

s 22(1)(a)(ii)

From: s 22(1)(a)(ii)
Sent: Wednesday, 26 July 2023 1:42 PM
To: s 22(1)(a)(ii)
Subject: FW: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]
Attachments: Pegasus Literature Review Draft Report Submit 27Jun23.docx

For uploading to govteams

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Tuesday, June 27, 2023 9:53 AM
To: s 22(1)(a)(ii) s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

s 22(1)(a)(ii)
Dear

Please find enclosed our first draft report for the literature review component of our project. The draft for the second component should follow later today or tomorrow.

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Friday, June 16, 2023 4:55 PM
To: Alistair Davey <adavey@pegasus-economics.com.au>; s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hello Alistair

Apologies for the delayed response and thank you for sending through for our review.

Overall the template headers and approach are looking about right. Could I ask for an additional section about Key Assumptions be included as well. This would identify time periods data is drawn from, the assumptions used for the analysis (such as price of sheep), etc, that were utilised in the report. This would just need the information presented as points of fact rather than needing to validate the information used.

As you indicated, please omit the commentary, that way the content remains aligned with factually summarising the reports.

Please reach out if you had any further queries.

Kind regards

s 22(1)(a)(ii)

s 22(1)(a)(ii) | s 22(1)(a)(ii)
A/g Assistant Secretary | Live Sheep by Sea Phase Out Branch
Traceability, Plant and Live Animal Exports Division
Department of Agriculture, Fisheries and Forestry
Agriculture House, 70 Northbourne Ave, Canberra ACT 2601 Australia
GPO Box 858 Canberra ACT 2601 Australia
agriculture.gov.au

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Friday, June 9, 2023 10:48 AM
To: s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii)
Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii)
Subject: Review and summation of studies on the live sheep trade

Hi s 22(1)(a)(ii)

Please find enclosed our first drafts on three of the reports for the literature review project.

At this stage we have one for one query in relation to the ACIL Allen report. We have arguably strayed into commentary where we have observed there is not a lot of overlap (if any) between the Northern Australia live cattle export industry and the live sheep export industry (i.e. cattle with the Bos indicus genes grazed in Northern Australia are generally not sent for live export to the Middle East) and were wondering if that was going a step too far? In drafting we had initially examined the overlap between live cattle export and live sheep export in general but eventually decided that was probably a step too far. We would appreciate your advice on where the appropriate boundary is.

Regards

Dr Alistair Davey – Director



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email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Monday, May 22, 2023 2:35 PM
To: Alistair Davey <adavey@pegasus-economics.com.au>
Cc: s 22(1)(a)(ii)
Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Great – I will get a meeting invite sent through

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Monday, 22 May 2023 2:24 PM
To: s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii)
Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi s 22(1)(a)(ii)

Wednesday at 12pm (midday) works for Roger and myself.

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Monday, May 22, 2023 10:12 AM
To: Alistair Davey <adavey@pegasus-economics.com.au>
Cc: s 22(1)(a)(ii)
Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alastair – unfortunately tomorrow is a little crazy. Would 12-12.30 on Wednesday work for you?

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Friday, 19 May 2023 8:38 AM
To: s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii)
Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Sounds good, thank you.

From: s 22(1)(a)(ii)
Sent: Friday, May 19, 2023 8:22 AM
To: Alistair Davey <adavey@pegasus-economics.com.au>
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii)
Subject: Re: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Tuesday will work. We will find some time and flick you through a meeting request.

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Thursday, May 18, 2023 9:51:36 PM
To: s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Unfortunately Monday is not possible for me as I am down in Melbourne, but I am available on Tuesday if that works?

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Thursday, May 18, 2023 9:38 PM
To: Alistair Davey <adavey@pegasus-economics.com.au>
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi Alistair,

Please find attached a copy of the executed contract.

We will look to set up a meeting with our Assistant Secretary, s 22(1)(a)(ii) for Monday. Could you please confirm if you have availability on Monday.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Friday, 12 May 2023 1:31 PM

To: s 22(1)(a)(ii)

Cc: McDonald, Andrew Andrew.McDonald@aff.gov.au; Donaldson, Morag Morag.Donaldson@aff.gov.au; ^{s 22(1)(a)(ii)}
; s 22(1)(a)(ii) ; Roger E Fisher

refisher@pegasus-economics.com.au

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Please find enclosed a copy of the signed contract page, the vendor creation form and the additional forms required for the vendor creation form.

Also, when would you like to convene the inception meeting?

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Friday, May 12, 2023 9:53 AM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; ^{s 22(1)(a)(ii)}
; s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alistair,

Thanks for providing the additions.

I have revised the start date until today and a PDF version is attached for your signature. Could you please sign today, and send back to me, so that I can arrange for it to be countersigned.

We will provide you a copy once we have countersigned the document.

Could you please also complete the vendor creation form (also attached) so that we can get your company set up in our finance system.

We look forward to working with you.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Tuesday, 9 May 2023 10:11 AM

To: s 22(1)(a)(ii)

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Thanks s 22(1)(a)(ii)

We have reviewed the contract and have no problems with it, and have made additions/changes to subsection C.A.5.

The only potential problem with what I have added is in relation to security clearances. Roger and I both received baseline security clearances during our work on the Aged Care Royal Commission in 2019 and 2020 respectively (which I think last for up to 8 years), although the sponsorship of those clearances by the Attorney-General's Dept was revoked once we finish up with the Commission.

Regards

Dr Alistair Davey – Director



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email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Monday, May 8, 2023 5:45 PM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; ^{s 22(1)(a)(ii)}

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alistair,

Please find attached the draft contract for the review and summation of studies on the live sheep trade.

Could you please review and let me know if you require any changes. Could you in particular check the requirement as well as update the specified personnel table (it has been highlighted).

Once we can finalise the contract, we will execute the signatures and kick off with an inception meeting.

Regards

^{s 22(1)(a)(ii)}

A/g Director | ^{s 22(1)(a)(ii)}

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Thursday, 4 May 2023 10:18 AM

To: ^{s 22(1)(a)(ii)}

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; ^{s 22(1)(a)(ii)}

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Dear ^{s 22(1)(a)(ii)}

Thank you for your email of 2 May 2023 and your request for quote following on from our teleconference last week.

In quoting for this review project, the Pegasus Economics team will include both myself as well as Roger Fisher who has been a co-author on previous Pegasus reports on the live sheep export industry.

Our understanding of the project is that we are to provide insightful and helpful commentary on the reports with a view to assisting the panel in its understanding of the economic issues associated with a timeframe for cessation of the live sheep export trade. We do not envisage that our task is to provide an alternative position on the reports, but instead to highlight key take outs, signpost significant issues, explain methodologies and provide commentary on strengths, weaknesses and potential gaps in the reports. We will seek to address complex economic and policy issues in non-technical language and are cognisant of the fact that the project must be completed by 30 June 2023.

We believe that it would be useful to commence the project with an inception meeting to discuss the project in more detail. The meeting will help ensure a mutual understanding of objectives, deliverables, methodology, timing, resources, and management of the project.

Other studies that we believe would be useful to also include in the coverage of the review project include:

- Centre for International Economics. (2014). *Contribution of live exports to the Australian Wool Industry*, Prepared for Australian Wool Innovation, Canberra.
- Centre for International Economics. (2018). *Contribution of live exports to Woolgrower's income - An Update*, Prepared for Australian Wool Innovation, Canberra.

- Davey, A., & Fisher, R. (2018). *Economic Issues Associated with the Live Sheep Export Trade*. Prepared for Animals Australia, Canberra: Pegasus Economics.
- Davey, A., Fisher, R., & Morley, M. (2022) *Economic Implications of Phasing Out the Live Sheep Export Trade*, Prepared for Animals Australia, Canberra: Pegasus Economics.
- Kingwell, R., Cunningham, P., Nath, T., Anderton, L., Xayavong, V., Curis, K., . . . Feldman, D. (2011). *The Economic Importance to Western Australia of Live Animal Exports* . Perth: Department of Agriculture and Food Western Australia.
- Mecardo. (2018). *Live Sheep Export – Brief Report*. Ballarat.
- Pritchett, K. (2019). *Implications of management decisions on the WA sheep flock in response to changing markets*. Perth: Department of Primary Industries and Regional Development.

We would seek your guidance as to whether you want us to review our own previous reports, although we do readily acknowledge they were far from perfect.

On this basis, our quote for this project is \$49,500 inclusive of GST, although we can review this budget if the Department prefers a different approach. We would also be happy to discuss and refine any elements of the suggested approach in order to ensure the end product meets your needs.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Tuesday, May 2, 2023 3:20 PM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hello Alistair,

Thanks for taking time to meet with us last week in regard to a review of studies on the live sheep trade.

Minister Watt has appointed a four-person panel to consult on how and when to phase out live exports of sheep by sea. The panel includes Ms Sue Middleton, Ms Heather Neil and the Hon. Warren Snowdon.

The panel has been asked to report to Minister Watt by 30 September on:

- potential mechanisms to phase out live sheep exports by sea
- a suggested timeframe and options for implementation
- potential ways to support the transition.

The panel's remit does not include the merits of the policy and the policy does not cover cattle or other live exports.

We would like to request a quote from you to provide the following:

- An assessment and summation of existing studies in relation to live sheep exports, including but not limited to:
 - Value analysis of the Australian Live Sheep Export Trade – Mecardo
 - Impact of the live sheep export trade’s self-imposed moratorium and regulatory changes – Mecardo
 - The economic impacts of regulating live sheep exports - research report 21.01 – February 2021 – ABARES
 - The economic contribution and benefits of the Northern live export cattle industry – ACIL ALLEN
- A suggested and separate guide/index/reference list of the relevant data or parts of each report that you judge as worthy of the panel’s consideration—and particularly identifying where the underlying assumptions or findings/conclusions are inaccurate or should otherwise be treated with caution (eg facts or figures).

Could you please supply a quote to us by COB Thursday 4 May 2023. We would need the review to be completed and provide to the panel by 30 June 2023.

If you require any additional information, please feel free to contact me,

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

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Literature Review on the Live Sheep Export Industry





Pegasus Economics • www.pegasus-economics.com.au • PO Box 449 Jamison Centre, Macquarie ACT 2614

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.

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

For information on this report please contact:

Name: Dr Alistair Davey

Telephone: + 61 2 6100 4090

Mobile: 0422 211 110

Email: adavey@pegasus-economics.com.au

Front cover photograph shows a sheep near Lakes Entrance in Victoria.

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1. Introduction

Pegasus Economics (Pegasus) has been commissioned by the Department of Agriculture, Fisheries and Forestry to provide an assessment and summation of existing studies in relation to live sheep exports, including but not limited to:

- *The economic impacts of regulating live sheep exports - research report 21.01* – February 2021 – ABARES
- *The economic contribution and benefits of the Northern live export cattle industry* – August 2022 – ACIL Allen
- *Contribution of live exports to the Australian Wool Industry* – March 2014 – The Centre for International Economics
- *Contribution of live exports to Woolgrower’s income - An Update* – July 2018 - The Centre for International Economics
- *The Economic Importance to Western Australia of Live Animal Exports* – July 2011 – Kingwell, R., Cunningham, P., Nath, T., Anderton, L., Xayavong, V., Curis, K., . . . Feldman, D., Department of Agriculture and Food Western Australia.
- *Live Sheep Export – Brief Report* – April 2018 - Mecardo
- *Value analysis of the Australian Live Sheep Export Trade* – September 2019 – Mecardo
- *Impact of the live sheep export trade’s self-imposed moratorium and regulatory changes* – January 2020 – Mecardo
- *Economic Issues Associated with the Live Sheep Export Trade* – March 2018 – Pegasus Economics.
- *Economic Implications of Phasing Out the Live Sheep Export Trade* - April 2022 – Pegasus Economics
- *Implications of management decisions on the WA sheep flock in response to changing markets.* – April 2019 – Pritchett, K, Department of Primary Industries and Regional Development, Western Australia.

The views and opinions expressed in this report are entirely those of the authors and not the Department of Agriculture, Fisheries and Forestry.

2. Mecardo Reports

Mecardo has produced three reports since 2018 funded by industry interests examining the impact of the live sheep export industry on sheep farmers, with a particular focus on Western Australia (WA).

Mecardo is currently owned by Nutrien, a Canadian multi-national company that provides services to the agricultural industry.

2.1 Title: Live Sheep Export – Brief Report

Author/Publisher and Date: Mecardo, 20 April 2018

Context

The report was commissioned by the WA Farmers Federation (WAFarmers), with the support of Sheep Producers Australia (Mecardo, 2018). The report examines the significance of the live sheep export industry to the broader WA sheep industry and assesses the likely economic impact of a ban on the trade (WAFarmers, 2018).

The Mecardo report was released following the *Awassi* incident, but before there was any response by the Federal Government. Hence, the report was prepared during a period when restrictions on the trade were being widely canvassed in the media but had not yet been implemented. Mecardo's analysis in this report is therefore forward-looking and does not benefit from actual experience through the period of the prohibition on live sheep exports during the Northern Hemisphere summer.

Areas of Focus

The report is focused on the economic contribution of the live sheep export trade to the WA sheep industry and the possible impacts of a ban on sheep farmers' incomes.

The report includes some observations about constraints on the capacity in WA to divert live sheep export volumes into the wool producing sector in WA, including the diversion of land in recent years to cropping and the supply of shearers.

There is no discussion of animal welfare issues or the broader social or economic consequences of a ban on live sheep exports.

Major Findings & Conclusions

The report observes the live sheep export trade represents around one third of the WA sheep offtake each year.

The report finds a strong correlation between WA slaughter rates and export prices for mutton and trade lamb. In turn, it uses this relationship to estimate that the prices of lamb and mutton would both decrease by 18-35% if the sheep sent for live export were instead processed domestically. On this basis, Mecardo finds that:

- Lamb prices would fall by between \$23 and \$43 per head
- Mutton prices would fall by between \$18 and \$35 per head.

According to Mecardo, this would equate to the loss in the range of between \$80-150 million per annum to WA sheep farmers.

The report finds the suggestion that sheep could be diverted from the live sheep export trade and kept until cast for age to be cut for wool as impractical due to two key capacity constraints:

- The decline in land available for wool production in WA that has been reallocated to cropping
- The decline in available shearers in WA to undertake the additional shearing of more sheep held for wool, instead of being sold for live export.

Key Assumptions and Methodology

According to Mecardo, its results are driven by analysis of the historic relationship between WA slaughter levels and the average weighted WA sale yard price achieved for trade lamb and mutton sales. The Department of Agriculture (2019, p. 36) has observed that Mecardo appeared to have assumed in this report that sheep slaughter in Western Australia determine the state's export prices of mutton and lamb, rather than prices being determined in world markets.

The data on which the report is based is drawn from the Department of Agriculture and Water Resources, Meat & Livestock Australia, Australian Wool Innovation, the Australian Bureau of Statistics, and Mecardo itself. However, while organisations are listed where data is presented, Mecardo has not made the data that underpins its analysis available. There is no bibliography nor list of specific source documents cited in the report. Mecardo has indicated that some of the key data used in the report was proprietary (Breusch, 2018, p. 2). It has been suggested that the price variable used in the report is a composite price index of Mecardo's own devising that covers "WA mutton and trade lamb (in US\$ terms)" (Breusch, 2018, p. 5).

Mecardo's findings that there is a strong correlation between WA slaughter rates and export prices for mutton and trade lamb was used to undertake a regression analysis to determine the potential price impact on WA lamb and sheep markets from a change to WA slaughter levels. However, the assumptions and modelling used to generate these results are not transparent.

A report that sought to replicate Mecardo's data and results found the statistical model was a simple regression of one variable on another over 17 annual observations from 2001 to 2017 (Breusch, 2018, p. 5). The dependent variable (or response) was a composite price of sheep meat, while the single explanatory (or control) variable was the quantity of animals sent to slaughter in WA, with both variables expressed as the percentage change from the previous year.

Mecardo's assessment of the viability of a transition to wool production is predicated on estimates of the volume of sheep that can be shorn per shearer, but the report does not indicate the source of these estimates. Other untested and unsourced assumptions include the point at which the sale of sheep to the eastern states becomes a viable option for WA sheep farmers, the number of additional sheep that can be slaughtered domestically as a result of a ban on the live sheep export trade, and the average weight of lamb and mutton carcasses.

Impact/Reception

Mecardo's analysis has been reported on extensively by peak bodies, the dedicated agricultural press, as well as in the mainstream press.

Dr Trevor Breusch (2018, p. 2), formerly a Professor of Econometrics at the Australian National University, was commissioned by Animals Australia to critique the Mecardo report. Dr Breusch (2018, p. 2) reverse engineered the Mecardo data from the results and the various charts contained in the report. According to Dr Breusch (2018, p. 7):

I come to the view that the Mecardo report is more a document of persuasion than an expert analysis of the cost to the industry of banning live sheep export.

Dr Breusch (2018, p. 7) summarised his criticism of the Mecardo modelling in the following terms:

A proper forecast of the effects would allow for adjustments both in the quantity supplied to the market each period and the expansion of markets interstate or internationally. New markets take time to develop and would not be reflected simply in the historical year-by-year shifts in slaughter quantity and price that form the basis of this report. Even within the narrow approach adopted, the forecast is based on a statistical relationship that is inconsistent with the choice of variables. The failure to account for other variables, including lags, further removes the approach from proper policy analysis.

In his overall assessment of the modelling contained in the report, Dr Breusch (2018, p. 6) commented:

This naïve statistical model in the Mecardo report is unsuitable for the policy evaluation in which it is employed.

Dr Breusch (2018, p. 2) described the Mecardo analysis as "very superficial and unworthy as a guide to policy." and has described the assumption that export prices are determined solely by local supply in WA as implausible.

ABARES (Nelson, et al., 2021, p. 17) has noted studies funded by industry tend not to recognise that prices are set in world markets, as appears to be the case in this instance. In relation to this Mecardo report, ABARES (Nelson, et al., 2021, p. 17) observed there was little or no recognition of the option for WA sheep farmers to transport sheep to high-value markets in eastern Australia.

The report was treated as an important reference point by the Department of Agriculture (2019) in its draft regulatory impact statement (*Live sheep exports to or through the Middle East—Northern Hemisphere summer: Draft regulation impact statement*, 2019).

Key Takeaways

The abolition of the live sheep export industry could have a significant detrimental impact on the income of WA sheep farmers, but there has been criticism of Mecardo's methodology.

2.2 Title: Value analysis of the Australian live sheep export trade

Author/Publisher and Date: Matt Dalglish, Olivia Agar, Mecardo, September 2019

Context

This report was commissioned by LiveCorp and Meat & Livestock Australia (Dalglish, M; Agar, O, 2019).

The aim was to identify the economic benefit that flows from the live sheep export trade to businesses and individuals along the supply chain in Australia (Meat & Livestock Australia, 2020).

The report was commissioned following the imposition of a suspension and later moratorium on the live sheep export trade during the Northern Hemisphere summer that commenced in early June 2018.

Areas of Focus

The focus of the report is on the direct and indirect employment opportunities created by the live sheep export industry.

Major Findings & Conclusions

On-farm direct employment on a full-time equivalent basis related to the live sheep export trade is estimated to be 1,037 employees nationally, with 798 of those jobs found in WA.

Across the entire live sheep export supply chain, full time equivalent employment was estimated to be 3,443 workers, of which 77% (or around 2,650) were in WA.

Key Assumptions and Methodology

Mecardo's estimates of on-farm employment related to live sheep exports is based on 2017-18 Australian Agricultural and Grazing Industries Survey (AAGIS) data published by ABARES. However, in forming these calculations, Mecardo makes assumptions regarding the labour intensity of sheep farming and the allocation of that labour between different sheep outputs. The basis of these assumptions is not provided in the report.

Mecardo uses an employment multiplier to gross up the number of on-farm jobs it attributes to the live sheep export industry to the wider economy.¹ The employment multiplier figure is derived from the *State of the Industry Report 2018: The Australian red meat and livestock industry* publication (Meat & Livestock Australia and Ernst & Young, 2018, p. 12). The report takes the total direct and indirect estimated employment of the red meat and livestock industry in 2016-17 of 438,100 and divides that by the direct employment of the meat production sector (composed of meat livestock producers and feedlots) of 132,100 in 2016-17 to derive an employment multiplier of 3.32.

¹ Economic multipliers (e.g. for income, output, employment, value added, or imports) are typically derived from input-output tables (The Treasury (NSW Government), 2017, p. 63) that are produced as a by-product from the compilation of the national accounts.

Impact/Reception

The Mecardo report received limited coverage in the dedicated agricultural press on its release and was reported on by *The West Australian* newspaper in September 2019.² The then LiveCorp Chairman Terry Enright commented at the time of the release of the report in September 2019 that while WA sheep farmers were well aware of the importance of the industry, it was important to collate objective numbers about the benefits to the farmers, the supply chain and broader community through the report (Brammer, 2019).

