that the terms of the transaction are adhered to by other parties to the transaction (Hobbs, 1997, p. 1083).

According to Lamont and Thaler (2003, p. 201), the logic as to why the law of one price must hold is simple: if the same asset is selling for two different prices simultaneously, then arbitrageurs will step in, correct the situation and make themselves a tidy profit at the same time. Despite the inherent logic surrounding the LOP, many studies fail to find significant support for the LOP in commodity markets (Pippenger & Phillips, 2008, p. 915). However, Pippenger and Phillips (2008, p. 924), conclude that once pitfalls in previous studies are accounted for, there is no empirical evidence that would lead them to reject the law of one price in commodity markets. Those pitfalls are:

1) using retail prices
2) omitting transportation costs
3) ignoring time
4) not using identical products.

The then Commonwealth Department of Agriculture (2019, p. 45) appeared to implicitly accept the premise of the LOP in the following statement:

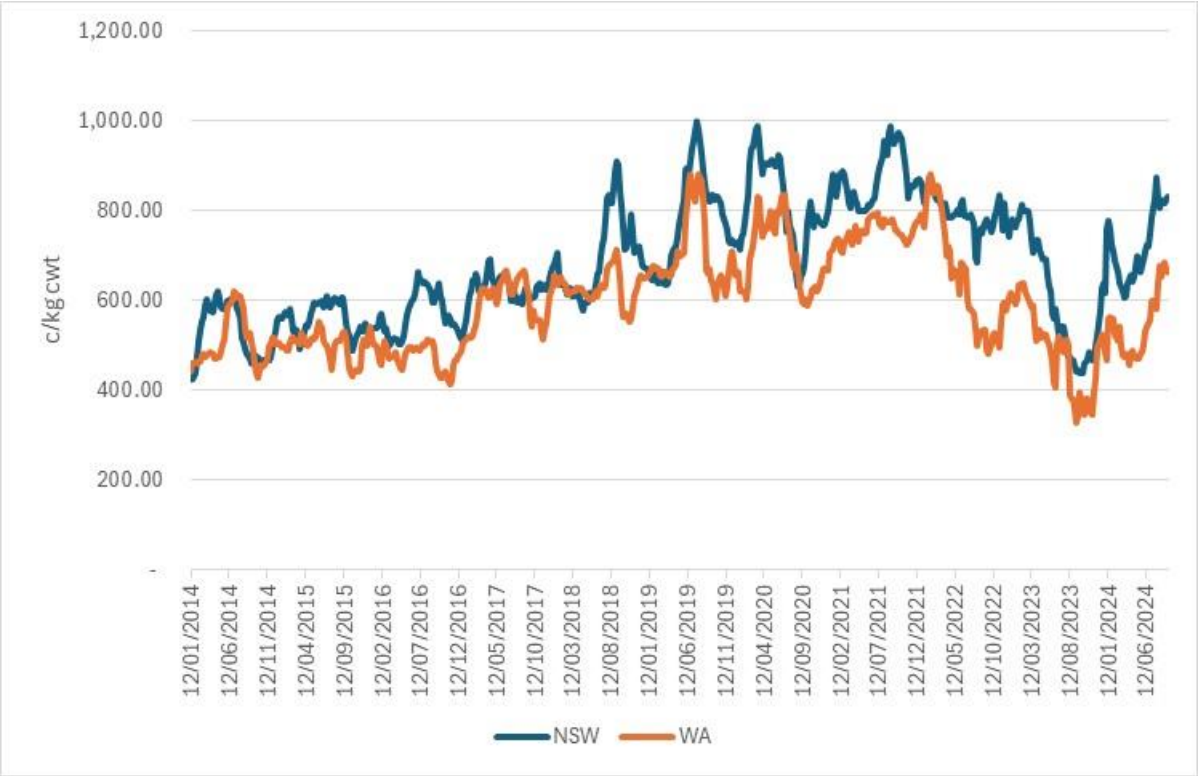
> *The amount sheep prices in Western Australia can fall is limited by alternatively transporting sheep and lambs to Australia's eastern states for processing.*

Similarly, Mecardo and Strategis Partners (Herrmann, Dalgleish, & Agar, 2017, p. 69) have observed:

> *While east coast buyers are opportunistic operators in WA when prices including freight are below East Coast prices, they do however perform a valuable service providing purchasers and a floor price in sheep sales.*

The LOP suggests that prices received by sheep farmers in different regions of Australia should be closely related. As a test of this general proposition, monthly WA saleyard indicator prices for trade lamb and mutton with its very high exposure to the live sheep export trade, have been compared to those in New South Wales (NSW) with much more limited exposure to the live sheep export trade. Trade lamb prices and mutton prices for NSW and WA are provided in Figures 2 and 3 below.