In March 2023, press reports indicated that the heads of 25 peak farming groups had informed the Minister for Agriculture, Fisheries and Forestry, Senator the Hon. Murray Watt, that the Albanese government's policy to phase out live sheep exports would cost 3,000 jobs in Western Australia (Peel, 2023). Signatories to the letter include the Australian Livestock Exporters Council, Sheep Producers Australia, National Farmers Federation and the Australian Lot Feeders Association. The claimed loss of 3,000 jobs in Western Australia attributed to producer groups are possibly sourced from this report.

According to Pegasus Economics (Davey & Fisher, 2020, p. 35), only around 136 of the 798 full-time on-farm jobs related to the live sheep export industry in WA estimated by Mecardo actually related to hired labour, with over 80 per cent of farm labour being performed by the farmer and associated family members. Pegasus Economics (Davey & Fisher, 2020, pp. 35-36) also warned about the potential abuse of employment multipliers as used by Mecardo, quoting Paul Gretton (2013, p. 1) from the Productivity Commission:

Abuse primarily relates to overstating the economic importance of specific sectoral or regional activities. It is likely that if all such analyses were to be aggregated, they would sum to much more than the total for the Australian economy. Claims that jobs 'gained' directly from the cause being promoted will lead to cascading gains in the wider economy often fail to give any consideration to the restrictive nature of the assumptions required for input-output multiplier exercises to be valid. In particular, these applications fail to consider the opportunity cost of both spending measures and alternate uses of resources, and may misinform policy-makers.

Following the effective curtailment of the live sheep export trade to the Middle East during the Northern Hemisphere summer in 2018 and 2019, Pegasus Economics (Davey & Fisher, 2020, pp. 23-24) observed there had been a sharp increase in the slaughter of mutton sheep in trend terms, and that full time employment in the WA meat processing sector had at that time reached record levels. Pegasus contended that extending the prohibition even further would result in a greater overall net increase in employment due to higher levels of employment in the meat processing sector (Davey & Fisher, 2020, p. 38).

Key Takeaways

Up to 3,000 jobs could be lost in WA if the live sheep export industry is phased out, although the extent of the jobs losses has been contested and it takes no account of other job opportunities that could be created in the absence of the live sheep export industry.

² See Brammer (2019).

2.3 Title: Impact of the Live Sheep Export Trade's Self-Imposed Moratorium and Regulatory Changes

Author/Publisher and Date: Matt Dagleish, Olivia Agar, Robert Herrmann, Mecardo, January 2020

Context

Mecardo was commissioned to prepare this report by LiveCorp and Meat & Livestock Australia, following the effective suspension of the live sheep export trade during the 2018 Northern Hemisphere summer when the Federal Government suspended the export license of the largest live sheep exporter and the decision by the live sheep exporters to self-impose a moratorium on the trade during 2019 Northern Hemisphere summer (Dagleish, Agar, & Herrmann, 2020). The Federal Government also issued 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).

The objective of the report was to:

1. Identify and outline the economic benefit that flows from the live sheep export trade to participants in the Australian supply chain.
2. Analyse the impact from the industry's self-imposed three-month moratorium and the regulatory changes introduced in 2018.
3. Assess a range of farm level decision-making options (domestic fundamentals) influencing national sheep flock numbers, with a primary focus on Western Australia.

Areas of Focus

This report provides an overview of the individuals, communities and suppliers involved in the live sheep export trade and the impacts of changes in the trade on their income and economic well-being.

The report identifies the effects of the impact of the suspension and moratorium on industry sectors, operators and individuals that form part of the supply chain for the live sheep export trade, including sheep farmers, road transport operators, shearing services, fodder manufacturers, contract balers and stackers, livestock agents, exporters, veterinarians, and more. Each element of the supply chain is discussed separately, and each discussion covers social as well as economic costs, alternatives available in the absence of the live sheep export trade, and, in many cases, direct quotes and reports from individuals working in that industry.

There is a brief overview of the events surrounding the suspension and moratorium. The report summarises the animal welfare-oriented regulations introduced by the Department of Agriculture and refers to the updated Australian Livestock Exporters' Council (ALEC) Code of Conduct.

The overall economic impact of the suspension and moratorium are discussed, but not closely analysed. In general, state-wide or national economic outcomes are not the focus of the report.

Major Findings & Conclusions

The report's key findings are that the suspension and moratorium on the live sheep export trade imposed significant costs on individuals and communities involved in the live sheep trade.

Costs

The report estimates the cost of disrupting the live sheep trade in 2018 nationally to have been \$83.6 million in terms of lost revenue, with an estimated \$37.6 million of lost sales revenue to the farm gate. The report estimates that this would equate to a final loss of revenue at the farm gate in WA of between \$9.3 and \$15.4 million during 2018.

The moratorium during the 2019 season is estimated to have cost the industry \$65.8 million in foregone revenue nationally, with a shortfall of \$29.6 million in farm revenue earned via the live sheep export trade. The report estimates that this would have resulted in a loss to WA farmers of between \$7.3 and \$12.1 million during 2019.

Mortality

The report finds that the reforms introduced by the Department of Agriculture and ALEC, combined with the moratorium on the trade during the months of peak mortality, resulted in much lower mortality rates for sheep exported in 2019 compared to the 2013-2017 average.

Mecardo undertook an analysis of the consequences of a one-month (August), two-month (July-August and August-September), and three-month (June-August) moratorium for year-round average mortality. The report finds:

- No moratorium: 0.8%
- One-month moratorium: 0.75%
- Two-month moratorium: 0.73% (very slightly lower for the August-September scenario)
- Three-month moratorium: 0.73%

This analysis was conducted on the basis of the 2005-2017 figures, and therefore does not incorporate any effect from regulatory changes introduced from 2018. The report does note, however, that the moratorium would have a less noticeable impact if the overall survival rate were improved.

While the report acknowledges a moratorium would limit the chance of heat stress periods from occurring, it also notes that a moratorium would have a significant impact upon participants within the live sheep export industry across the supply chain.

Effects on related industry sectors

The report examines a wide range of industries and their level of exposure to the live sheep export trade, noting that each industry itself helps sustain other elements of the local economy, such as grocers and service stations.

Sheep farmers

According to the report, WA sheep farmers rely on the live export trade as a purchaser of lambs and sheep that cannot be sold on the domestic market, and as an additional source of competition that helps underwrite prices. While sheep farmers would make adjustments in the case of a moratorium or cessation of the live sheep export trade, there would be a loss in profitability and business security, and unexpected or unpredictable changes in conditions would impose much greater costs.

Road transport operators

The live sheep export trade provides a stable source of demand for road transport operators. While alternatives exist, they would not be as profitable or as reliable as the live sheep export trade. However, exposure is uneven: some road transport operators were barely affected by the moratorium and would be unaffected by a ban, while others experienced severe financial stress during the moratorium, and would be forced out of business by a cessation of the trade.

Shearing services

While the live sheep export does not significantly increase demand for shearing services overall, it has helped to smooth out the workload through the year. During the moratorium, there was greatly reduced demand for shearing services from May to July as a result of reduced demand from the live sheep export industry, and a corresponding increase in demand over September and October, resulting in difficulty in maintaining workers.

Fodder manufacturers

Fodder for the live export market is different from fodder provided for general agricultural use, resulting in specialisation among providers, and an uneven exposure of fodder manufacturers and suppliers to the trade. Since fodder production has a long lead-time, some providers of fodder for the export market were unable to adapt, incurring significant losses. Fodder manufacturers have multiple alternative markets and would likely be able to adapt given predictable conditions, though those in areas producing lower-quality hay would likely suffer greater losses.

Contract balers and stackers

Like the fodder manufacturers with whom their work is associated, contract balers experience differing levels of exposure to the live export trade. As their work is conducted on the basis of expectations for the following season, predictability is the most important aspect of the market environment for them.

Livestock agents

The live sheep export trade has traditionally provided a source of competitive pressure for the purchase of sheep by livestock agents against meat processors. In 2019, agents were able to sell livestock to the eastern states, and were therefore little affected by the moratorium, although effects varied depending on the region and the traditional consumer of livestock from that region. The report contends that the option of selling sheep to the eastern states may not always be available and that this will only be the case during periods of drought-recovery, or when there are pronounced seasonal differences between WA and the eastern states for other reasons.

Exporters

The exporters consulted experienced a 10-25% reduction in revenue from the 2018 suspension, and a 5-10% reduction from the 2019 moratorium. This reduced impact reflected adaptations conducted within the industry over the intervening period in the expectation of future bans. This includes the exporters diversifying their operations into sheep meat processing. Overall, traditional participants in the live export trade have experienced significant disruption to their business model, but have been and will be able to adapt, although the unexpected ban did impact upon perceptions of Australia as a reliable customer.

Veterinarians

Veterinarians are a broad group, with widely varying levels of exposure. Australian Government Accredited Veterinarians are, however, necessary for several roles in the live sheep export trade that would not be replaced directly in the trade's absence, so veterinarians specialising in those roles were significantly impacted by the moratorium – the report clarifies that these impacts were psychological as well as financial – and would be adversely affected by any further ban. Veterinarians, however, have multiple alternative forms of employment, and adjustments were already observed between 2018 and 2019.

Associated down-chain participants

The report lists various occupations employed by exporters and importers to fulfil shipments, including stock handlers, stevedores, ship handlers, and others. Many of the people traditionally employed by the live export industry were unable to find alternative employment during the moratorium; some of these occupations involve transferable skills and would be able to adjust, while others do not.

Sheep buyers

The sheep buyer industry is complicated by regulations preventing a buyer purchasing sheep of the same type for multiple clients. The moratorium prevented buyers who were contracted by exporters from buying export-type sheep for other clients, resulting in a significant loss of income. Sheep

buyers active in lamb may profit, and in the case of a total cessation of the trade, sheep buyers currently under contract with exporters may find other clients, but their business model has been and will be disrupted, and the regional nature and low labour requirements of the industry means that there is no guarantee of finding alternative employment.

Shipping services

Live sheep exports were reported as making up 15-25% of revenue for shipping services providers in a normal year. Since these services are in demand from a wide variety of industries and the skills are largely transferable, there was little to no loss in income associated with the moratorium. However, since livestock shipping is highly labour-intensive compared to most alternatives, a sustained shift away from live sheep exports may result in lower staffing requirements and the shedding of some staff.

Cattle farmers

According to the report, the live sheep export industry also assists in facilitating the sale of live cattle from WA to the Middle East. From 2014 to 2018, 78% of the 68,643 live cattle exported from Australia to Middle Eastern markets were transported on vessels that also carried sheep. The moratorium imposed some costs on cattle farmers in carrying livestock for longer than would otherwise have otherwise been necessary and finding alternate routes for export. In the longer term, a continuation or resumption of the moratorium would force further adjustments in destination and type of cattle sold.

Key Assumptions and Methodology

The key assumption in the report draws on modelling of the price effects arising from the cessation of the live sheep export trade conducted by The Centre for International Economics (CIE) (2018). On this basis, Mecardo assumes that in the absence of the live sheep trade results in a 30-50% approximate reduction in prices at the saleyard in WA.

The analysis of costs rests on historical data from Meat & Livestock Australia, the Australian Bureau of Statistics, LiveCorp, and Mecardo itself.

The report clearly spells out its methodology in terms of estimating the impact arising from the suspension of the moratorium on the live sheep export trade during 2018 and 2019. However, there is a lack of transparency around the actual process it undertook.

The report conducts what it describes as multifactorial regression modelling of annual live sheep export volumes and the relationship between the live export trade, flock size and slaughter, both nationally and within Western Australia. This was used to estimate monthly live export sheep volumes in the event the industry was not subject to the 2018 suspension and the 2019 moratorium. No details are provided on the raw data used in the regression modelling. Further, it is unclear exactly what type of regression modelling has been undertaken and no information is provided in relation to results and diagnostic testing that would enable the reliability of the results to be assessed.

The analysis of sheep mortality draws on data from the Department of Agriculture and Water Resources. The results are presented clearly and transparently. The precise reference documents are not provided, but the source is clear.

The main body of the report is based on stakeholder consultation. Mecardo conducted 64 interviews across all industries and provides a breakdown by occupation. The report includes four case studies of individuals (identified by occupation and full name), describing the impact of the moratorium on their work and life, usually including direct quotes, and two unidentified quotes. The discussions of the different industries also incorporate information from or references to unidentified respondents.

Impact/Reception

The report was well-received and widely-publicised among industry peak bodies and in the dedicated agricultural press. However, the report does not appear to have been reported on nor discussed in the mainstream media.

ABARES (Nelson, et al., 2021, pp. 17-18) has observed in relation to several reports on the live sheep export industry funded by industry groups, including this Mecardo report, that they tend not to recognise that lamb and sheep prices are set in world markets, or that short-term price falls in Western Australia are limited to \$20 per head by the cost of trucking sheep to eastern state markets.

Specifically, in relation to this Mecardo report, ABARES (Nelson, et al., 2021, p. 17) contends the report is likely to overstate the impact of restricting live exports for 2 reasons. First, a 30% to 50% reduction in saleyard prices was assumed based on a report by CIE (2018), despite a footnote in the Mecardo report recognising that saleyard prices were observed to fall by only 15% to 30% (Dalglish, Agar, & Herrmann, 2020, p. 5n). Second, there is no recognition of the likely short-term nature of these price impacts or the likelihood that prices will rise as an expansion of domestic meat processing reduces processing costs.

Key Takeaways

The report's key findings are that the suspension and moratorium imposed significant costs upon most elements of the live sheep export value chain, although regulations introduced to improve animal welfare outcomes did achieve lower sheep mortality rates during sea voyages. However, the size of the estimated impact arising from the suspension and moratorium of the live sheep export trade during 2018 and 2019 in this report has been challenged.

3. Reports by The Centre for International Economics

The Centre for International Economics (CIE) has produced two reports on the live sheep export trade since 2014, both of which have been funded by Australian Wool Innovation (AWI). CIE is a boutique economic consultancy firm that has offices located in Canberra and Sydney. These two reports are reviewed below.

3.1 Title: Contribution of live exports to the Australian Wool Industry

Author/Publisher and Date: CIE, March 2014

Context

Australian Wool Innovation commissioned CIE (2014) to estimate the contribution of the live sheep trade to woolgrowers nationally.

Areas of Focus

The report focuses on sheep farmer incomes related to the live sheep export trade. It examines returns for sheep farmers on the sale of their lamb and sheep, changes in the size of the sheep flock and changes in the price of wool from the cessation of the live sheep export trade. The report examines the impact of the changes on an average national basis, as well as distinguishes between the impact for sheep farmers in the eastern states and in Western Australia (WA).

The report also provides case studies on eight regions in South Australia, Victoria and New South Wales that have a greater exposure to the live sheep export industry.

There is consideration of the impact on sheep meat processors from the cessation of the live sheep export industry in terms of increased throughput. However, there is no consideration of broader economic, social and community impacts.

Animal welfare issues are not considered.

Major Findings & Conclusions

CIE found that if the live sheep export industry were to close, average saleyard prices would fall by:

- \$4.07 per head or 4.5% for lambs
- \$13.20 per head or 24.4% for older sheep.

On this basis, CIE found that prices would have been between \$4 and \$13 per head lower than those observed in 2011-12 across all Australian regions.

The closure of the live sheep export industry was also expected to impact on the wool industry in the following ways additional ways:

- the national sheep flock would fall by 2 million, a reduction of around 3.5% relative to 2011-12 levels
- the national wool clip would fall in line with the decline in the national flock by 2.3% or 7.9 million kilograms greasy basis
- the eastern (and western market indicator) would increase by 1.49% or 17.9 cents per kilogram clean basis as a result of lower wool production Australia-wide.

The combined impacts upon sheep farmers would reduce the gross value of production of woolgrowers by 1.55% or \$39 million.

CIE observed that expected impact on wool production and gross value of production was relatively small compared to other economic drivers such as variations in the exchange rate and seasonal conditions and that the impacts would be significantly different between different production regions.

In relation to Western Australian producers, CIE found the termination of the live sheep export trade would be devastating and was estimated to involve falls in the saleyard price of:

- \$32 per head , or 35.1%, for lambs
- \$36 per head, or 66.2%, for sheep.

The implications for WA woolgrowers were estimated to be:

- the state sheep flock would likely to fall between 10.2 and 15.1% for specialist and mixed enterprises, equivalent to a decline of 1.8 million sheep
- production of meat from lamb and older sheep would increase (as a result of diversion from the export trade)
- wool production could fall by 12% statewide flowing on from lower enterprise profitability.

As a result of lower prices and production decisions, enterprise revenues in Western Australia would fall, with the gross value of production \$302 million or 6.5% lower each year compared with what would have otherwise been the case with the continuation of the live sheep export trade. On an aggregate basis, CIE found that:

- WA sheep farming breeding enterprises would be hit hardest with the gross margin falling by \$41 per ewe or 44.8% as a result of its dependence on livestock sales.
- Wethers for wool production suffer a fall in gross margin of \$4 per wether or 21.6% because of the lower reliance of this enterprise on livestock sales and an offsetting fall in variable costs as a result of lower hogget prices.

In relation to the eastern states, the cessation of the live sheep export industry would result in average saleyard price reductions of:

- \$1.24 per head or 1.4% for lambs
- \$5.96 per head or 24.4% for older sheep.

According to CIE, the impact arising from the cessation of the live sheep export industry is much lower in the eastern states as compared to WA because of:

- the lower contribution of live exports to total sales of sheep
- the larger number of marketing options woolgrowers have in the eastern states.

CIE observed that its results for the eastern states include regions that have different exposures to the live sheep export trade operating out of Adelaide and Portland, Victoria. Based on eight case studies, CIE found that the live sheep export industry also contributed significantly to the incomes of eastern woolgrowers, particularly in the pastoral zones of South Australia and New South Wales. However, it also found that the benefit of participation in live sheep export had been eroded by the introduction of the Exporter Supply Chain Assurance System (ESCAS) by the Australian Government in October 2011 that had reduced demand for sheep and significantly increased costs for stock agents and live sheep exporters.

Key Assumptions and Methodology

The report assumes that the export of live sheep underwrites the saleyard price of lambs and sheep in Western Australia and nationally.

A key assumption is that WA woolgrowers, and particularly specialist woolgrowers, have limited capacity to transform their enterprise mix away from sheep.

Without live exports, CIE assumes that the Western Australian price paid by processors would default to the eastern states (South Australian) price less the transport cost. This transport cost would be most likely in the range of \$25 to \$30 per head.

CIE uses 2011-12 as the base year for its analysis. The impact on woolgrowers is calculated by comparing the market outcomes observed in 2011-12, with what they would have otherwise been the case with the closure of the live sheep export industry. A 3-5 year transition period is assumed.

The Global Meat Industry (GMI) model on which the report is a proprietary model maintained by the CIE on behalf of Meat & Livestock Australia (2017). The report provides no description of the GMI model.³ The underlying assumptions and the way in which the model treats the data is therefore difficult to determine.

In the preparation of its regional case studies on the impact of the live sheep export industry in the eastern states, CIE acknowledges that estimating the impact of closure of live sheep export industry at a regional level was a challenge because of the lack of data.

The CIE has drawn on data from the Australian Bureau of Statistics, ABARES, Meat & Livestock Australia and LiveCorp. Source organisations are clearly indicated in tables where figures are provided, however, details on the underlying source data series have not been provided. References are listed at the end of the report.

Impact/Reception

The report received widespread coverage in the dedicated agricultural press as well as coverage in *The West Australian* newspaper (Thompson, 2014).

Patrick Francis (2014), a Victorian sheep farmer who runs the Moffitts Farm website has criticised the CIE report in the following terms:

The Centre for International Economics' (CIE) analysis of what cessation of the live sheep trade would do to incomes of Australia wool sheep producers must be one of the worst researched industry analyses produced in the last decade.

According to Francis (2014), eastern states sheep farmers rely very little on the live trade and if it no longer existed would have virtually no impact on business profitability. Francis is also critical of CIE's conclusion that WA wool grower businesses would suffer financially in that it doesn't stack up in face of evidence for increasing sheep meat demand on world markets, with sheep slaughter numbers in Australia having levelled off, putting a cap on domestic production. Furthermore, Francis is also critical of some of CIE's underlying assumptions.

This debate is, however, largely moot as since May 2018 the only live sheep exports from New South Wales, Victoria and South Australia have been small shipments carried via airfreight.

Pegasus Economics (Davey & Fisher, 2018, p. 14) challenged the CIE's contention that the live sheep export trade underwrites farm gate prices for sheep. According to Pegasus Economics (Davey & Fisher, 2018, p. 18), domestic sheep prices are more likely to be determined by international commodity prices for mutton than by the live sheep export trade.

Pegasus Economics (Davey & Fisher, 2018, p. 45) also criticised CIE for effectively assuming that a significant amount of sheep diverted away from the live export trade in WA would in turn be transported to the eastern states for processing even though CIE recognised there was spare processing capacity available in WA.

ABARES (Nelson, et al., 2021, pp. 17-18) has observed in relation to several reports on the live sheep export industry funded by industry groups, including the 2014 CIE report, that they tend not to

³ According to the CIE (2020) website, the GMI model is a multi-country, multicommodity, Armington style model of world meat industries that identifies 26 regions and ten meat types. Multi-country computable general equilibrium (CGE) models used to analyse tariff and trade policy changes typically incorporate the Armington structure which differentiates commodities by their country of origin (national product differentiation), and assumes them to be imperfect substitutes for each other (Lloyd & Zhang, 2006, p. VIII).

recognise that lamb and sheep prices are set in world markets, or that short-term price falls in Western Australia are limited to \$20 per head by the cost of trucking sheep to eastern state markets.

Key Takeaways

The impact from the closure of the live sheep export industry would have significant impacts on WA sheep farmers, less so for sheep farmers in the eastern states, although some of the findings and conclusions have been contested.

3.2 Title: Contribution of live exports to Woolgrower's incomes: An update

Author/Publisher and Date: CIE, 27 July 2018

Context

CIE (2018) was commissioned to produce the report by Australian Wool Innovation (AWI), with the intention of estimating the contribution of live sheep exports to woolgrowers and livestock producers and the hypothetical impact of closing the live trade.

Areas of Focus

The report focuses on sheep farmer incomes related to the live sheep export trade. It examines returns for sheep farmers on the sale of their lamb and sheep, changes in the size of the sheep flock and changes in the price of wool from the cessation of the live sheep export trade. The report examines the impact of the changes on an average national basis and distinguishes between the impacts of the trade for sheep farmers in the eastern states and in Western Australia (WA).

In addition to considering the impact of a total closure of the live sheep export industry, the report includes an appendix considering the impact of a reduction in the trade by volume of 10, 25, and 50%.

There is some consideration of the impact on sheep meat processors arising from the cessation of the live sheep export. However, there is no consideration of what those adjustments might imply at a broader social level, or on overall employment levels.

Animal welfare issues are not considered.

Major Findings & Conclusions

The primary finding of the report is that closure of the live sheep export trade would result in markedly reduced saleyard prices for sheep and lamb, which in turn would lead to a reduction in flock sizes. The consequent reduction in national flock size would result in slightly higher prices for wool, but overall much lower enterprise receipts for woolgrowers.

Under the headline analysis, average saleyard prices across Australia would fall by:

- \$6 per head or 4.7% for lambs
- \$13.60 per head or 15% for older sheep.

The impact of lower sheep prices upon wool growers arising from the closure of the live sheep export industry would result in:

- A reduction in the national sheep flock of between 1.8% relative to 2017-18 levels representing a reduction of 1.4 million head
- A fall in the national wool clip in line with the flock by 1.1% or 3.8 kt greasy basis
- An increase in the eastern (and western market indicator) by 0.4% or 5.3 cents per kilogram clean basis as a result of lower wool production Australia-wide.

These impacts combine to reduce the gross value of production of wool by 0.8% or \$23.3million with. total enterprise receipts for woolgrowers nationally falling by 2.2% or \$363 million.

For WA sheep farmers, the closure of the live sheep export trade would be devastating, and involve price reductions of:

- \$32 per head for lambs or a fall in the saleyard price of 28.6%
- \$39 per head for sheep or a fall in the saleyard price of 51.1%.

The implications for WA woolgrowers would be:

- a reduction in the WA sheep flock of between 4.6 and 7.5% for specialist and mixed enterprises, equivalent to a decline of 0.9 million sheep
- an increase in the production of lamb and mutton as a result of the diversion of lamb and sheep from the live sheep export trade
- a fall in wool production of 4% or the equivalent of reduction by 13.5 greasy – flowing from lower farm profitability.

Overall, CIE estimate that the total enterprise receipts for WA woolgrowers would be \$290 million or 7.1% lower each year compared to 2017-18 terms without the live trade.

Aside from its headline analysis, CIE also provides an alternative scenario in which the price differential between WA and SA markets varies across the seasons and the year and average \$10 per head. Under this scenario, average saleyard prices across Australia would only fall by:

- \$2.90 per head for lambs
- \$9.75 per head for older sheep.

The reduction in the wool clip (0.4 %) and the gross value of wool production (0.3% or \$8.5 million) representing 37% of the loss in the headline analysis. Total enterprise receipts for woolgrowers nationally fall by 1.2% or by only \$205 million.

Under the alternative scenario for WA sheep farmers, the impact of closing the trade would result in average WA saleyard prices falling by:

- \$10.83 per head for lambs
- \$19.08 per head for older sheep.

For WA woolgrowers, the wool clip would fall by 1.4% and the gross value of wool production would decline by 0.3% or \$8.5 million. Total WA sheep farming enterprise receipts would fall by \$114 million each year or 2.8%.

The report finds that a 10% or 25% reduction in operational capacity for the live sheep export trade would have minimal impact on WA woolgrowers, while a 50% reduction would have an impact around one third of that created by a total closure of the trade.

Kay Assumptions and Methodology

The GMI model on which the report is based is opaque and the underlying assumptions are difficult to determine.

The headline analysis in the report assumes that, in the absence of the live sheep export trade, local processors in WA would price down livestock by \$30 per head, equivalent to the cost of transporting stock to the nearest alternative processors in South Australia.

The report assumes a 3-5 year transition period.

CIE used 2017-18 as the base year for its analysis. The impact on woolgrowers was calculated by comparing the market outcomes observed in 2017-18, with what they would have otherwise been the case with the closure of the live sheep export industry.

The report appears to have been conducted as a desktop review, drawing on the GMI model to produce its results. The GMI model is a proprietary model maintained by the CIE on behalf of Meat &

Livestock Australia (2017). However, CIE provides no background nor description of the GMI model in the report. According to the CIE (2020) website, the GMI model is a multi-country, multicommodity, Armington-style model of world meat industries that identifies 26 regions and ten meat types.⁴

The report draws on data from the Australian Bureau of Statistics, ABARES, the Federal Department of Agriculture, and Meat & Livestock Australia. Source organisations are clearly indicated in tables where figures are provided. Where up-to-date data was unavailable or assumptions had to be made for a table or chart, this was clearly specified. However, more detailed documentation or bibliographical information, however, is absent.

Impact/Reception

The CIE 2018 report on woolgrower's incomes appears to have had very little public impact. It wasn't reported in the dedicated agricultural press or in the mainstream media.

The CIE 2018 report was drawn on in a Mecardo report (Dalglish, Agar, & Herrmann, 2020, p. 5) to justify a 30% to 50% reduction in saleyard prices following the imposition of the prohibition on the live sheep export trade during the Northern Hemisphere summer.

ABARES (Nelson, et al., 2021, pp. 17-18) has observed in relation to several reports on the live sheep export industry funded by industry groups, including the 2018 CIE report, that they tend not to recognise that lamb and sheep prices are set in world markets, or that short-term price falls in Western Australia are limited to \$20 per head by the cost of trucking sheep to eastern state markets.

Key Takeaways

The impact from the closure of the live sheep export industry would have significant impacts on WA sheep farmers, although some of the findings and conclusions have been contested.

4. Reports by Pegasus Economics

Pegasus Economics has produced several reports on the live sheep export trade funded by Animals Australia, an animal welfare NGO. Pegasus Economics is a boutique economic consultancy based in Canberra.

4.1 Title: Economic Issues Associated with the West Australian Live Sheep Export Industry

Author/Publisher and Date: Alistair Davey and Roger Fisher, Pegasus Economics, April 2018
Context

This report was commissioned by Animals Australia to examine the economic impact of the phasing out of the live sheep export trade (Davey & Fisher, 2018). The report was publicly released by Animals Australia to coincide with a campaign surrounding the *Awassi* incident.

Areas of focus

The report examines the potential economic impact on WA sheep farmers and the WA meat processing industry arising from the termination of the live sheep export industry.

It provides a brief overview of the economics of sheep production, a history of the Australian and WA sheep industries and a review of the main customers for Australian live sheep exports.

⁴ Multi-country computable general equilibrium (CGE) models used to analyse tariff and trade policy changes typically incorporate the Armington structure which differentiates commodities by their country of origin (national product differentiation), and assumes them to be imperfect substitutes for each other (Lloyd & Zhang, 2006, p. VIII).

The report also touches on opportunities arising from the cessation of the live sheep export trade to expand the WA meat processing industry.

Major Findings & Conclusions

The report challenged the contention the live sheep export trade underwrites farm gate prices for sheep. Instead, it pointed to the *Law of One Price* (LOP), which suggests that prices received by sheep farmers in different regions of Australia should be similar.⁵ The report found that WA mutton prices with a high exposure to the live sheep export trade were highly correlated with New South Wales (NSW) mutton prices with virtually no exposure to the live sheep export trade. The report concluded that international commodity prices for mutton, rather than prices paid by live sheep exporters, underwrote prices paid for Australian sheep.

However, the report found evidence that live sheep exporters did pay a price premium at WA saleyard auctions to purchase sheep. It found that the price premium paid by live sheep exporters diminished as the quality of the sheep improved in terms of weight and conditioning. The price premium paid by live sheep exporters was found to be highest for wethers that were lighter and in worse condition, thus requiring further input in finishing them off to a level that would make them attractive to local WA meat processors.

While the report acknowledged that the cessation of the live sheep export trade would reduce overall demand to some extent as those seeking to procure sheep for live export would no longer participate in the market, the analysis conducted on price premiums suggested the price impact would be greatest in relation to wethers that were lighter and in worse condition; in other words, those least attractive to WA local processors. It also sought to downplay the potential reduction in demand following the cessation of the live sheep export industry through arguing that live sheep exporters rarely purchased young ewes, ewes and hoggets, and were not always procuring sheep if they were not seeking to fulfil an export shipment.

The report took a crude weighted average of the price premium paid by live sheep exporters for wethers that roughly worked out at \$8 per head and estimated that the cessation of the live sheep export trade would translate into a loss of around \$9 million per annum for WA sheep farmers overall, averaging just under \$2,000 per WA sheep farmer.

The report contended the capacity of live sheep exporters to pay a price premium was directly related to food subsidies provided in Middle East recipient countries that in turn artificially increased demand for Australian live sheep exports and enabled live sheep exporters to pay above market rates to procure sheep.

The report observed the largest customers for Australian live sheep exports historically have been the six Arab oil and gas producing states bordering the Persian Gulf and the Gulf of Oman. The report argued the future of food subsidies, and in turn, the ongoing ability of live sheep exporters to continue to pay price premiums, was heavily dependent on the price received by these six countries for their petroleum product exports.

In the event the live sheep export trade was phased out, the report argued that sheep diverted away from the live export could be redirected towards several alternative options, including the following:

- keep the wethers until cast (at the end of productive life) primarily to cut wool;
- finish sheep earlier to meet lamb market specifications;
- sell the wethers as store sheep to be fattened before sale for slaughter; or
- keep the wethers until they reach the heavier weights required for the slaughter market.

⁵ According to Pegasus Economics (Davey & Fisher, 2018, p. 15), 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.

The report found that while WA sheep farmers may collectively lose in the order \$9 million per annum from the loss of the price premium paid the live sheep exporter, this detriment could be more than compensated for by increased value adding by WA sheep meat processors. Based on discussions with sheep meat processors, the report estimated the cessation of the live sheep export trade could facilitate the engagement of around 350 full-time equivalent employees and be worth an additional \$18 million from increased value adding. It would also improve economies of scale in meat processing, making processed sheep meat products more price competitive.

Key Assumptions and Methodology

In examining the relationship between the saleyard mutton indicator price in WA as compared to New South Wales (NSW), Victoria and South Australia, the report sources data from Meat & Livestock Australia from December 2014 until December 2017. While the raw data is not provided, the data source is clearly indicated.

The saleyard mutton indicator price in WA from December 2014 until December 2017 is modelled as a function of a constant and the NSW saleyard mutton indicator price over the same period using dynamic ordinary least squares. Diagnostic testing of the raw data is reported, although the results of the diagnostic tests themselves have not been provided.

In estimating the price premium paid by live sheep exporters, the report draws on WA auction price data from Meat & Livestock Australia saleyard reports from December 2014 to December 2017, comparing the prices paid by live exporters and by those paid by other purchasers when both live exporters and other purchasers procured sheep on the same day at WA saleyard auctions. While the raw data is provided, the data source is clearly indicated. The report assumes that the payment of a price premium by live exporters would constitute the major impact on WA sheep prices arising from the live sheep export trade .

The report assumes that 70% of live sheep exports from WA were wethers. The estimated number of sheep farmers is based on the Australian Bureau of Statistics' agricultural commodities survey.

The estimated additional value added from increased sheep meat processing in WA assumes an immediate cessation of the live sheep export trade with most sheep displaced being redirected towards local processing. However, the basis for this estimate is not transparent and the report justifies this only on the basis of discussions with WA meat processors.

Impact/Reception

The Pegasus Economics report received fairly widespread coverage in the mainstream press. The report was also covered in the dedicated agricultural press, although generally accompanied by criticism of the report by the WA Farmers Federation (WAFarmers).

WAFarmers (2018) challenged the Pegasus conclusions:

It is our opinion that the Pegasus report appeared to confuse national and state-based data; according to them, a ban of the live export trade would translate into a loss of approximately \$9 million per annum for Western Australian sheep farmers.

WAFarmers accused the Pegasus Economic analysis of being "wildly inaccurate" based on an analysis it commissioned in a report prepared by Mecardo but did not provide further specific details.

The findings in this report were also challenged by ABARES (Nelson, et al., 2021, p. 16). According to ABARES, the economic impact estimated by Pegasus Economics on the phasing out of the live sheep export industry was likely to underestimate the impact for two reasons. First, there is normally no domestic market for the volume of low-quality young wethers displaced by the phasing out of the live sheep export industry because consumers prefer higher quality meat. Second, Western

Australia's short and unreliable growing season means that bringing these sheep to prime lamb standard for domestic processing was likely to require some purchased feed, adding both feed costs as well as additional labour costs to sheep farms in WA.

Key takeaways

The report argues that phasing out of the live sheep export industry may not impose a significant economic burden upon WA sheep farmers, although there have been counter-claims that the impact may be greater than estimated in this report.

4.2 Title: Economic Implications of Phasing Out the Live Sheep Export Trade

Author/Publisher and Date: Alistair Davey, Roger Fisher, Melissa Morley, Pegasus Economics, April 2022

Context

The report was commissioned by Animals Australia to provide an analysis of the economic impacts arising from the prohibition on live sheep exports to the Middle East during the Northern Hemisphere summer and the economic implications arising from a gradual phasing out of the live sheep export trade (Davey, Fisher, & Morley, 2022).

The report was produced in the aftermath of the prohibition on the live sheep export trade during the Northern Hemisphere summer in response to animal welfare concerns.

Areas of Focus

The report is primarily focused on economic outcomes, especially changes to the sale price of lambs and sheep, and the impact on the incomes of WA sheep farmers.

The main body of the report provides a history of the live sheep export trade and the changing dynamics of the sheep farming industry (covering trends in land-use by farmers, patterns of consumption, destinations for the export of live sheep, and the relationship between sheep price in WA as compared to the east coast).

The report is concerned with large-scale trends and outcomes; there is no discussion of the possible impacts of phasing out the trade on individual farm enterprises, adjacent industries or the broader social or regional consequences. The report mentions, but does not examine in detail, any employment impacts.

There is also a brief discussion of animal welfare incidents leading up to the prohibition of the live sheep export trade during the Northern Hemisphere summer.

Major Findings & Conclusions

The report rejected the contention the live sheep export trade underwrites WA farm gate prices for sheep that has long been offered as a justification for the continuation of the trade. Instead, it is argued that international commodity prices for lamb and mutton underwrite farm gate prices paid for Australian sheep. The report finds since the Northern Hemisphere summer prohibition, farm gate prices for WA sheep farmers have not crashed and the sheep displaced from the live sheep export trade have found other uses and markets.

The report also tested whether the margin in prices in trade lamb and mutton between saleyards in the eastern states and WA rose following the imposition of the Northern Hemisphere summer prohibition that commenced from June 2018. The report found a statistically significant negative price impact on lamb and mutton prices received by sheep farmers in WA saleyards relative to the eastern states:

- Trade lamb sold in WA saleyards fell by around 60.4 cents per kg cwt or by around \$12.08 per head (based on a 20 kg lamb) (in real 2020 prices)

- Mutton sold in WA saleyards fell by around 42.2 cents per kg cwt or by around \$8.86 per head (based on a 21 kg sheep) (in real 2020 prices).

Extrapolating on these results for WA saleyard sheep throughput suggests an aggregate price impact on WA sheep farmers in the order of:

- \$14.5 million in 2018-19 (in real 2020 prices)
- \$13.2 million in 2019-20 (in real 2020 prices)
- \$11.8 million in 2020-21 (in real 2020 prices).

This represented an average cost through the reduction in sheep sale receipts per WA sheep farmer in the order of less than \$2,800 (in real 2020 prices) in 2020-21. According to the report, these costs appeared to be modest on average.

However, the report found no evidence for any statistically significant negative price impact arising from the Northern Hemisphere summer prohibition in relation to prices received by WA sheep farmers for heavy trade lamb and heavy mutton sold over the hooks to abattoirs as compared to NSW sheep farmers.

While the report found there had been some costs imposed on WA sheep farmers through reduced sheep sale receipts at WA saleyards, it also acknowledged there were likely to be other costs incurred by WA sheep farmers that were not as transparent, such as the loss of any price premium associated with the live sheep export trade from direct paddock sales, and increased on-farm costs incurred from redirecting sheep from the live sheep export trade to meet prime lamb specifications.

The report argued that in the absence of the live sheep export trade, WA sheep farmers would transition towards what they perceive as their next most profitable option or options, whether that be through increasing prime lamb production, redirecting sheep to east coast markets, or transitioning to more wool or crop production. The feasibility of increasing wool production and prime lamb production were judged to be the most viable based on the then prevailing commodity price forecasts at the time.

The report argued that given the live sheep export trade in 2021 was then only one third the size it was back in 2017 in volume terms, most of the adjustment costs for WA sheep farmers in transitioning away from the live sheep export trade had already been incurred.

Key Assumptions and Methodology

The key assumption in the report is that with the decline in the live sheep export trade, most of the costs of transition away from the trade have already been incurred.

The report draws on a wide range of earlier studies but relies primarily on the WA Department of Agriculture and Food, and the Federal Department of Agriculture (especially the *Australian Bureau of Agricultural and Resource Economics and Sciences*) for its primary data regarding trends in agricultural production.

The core of the report is the statistical and econometric analysis of changes in the price of trade lamb and mutton at saleyard auctions. For this purpose, raw data was collected from Meat & Livestock Australia, and converted into constant price series that compared prices in WA against the eastern states. These price series is then subjected to a series of quantitative statistical tests and time series econometric modelling.

Although number-heavy, the modelling is clearly and methodically presented. The original data is not provided within the report however, the data sources are documented, and all operations conducted on the data is documented in a transparent manner.

Impact/Reception

This report was not widely circulated and did not receive much press coverage. However, it was reported on in *The Guardian Australia* website (Wahlquist, 2022).

Key Takeaways

While the phasing out of the live sheep export industry will have a detrimental impact on the incomes of WA sheep farmers, this impact is relatively small and farmers will transition towards what they perceive as their next best most profitable alternative. Given the live sheep industry has contracted to one third its size in 2017 to 2021, most of the transition costs from phasing out the live sheep export industry have already been incurred.

5. Reports by the Government of Western Australian

Reports were published by the Government of Western Australia on the live sheep export trade in 2011 and in 2019.

5.1 Title: The Economic Importance to Western Australia of Live Animal Exports

Author/Publisher and Date: Ross Kingwell (Ed), Peter Cunningham, Tanmoy Nath, Lucy Anderton, Vilaphonh Xayavong, Kimbal Curtis, Richard Norris, Graham Annan, David Warburton and David Feldman, Department of Agriculture and Food (Government of Western Australia), July 2011

Context

This report was commissioned by the Department of Agriculture and Food Western Australia (DAFWA) following the decision by the then Minister for Agriculture, Fisheries and Forestry in the Gillard Government, Senator the Hon. Joe Ludwig, to suspend the live cattle industry between Australia and Indonesia in early June 2011 (Kingwell, et al., 2011). The report formed the main part of the DAFWA submission to a Senate inquiry established in June 2011 into animal welfare standards in Australia's live export markets.

Areas of Focus

This report provides a detailed overview of the history of the live sheep and live cattle export industries operating in Western Australia (WA), its position at the time of publication and the supply chains associated with those industries. The report also provided a brief overview of the WA live goat export industry.

The report provides a summary of previous adverse animal welfare incidents affecting the live sheep and the live cattle export industries. It also provides a literature review and summary of findings from previous reports examining the live sheep and live cattle export industries.

The report presents a case study on the various impacts arising from the suspension of the live cattle industry to Indonesia that occurred in 2011 for a cattle farmer operating in the Kimberley region.

The report also examines the economic implications arising from the possible cessation of the live sheep and the live cattle industries.

Major Findings & Conclusions

Overall, the report found that pastoral beef production in Northern WA would be the most vulnerable to a cessation of the live export trade. While it found that sheep farmers locked into sheep production would also face revenue reductions from the cessation of the live sheep export trade, the report concluded that many other farmers who engaged in mixed-enterprise farming including sheep or cattle production may be able to transition to alternative enterprises and lessen any losses incurred.