Figure 2: Weekly Trade Lamb Indicator Price for New South Wales and Western Australia (cents per kg cwt) – January 2014 to September 2024



Source: Meat & Livestock Australia Limited Statistics Database.

Figure 3: Weekly Mutton Indicator Price for New South Wales and Western Australia (cents per kg cwt) – January 2014 to September 2024

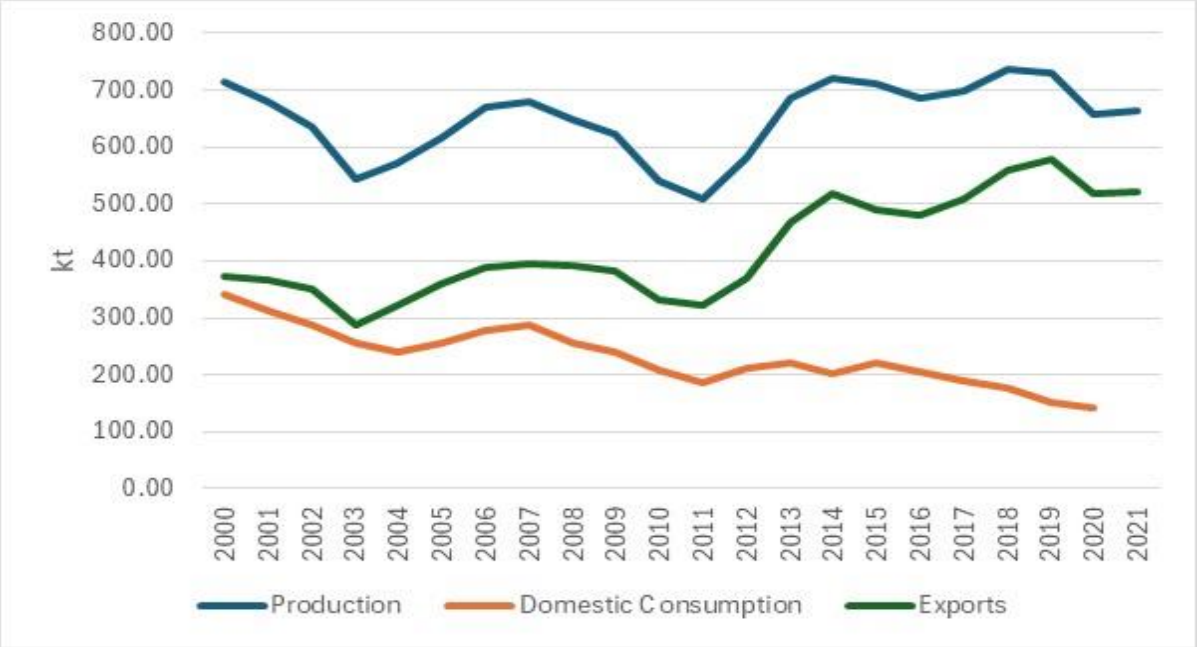
Source: Meat & Livestock Australia Limited Statistics Database.

Figures 2 and 3 reveals a close relationship between trade lamb and mutton prices between WA and NSW. The correlation coefficient between trade lamb prices in NSW and WA was 0.82 and the

coefficient of determination (r^2) was 0.68, while the correlation coefficient between mutton prices in NSW and WA was 0.91 and the r^2 was 0.83.[3]

Based on visual and statistical evidence, it is concluded the LOP applies to sheep prices across Australia and thus there is no support for the contention the live sheep export trade somehow underwrites domestic sheep prices or even provides a price floor. Rather than the live sheep export trade, this suggests that something else is underwriting sheep prices. A clue as what this something else could be is provided by the high proportion of Australian sheep meat production being directed towards overseas export markets, as outlined in Figure 4 below.

*Figure 4: Australian Production, Export and Consumption of Sheep Meat – 2000 to 2021 Calendar Year (kilotonnes (kt))**



Source: Australian Bureau of Agricultural and Resource Economics and Sciences (2023).
* Includes both lamb and mutton.