According to the report, the primary impact of a cessation of live cattle export would be on cattle producers in regions highly dependent on the live export trade. This impact would probably be greatest on producers in the Kimberley region who were almost entirely dependent on the live cattle trade. The report observed that pastoralists in the north of the state would generally have less opportunity to diversify out of the live export cattle trade and subsequently would experience greater adverse impact from its cessation than beef farmers in the south of the WA whose properties could more easily switch to alternate enterprises.

Pastoralists, particularly those in remote regions, could expect lower returns on their cattle sold to a domestic market in the event of a cessation of the live cattle export trade. The reduction in returns would be due to a lower price per kilogram that the pastoral cattle receive in the local market and the increase in transport costs that would be incurred as cattle would have to be transported longer distances for processing.

The report identified adverse flow-on effects from the suspension of the live cattle trade with Indonesia, pointing to anecdotal evidence that, in the weeks immediately following the announced suspension of the live trade with Indonesia, pastoral businesses were revising budgets and deleting all nonessential capital expenditure until the trade resumed. The report found that businesses operating in the Kimberley, which were more reliant on the live export cattle trade, would be more adversely affected than those in the Pilbara, which derived a higher proportion of their income from other sources.

The report found that the further south from the Pilbara the enterprise was located, the less adversely affected WA cattle farmers would be.

The report also provides a case study to illustrate the impact of the suspension of the live cattle trade to Indonesia. While the exact details provided on the Kimberley based cattle farming enterprise are fictitious, the numbers provided are based on survey data collected by DAFWA. Following the suspension of the live cattle trade with Indonesia, the Kimberley based farming enterprise suffered an average fall in cattle prices of 30% on the sale of their steers. Holding on to stock was not an option as the property did not have excess grazing capacity and retaining stock would have had a devastating impact on the condition of their rangeland that would have taken many years to recover. In turn the farming enterprise carried a substantial loss.

The report notes there had already been a significant structural change within the WA sheep sector with significant declines in sheep numbers between 2005-06 and 2011-12 largely due to the relative profitability of other enterprises and declining wool prices, all compounded by drought. It was observed the reduction in the sheep population had been associated with the conversion of farmland to cropping, with the report expressing the view that further conversion was technically possible. However, the report noted that land suitability constraints, when combined with the likelihood that additional cropping could increase the risk profile of a farm business due to highly variable yields and prices, and capital requirements, and suggested that a rapid switch of farm resources into extreme crop dominance was unlikely to occur.

The report observed that a disruption or termination of the live sheep trade would either shift the supply of sheep normally destined for live export on to domestic markets, via abattoirs, or that sheep would be retained on farm for more years of wool production. In turn, additional domestic supply would place downward pressure on sheep prices, therefore reducing margins for producers whilst improving margins for processors, at least in the short and medium term.

In the event of a permanent or gradual cessation in the live sheep trade, the report argued that businesses already focused on lamb production would face lower profits due to a likely reduction in lamb prices, due to a switch of sheep industry resources into lamb production and reduced demand for ram lambs and other older sheep from live sheep exporters. It also observed that farms with flock structures centred on the production of wethers for live sheep export could adjust towards

more lamb production or focus on wool and mutton production or shift resources further into cropping enterprises.

The report found gross margins for medium/high rainfall enterprises with the live sheep trade gross margin for a wool enterprise was \$317 per hectare (ha) and \$302/ha for a prime lamb enterprise at the then prevailing prices for sheep sold to the live sheep export trade and wool, but without the live sheep export trade this would fall to \$237/ha and \$214/ha respectively. The report found gross margins in the low rainfall areas for a wool enterprise was \$118/ha and \$114/ha for a prime lamb enterprise at the then prevailing prices for sheep sold to the live sheep export trade and wool, but without the live sheep export trade this would fall to \$89/ha and \$80/ha respectively.

The report found that the WA sheep farms most vulnerable to termination or gradual erosion of the live sheep export trade were sheep dominant farms with little capacity or appetite to switch away from sheep production into more cropping enterprises. According to the report, the regions in WA most vulnerable to the cessation of the live sheep export trade were in the Upper and Lower Great Southern regions and the Midland region. This was because those regions were medium to high rainfall areas, where the reliance on sheep income was higher because only 40% to 60% of farm area, on average, was cropped compared to the Central and South-Eastern regions, where 70% or more of farm area was cropped.

The report found that if the live sheep export trade were to cease then WA sheep meat processors would become more profitable with more sheep to slaughter, on the assumption there was a market for the product. On the other hand, the report suggested that in the medium to long term the reduced profitability of sheep production in the farm sector would reduce sheep numbers further and processors could eventually end up in a worse position.

Based on computable general equilibrium (CGE) modelling of the impact on the WA Australian economy from a reduction in the live sheep export trade undertaken by DAFWA, the report concluded:

As might be expected, the economy-wide impacts are relatively minor, causing small percentage changes in the state's gross state product (GSP), employment, export values and the [consumer price index]. (Kingwell, et al., 2011, p. 43)

The report observed that the main impacts arising from any reduction or cessation in the export of live sheep was likely to be felt most strongly within the sheep supply chain rather than across a wider group of sectors or more generally throughout the economy.

Key Assumptions and Methodology

Most of the report was compiled through a desktop review of previous animal welfare incidents involving the livestock export industries and previous reports on the live cattle and sheep export industries, supplemented with information obtained through a surveys and stakeholder interviews of cattle farmers in Northern WA.

The report makes various assumptions, including the applicability of generalised data to the case study, the availability of demand for additional domestic consumption of sheep meat, the behavioural responses of producers to a termination of the trade and the impacts of changes in the supply of sheep on the profitability of domestic meat processors.

The report assumes that prices for all categories of sheep will decline in the event the live sheep export trade were to cease. However, the report does not specify by how much sheep prices could be expected to fall as part of its analysis. Otherwise the report is transparent in relation about its other underlying assumptions. The report also documents its references.

Impact/Reception

The report did not receive any media attention when it was released. However, the report was cited several times in the report by the Senate Standing Committee on Rural Affairs & Transport (2011) on *Animal welfare standards in Australia's live export markets*.

Key Takeaways

The cessation of the live cattle trade would have a much greater impact on cattle farmers in Northern WA, especially the Pilbara, than the cessation of the live sheep export trade on WA sheep farmers. While there would be an adverse impact on the incomes of WA sheep farmers arising from the cessation of the live sheep export trade, they generally have other options available. The possible exception to this was WA sheep farmers located in medium to high rainfall areas with a greater reliance on sheep than cropping.

5.2 Title: Implications of management decisions on the WA sheep flock in response to changing markets

Author/Publisher, and Date: Kate Pritchett, Department of Primary Industries and Regional Development Western Australia, April 2019

Context

The report models the effect of management decisions by individual producers on the size, structure and productivity of the entire WA sheep flock in the event the live sheep export industry was no longer available as an option for Western Australian sheep farmers (Pritchett, 2019).

Areas of Focus

The report considers the size and composition of the WA sheep flock under four alternative scenarios.

The report focuses on the WA sheep flock as a whole rather than individual sheep enterprises, regions or communities.

The report outlines the significant structural change that has already occurred in the WA sheep flock over a quarter of a century between the early 1990s until 2016-17 as the flock contracted and shifted from being a wool dominated flock to a dual-purpose flock producing both wool and sheep meat.

Major Findings & Conclusions

Under scenario 1, wethers increase a proportion of the WA sheep flock from 7% to 15% at the expense of the breeding ewes over a 10-year period.⁶ This situation may arise due to:

- high wool prices causing an increase in the retention of wethers to increase the wool-producing capacity of the flock
- Cereal-Sheep Zone producers opting for a flock with lower risk
- sell down of the ewe flock due to restocking activity in eastern Australia.

An increase in the number of wethers while maintaining the same number of ewes resulting in an increased total flock size was not considered likely as this would require a greater amount of land to be dedicated to the sheep enterprise in order to carry more sheep, which was considered unlikely to occur under current market conditions.

⁶ The report points out that wethers are a useful low-risk enterprise in farm businesses focussed on grain production or as a low-input wool production system (Pritchett, 2019, p. 13).

Under scenario 2, there is an increase by sheep farmer compliance with processor specifications for prime lamb by producing crossbred or meat breed lambs because their growth rates are generally faster. More producers in the Medium Rainfall Zone sell meat lambs compared to the Cereal-Sheep Zone. This is because the Medium Rainfall Zone has access to longer growing seasons for pastures and are less likely to have poor or variable seasons. More producers in the Cereal-Sheep Zone are focussed on cropping and have less available labour and time to manage sheep enterprises such as prime lamb production which requires significant input to manage efficiently. Scenario 2 showed that changing the ratio of ewes joined to Merino and non-Merino rams had little impact on flock size or production.

Under scenario 3, producers respond to unfavourable market signals by reducing their sheep area and reducing sheep flocks or getting out of sheep altogether. This might occur if sheep and wool profitability reduced relative to the profitability of cropping or cattle. Scenario 3 found that small changes in the percentage of farm-land for sheep in mixed farms can have dramatic impacts on the size of the WA flock.

Scenario 4 examines more WA sheep being transported to the Eastern States. Sheep sales to the eastern seaboard represent a viable and profitable market for lambs and breeding ewes. This market is strongly influenced by the feed conditions in eastern Australia and whether producers there are rebuilding their flocks after drought, the availability of lambs for slaughter and the price differential between eastern and western markets. Sheep (including lambs) transported east may go direct to a processor or go to rebuilding sheep flocks. Scenario 4 found that the class of sheep transferred interstate had a larger impact on the flock than the number transferred interstate. When less breeding ewes and more lambs were transferred interstate, it enabled more lambs to be born as replacement stock.

The largest decline in flock size over a 10-year period occurred when the proportion of wethers in the flock was increased to 15% at the expense of ewes. There was a similar response when there was a large number of ewes transferred east. It was also found that a small change in the percentage of land dedicated to the sheep enterprise in mixed farming systems could have dramatic impacts on the size of the flock.

The largest decline in lamb slaughter occurred following the increase in the proportion of wethers to 15% of the flock at the expense of ewes, reducing the flock's productivity and growth.

Increasing the proportion of wethers in the flock was more detrimental to lamb slaughter than increasing the number of sheep transferred interstate. Changing the ratio of ewes joined to Merino and non-Merino rams had little impact on lamb slaughter.

Carrying more wethers also resulted in a reduction in lamb slaughter and an increase in mutton production.

The largest effect on wool production was seen in the scenario where the proportion of wethers in the flock increased from 7% to 15% at the expense of the breeding ewe flock. This resulted in a large decline in wool production over the 10 years modelled due to the reduced number of ewes and replacement lambs.

When investigating the impacts of interstate transfers on the WA sheep flock some variation in wool production was noted, however, this was largely due to changes in flock size.

When the ratio of ewes joined to Merino and non-Merino rams was altered the volume of wool produced converged over the 10-year period. Based on this observation it was noted that changing the ratio of ewes joined to Merino and non-Merino rams had little impact on wool production in this instance, although it would have an impact on the quality of wool produced.

Key Assumptions and Methodology

This report examines four possible scenarios over a 10-year period in the event the live sheep export industry is closed down:

- the proportion of wethers in the WA flock could increase with a corresponding reduction in the proportion of ewes
- the ratio of ewes joined to Merino rams and ewes joined to non-Merino rams could change
- the amount of land dedicated to sheep enterprises could change or
- the type of sheep or the number of sheep transferred interstate could change.

Each scenario is modelled in isolation to examine the possible effects on the WA sheep flock, lamb turn-off and wool production over a 10-year period in the absence of live sheep exports compared to a baseline model.

Key assumptions used in the preparation of the report include:

- Demand for sheep meat and wool and prices remain strong at the prevailing levels when the report was prepared.
- Live export is not included as a market option within the modelling.
- The modelling does not address economic considerations or individual decisions that enterprises, processors or exporters would make in response to the changes modelled.

Under the baseline model developed over a 10-year period developed to compare the results of the scenarios:

- The WA sheep flock declined by 3%
- Total turn-off declined by 3%
- Lambs marked declined by 9%
- Wool production declined by 6%.

Impact/Reception

The report did not receive much media attention at the time of its release. It has only received attention subsequently in the WA dedicated agricultural press when certain scenarios have actually been played out, such as a dramatic increase in interstate sheep transfers from Western Australia in 2020.

Main Takeaways

A range of options are available for WA sheep farmers in the event that the live sheep export trade is terminated or phased out.

6. Report by the Australian Bureau of Agricultural and Resource Economics and Sciences

This report was published in February 2021. ABARES is the science and economics research division of the Department of Agriculture, Fisheries and Forestry based in Canberra.

6.1 Title: The economic impacts of regulating live sheep exports

Author/Publisher and Date: Rohan Nelson, Chris Mornement, Mikayla Bruce, Aruni Weragoda, Fred Litchfield and Peter Collins, ABARES, February 2021

Context

This report provides an economic analysis on the likely impacts on WA sheep farmers arising from the prohibition during the Northern Hemisphere summer (Nelson, et al., 2021). The report also critiques other relevant reports prepared on behalf of advocacy organisations.

Areas of Focus

The report focuses on the economic impacts likely to have been incurred by WA sheep farmers arising from the prohibition during the Northern Hemisphere summer. This includes price impacts on lambs at WA sheep auctions, the additional on-farm costs incurred from redirecting sheep away from the live sheep export industry, and an estimate of the total aggregate amount by which WA sheep farmers are worse-off.

The report also compares ABARES analysis with studies commissioned by industry and animal welfare groups.

Major Findings & Conclusions

ABARES observed that while WA saleyard lamb prices are usually lower than prices in Australia's eastern states, they were much lower again during September and October following the Northern Hemisphere summer prohibition from 2018 to 2020.

The report estimated that the combined incomes of around 4,000 sheep farms in Western Australia could have been up to \$68 million lower in the short term than they would have been in the year that export restrictions were first introduced. It was estimated this would fall to \$36 million in the second year. In the long term, it was estimated the reduction in collective incomes was reduced to \$12 million per year as markets adjusted.

However, overall ABARES found the loss of income incurred by WA sheep farmers from the restriction on the live sheep export trade was more than made up by more buoyant market conditions for Australian sheep meat.

Key Assumptions and Methodology

The ABARES report estimated the impact on farm incomes from switching sheep from live export to increased lamb production if the trade in live exports was restricted. In order to develop what the authors considered to be a plausible scenario, it was assumed the number of sheep for live export would halve if the trade was restricted to the cooler months in the Northern Hemisphere, arising from a sudden disruption to the trade. This was considered to be a worst-case scenario that increased the short-term costs of transitioning to expanded lamb production.

It was further assumed that restrictions on live exports were known just before the growing season, and that farmers could divert one-quarter of the sheep intended for live export that year to prime lamb production and 50 per cent in the second and subsequent years of adjustment. Sheep that couldn't be diverted to lamb production in the first year – assumed to be one-quarter of the sheep intended for live export – were assumed to be diverted to domestic processing as mutton, which attracted lower saleyard prices.

Data from the Australian Agricultural and Grazing Industries Survey (AAGIS) was used to estimate average receipts and production costs per head of live sheep, prime lambs and adult sheep. Receipts and costs for an average farm were adjusted relative to a base year, according to the number of live sheep, prime lambs and adult sheep sold in each year. The base year reflected average operating conditions for the 5 years ending in 2017 – the last year of unrestricted trade.

It was assumed that WA sheep farmers diverting sheep from the live sheep export trade to produce prime lambs for slaughter would require more labour and other inputs than producing live sheep for export. These costs would be associated with procuring and administering additional feed during summer and autumn when green pasture is not available in WA.

The change in farm cash income (total cash receipts minus total cash costs) was estimated for each year relative to the base year. An estimate of the aggregate cost of the scenario was obtained by multiplying the average change in income by the number of WA sheep farms with more than 100 sheep.

Impact/Reception

The report received only limited coverage in the dedicated rural press.

The ABARES report has been criticised by Pegasus Economics (Davey, Fisher, & Morley, 2022, p. 21) as something of a 'black box' as there is not a lot of transparency surrounding its assumptions and underpinnings.

Key Takeaways

Based on assumptions in the report, the prohibition on the live sheep in the northern summer cost WA sheep framers around \$68 million in the first year, falling to around \$12 million as markets adjusted.

More generally, economic losses for WA sheep farmers from restrictions on the live sheep export industry could be expected to dissipate over time as farmers adjust their operations to the next most profitable options available to them.

7. Report by ACIL Allens

ACIL Allens was commissioned by industry interests to examine the economic impact of the Northern Australian live cattle export industry. ACIL Allens is an economics, policy and strategy advisory firm with offices in Brisbane, Melbourne, Perth and Sydney.

7.1 **Title:** The economic contribution and benefits of the Northern live export cattle industry

Author/Publisher and Date: ACIL Allen, August 2022

Context

The Australian Livestock Export Corporation (LiveCorp) and Meat & Livestock Australia (MLA) commissioned ACIL Allens (2022) to:

- identify the value and importance of the Northern live cattle industry to the Australian economy and Northern Australian regions and communities
- estimate the impact of a material reduction or cessation of the industry's activities
- assess the industry's comparative advantage relative to South East Asia and other global competitors.

Areas of focus

The report focused on the economic impacts of the live export cattle industry in Northern Australia, estimating the economic contribution of the industry (value added), the number of jobs created both directly and indirectly, and the adverse impact on cattle prices and land values in the event of the full or partial cessation of the live cattle export industry.

The report also includes three regional case studies looking at the economic contribution, and employment levels both direct and indirect associated with the live cattle export industry in Northern Australia.

Major Findings & Conclusions

The input-output analysis showed Northern Australian live cattle exports contributed \$1.4 billion and 6,573 full-time equivalent jobs (FTEs) to the Australian economy in 2020-21. This consisted of \$508 million and 1,527 FTEs contributed directly by the live cattle export industry in Northern Australia and an indirect flow-on into the wider economy of \$862 million and 5,046 FTEs across 20

major industries. Broken down by state/territory, the economic contribution of the Northern live cattle exports were:

- In the Northern Territory, a direct contribution of \$213 million of value added and employment of 522 FTEs, with a further indirect contribution of \$753 million of value added and employment of 753 FTEs.
- In Queensland, a direct contribution of \$111 million of value added and employment of 403 FTEs, with a further indirect contribution of \$191 million value added and employment of 1,202 FTEs.
- In Western Australia, a direct contribution of \$97 million of value added and employment of 328 FTEs, with a further indirect contribution of \$121 million of value added and employment of 639 FTEs.

Live cattle export contributes an average of \$37 million value added annually to each region in Northern Australia. Ranging from \$143 million in Katherine to \$0 million in East Arnhem. The differences relate to each region's overall size, area of grazing land used (for live export) and whether live cattle aggregation and port operations occur.

A reduction and cessation in the live cattle trade will result in more cattle being sent to domestic slaughter for consumption in Australian or overseas export markets. A lack of meat processing capacity in Northern Western Australia and the Northern Territory means that cattle previously sent into the live cattle export market would need to be transported south for processing. Without an operating abattoir in NT, the main alternative available to cattle producers is shipping to a South Australian or Queensland abattoir. The Colourstone Abattoir, that is around 100 km east of Broome, is the only major abattoir operating in Northern Western Australia (Sinclair, 2022).

The report estimates that cattle prices received collectively by Australian cattle farmers would fall by between 1.0% and 3.7% in the event of a cessation of the live cattle trade and by 0.5% and 1.9% in the event of a 50% reduction in the live cattle trade. Prices would fall across-the-board because any interruption in the live cattle export industry would result in increased supply for the domestic processing industry. The modelling process by which these results are derived is not transparent and the description accompanying this analysis is fairly minimal. However, the report does note that a high degree of uncertainty is associated with the estimated price impact arising from the increased supply of cattle.

The estimated impact on the entire Australian beef industry from a complete ban on the live cattle industry arising from lower cattle prices is for a reduction in gross value added by 2030 of between \$131 to \$505 million. In relation to a partial 50% reduction in the live cattle industry commencing in 2023, the reduction in gross value added for the Australian beef industry reaches between \$66 to \$253 million by 2030.

In addition, the live cattle export industry will also experience a loss of value through the following channels:

- By diverting cattle from live export to the domestic market, there will be a significant reduction in the effective price per kg of meat achieved.
- The meat of the formerly exported cattle will be discounted to reflect market preferences.
- The diverted cattle will be subject to additional costs such as the cost of transport to the nearest abattoir for slaughter.

On this basis, the report estimates that the live cattle export industry will experience a loss of value added in the order of \$737 million per annum by 2030 for a 100% cessation of live exports by 2023, \$700 million per annum in 2030 for a 100% cessation of live exports by 2030, and \$345 million per annum in 2030 for a 50% reduction by 2030.

The Net Present Value over 20 years of the total impact on the Australian beef industry and cattle industry is between \$2.8 billion and \$11.8 billion, depending on the scenario. The impact of an immediate cessation is greatest because the losses commence immediately and there is limited opportunity to adjust.

A reduction or cessation of live cattle trading is also likely to have an adverse impact on land values across Northern Australia. Assuming no further improvements or income from other uses, the value of NT grazing land is expected to decline by between 11.0% and 34.4% under the three scenarios.

The report found the key drivers for Australia's comparative advantage in live export cattle were:

- proximity to key South East Asian markets
- consistency in quantity and quality of live animals
- alignment with market requirements
- high biosecurity standards.

In particular, it found there were synergies between the Northern Australia systems and Indonesia (Australia's largest market), with mutual benefits flowing due to Australia's large grazing land base versus Indonesia's lack of suitable land and Indonesia's lack of access to suitable cold chain infrastructure.

Key Assumptions and Methodology

The report utilises a range of different methods to undertake its analysis, including:

- Input-Output analysis to establish the direct and indirect economic contribution to Australia and 18 regions in 2020-21 from the Northern live cattle industry.⁷
- An econometric model
 - to estimate the price impact of the increased supply of cattle to the slaughter market due the potential cessation of the live export cattle industry; and
 - estimate the price impact on the value of grazing land in the Northern Territory arising from the cessation of the live cattle industry.
- Desktop review and qualitative analysis of available information to understand the notion of comparative advantage and the dynamics of the global live export cattle market.
- Desktop review for three regional case studies of the economic contribution of the live cattle export industry in Northern Australia:
 - Kimberley region in Western Australia
 - Charters Towers – Ayr – Ingham region in Queensland
 - Northern Territory.

The input-output analysis was conducted for the 2020-21 financial year using the Australian Bureau of Statistics (ABS) Statistical Area 3 (SA 3) level data.⁸ Other ABS data used for this analysis includes the National Accounts Input-Output data and additional industry level data from ABS and ABARES.

To estimate the impact of the cessation of the live export industry on grazing land in the Northern Territory, ACIL Allen adopted a financial approach that estimated the net present value of the impact on revenues generated per hectare of land both before and after the cessation of the live cattle export industry. While the key parameter assumptions were provided, no data sources other than ACIL Allen were cited.

⁷ Input-Output Tables (IOTs) describe the sale and purchase relationships between producers and consumers within an economy (Organisation for Economic Co-operation and Development, n.d.).

⁸ SA3s are designed to provide a regional breakdown of Australia (Australian Bureau of Statistics, 2017).

Impact/Reception

The ACIL Allen report received favourable coverage in the dedicated agricultural press but wasn't reported upon in the mainstream media.

Main Takeaways

Significant economic losses would be incurred by the reduction or cessation of the Northern Australia live export cattle trade as there is often little alternative for cattle farmers, particularly in the Northern Territory and Northern Western Australia, other than to transport cattle to abattoirs that are primarily located in southern Australia.

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s 22(1)(a)(ii)

From: s 22(1)(a)(ii)
Sent: Wednesday, 26 July 2023 1:42 PM
To: s 22(1)(a)(ii)
Subject: FW: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]
Attachments: Live Sheep Export Index of Reports Draft Submit 27Jun23.docx

For uploading on govteams

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Tuesday, June 27, 2023 3:31 PM
To: s 22(1)(a)(ii) ; s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Dear ^{s 22(1)(a)(ii)}

Further to my earlier email today, please find enclosed our index/reference list of major issues addressed in the reports and a separate report on challengeable assumptions used in the reports.

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Tuesday, June 27, 2023 10:32 AM
To: Alistair Davey <adavey@pegasus-economics.com.au>; s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Thank you Alistair for sending this through. We look forward to reading it.

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Tuesday, June 27, 2023 9:53 AM
To: s 22(1)(a)(ii) s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Dear ^{s 22(1)(a)(ii)}

Please find enclosed our first draft report for the literature review component of our project. The draft for the second component should follow later today or tomorrow.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Friday, June 16, 2023 4:55 PM

To: Alistair Davey <adavey@pegasus-economics.com.au>; s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hello Alistair

Apologies for the delayed response and thank you for sending through for our review.

Overall the template headers and approach are looking about right. Could I ask for an additional section about Key Assumptions be included as well. This would identify time periods data is drawn from, the assumptions used for the analysis (such as price of sheep), etc, that were utilised in the report. This would just need the information presented as points of fact rather than needing to validate the information used.

As you indicated, please omit the commentary, that way the content remains aligned with factually summarising the reports.

Please reach out if you had any further queries.

Kind regards

^{s 22(1)(a)(ii)}

^{s 22(1)(a)(ii)}

| ^{s 22(1)(a)(ii)}

A/g Assistant Secretary | Live Sheep by Sea Phase Out Branch

Traceability, Plant and Live Animal Exports Division

Department of Agriculture, Fisheries and Forestry

Agriculture House, 70 Northbourne Ave, Canberra ACT 2601 Australia

GPO Box 858 Canberra ACT 2601 Australia

agriculture.gov.au

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Friday, June 9, 2023 10:48 AM
To: s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii)
Subject: Review and summation of studies on the live sheep trade

Hi ^{s 22(1)(a)(ii)}

Please find enclosed our first drafts on three of the reports for the literature review project.

At this stage we have one for one query in relation to the ACIL Allen report. We have arguably strayed into commentary where we have observed there is not a lot of overlap (if any) between the Northern Australia live cattle export industry and the live sheep export industry (i.e. cattle with the Bos indicus genes grazed in Northern Australia are generally not sent for live export to the Middle East) and were wondering if that was going a step too far? In drafting we had initially examined the overlap between live cattle export and live sheep export in general but eventually decided that was probably a step too far. We would appreciate your advice on where the appropriate boundary is.

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Monday, May 22, 2023 2:35 PM
To: Alistair Davey <adavey@pegasus-economics.com.au>
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Great – I will get a meeting invite sent through

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Monday, 22 May 2023 2:24 PM
To: s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii) >
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Wednesday at 12pm (midday) works for Roger and myself.

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Monday, May 22, 2023 10:12 AM
To: Alistair Davey <adavey@pegasus-economics.com.au>
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
 Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
 s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alastair – unfortunately tomorrow is a little crazy. Would 12-12.30 on Wednesday work for you?

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Friday, 19 May 2023 8:38 AM
To: s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
 Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
 s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Sounds good, thank you.

From: s 22(1)(a)(ii)
Sent: Friday, May 19, 2023 8:22 AM
To: Alistair Davey <adavey@pegasus-economics.com.au>
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
 Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
 s 22(1)(a)(ii)
Subject: Re: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Tuesday will work. We will find some time and flick you through a meeting request.

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Thursday, May 18, 2023 9:51:36 PM
To: s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
 Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]Hi ^{s 22(1)(a)(ii)}

Unfortunately Monday is not possible for me as I am down in Melbourne, but I am available on Tuesday if that works?

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)**Sent:** Thursday, May 18, 2023 9:38 PM**To:** Alistair Davey <adavey@pegasus-economics.com.au>**Cc:** s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi Alistair,

Please find attached a copy of the executed contract.

We will look to set up a meeting with our Assistant Secretary, s 22(1)(a)(ii) for Monday. Could you please confirm if you have availability on Monday.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>**Sent:** Friday, 12 May 2023 1:31 PM**To:** s 22(1)(a)(ii)**Cc:** McDonald, Andrew Andrew.McDonald@aff.gov.au; Donaldson, Morag Morag.Donaldson@aff.gov.au; ^{s 22(1)(a)(ii)}

; s 22(1)(a)(ii)

; Roger E Fisher

refisher@pegasus-economics.com.au**Subject:** RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Please find enclosed a copy of the signed contract page, the vendor creation form and the additional forms required for the vendor creation form.

Also, when would you like to convene the inception meeting?

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Friday, May 12, 2023 9:53 AM
To: Alistair Davey <adavey@pegasus-economics.com.au>
Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; ^{s 22(1)(a)(ii)}
; s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alistair,

Thanks for providing the additions.

I have revised the start date until today and a PDF version is attached for your signature. Could you please sign today, and send back to me, so that I can arrange for it to be countersigned.

We will provide you a copy once we have countersigned the document.

Could you please also complete the vendor creation form (also attached) so that we can get your company set up in our finance system.

We look forward to working with you.

Regards

^{s 22(1)(a)(ii)}

A/g Director | ^{s 22(1)(a)(ii)}

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Tuesday, 9 May 2023 10:11 AM

To: s 22(1)(a)(ii)

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Thanks s 22(1)(a)(ii)

We have reviewed the contract and have no problems with it, and have made additions/changes to subsection C.A.5.

The only potential problem with what I have added is in relation to security clearances. Roger and I both received baseline security clearances during our work on the Aged Care Royal Commission in 2019 and 2020 respectively (which I think last for up to 8 years), although the sponsorship of those clearances by the Attorney-General's Dept was revoked once we finish up with the Commission.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Monday, May 8, 2023 5:45 PM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alistair,

Please find attached the draft contract for the review and summation of studies on the live sheep trade.

Could you please review and let me know if you require any changes. Could you in particular check the requirement as well as update the specified personnel table (it has been highlighted).

Once we can finalise the contract, we will execute the signatures and kick off with an inception meeting.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Thursday, 4 May 2023 10:18 AM

To: s 22(1)(a)(ii)

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Dear s 22(1)(a)(ii)

Thank you for your email of 2 May 2023 and your request for quote following on from our teleconference last week.

In quoting for this review project, the Pegasus Economics team will include both myself as well as Roger Fisher who has been a co-author on previous Pegasus reports on the live sheep export industry.

Our understanding of the project is that we are to provide insightful and helpful commentary on the reports with a view to assisting the panel in its understanding of the economic issues associated with a timeframe for cessation of the live sheep export trade. We do not envisage that our task is to provide an alternative position on the reports, but instead to highlight key take outs, signpost significant issues, explain methodologies and provide commentary on strengths, weaknesses and potential gaps in the reports. We will seek to address complex economic and policy issues in non-technical language and are cognisant of the fact that the project must be completed by 30 June 2023.

We believe that it would be useful to commence the project with an inception meeting to discuss the project in more detail. The meeting will help ensure a mutual understanding of objectives, deliverables, methodology, timing, resources, and management of the project.

Other studies that we believe would be useful to also include in the coverage of the review project include:

- Centre for International Economics. (2014). *Contribution of live exports to the Australian Wool Industry*, Prepared for Australian Wool Innovation, Canberra.
- Centre for International Economics. (2018). *Contribution of live exports to Woolgrower's income - An Update*, Prepared for Australian Wool Innovation, Canberra.
- Davey, A., & Fisher, R. (2018). *Economic Issues Associated with the Live Sheep Export Trade*. Prepared for Animals Australia, Canberra: Pegasus Economics.
- Davey, A., Fisher, R., & Morley, M. (2022) *Economic Implications of Phasing Out the Live Sheep Export Trade*, Prepared for Animals Australia, Canberra: Pegasus Economics.
- Kingwell, R., Cunningham, P., Nath, T., Anderton, L., Xayavong, V., Curis, K., . . . Feldman, D. (2011). *The Economic Importance to Western Australia of Live Animal Exports*. Perth: Department of Agriculture and Food Western Australia.
- Mecardo. (2018). *Live Sheep Export – Brief Report*. Ballarat.
- Pritchett, K. (2019). *Implications of management decisions on the WA sheep flock in response to changing markets*. Perth: Department of Primary Industries and Regional Development.

We would seek your guidance as to whether you want us to review our own previous reports, although we do readily acknowledge they were far from perfect.

On this basis, our quote for this project is \$49,500 inclusive of GST, although we can review this budget if the Department prefers a different approach. We would also be happy to discuss and refine any elements of the suggested approach in order to ensure the end product meets your needs.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Tuesday, May 2, 2023 3:20 PM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; ^{s 22(1)(a)(ii)}

Subject: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hello Alistair,

Thanks for taking time to meet with us last week in regard to a review of studies on the live sheep trade.

Minister Watt has appointed a four-person panel to consult on how and when to phase out live exports of sheep by sea. The panel includes Ms Sue Middleton, Ms Heather Neil and the Hon. Warren Snowdon.

The panel has been asked to report to Minister Watt by 30 September on:

- potential mechanisms to phase out live sheep exports by sea
- a suggested timeframe and options for implementation
- potential ways to support the transition.

The panel's remit does not include the merits of the policy and the policy does not cover cattle or other live exports.

We would like to request a quote from you to provide the following:

- An assessment and summation of existing studies in relation to live sheep exports, including but not limited to:
 - Value analysis of the Australian Live Sheep Export Trade – Mecardo
 - Impact of the live sheep export trade's self-imposed moratorium and regulatory changes – Mecardo
 - The economic impacts of regulating live sheep exports - research report 21.01 – February 2021 – ABARES
 - The economic contribution and benefits of the Northern live export cattle industry – ACIL ALLEN
- A suggested and separate guide/index/reference list of the relevant data or parts of each report that you judge as worthy of the panel's consideration—and particularly identifying where the underlying assumptions or findings/conclusions are inaccurate or should otherwise be treated with caution (eg facts or figures).

Could you please supply a quote to us by COB Thursday 4 May 2023. We would need the review to be completed and provide to the panel by 30 June 2023.

If you require any additional information, please feel free to contact me,

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

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Index of major issues addressed in reports

Animal Welfare Issues	Kingwell, et al., (2011, pp. 7-9) Mecardo (Dalgleish, Agar, & Herrmann, 2020, pp. 24-27) Pegasus Economics (Davey & Fisher, 2018, p. 1) Pegasus Economics (Davey, Fisher, & Morley, 2022, pp. 1-3)
Cattle Industry	ACIL Allens (2022) Kingwell, et al., (2011, pp. 6-7, pp. 16-21) Mecardo (Dalgleish, Agar, & Herrmann, 2020, p. 23)
Determinants of Lamb/Sheep Prices	ABARES (Nelson, et al., 2021, p. 11, p. 17) CIE (2014, p. 6, p. 8) CIE (2018, pp. 14-16) Mecardo (2018, pp. 5-8) Pegasus Economics (2018, pp. 14-18) Pegasus Economics (Davey, Fisher, & Morley, 2022, pp. 14-19)
Economy Wide Impact of Live Sheep Export Trade Termination	Kingwell, et al., (2011, pp. 42-43) Pegasus Economics (Davey & Fisher, 2018, pp. 29-30)
Employment Impacts of Live Sheep Export Trade	Mecardo (Dalgleish, M; Agar, O, 2019, p. 6) Mecardo (Dalgleish, Agar, & Herrmann, 2020, p. 15, 17, 21) Pegasus Economics (2018, p. 29, pp. 30-31) Pegasus Economics (Davey, Fisher, & Morley, 2022, p. 26)
Income Impact on Farmers from Disruption/Termination of Live Sheep Export Trade	ABARES (Nelson, et al., 2021, pp. 5-6, pp. 13-15) CIE (2014, pp. 6-17) CIE (2018, pp. 1-4, pp. 14-18) Kingwell, et al., (2011, pp. 37-43) Mecardo (2018, p. 8) Mecardo (Dalgleish, Agar, & Herrmann, 2020, pp. 5-6) Pegasus Economics (Davey & Fisher, 2018, pp. 12-14) Pegasus Economics (Davey, Fisher, & Morley, 2022, p. 22)
Live Sheep Export Trade Overseas Markets	Kingwell, et al., (2011, pp. 12-14) Pegasus Economics (Davey & Fisher, 2018, pp. 18-26) Pegasus Economics (Davey, Fisher, & Morley, 2022, pp. 11-14)
Price Impact from Live Export Trade Disruption/Termination	ABARES (Nelson, et al., 2021, pp. 9-11) CIE (2014, pp. 6-17) CIE (2018, pp. 1-4, pp. 14-18) Mecardo (2018, p. 8) Pegasus Economics (Davey & Fisher, 2018, pp. 12-14) Pegasus Economics (Davey, Fisher, & Morley, 2022, p. 22)
Sheep Farming in WA	Kingwell, et al., (2011, pp. 4-6, pp. 25-27) Pritchard (2019, p. 1, p. 7, pp. 12-13, p. 13, p. 15)

Sheep Meat Processing	ABARES (Nelson, et al., 2021, pp. 3-5, p. 7, p. 16) CIE (2014, p. 8, p. 9, p. 17) CIE (2018, p. 1, p. 3, p. 13, p. 15, p. 16) Kingwell, et al., (2011, p. 1. p. 2, p. 3, p. 37, p. 40, pp. 41-42) Pegasus Economics (Davey & Fisher, 2018, pp. 30-38)Pegasus Economics (Davey, Fisher, & Morley, 2022, p. 6, p. 10, p. 11, pp. 25-27) Pritchard
Social/Regional Impacts	Kingwell, et al., (2011, p, 1, p. 2, p. 3 p. 15, p. 22) Mecardo (Dagleish, Agar, & Herrmann, 2020, p. 15, p. 21, p. 28) Pritchard (2019, p. 13)
Supply Chain Impacts	Mecardo (Dagleish, M; Agar, O, 2019, pp. 7-10) Mecardo (Dagleish, Agar, & Herrmann, 2020, pp. 6-23)

s 22(1)(a)(ii)

From: s 22(1)(a)(ii)
Sent: Wednesday, 26 July 2023 1:40 PM
To: s 22(1)(a)(ii)
Subject: FW: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]
Attachments: Pegasus Review of Assumptions Draft Report Submit 18Jul23.docx

For uploading to govteams

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Tuesday, July 18, 2023 9:55 AM
To: s 22(1)(a)(ii) ; s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Further to our teleconference last Friday, please enclosed an updated version of our report on the assumptions.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Thursday, July 13, 2023 2:28 PM
To: Alistair Davey <adavey@pegasus-economics.com.au>; s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Thanks Alistair. Let's chat tomorrow at 10am. I will send through a meeting request.

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Thursday, July 13, 2023 2:03 PM
To: s 22(1)(a)(ii) ; s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

I could do it alone tomorrow at 10am, but Roger has other commitments.

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Thursday, July 13, 2023 1:59 PM
To: Alistair Davey <adavey@pegasus-economics.com.au>; s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: Re: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Any chance you may have some availability tomorrow? s 22(1)(a)(ii) is on leave for the beginning of next week.

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Thursday, July 13, 2023 1:39:01 PM
To: s 22(1)(a)(ii) ; s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

What about a MS Team meeting at 10am on Monday if that is convenient?

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Thursday, July 13, 2023 11:16 AM

To: Alistair Davey <adavey@pegasus-economics.com.au>; s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi Roger and Alistair,

Could we please set up another meeting to discuss the reports provided to us. We have a few things that we would like to discuss.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Thursday, July 6, 2023 10:36 AM
To: s 22(1)(a)(ii) ; s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Thanks for your email, preliminary feedback and the meeting request.

Would 10am tomorrow or Monday be convenient for a zoom meeting?

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Thursday, July 6, 2023 9:38 AM
To: Alistair Davey <adavey@pegasus-economics.com.au>; s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Good morning Alistair,

Thanks for providing the report. We do have some concerns with the report and would appreciate some time to discuss.

Firstly the name of the report differs for the name on the contract and secondly the summations do not match the template that we had agreed upon. There are some other issues but these are the two stand out. We believe some of the information from not sticking to the templates means that key analysis is missing.

Do you have some time available in the near future so we can arrange a meeting?

Regards

s 22(1)(a)(ii)

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Tuesday, June 27, 2023 3:31 PM

To: s 22(1)(a)(ii) ; s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Dear ^{s 22(1)(a)(ii)}

Further to my earlier email today, please find enclosed our index/reference list of major issues addressed in the reports and a separate report on challengeable assumptions used in the reports.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Tuesday, June 27, 2023 10:32 AM

To: Alistair Davey <adavey@pegasus-economics.com.au>; s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>

economics.com.au>; s 22(1)(a)(ii)

Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Thank you Alistair for sending this through. We look forward to reading it.

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Tuesday, June 27, 2023 9:53 AM

To: s 22(1)(a)(ii)

s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii)

; Roger E Fisher <[refisher@pegasus-](mailto:refisher@pegasus-economics.com.au)

economics.com.au>; s 22(1)(a)(ii)

Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Dear ^{s 22(1)(a)(ii)}

Please find enclosed our first draft report for the literature review component of our project. The draft for the second component should follow later today or tomorrow.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Friday, June 16, 2023 4:55 PM

To: Alistair Davey <adavey@pegasus-economics.com.au>; s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii)

; Roger E Fisher <[refisher@pegasus-](mailto:refisher@pegasus-economics.com.au)

economics.com.au>; s 22(1)(a)(ii)

Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hello Alistair

Apologies for the delayed response and thank you for sending through for our review.

Overall the template headers and approach are looking about right. Could I ask for an additional section about Key Assumptions be included as well. This would identify time periods data is drawn from, the assumptions used for the analysis (such as price of sheep), etc, that were utilised in the report. This would just need the information presented as points of fact rather than needing to validate the information used.

As you indicated, please omit the commentary, that way the content remains aligned with factually summarising the reports.

Please reach out if you had any further queries.

Kind regards

s 22(1)(a)(ii)

s 22(1)(a)(ii) | s 22(1)(a)(ii)
A/g Assistant Secretary | Live Sheep by Sea Phase Out Branch
Traceability, Plant and Live Animal Exports Division
Department of Agriculture, Fisheries and Forestry
Agriculture House, 70 Northbourne Ave, Canberra ACT 2601 Australia
GPO Box 858 Canberra ACT 2601 Australia
agriculture.gov.au

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Friday, June 9, 2023 10:48 AM
To: s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii)
Subject: Review and summation of studies on the live sheep trade

Hi ^{s 22(1)(a)(ii)}

Please find enclosed our first drafts on three of the reports for the literature review project.