The annual export of sheep meat is currently approaching 80% of domestic production. In turn, this suggests that international commodity prices for lamb and mutton underwrite farm gate prices paid for Australian sheep rather than prices paid by live sheep exporters. This is consistent with the views expressed by the Australian Competition and Consumer Commission (2007, p. iii):

> *The ACCC considers that saleyard prices for cattle and sheep are determined by a number of supply and demand factors. In both sectors international demand is a key influence on saleyard prices and may place a constraint on domestic stock, particularly high-quality stock. The quality of livestock sold through saleyards is*

[3] Correlation refers to how closely two variables are related to each other. A correlation coefficient puts a value on the relationship and can range from 1 to -1. A "0" means there is no relationship between the variables, "-1" means there is a negative relationship (one goes up while the other one goes down, while "1" refers there is a positive relationship (they both increase or decrease in unison). A correlation coefficient of greater than 0.8 or less than -0.8 is generally referred to as a strong correlation. The coefficient of determination (r^2) is the square of correlation coefficient and gives the proportion of the variance (fluctuation) of one variable that is predictable from the other variable.

> *also a key determinant of saleyard prices: the higher the quality of stock, the higher the price it can command in both export and domestic markets.*

Similarly, the then Commonwealth Department of Agriculture (2015a, p. 26) has also commented:

> *The potential for red meat exporters to influence livestock prices is constrained because the prices received for these meats are largely determined in international markets. In 2014, 71 per cent of Australian beef, lamb and mutton (by volume) was exported. World prices are a major factor influencing the prices these buyers pay for domestic livestock.*

Even CIE (2018, p. 3) has essentially conceded the LOP applies to domestic sheep prices when it acknowledged that:

> *Without live exports to set prices, the Western Australian price paid by processors could default to the eastern states (South Australian) price less the transport cost.*

Given that it is international commodity prices for lamb and mutton that underwrite farm gate prices paid for Australian sheep, the phasing-out of the live sheep export trade is unlikely to have any discernible impact on NSW sheep prices.

7. Western Australia Interstate Sheep Transfers

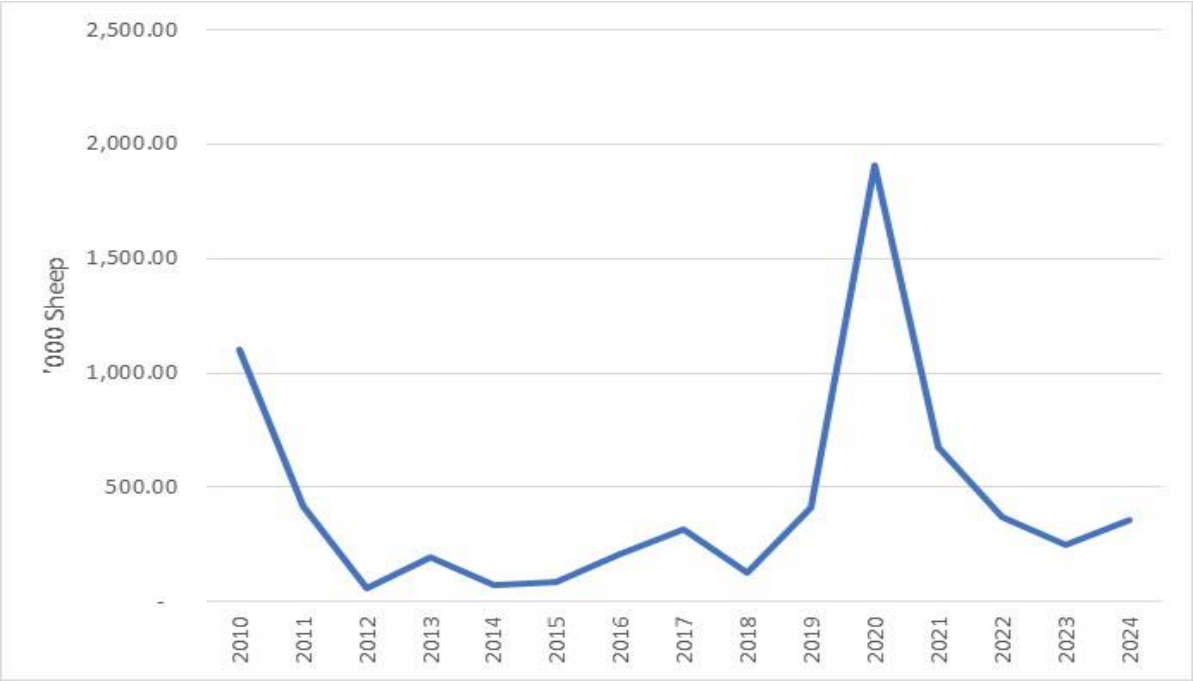
The terms of reference for this inquiry raise potentially contradictory concerns in relation to the phase-out of the live sheep export trade. On the one hand there appears to be concern that WA sheep may not be available for NSW farmers to restock, and on the other hand there appears to be concern that WA sheep could be transported east and 'dumped' on NSW livestock auctions. These concerns could be summarised as relating to both potential scarcity as well as overabundance as to the availability of WA sheep in NSW.