At this stage we have one for one query in relation to the ACIL Allen report. We have arguably strayed into commentary where we have observed there is not a lot of overlap (if any) between the Northern Australia live cattle export industry and the live sheep export industry (i.e. cattle with the *Bos indicus* genes grazed in Northern Australia are generally not sent for live export to the Middle East) and were wondering if that was going a step too far? In drafting we had initially examined the overlap between live cattle export and live sheep export in general but eventually decided that was probably a step too far. We would appreciate your advice on where the appropriate boundary is.

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Monday, May 22, 2023 2:35 PM
To: Alistair Davey <adavey@pegasus-economics.com.au>
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Great – I will get a meeting invite sent through

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Monday, 22 May 2023 2:24 PM

To: s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Wednesday at 12pm (midday) works for Roger and myself.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Monday, May 22, 2023 10:12 AM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alastair – unfortunately tomorrow is a little crazy. Would 12-12.30 on Wednesday work for you?

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Friday, 19 May 2023 8:38 AM

To: s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Sounds good, thank you.

From: s 22(1)(a)(ii)

Sent: Friday, May 19, 2023 8:22 AM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii)

Subject: Re: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Tuesday will work. We will find some time and flick you through a meeting request.

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Thursday, May 18, 2023 9:51:36 PM

To: s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Unfortunately Monday is not possible for me as I am down in Melbourne, but I am available on Tuesday if that works?

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Thursday, May 18, 2023 9:38 PM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi Alistair,

Please find attached a copy of the executed contract.

We will look to set up a meeting with our Assistant Secretary, s 22(1)(a)(ii) for Monday. Could you please confirm if you have availability on Monday.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry

Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Friday, 12 May 2023 1:31 PM

To: s 22(1)(a)(ii)

Cc: McDonald, Andrew Andrew.McDonald@aff.gov.au; Donaldson, Morag Morag.Donaldson@aff.gov.au; ^{s 22(1)(a)(ii)}
; s 22(1)(a)(ii) ; Roger E Fisher

refisher@pegasus-economics.com.au

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Please find enclosed a copy of the signed contract page, the vendor creation form and the additional forms required for the vendor creation form.

Also, when would you like to convene the inception meeting?

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Friday, May 12, 2023 9:53 AM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; ^{s 22(1)(a)(ii)}
; s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alistair,

Thanks for providing the additions.

I have revised the start date until today and a PDF version is attached for your signature. Could you please sign today, and send back to me, so that I can arrange for it to be countersigned.

We will provide you a copy once we have countersigned the document.

Could you please also complete the vendor creation form (also attached) so that we can get your company set up in our finance system.

We look forward to working with you.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Tuesday, 9 May 2023 10:11 AM

To: s 22(1)(a)(ii)

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Thanks s 22(1)(a)(ii)

We have reviewed the contract and have no problems with it, and have made additions/changes to subsection C.A.5.

The only potential problem with what I have added is in relation to security clearances. Roger and I both received baseline security clearances during our work on the Aged Care Royal Commission in 2019 and 2020 respectively (which I think last for up to 8 years), although the sponsorship of those clearances by the Attorney-General's Dept was revoked once we finish up with the Commission.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Monday, May 8, 2023 5:45 PM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alistair,

Please find attached the draft contract for the review and summation of studies on the live sheep trade.

Could you please review and let me know if you require any changes. Could you in particular check the requirement as well as update the specified personnel table (it has been highlighted).

Once we can finalise the contract, we will execute the signatures and kick off with an inception meeting.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Thursday, 4 May 2023 10:18 AM

To: s 22(1)(a)(ii)

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Dear s 22(1)(a)(ii)

Thank you for your email of 2 May 2023 and your request for quote following on from our teleconference last week.

In quoting for this review project, the Pegasus Economics team will include both myself as well as Roger Fisher who has been a co-author on previous Pegasus reports on the live sheep export industry.

Our understanding of the project is that we are to provide insightful and helpful commentary on the reports with a view to assisting the panel in its understanding of the economic issues associated with a timeframe for cessation of the live sheep export trade. We do not envisage that our task is to provide an alternative position on the reports, but instead to highlight key take outs, signpost significant issues, explain methodologies and provide commentary on strengths, weaknesses and potential gaps in the reports. We will seek to address complex economic and policy issues in non-technical language and are cognisant of the fact that the project must be completed by 30 June 2023.

We believe that it would be useful to commence the project with an inception meeting to discuss the project in more detail. The meeting will help ensure a mutual understanding of objectives, deliverables, methodology, timing, resources, and management of the project.

Other studies that we believe would be useful to also include in the coverage of the review project include:

- Centre for International Economics. (2014). *Contribution of live exports to the Australian Wool Industry*, Prepared for Australian Wool Innovation, Canberra.
- Centre for International Economics. (2018). *Contribution of live exports to Woolgrower's income - An Update*, Prepared for Australian Wool Innovation, Canberra.
- Davey, A., & Fisher, R. (2018). *Economic Issues Associated with the Live Sheep Export Trade*. Prepared for Animals Australia, Canberra: Pegasus Economics.
- Davey, A., Fisher, R., & Morley, M. (2022) *Economic Implications of Phasing Out the Live Sheep Export Trade*, Prepared for Animals Australia, Canberra: Pegasus Economics.
- Kingwell, R., Cunningham, P., Nath, T., Anderton, L., Xayavong, V., Curis, K., . . . Feldman, D. (2011). *The Economic Importance to Western Australia of Live Animal Exports*. Perth: Department of Agriculture and Food Western Australia.
- Mecardo. (2018). *Live Sheep Export – Brief Report*. Ballarat.

- Pritchett, K. (2019). *Implications of management decisions on the WA sheep flock in response to changing markets*. Perth: Department of Primary Industries and Regional Development.

We would seek your guidance as to whether you want us to review our own previous reports, although we do readily acknowledge they were far from perfect.

On this basis, our quote for this project is \$49,500 inclusive of GST, although we can review this budget if the Department prefers a different approach. We would also be happy to discuss and refine any elements of the suggested approach in order to ensure the end product meets your needs.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Tuesday, May 2, 2023 3:20 PM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hello Alistair,

Thanks for taking time to meet with us last week in regard to a review of studies on the live sheep trade.

Minister Watt has appointed a four-person panel to consult on how and when to phase out live exports of sheep by sea. The panel includes Ms Sue Middleton, Ms Heather Neil and the Hon. Warren Snowdon.

The panel has been asked to report to Minister Watt by 30 September on:

- potential mechanisms to phase out live sheep exports by sea
- a suggested timeframe and options for implementation
- potential ways to support the transition.

The panel's remit does not include the merits of the policy and the policy does not cover cattle or other live exports.

We would like to request a quote from you to provide the following:

- An assessment and summation of existing studies in relation to live sheep exports, including but not limited to:
 - Value analysis of the Australian Live Sheep Export Trade – Mecardo
 - Impact of the live sheep export trade's self-imposed moratorium and regulatory changes – Mecardo
 - The economic impacts of regulating live sheep exports - research report 21.01 – February 2021 – ABARES
 - The economic contribution and benefits of the Northern live export cattle industry – ACIL ALLEN

- A suggested and separate guide/index/reference list of the relevant data or parts of each report that you judge as worthy of the panel's consideration—and particularly identifying where the underlying assumptions or findings/conclusions are inaccurate or should otherwise be treated with caution (eg facts or figures).

Could you please supply a quote to us by COB Thursday 4 May 2023. We would need the review to be completed and provide to the panel by 30 June 2023.

If you require any additional information, please feel free to contact me,

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

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Review of Assumptions in Reports on the Live Sheep Export Industry





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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.

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

For information on this report please contact:

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Front cover photograph shows a sheep near Lakes Entrance in Victoria.

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1. Introduction

Pegasus Economics (Pegasus) has been commissioned by the Department of Agriculture, Fisheries and Forestry to provide commentary on the underlying assumptions or findings/conclusions of the following reports:

- *The economic impacts of regulating live sheep exports - research report 21.01* – February 2021 – Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES), (Nelson, et al., 2021)
- *The economic contribution and benefits of the Northern live export cattle industry* – August 2022 – ACIL Allen (2022)
- *Contribution of live exports to the Australian Wool Industry* – March 2014 – The Centre for International Economics (CIE) (2014)
- *Contribution of live exports to Woolgrower's income - An Update* – July 2018 – CIE (2018)
- *The Economic Importance to Western Australia of Live Animal Exports* – July 2011 – Kingwell, R., Cunningham, P., Nath, T., Anderton, L., Xayavong, V., Curis, K., . . . Feldman, D., Department of Agriculture and Food Western Australia, (Kingwell, et al., 2011)
- *Live Sheep Export – Brief Report* – April 2018 – Mecardo (2018)
- *Value analysis of the Australian Live Sheep Export Trade* – September 2019 – Mecardo (Dalglish, M; Agar, O, 2019)
- *Impact of the live sheep export trade's self-imposed moratorium and regulatory changes* – January 2020 – Mecardo (Dalglish, Agar, & Herrmann, 2020)
- *Economic Issues Associated with the Live Sheep Export Trade* – March 2018 – Pegasus Economics (Davey & Fisher, 2018)
- *Economic Implications of Phasing Out the Live Sheep Export Trade* - April 2022 – Pegasus Economics (Davey & Fisher, Live Sheep Export Trade: Review of the Draft Regulation Impact Statement, 2020)
- *Implications of management decisions on the WA sheep flock in response to changing markets.* – April 2019 – Pritchett, K, Department of Primary Industries and Regional Development, Western Australia (Pritchett, 2019)

The views and opinions expressed in this report are entirely those of the authors and not the Department of Agriculture, Fisheries and Forestry.

2. *The economic contribution and benefits of the Northern live export cattle industry - ACIL Allens 2022*

There is a question as to how relevant the findings in this report are to the live sheep export trade as there is little relationship between the live sheep export industry and the Northern live cattle export industry.

While live cattle have been exported alongside live sheep on livestock carriers destined for the Middle East, such voyages commence exclusively out of the Port of Fremantle in the south-west Western Australia and usually carry cattle from the Southern Agricultural Region of Western Australia rather than Northern Australia.

Cattle from Northern Australia are highly unlikely to find their way to the Middle East for live export. Farmers in Northern Australia prefer cattle with traits derived from *Bos indicus* breeds such as

Brahman, because these cattle perform better in the higher temperatures associated with the tropical climate, lose less condition when transported long distances, and possess greater tick resistance (Australian Competition and Consumer Commission, 2017, p. 22). In turn, *Bos indicus* breeds from Northern Australia are generally exported to south-east Asian countries such as Indonesia, Vietnam, Malaysia and the Philippines (LiveCorp, 2023).

Cattle from the Southern Agricultural Region of Western Australia tend to be predominantly *Bos taurus* or European breeds such as Angus and Hereford (Department of Primary Industries and Regional Development, 2021; LiveCorp, 2023). These cattle are sold to a variety of Middle Eastern countries such as Israel (LiveCorp, 2023).

3. *Contribution of live exports to the Australian Wool Industry – CIE 2014 and Contribution of live exports to Woolgrower's income - An Update – July 2018 – CIE 2018*

There are three assumptions made by CIE (2014) that are worth noting.

The first assumption is that the live sheep export industry underwrite sheep saleyard prices across Australia. According to CIE (2014, p. 6):

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, and so contributes to the red meat industry, however, the contribution of the live trade to the wool industry is not well understood.

ABARES (Nelson, et al., 2021, p. 17) has noted studies funded by industry tend not to recognise that prices are set in world markets, as appears to be the case in this instance.

The second assumption made by CIE (2014, p. 24) is that WA sheep farmers have limited options available to them if the live sheep export trade is no longer available to them:

The bottom line is that woolgrowers, and particularly specialist woolgrowers, have limited capacity to transform their enterprise mix away from sheep. This is why the option value of the live trade is so important, in providing another channel to dispose of cull wethers for a good return.

CIE's assumption in this regard differs from the historical trend since 1990 as WA farmers have diversified their enterprises away from sheep focusing upon wool production. Low wool prices following the collapse of the wool reserve price scheme in 1991 encouraged farmers to switch from sheep to cropping (Department of Agriculture, 2019, p. 10). The fall in wool prices, coupled with rising grain prices, saw a shift towards cropping by many farms and an expansion of cropping into more marginal areas (Dahl, Leith, & Gray, 2013, p. 207). Since the 1990s, the WA sheep flock has undergone significant change in structure and composition (Department of Agriculture and Food Western Australia, 2016, p. 3). The WA sheep flock has evolved in response to market demand from being a wool dominant flock to a dual-purpose flock producing both wool and sheep meat (Pritchett, 2019, p. 2).

According to Kingwell et.al. (2011, p. 37), further conversion of WA farming land from sheep to cropping is possible. According to Pritchard (2019), WA sheep farmers have options of increasing their cropping program, increasing lamb production, increasing wool production, and transferring sheep interstate if the live sheep export trade is no longer available.

Also, the live sheep export trade has long since ceased being an outlet for cull wethers (wethers at end of their wool production life). Meat & Livestock Australia (MLA) (2001, p. 3) suggested that

sheep intended for the Middle East live sheep trade should have four permanent adult teeth or less, implying that sheep had to be no more than two years old, in turn inferring the live sheep export trade was no longer an outlet for cull wethers.

The third assumption made by CIE (2014, p. 8) is that sheep prices would default to prices in the eastern states less the cost of transport:

Without live exports to underpin prices, the Western Australian price paid by processors would default to the eastern states (South Australian) price less the transport cost. This transport cost will be most likely in the range of \$25 to \$30 per head, which until the supply side adjusts further, will be borne by wool and sheep producers.

CIE (2018, p. 3) also made the same assumption in its 2018 report:

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. This transport cost will be most likely be \$30 per head, which until the supply side adjusts further, will be borne by wool and sheep producers.

This arguably represents an upper limit on price falls and appears to be the main factor driving the results of the price modelling in both CIE reports. Underlying this assumption is the presumption that WA sheep meat processor exercise a high degree of buyer power against WA sheep farmers in their purchase of sheep. Buyer power has been described in the following terms:

...“buyer power” refers to the circumstance in which the demand side of a market is sufficiently concentrated that buyers can exercise market power over sellers. A buyer has market power if the buyer can force sellers to reduce price below the level that would emerge in a competitive market. (Noll, 2005, p. 589)

If WA sheep meat processors do not exercise a high degree of buyer power, then WA sheep prices may not fall by as much as the prices in the eastern states less the cost of transport from WA. Perhaps recognising this possibility, CIE (2018, p. 16) also reported on results for an alternative scenario:

... recognising the uncertainties around transport distances and seasonal dynamics, the contribution of the trade was also calculated using a transport charge of \$10 per head.

ABARES (Nelson, et al., 2021, pp. 17-18) has observed in relation to several reports on the live sheep export industry funded by industry groups, including both the 2014 and 2018 CIE reports, that they tend not to recognise that lamb and sheep prices are set in world markets, or that short-term price falls in Western Australia are limited to \$20 per head by the cost of trucking sheep to eastern state markets.

Additionally, the assumed figure to transport sheep per head to eastern states of \$25 to \$30 used in the 2014 and 2018 CIE reports appears to be on the high side. According to ABARES (Nelson, et al., 2021), the average cost of transporting sheep to the eastern states for processing was only around \$20 per head.

4. *Live Sheep Export – Brief Report – Mecardo 2018*

There are a number of assumptions underlying the modelling contained in this report that are worth noting.

The report appears to assume that prices in WA for lamb and sheep meat are determined by the local supply factors. According to Mecardo (2018, p. 7):

The relationship between WA slaughter and the export price was used to create a regression-based model to determine the potential price impact on WA lamb and sheep markets from a change to annual WA slaughter levels. ... Using the historic variance from actual figures to the model forecast we were able to provide a potential range for percentage price declines impacting upon WA producers of lamb and sheep caused by the imposition of a live export ban.

ABARES (Nelson, et al., 2021, p. 17) has noted studies funded by industry tend not to recognise that prices are set in world markets.

Dr Trevor Breusch (2018, p. 7), formerly a Professor of Econometrics at the Australian National University, questioned the rigor of the economic analysis in the Mecardo report:

I come to the view that the Mecardo report is more a document of persuasion than an expert analysis of the cost to the industry of banning live sheep export.

Dr Breusch (2018, p. 7) summarised his criticism of the Mecardo modelling in the following terms:

A proper forecast of the effects would allow for adjustments both in the quantity supplied to the market each period and the expansion of markets interstate or internationally. New markets take time to develop and would not be reflected simply in the historical year-by-year shifts in slaughter quantity and price that form the basis of this report. Even within the narrow approach adopted, the forecast is based on a statistical relationship that is inconsistent with the choice of variables. The failure to account for other variables, including lags, further removes the approach from proper policy analysis.

Dr Breusch (2018, p. 6) expressed the view that the report did not provide a sound basis for decision-making:

This naïve statistical model in the Mecardo report is unsuitable for the policy evaluation in which it is employed.

Dr Breusch (2018, p. 2) described the Mecardo analysis as “very superficial and unworthy as a guide to policy.” and has described the assumption that export prices are determined solely by local supply in WA as implausible.

Mecardo (2018, p. 8) acknowledged that the possibility of transporting WA sheep to the eastern states imposed a price floor on how far WA sheep prices could fall:

As the WA market does not operate in isolation, the assumption was used that once percentage price declines in WA reached a point at which it was economically viable to ship the excess supply of WA sheep and lamb across to the Eastern states, producers would take advantage of this opportunity to minimize their losses.

However, in relation to this Mecardo report ABARES (Nelson, et al., 2021, p. 17) observed there was little or no recognition of the option for WA sheep farmers to transport sheep to high-value markets in eastern Australia.

5. *Value analysis of the Australian Live Sheep Export Trade - Mecardo 2019*

Mecardo (Dalglish, M; Agar, O, 2019, p. 2) estimated the on-farm employment related to live sheep export based on data obtained from the 2017-18 Australian Agricultural and Grazing Industries Survey (AAGIS) published by the ABARES. This analysis assumes knowledge of the labour intensity of sheep farming and the allocation of labour between different sheep outputs, although details on those assumptions have not been provided in the report.

Mecardo uses an employment multiplier to gross up the number of on-farm jobs it attributes to the live sheep export industry to the wider economy (Dalglish, M; Agar, O, 2019).¹ The employment multiplier figure is derived from the *State of the Industry Report 2018: The Australian red meat and livestock industry* publication (Meat & Livestock Australia and Ernst & Young, 2018, p. 12). The report takes the total direct and indirect estimated employment of the red meat and livestock industry in 2016-17 of 438,100 and divides that by the direct employment of the meat production sector (composed of meat livestock producers and feedlots) of 132,100 in 2016-17 to derive an employment multiplier of 3.32 (Dalglish, M; Agar, O, 2019, p. 6n).

There are several assumptions associated with Mecardo's estimate of the level of employment attributed to the live sheep export trade that are worth noting.

In the first instance, around 80% of the labour worked on all sheep farms in WA is performed by the farmer and other farm family members – the so-called imputed labour cost where there is no actual monetary outlay on wages (based on AAGIS data). According to an ABARES report on the financial performance of lamb producing farms (Litchfield, 2020, p. 38):

A large amount of unpaid labour is used in family-operated sheep-producing farms, particularly smaller farms.

Secondly, there are a couple of issues associated with the derivation of the employment multiplier used by Mecardo:

- 13.6% of the total number of jobs 'created' by the livestock meat production sector by livestock farms and feedlots actually relate to employment in the meat processing, wholesaling and retailing sectors, all of which are presumably outside of the scope of the live sheep export production chain.
- The *State of the Industry Report 2018: The Australian red meat and livestock industry* publication states that for the livestock meat production sector, 1.2 additional indirect jobs were created for each direct job (Meat & Livestock Australia and Ernst & Young, 2018, p. 12). On this basis, Mecardo should have used an employment multiplier of 2.2 instead of the 3.32 that it did use.

Even if one were to accept Mecardo's figure of direct employment on-farm in WA of 798 in 2017-18, then total direct and indirect employment in WA relating to the live sheep export supply chain would be reduced to less than 1,800.

¹ Economic multipliers (e.g. for income, output, employment, value added, or imports) are typically derived from input-output tables (The Treasury (NSW Government), 2017, p. 63) that are produced as a by-product from the compilation of the national accounts.

Thirdly, Mecardo calculated its estimate of the direct and indirect levels of employment attributed to the live sheep export supply chain in WA based on 2017-18 when the level of live sheep exports from WA was 1.6 million, in excess of three times the level of live sheep exports during the 2022 calendar year. If Mecardo's estimate of direct employment on-farm of 798 in 2017-18 in WA associated with the live sheep export supply chain is taken at face value and the correct employment multiplier applied to the current size of the live sheep export industry, then the total level of employment associated with the live sheep export supply chain in WA would amount to around 550.

Fourthly, the Mecardo report also takes no account of jobs that would be created in the event the live sheep industry was phased out. According to the Department of Agriculture (2019, p. 46), switching from live exports to lamb production is likely to have only minor impacts on employment in the sheep industry because the production of prime lambs requires more labour per sheep than producing sheep for live export. The Department of Agriculture (2019, p. 46) has also observed that overall total WA employment will likely increase if the live sheep export trade is curtailed as a result of increased employment in the meat processing sector.

6. *Impact of the live sheep export trade's self-imposed moratorium and regulatory changes - Mecardo 2020*

Mecardo's stakeholder engagement provides insights not otherwise available, but the number of interviews conducted is very low and there are doubts about its statistical validity. For two industries, only one interview was conducted; for an additional three industries, only two interviews were conducted. In no cases were interview transcripts provided. It is, therefore, very difficult to assess how representative the respondents chosen were, or how faithfully respondent attitudes have been reproduced in the report.

While this report contains much useful information on the broader supply chain impacts of the live sheep export trade, several elements of the modelling in the report are worth noting.

The key assumption driving results in this report is that in the absence of the live sheep trade there would be a 30-50% approximate reduction in prices at the saleyard in WA (Dalgleish, Agar, & Herrmann, 2020, pp. 5-6). Mecardo sourced this key assumption from CIE (2018).

ABARES (Nelson, et al., 2021, pp. 17-18) has observed that this report (and many others) tends not to recognise that lamb and sheep prices are set in world markets, or that short-term price falls in Western Australia are limited to \$20 per head by the cost of trucking sheep to eastern state markets.

ABARES (Nelson, et al., 2021, p. 17) contends that the report is likely to overstate the impact of restricting live exports for two reasons. First, a 30% to 50% reduction in saleyard prices was assumed based on a report by CIE (2018), despite a footnote in the Mecardo report recognising that saleyard prices were observed to fall by only 15% to 30% (Dalgleish, Agar, & Herrmann, 2020, p. 5n). Second, there is no recognition of the likely short-term nature of these price impacts or the likelihood that prices will rise as an expansion of domestic meat processing reduces processing costs.

Transparency around the modelling in this report is also an issue. According to Mecardo (Dalgleish, Agar, & Herrmann, 2020, p. 5):

Multifactorial regression modelling of annual live sheep export volumes and the relationship between the live export trade, flock size and slaughter, both nationally and within Western Australia, was used to estimate monthly live export sheep volumes if the industry was not subject to the 2018 suspension and the 2019 moratorium.

Details on what sort of modelling was conducted and the robustness of the results has not been provided, so the veracity of the modelling exercise cannot be independently verified.

7. *Economic Issues Associated with the Live Sheep Export Trade – Pegasus Economics 2018 and Economic Implications of Phasing Out the Live Sheep Export Trade - Pegasus Economics 2022*

Pegasus Economics assumed in its 2018 report that its estimates of the price premium paid by live sheep exporters would be equivalent to the effect of a termination of the live sheep export trade. This assumption was subsequently disproved by actual saleyard data following disruptions of the trade from 2018 onwards.

ABARES (Nelson, et al., 2021, p. 16) also observed that the economic impact estimated by Pegasus Economics on the phasing out of the live sheep export industry was likely to underestimate the impact because Western Australia's short and unreliable growing season meant that bringing these sheep to prime lamb standard for domestic processing was likely to require some purchased feed, adding both feed costs as well as additional labour costs to sheep farms in WA.

Pegasus Economics (Davey, Fisher, & Morley, 2022, p. 22) subsequently found a statistically significant negative price impact on lamb and mutton prices received by sheep farmers in WA saleyards relative to the eastern states following the prohibition on the live sheep export trade during the Northern Hemisphere summer at WA saleyards. However, Pegasus Economics at that time found no evidence for any statistically significant negative price impact arising from the Northern Hemisphere summer prohibition in relation to prices received by WA sheep farmers for heavy trade lamb and heavy mutton sold over the hooks as compared to NSW sheep farmers. Extrapolating on these results for WA saleyard sheep throughput, Pegasus Economics (Davey, Fisher, & Morley, 2022, p. 22) suggested an aggregate price impact on WA sheep farmers in the order of:

- \$14.5 million in 2018-19 (in real 2020 prices)
- \$13.2 million in 2019-20 (in real 2020 prices)
- \$11.8 million in 2020-21 (in real 2020 prices).

This worked out to an average cost through the reduction in sheep sale receipts per WA sheep farmer in the order of less than \$2,800 (in real 2020 prices) in 2020-21.

More recently, Pegasus Economics (Davey & Fisher, 2023) has revised its estimate of the price impact on WA sheep farmers arising from the prohibition on the live sheep export trade during the Northern Hemisphere summer. Pegasus Economics (Davey & Fisher, 2023, p. 29) found a statistically significant negative price impact on lamb prices received by sheep farmers in WA saleyards, and WA over the hooks prices for heavy trade lamb and medium sheep relative to NSW following the prohibition on the live sheep export trade during the Northern Hemisphere summer at WA saleyards. Extrapolating these results across the entire turn-off for WA sheep during 2021-22 suggests that the prohibition during the Northern Hemisphere summer cost WA sheep farmers in the order of \$27 million (in 2021-22 constant prices) from lower sheep prices received, that comes out at around \$6,300 per WA sheep farm (Davey & Fisher, 2023, p. 29).

8. *The economic impacts of regulating live sheep exports - ABARES 2021*

This report provides a brief summation of the economics of the live sheep export industry.

The findings in the report are derived from what the authors describe as a plausible scenario:

To create a plausible scenario, the number of sheep for live export was assumed to halve if trade was restricted to the cooler months in the northern hemisphere. This scenario assumes a sudden disruption to trade. This is a worst-case scenario that increases the short-term costs of transitioning to expanded lamb production. (Nelson, et al., 2021, p. 5)

While the report has outlined its assumptions in broad terms, the report is not transparent in terms of its underlying assumptions. The ABARES report has been criticised by Pegasus Economics (Davey, Fisher, & Morley, 2022, p. 21) as something of a ‘black box’ as there is not a lot of transparency surrounding its assumptions and underpinnings.

9. *The Economic Importance to Western Australia of Live Animal Exports - Kingwell et al., 2011*

One section of this report deals with the potential economic impact arising from the cessation of the live sheep export trade (Kingwell, et al., 2011, pp. 37-44).

This analysis assumes that prices for all categories of sheep will decline in the event the live sheep export trade were to cease (Kingwell, et al., 2011, pp. 37-39). However, the report does not specify by how much sheep prices could be expected to fall, or how different price impacts might alter the conclusions drawn from the analysis.

References

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s 22(1)(a)(ii)

From: s 22(1)(a)(ii)

Sent: Thursday, May 18, 2023 9:38 PM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi Alistair,

Please find attached a copy of the executed contract.

We will look to set up a meeting with our Assistant Secretary, s 22(1)(a)(ii) for Monday. Could you please confirm if you have availability on Monday.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Friday, 12 May 2023 1:31 PM

To: s 22(1)(a)(ii)

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>

refisher@pegasus-economics.com.au

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Please find enclosed a copy of the signed contract page, the vendor creation form and the additional forms required for the vendor creation form.

Also, when would you like to convene the inception meeting?

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Friday, May 12, 2023 9:53 AM
To: Alistair Davey <adavey@pegasus-economics.com.au>
Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>;
; s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alistair,

Thanks for providing the additions.

I have revised the start date until today and a PDF version is attached for your signature. Could you please sign today, and send back to me, so that I can arrange for it to be countersigned.

We will provide you a copy once we have countersigned the document.

Could you please also complete the vendor creation form (also attached) so that we can get your company set up in our finance system.

We look forward to working with you.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Tuesday, 9 May 2023 10:11 AM
To: s 22(1)(a)(ii)
Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>;
s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Thanks s 22(1)(a)(ii)

We have reviewed the contract and have no problems with it, and have made additions/changes to subsection C.A.5.

The only potential problem with what I have added is in relation to security clearances. Roger and I both received baseline security clearances during our work on the Aged Care Royal Commission in 2019 and 2020 respectively (which I think last for up to 8 years), although the sponsorship of those clearances by the Attorney-General's Dept was revoked once we finish up with the Commission.

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Monday, May 8, 2023 5:45 PM
To: Alistair Davey <adavey@pegasus-economics.com.au>
Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; ^{s 22(1)(a)(ii)}

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alistair,

Please find attached the draft contract for the review and summation of studies on the live sheep trade.

Could you please review and let me know if you require any changes. Could you in particular check the requirement as well as update the specified personnel table (it has been highlighted).

Once we can finalise the contract, we will execute the signatures and kick off with an inception meeting.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Thursday, 4 May 2023 10:18 AM
To: s 22(1)(a)(ii)
Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; ^{s 22(1)(a)(ii)}

s 22(1)(a)(ii)**Subject:** RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]Dear ^{s 22(1)(a)(ii)}

Thank you for your email of 2 May 2023 and your request for quote following on from our teleconference last week.

In quoting for this review project, the Pegasus Economics team will include both myself as well as Roger Fisher who has been a co-author on previous Pegasus reports on the live sheep export industry.

Our understanding of the project is that we are to provide insightful and helpful commentary on the reports with a view to assisting the panel in its understanding of the economic issues associated with a timeframe for cessation of the live sheep export trade. We do not envisage that our task is to provide an alternative position on the reports, but instead to highlight key take outs, signpost significant issues, explain methodologies and provide commentary on strengths, weaknesses and potential gaps in the reports. We will seek to address complex economic and policy issues in non-technical language and are cognisant of the fact that the project must be completed by 30 June 2023.

We believe that it would be useful to commence the project with an inception meeting to discuss the project in more detail. The meeting will help ensure a mutual understanding of objectives, deliverables, methodology, timing, resources, and management of the project.

Other studies that we believe would be useful to also include in the coverage of the review project include:

- Centre for International Economics. (2014). *Contribution of live exports to the Australian Wool Industry*, Prepared for Australian Wool Innovation, Canberra.
- Centre for International Economics. (2018). *Contribution of live exports to Woolgrower's income - An Update*, Prepared for Australian Wool Innovation, Canberra.
- Davey, A., & Fisher, R. (2018). *Economic Issues Associated with the Live Sheep Export Trade*. Prepared for Animals Australia, Canberra: Pegasus Economics.
- Davey, A., Fisher, R., & Morley, M. (2022) *Economic Implications of Phasing Out the Live Sheep Export Trade*, Prepared for Animals Australia, Canberra: Pegasus Economics.
- Kingwell, R., Cunningham, P., Nath, T., Anderton, L., Xayavong, V., Curis, K., . . . Feldman, D. (2011). *The Economic Importance to Western Australia of Live Animal Exports* . Perth: Department of Agriculture and Food Western Australia.
- Mecardo. (2018). *Live Sheep Export – Brief Report*. Ballarat.
- Pritchett, K. (2019). *Implications of management decisions on the WA sheep flock in response to changing markets*. Perth: Department of Primary Industries and Regional Development.

We would seek your guidance as to whether you want us to review our own previous reports, although we do readily acknowledge they were far from perfect.

On this basis, our quote for this project is \$49,500 inclusive of GST, although we can review this budget if the Department prefers a different approach. We would also be happy to discuss and refine any elements of the suggested approach in order to ensure the end product meets your needs.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Tuesday, May 2, 2023 3:20 PM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; ^{s 22(1)(a)(ii)}

Subject: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hello Alistair,

Thanks for taking time to meet with us last week in regard to a review of studies on the live sheep trade.

Minister Watt has appointed a four-person panel to consult on how and when to phase out live exports of sheep by sea. The panel includes Ms Sue Middleton, Ms Heather Neil and the Hon. Warren Snowdon.

The panel has been asked to report to Minister Watt by 30 September on:

- potential mechanisms to phase out live sheep exports by sea
- a suggested timeframe and options for implementation
- potential ways to support the transition.

The panel's remit does not include the merits of the policy and the policy does not cover cattle or other live exports.

We would like to request a quote from you to provide the following:

- An assessment and summation of existing studies in relation to live sheep exports, including but not limited to:
 - Value analysis of the Australian Live Sheep Export Trade – Mecardo
 - Impact of the live sheep export trade's self-imposed moratorium and regulatory changes – Mecardo
 - The economic impacts of regulating live sheep exports - research report 21.01 – February 2021 – ABARES
 - The economic contribution and benefits of the Northern live export cattle industry – ACIL ALLEN
- A suggested and separate guide/index/reference list of the relevant data or parts of each report that you judge as worthy of the panel's consideration—and particularly identifying where the underlying assumptions or findings/conclusions are inaccurate or should otherwise be treated with caution (eg facts or figures).

Could you please supply a quote to us by COB Thursday 4 May 2023. We would need the review to be completed and provide to the panel by 30 June 2023.

If you require any additional information, please feel free to contact me,

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

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Australian Government

Commonwealth Contract – Consultancy Services

Reference ID: C12492

Customer

Customer Name: Department of Agriculture, Fisheries and Forestry
Customer ABN: 34 190 894 983
Address: GPO Box 858
Canberra ACT 2601

Supplier

Full Name of the Legal Entity: Pegasus Economics
Supplier ABN: 44 744 332 108
Address: PO Box 449
Jamison Centre
Macquarie ACT 2617

Statement of Work

C.A.1 Key Events and Dates

This Contract commences on the Contract Start Date or the date this Contract is executed, whichever is the latter, and continues for the Contract Term unless:

- a) it is terminated earlier or
- b) the Customer exercises the Contract Extension Option, in which case this Contract will continue until the end of the extended time (unless it is terminated earlier).

Event	Details
Contract Start Date:	Friday, 12 May 2023
Contract Term:	This Contract will terminate on Friday, 30 June 2023.
Contract Extension Option:	This Contract includes the following extension option(s): Up to one month.

C.A.2 The Requirement

The requirement for this contract includes:

- An assessment and summation of existing studies in relation to live sheep exports, including but not limited to:
 - Value analysis of the Australian Live Sheep Export Trade – Mecardo
 - Impact of the live sheep export trade's self-imposed moratorium and regulatory changes – Mecardo
 - The economic impacts of regulating live sheep exports - research report 21.01 – February 2021 – ABARES
 - The economic contribution and benefits of the Northern live export cattle industry – ACIL ALLEN
 - Centre for International Economics. (2014). *Contribution of live exports to the Australian Wool Industry*, Prepared for Australian Wool Innovation, Canberra.
 - Centre for International Economics. (2018). *Contribution of live exports to Woolgrower's income - An Update*, Prepared for Australian Wool Innovation, Canberra.
 - Davey, A., & Fisher, R. (2018). *Economic Issues Associated with the Live Sheep Export Trade*. Prepared for Animals Australia, Canberra: Pegasus Economics.
 - Davey, A., Fisher, R., & Morley, M. (2022) *Economic Implications of Phasing Out the Live Sheep Export Trade*, Prepared for Animals Australia, Canberra: Pegasus Economics.
 - Kingwell, R., Cunningham, P., Nath, T., Anderton, L., Xayavong, V., Curis, K., . . . Feldman, D. (2011). *The Economic Importance to Western Australia of Live Animal Exports* . Perth: Department of Agriculture and Food Western Australia.
 - Mecardo. (2018). *Live Sheep Export – Brief Report*. Ballarat.
 - Pritchett, K. (2019). *Implications of management decisions on the WA sheep flock in response to changing markets*. Perth: Department of Primary Industries and Regional Development.
- A suggested and separate guide/index/reference list of the relevant data or parts of each report that you judge as worthy of the panel's consideration—and particularly identifying where the underlying assumptions or findings/conclusions are inaccurate or should otherwise be treated with caution (eg facts or figures).

C.A.2(a) Standards

The Supplier must ensure that any goods and services provided under this Contract comply with all applicable Australian standards and any Australian and international standards specified in this Statement of Work. The Supplier must ensure that it obtains copies of all relevant certifications and maintains records evidencing its compliance with those standards. If requested by the Customer, the Supplier must enable the Customer, or an independent assessor, to conduct periodic audits to confirm compliance with those standards.

Web Content Accessibility

As applicable, the Supplier must ensure that any website, associated material and/or online publications (where applicable) complies with the Web Content Accessibility Guidelines available at: <https://www.w3.org/WAI/intro/wcag>.

Australian Standards

The Supplier must comply with the following Australian Standard(s):

AS Number	Title
N/A	

C.A.2(b) Security Requirements

None Specified

C.A.2(c) Work Health and Safety

Prior to commencement of this Contract, the Customer's Contract Manager and the Supplier's Contract Manager will identify any potential work health and safety (WHS) issues anticipated to arise during the term of this contract and assign management of each issue identified to the party best able to manage it. For all issues assigned to the Supplier, the Supplier will provide the Customer with a WHS plan for approval and no work will commence until the plan is approved unless agreed in writing by the Customer.

Throughout the Contract Term, the Customer and the Supplier will proactively identify and cooperate to manage any WHS issues that arise.

C.A.2(d) Delivery and Acceptance

Where the Customer rejects any deliverables under Clause C.C.11 [*Delivery and Acceptance*] the Customer will specify a timeframe in which the Supplier is required to rectify deficiencies, at the Supplier's cost, so that the deliverables meet the requirements of this Contract. The Supplier must comply with any such requirement. Rectified deliverables are subject to acceptance under Clause C.C.11 [*Delivery and Acceptance*].

The Supplier will refund all payments related to the rejected deliverables unless the relevant deliverables are rectified and accepted by the Customer.

If the Supplier is unable to meet the Customer's timeframe, the Customer may terminate this Contract in accordance with Clause C.C.16 [*Termination for Cause*].

Milestone Description	Contact for Delivery	Delivery Location/Email	Due Date
Assessment and summation of existing studies in relation to live sheep exports	s 22(1)(a)(ii)	s 22(1)(a)(ii)	30 June 2023

C.A.2(e) Meetings

The Supplier is not required to attend meetings.

C.A.2(f) Facilities and Assistance Offered by the Customer

The Customer will not make any facilities or assistance available to the Supplier.

C.A.2(g) Customer Material

The Customer will not provide any material.

C.A.2(h) Conflicts of Interest

The Supplier has declared that it has no Conflicts of Interest relevant to the performance of its obligations under this Contract.

C.A.2(i) Public Interest Disclosure

For information about how to make a Public Interest Disclosure, please refer to the information provided on the Customer's website: <https://www.agriculture.gov.au/about/commitment/integrity>.

All Public Interest Disclosure matters (relating to this procurement) should be referred to:

Name/Position:	Public Interest Disclosure Officer
Email Address:	PID@agriculture.gov.au
Telephone:	1800 99 88 80

C.A.2(j) Complaints Handling

Any complaints relating to this procurement should be referred to:

Name/Position:	Procurement
Email Address:	procurement.feedback@agriculture.gov.au
Telephone:	1800 900 090

C.A.3 Contract Price

The maximum Contract Price inclusive of GST and all taxes and charges will not exceed **\$49,500.00** as set out below.

Fixed Price (including all expenses)

Due Date	Milestone Description	Total Price GST Exclusive	GST Component	Total Price GST Inclusive
30/06/2023	Final assessment	\$45,000.00	\$4,500.00	\$49,500.00

Total Fixed Price for Services \$49,500.00 GST Inclusive

Adjustment to Fixed Pricing for Contract Variation/Extension

To be agreed by the Customer and the Supplier.

C.A.3(a) Payment Schedule

The Total Fixed Fees and Charges will be made as a single payment on completion of contracted deliverables.

C.A.4 Contract Managers and Addresses for Notices

Contract Managers are responsible for issuing or accepting any written Notices under this Contract and are the contact points for general liaison.

C.A.4(a) Customer's Contract Manager:

The person occupying the position of: A/g Director, Live Sheep Export Phase Out

Currently: s 22(1)(a)(ii)

Telephone: s 22(1)(a)(ii)

Mobile:

Email Address: s 22(1)(a)(ii)

Postal Address: GPO Box 858

Canberra ACT 2601

C.A.4(b) Customer's Address for Invoices:

Addressee Name/Position Title: s 22(1)(a)(ii) A/g Director

Telephone: s 22(1)(a)(ii)

Email Address: s 22(1)(a)(ii)

Postal Address: GPO Box 858

Canberra ACT 2601

The Customer's preferred method of invoicing is by eInvoicing.

C.A.4(c) Supplier's Contract Manager:

Name: s 22(1)(a)(ii)

Position Title: A/g Director

Telephone: s 22(1)(a)(ii)

Mobile:

Email Address: s 22(1)(a)(ii)

Postal Address: GPO Box 858 Canberra ACT 2601

C.A.4(d) Supplier's Address for Notices

Name: Dr Alistair Davey

Position Title: Director

Email Address: adavey@pegasus-economics.com.au

Postal Address: PO Box 449

Jamison Centre

Macquarie ACT 2614

C.A.5 Specified Personnel

Position/Role	Name	Current Security Clearance Level	Percentage of Total Project Time
Director	Dr Alistair Davey	Baseline	80%
Managing Director	Roger Fisher	Baseline	20%

C.A.6 Subcontractors

None Specified

Additional Contract Terms

An executed contract will incorporate the Commonwealth Contract Terms and also the following Additional Contract Terms:

C.B.1 Intellectual Property

The Supplier owns the Intellectual Property Rights in the Material created under this Contract.