The selling of sheep and lambs from Western Australia (WA) to the Eastern States can both supplement processor demand in those states and also assist producers trying to rebuild their flocks (Pritchett, 2019, p. ix). Interstate transfers rise significantly when interstate demand rises relative to the demand in WA. This tends to be associated with the period immediately after drought breaking rains in the east and is greatest when WA suffers a late break or dry season. These animals may go for slaughter, or they may be used for breeding to restock properties following droughts (Pritchett, 2019, p. 4).

So far in 2024 to the end of March, WA sheep transfers have been escalating due to a large price differential between WA and the Eastern States and continuing dry conditions in WA leading producers to offload stock in order to manage resources (Department of Primary Industries and Regional Development, 2024).

As can be seen in Figure 5 below, the level of sheep transfers from WA to the Eastern States is usually under half a million on average although it can occasionally escalate quite significantly. The major factor behind any significantly escalation in the level of transfers appears to be changes in climatic conditions either in WA and/or the Eastern States.

Figure 5: Western Australia Interstate Sheep Transfers – 2010 to 2024 ('000)*



WA Department of Primary Industries and Regional Development.
* Figures for 2024 include transfers up to the end of March.

In the absence of the live sheep export trade, WA sheep farmers will transition towards what they perceive as their next most profitable option or options. There are various alternatives available to them.

Producers in areas where cropping is a viable option often use stubbles to prepare sheep for the live export trade (Pritchett, 2019, p. viii). In the absence of the live export trade, these producers may choose to reduce sheep numbers and increase their cropping program. The attractiveness and profitability of increased cropping for WA sheep farmers will depend on commodity prices for crops versus the likely profitability of alternative uses for the land.

In the absence of the live sheep export trade, WA sheep farmers will have other options available to them as well. ABARES (Nelson, et al., 2021) has found that, following the Northern Hemisphere summer prohibition, some sheep previously destined for live export were diverted to domestic processing as prime lambs or used to restock flocks to produce wool. If WA sheep farmers no longer have the option to sell to the live sheep export trade, they could face a strong price incentive to adjust farm production to finish more prime lambs for local slaughter. However, WA sheep farmers may also incur higher costs from finishing sheep to meet the specifications of local abattoirs and meat processors. These costs include additional labour as well as feed.

Given that WA sheep farmers still have over three years to decide what the next best option available to them will be with the phase-out of the live sheep export trade, this should provide a sufficient period for them to facilitate an orderly transition. In turn, this should ensure there are no undue market disruptions imposed on NSW sheep farmers.

8. Conclusion

Since the *Awassi* incident and imposition of the Northern Hemisphere summer prohibition, there has been no exposure for NSW sheep farmers to the live sheep export trade by sea as there have been no shipments from Port Adelaide nor Portland of live sheep for slaughter since May 2018.

Given NSW sheep farmers have been unable to access the live sheep export trade by sea supply chain since May 2018, it would appear the impact of the Commonwealth Government's phasing-out of the trade on NSW sheep farmers is largely mute.

The available evidence suggests that international commodity prices for lamb and mutton underwrite farm gate prices paid for Australian sheep rather than prices paid by live sheep exporters. Given that it is international commodity prices for lamb and mutton that underwrite farm gate prices paid for Australian sheep, the phasing-out of the live sheep export trade is unlikely to have any discernible impact on NSW sheep prices.

The level of sheep transfers from WA to the Eastern States is usually under half a million on average although it can occasionally escalate quite significantly. The major factor behind any significant escalation in the level of transfers appears to be changes in climatic conditions either in WA and/or the Eastern States.

In the absence of the live sheep export trade, WA sheep farmers will transition towards what they perceive as their next most profitable option or options. Given that WA sheep farmers still have over three years to decide what the next best option available to them will be with the phase-out of the live sheep export trade, this should provide a sufficient period for them to facilitate an orderly transition. In turn, this should ensure there are no undue market disruptions imposed on NSW sheep farmers.

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