The Supplier grants to the Customer:

- a) a non-exclusive, irrevocable, royalty-free, perpetual, world-wide licence to exercise the Intellectual Property Rights in the Material provided under this Contract for any purpose and
- b) a right to sub-licence the rights in (a) above to third parties, including to the public under an open access or Creative Commons 'BY' licence.

The licence excludes the right of commercial exploitation by the Customer.

The Supplier warrants that it is entitled to grant this licence to the Customer; and that the provision of the Goods and/or Services and any Material by the Supplier under this Contract, and its use by the Customer, in accordance with this Contract, will not infringe any third party's Intellectual Property Rights and Moral Rights.

Intellectual Property Rights in Goods provided under this Contract or pre-existing Intellectual Property of the Supplier, set out below (if any), will not change as a result of this Contract.

Pre-Existing Intellectual Property of the Supplier

Not Applicable

C.B.2 Confidential Information of the Supplier

Not Applicable

C.B.3 Payment Terms

Where the Customer and the Supplier both have the capability to deliver and receive eInvoices through the Peppol framework and have agreed to use eInvoicing, following receipt of a Correctly Rendered Invoice, including acceptance of the Goods and/or Services by the Customer, the Customer will pay the amount of a Correctly Rendered Invoice to the Supplier within five (5) calendar days after receiving it, or if this day is not a Business Day, on the next Business Day.

In all other circumstances following receipt of a Correctly Rendered Invoice, including acceptance of the Goods and/or Services by the Customer, the Customer will pay the amount of a Correctly Rendered Invoice to the Supplier within twenty (20) calendar days after receiving it, or if this day is not a Business Day, on the next Business Day.

Where the Customer fails to make a payment to the Supplier by the Business Day it is due, the Customer will pay the unpaid amount plus interest on the unpaid amount, provided the amount of interest payable under this clause exceeds A\$100.

Interest payable under this clause will be simple interest calculated in respect of each calendar day from the day after the amount was due and payable, up to and including the day that the Customer effects payment, calculated using the General Interest Charge Rate as published on the Australian Taxation Office website [https://www.ato.gov.au/Rates/General-interest-charge-\(GIC\)-rates/](https://www.ato.gov.au/Rates/General-interest-charge-(GIC)-rates/).

Commonwealth Contract Terms

C.C.1 Background

- 1.1 The Customer requires the provision of certain Goods and/or Services. The Supplier has fully informed itself on all aspects of the Customer's requirements and has responded representing that it is able to meet the Requirement.
- 1.2 Some terms used in these Commonwealth Contract Terms have been given a special meaning. Their meanings are set out in the Commonwealth Contracting Suite (CCS) Glossary and Interpretation or in the Contract.

C.C.2 Relationship of the Parties

- 2.1 By virtue of this Contract, neither Party is the employee, agent, officer or partner of the other Party nor authorised to bind or represent the other Party.
- 2.2 Each Party must ensure that its officers, employees, agents or Subcontractors do not represent themselves as being an officer, employee, partner or agent of the other Party.
- 2.3 In all dealings related to the Contract, the Parties agree to:
 - a) communicate openly with each other and cooperate in achieving the contractual objectives
 - b) act honestly and ethically
 - c) comply with reasonable commercial standards of fair conduct
 - d) consult, cooperate and coordinate activities to identify and address any overlapping work health and safety responsibilities aimed at ensuring the health and safety of workers and workplaces, and
 - e) comply with all reasonable directions and procedures relating to work health and safety, record keeping and security in operation at each other's premises or facilities whether specifically informed or as might reasonably be inferred from the circumstances.

C.C.3 Conflicts of Interest

- 3.1 The Supplier warrants that, other than as previously declared in writing to the Customer at the commencement of the Contract, no Conflicts of Interest exist, relevant to the performance by the Supplier of its obligations under the Contract.
- 3.2 At any time during the term of the Contract, the Customer may require the Supplier to execute a Conflicts of Interest declaration in the form specified by the Customer.
- 3.3 As soon as the Supplier becomes aware that a Conflict of Interest has arisen, or is likely to arise during the term of the Contract, the Supplier will:
 - a) immediately report it to the Customer
 - b) provide the Customer with a written report setting out all relevant information within three (3) Business Days, and
 - c) comply with any reasonable requirements notified by the Customer relating to the Conflict of Interest.

- 3.4 If the Supplier fails to notify the Customer as set out in this clause or does not comply with the Customer's reasonable requirements to resolve or manage Conflicts of Interest, the Customer may terminate or reduce the scope of the Contract in accordance with C.C.16 [Termination for Cause].

C.C.4 Precedence of Documents

- 4.1 The Contract is comprised of:
 - a) Additional Contract Terms (if any)
 - b) if the Contract is issued under a DoSO, the Contract Details Schedule
 - c) Statement of Work
 - d) Commonwealth Contract Terms
 - e) CCS Glossary and Interpretation, and
 - f) additional Contract annexes (if any), unless otherwise agreed in writing between the Parties.
- 4.2 If there is ambiguity or inconsistency between documents comprising the Contract, the document appearing higher in the list will have precedence to the extent of the ambiguity or inconsistency.
- 4.3 The Contract may be signed and dated by the Parties on separate, but identical, copies. All signed copies constitute one (1) Contract.

C.C.5 Governing Law

- 5.1 The laws of the Australian Capital Territory apply to the Contract.

C.C.6 Entire Agreement

- 6.1 The Contract represents the Parties' entire agreement in relation to the subject matter, at the time this Contract was executed.
- 6.2 Anything that occurred before the making of this Contract shall be disregarded (unless incorporated into the Contract in writing). However, the Supplier represents that the claims made in its Response to the ATM or the RFQ as relevant remain correct.
- 6.3 Any agreement or understanding to vary or extend the Contract will not be legally binding upon either Party unless in writing and agreed by both Parties.
- 6.4 If either Party does not exercise (or delays in exercising) any of its contractual rights, that failure or delay will not prejudice those rights.

C.C.7 Survival

- 7.1 All Additional Contract Terms (if any), plus clauses: C.C.14 [Liability of the Supplier] C.C.17 [Supplier Payments] C.C.20 [Transition Out], and C.C.21 [Compliance with Law and Policy], survive termination or expiry of the Contract.

C.C.8 Notices

- 8.1 A Notice is deemed to be delivered:
 - a) if delivered by hand - on delivery to the relevant address
 - b) if sent by registered post - on delivery to the relevant address, or

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- c) if transmitted by email or other electronic means when it becomes capable of being retrieved by the addressee at the relevant email or other electronic address.
- 8.2 A Notice received after 5:00 pm, or on a day that is not a working day in the place of receipt, is deemed to be delivered on the next working day in that place.
- C.C.9 Assignment**
- 9.1 The Supplier may not assign any rights under the Contract without the Customer's written consent. To seek consent, the Supplier must provide the Customer with a Notice, which includes full details of the proposed assignee and the rights the Supplier proposes to assign.
- 9.2 To decline consent, the Customer must provide a Notice to the Supplier, setting out its reasons, within twenty (20) Business Days, or such other time as agreed between the Parties, of receiving the Notice seeking consent. Otherwise, the Customer is taken to have consented.
- C.C.10 Subcontracting**
- 10.1 Subcontracting any part of, or the entire Supplier's obligations under the Contract, will not relieve the Supplier from any of its obligations under the Contract.
- 10.2 The Supplier must ensure that Subcontractors specified in the Contract (if any) perform that part of the Services specified in the Contract. The Supplier must not subcontract any part of its obligations under the Contract, or replace approved Subcontractors, without prior written consent of the Customer. The Customer's written consent will not be unreasonably withheld.
- 10.3 At the Customer's request, the Supplier, at no additional cost to the Customer, must promptly remove from involvement in the Contract any Subcontractor that the Customer reasonably considers should be removed.
- 10.4 The Supplier must make available to the Customer the details of all Subcontractors engaged to provide the Goods and/or Services under the Contract. The Supplier acknowledges that the Customer may be required to publicly disclose such information.
- 10.5 The Supplier must ensure that any subcontract entered into by the Supplier, for the purpose of fulfilling the Supplier's obligations under the Contract, imposes on the Subcontractor the same obligations that the Supplier has under the Contract (including this requirement in relation to subcontracts).
- C.C.11 Delivery and Acceptance**
- 11.1 The Supplier must provide the Goods and/or Services as specified in the Contract and meet any requirements and standard specified in the Contract.
- 11.2 The Supplier must promptly notify the Customer if the Supplier becomes aware that it will be unable to provide all or part of the Goods and/or Services specified in the Contract and advise the Customer when it will be able to do so.
- 11.3 Any Goods must be delivered free from any security interest. Unless otherwise stated in the Contract, Goods must be new and unused. Any Services must be provided to the higher of the standard that would be expected of an experienced, professional supplier of similar services and any standard specified in the Contract.
- 11.4 The Customer may reject the Goods and/or Services within ten (10) Business Days after delivery or such longer period specified in the Contract ("Acceptance Period"), if the Goods and/or Services do not comply with the requirements of the Contract.
- 11.5 If during the Acceptance Period circumstances outside the Customer's reasonable control cause a delay in the Customer's evaluation of the compliance of the Goods and/or Services with the Contract, the Customer may give the Supplier a Notice before the end of the original Acceptance Period, setting out the reason for the delay and the revised Acceptance Period date (which must be reasonable having regard to the circumstances causing the delay).
- 11.6 If the Customer does not notify the Supplier of rejection within the Acceptance Period (as extended if applicable), the Customer will be taken to have accepted the Goods and/or Services, though the Customer may accept the Goods and/or Services sooner. Title to Goods transfers to the Customer only on acceptance.
- 11.7 If the Customer rejects the Goods and/or Services, the Customer must issue a Notice clearly stating the reason for rejection and the remedy the Customer requires. No payment will be due for rejected Goods and/or Services until their acceptance.
- C.C.12 Licences Approvals and Warranties**
- 12.1 At no cost to the Customer, the Supplier must obtain and maintain all Intellectual Property Rights, licences or other approvals required for the lawful provision of the Goods and/or Services and arrange any necessary customs entry for any Goods.
- 12.2 The Supplier must provide the Customer with all relevant third party warranties in respect of Goods. If the Supplier is a manufacturer, the Supplier must provide the Customer with all standard manufacturer's warranties in respect of the Goods it has manufactured and supplied.
- 12.3 To the extent permitted by laws and for the benefit of the Customer, the Supplier consents, and must use its best endeavours to ensure that each author of Material consents in writing, to the use by the Customer of the Material, even if the use may otherwise be an infringement of their Intellectual Property Rights and/or Moral Rights.
- C.C.13 Specified Personnel**
- 13.1 The Supplier must ensure that the Specified Personnel set out in the Contract (if any) perform

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the part of the Services specified in that item. The Supplier must ensure that Specified Personnel (if any) are not replaced without the prior written consent of the Customer. The Customer's written consent will not be unreasonably withheld.

- 13.2 At the Customer's reasonable request, the Supplier, at no additional cost to the Customer, must as soon as reasonably practicable replace any Specified Personnel that the Customer reasonably considers:
- a) is not performing the Supplier's obligations under the Contract to the standard or within the timeframe reasonably required by the Customer
 - b) is not a fit and proper person, or
 - c) is not suitably qualified to perform the Services.

- 13.3 Any Specified Personnel must be replaced with personnel that are acceptable to the Customer.

C.C.14 Liability of the Supplier

- 14.1 The Supplier will indemnify the Customer for any damage claim, cost or loss resulting from any negligent or wilful breach of its obligations or representations under the Contract by the Supplier or its officers, employees, agents or Subcontractors.

- 14.2 The Supplier's obligation to indemnify the Customer will reduce proportionally to the extent that the Customer has contributed to the claim, cost or loss.

- 14.3 Where the Supplier is a member of a scheme operating under Schedule 4 of the *Civil Law (Wrongs) Act 2002* (ACT), or any corresponding Commonwealth, State, Territory or legislation that limits civil liability arising from the performance of their professional services, and where that scheme applies to the Goods and/or Services delivered under the Contract, the Supplier's liability under this clause shall not exceed the maximum amount specified by that scheme or legislation.

- 14.4 The Supplier will maintain adequate insurances for the Contract and provide the Customer with proof when reasonably requested.

C.C.15 Termination or Reduction for Convenience

- 15.1 In addition to any other rights either Party has under the Contract,
- a) the Customer acting in good faith, may at any time, or
 - b) the Supplier, acting in good faith, may notify that it wishes to,

terminate the Contract or reduce the scope or quantity of the Goods and/or Services by providing a Notice to the other Party.

- 15.2 If the Supplier issues a Notice under this clause, the Supplier must comply with any reasonable directions given by the Customer. The Contract will terminate, or the scope will be reduced in accordance with the Notice, when the Supplier has complied with all of those directions.

- 15.3 If the Customer issues a Notice under this clause, the Supplier must stop or reduce work in

accordance with the Notice and comply with any reasonable directions given by the Customer.

- 15.4 In either case, the Supplier must mitigate all loss and expenses in connection with the termination or reduction in scope (including the costs of its compliance with any directions). The Customer will pay the Supplier for Goods and/or Services accepted in accordance with C.C.11 [Delivery and Acceptance] and the Contract before the effective date of termination or reduction.

- 15.5 If the Customer issues a Notice under this clause, the Customer will also pay the Supplier for any reasonable costs the Supplier incurs that are directly attributable to the termination or reduction, provided the Supplier substantiates these costs to the satisfaction of the Customer.

- 15.6 Under no circumstances will the total of all payments to the Supplier exceed the Contract Price. The Supplier will not be entitled to loss of anticipated profit for any part of the Contract not performed.

C.C.16 Termination for Cause

- 16.1 The Customer may issue a Notice to immediately terminate or reduce the scope of the Contract if:
- a) the Supplier does not deliver the Goods and/or Services as specified in the Contract, or notifies the Customer that the Supplier will be unable to deliver the Goods and/or Services as specified in the Contract
 - b) the Customer rejects the Goods and/or Services in accordance with C.C.11 [Delivery and Acceptance] and the Goods and/or Services are not remedied as required by the Notice of rejection
 - c) the Supplier breaches a material term of the Contract and the breach is not capable of remedy
 - d) the Supplier does not remediate a material breach of the Contract which is capable of remediation within the period specified by the Customer in a Notice of default issued to the Supplier, or
 - e) subject to the Customer complying with any requirements in the *Corporations Act 2001* (Cth), the Supplier:
 - i. is unable to pay all its debts when they become due
 - ii. if incorporated – has a liquidator, receiver, administrator or other controller appointed or an equivalent appointment is made under legislation other than the *Corporations Act 2001* (Cth), or
 - iii. if an individual – becomes bankrupt or enters into an arrangement under Part IX or Part X of the *Bankruptcy Act 1966* (Cth).

- 16.2 Termination of the Contract under this clause does not change the Customer's obligation to pay any Correctly Rendered Invoice.

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C.C.17 Supplier Payments

- 17.1 If the Supplier is required to submit an invoice to trigger payment, the invoice must be a Correctly Rendered Invoice.
- 17.2 The Supplier must promptly provide to the Customer such supporting documentation and other evidence reasonably required by the Customer to substantiate performance of the Contract by the Supplier.
- 17.3 Payment of any invoice is payment on account only, and does not substantiate performance of the Contract.
- 17.4 If the Supplier owes any amount to the Customer in connection with the Contract, the Customer may offset that amount, or part of it, against its obligation to pay any Correctly Rendered Invoice.

C.C.18 Dispute Resolution

- 18.1 For any dispute arising under the Contract both the Supplier and the Customer agree to comply with (a) to (e) of this clause sequentially:
- a) both Contract Managers will try to settle the dispute by direct negotiation
 - b) if unresolved within five (5) Business Days, the Contract Manager claiming that there is a dispute will give the other Contract Manager a Notice setting out details of the dispute and proposing a solution. The date the dispute Notice is issued will be the date of the Notice ("Notice Date")
 - c) if the proposed solution is not accepted by the other Contract Manager within five (5) Business Days of the Notice Date, each Contract Manager will nominate a more senior representative, who has not had prior direct involvement in the dispute. These representatives will try to settle the dispute by direct negotiation
 - d) failing settlement within twenty (20) Business Days of the Notice Date, the Customer will, without delay, refer the dispute to an appropriately qualified mediator selected by the Customer or, at the Customer's discretion, to the chairperson of an accredited mediation organisation to appoint a mediator, for mediation to commence within thirty (30) Business Days of the Notice Date or such other period as agreed by the Parties, and
 - e) If the dispute is not resolved within sixty (60) Business Days of the Notice Date, either the Supplier or the Customer may commence legal proceedings or, by agreement, continue the mediation process for a period agreed by the Parties.
- 18.2 Representatives for the Supplier and the Customer must attend the mediation. The nominated representatives must have the authority to bind the relevant Party and act in good faith to genuinely attempt to resolve the dispute.
- 18.3 The Supplier and the Customer will each bear their own costs for dispute resolution. The Customer will bear the costs of a mediator.

18.4 Despite the existence of a dispute, the Supplier will continue their performance under the Contract unless requested in writing by the Customer not to do so.

18.5 This procedure for dispute resolution does not apply to action relating to C.C.16 [Termination for Cause] or to legal proceedings for urgent interlocutory relief.

C.C.19 Transition In

- 19.1 The Supplier must perform all tasks reasonably required to facilitate the smooth transition of the provision of the Goods and/or Services from any outgoing supplier to the Supplier.

C.C.20 Transition Out

- 20.1 If the Contract expires or is terminated under C.C.16 [Termination for Cause] the Supplier must comply with any reasonable directions given by the Customer in order to facilitate the smooth transition of the provision of the Goods and/or Services to the Customer or to another supplier nominated by the Customer.

C.C.21 Compliance with Law and Policy

- 21.1 The Supplier must comply with, and ensure its officers, employees, agents and Subcontractors comply with all laws applicable to the performance of this Contract and warrants that it will not cause the Customer to breach any laws.
- 21.2 The Supplier must comply with, and ensure its officers, employees, agents and Subcontractors comply with any Commonwealth policies relevant to the Goods and/or Services.
- 21.3 The Supplier agrees to provide such reports and other information regarding compliance with applicable law and Commonwealth policy as reasonably requested by the Customer or as otherwise required by applicable law or policy.
- 21.4 If the Supplier becomes aware of any actual or suspected breach of the requirements set out in 21.A to 21.J below, or any other applicable law or Commonwealth policy, it must:
- a) immediately report it to the Customer and provide a written report on the matter within three (3) Business Days unless otherwise set out in these Terms, and
 - b) comply with any reasonable directions by the Customer in relation to any investigation or further reporting of the actual or suspected breach.

21.A Access to Supplier's Premises and Records

- A.1 The Supplier must maintain and ensure its Subcontractors maintain proper business and accounting records relating to the supply of the Goods and/or Services and performance of the Contract.
- A.2 The Supplier agrees to provide to the Customer, or its nominee, access to the Supplier's or its Subcontractor's premises, personnel, computer systems, documents and other records, and all assistance reasonably requested, for any purpose associated with the Contract or any review of the Supplier's or the Customer's performance under

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- the Contract, including in connection with a request made under the *Freedom of Information Act 1982* (Cth) or an audit or review by the Australian National Audit Office.
- A.3 Unless the access is required for an urgent purpose, the Customer will provide reasonable prior notice to the Supplier.
- A.4 If requested by the Supplier, the Customer will reimburse the Supplier's substantiated reasonable cost for complying with the Customer's request, unless the access is required for the purpose of a criminal investigation into the Supplier, its officers, employees, agents or Subcontractors.
- A.5 The Supplier must not transfer, or permit the transfer of, custody or ownership, or allow the destruction, of any Commonwealth record (as defined in the *Archives Act 1983* (Cth)) without the prior written consent of the Customer. All Commonwealth records, including any held by Subcontractors, must be returned to the Customer at the conclusion of the Contract.
- 21.B Privacy Act 1988 (Cth) Requirements**
- B.1 In providing the Goods and/or Services, the Supplier agrees to comply, and to ensure that its officers, employees, agents and Subcontractors comply with the *Privacy Act 1988* (Cth) and not to do anything, which if done by the Customer would breach an Australian Privacy Principle as defined in that Act.
- 21.C Notifiable Data Breaches**
- C.1 If the Supplier suspects that there may have been an Eligible Data Breach in relation to any Personal Information held by the Supplier as a result of the Contract, the Supplier must:
- immediately report it to the Customer and provide a written report within three (3) Business Days, and
 - carry out an assessment in accordance with the requirements of the *Privacy Act 1988* (Cth).
- C.2 Where the Supplier is aware that there has been an Eligible Data Breach in relation to the Contract, the Supplier must:
- take all reasonable action to mitigate the risk of the Eligible Data Breach causing serious harm to any individual to whom the Personal Information relates
 - take all other action necessary to comply with the requirements of the *Privacy Act 1988* (Cth), and
 - take any other action as reasonably directed by the Customer.
- 21.D Personal Information**
- D.1 The Supplier agrees to provide the Customer, or its nominee, relevant information (including personal information) relating to the Supplier, its officers, employees, agents or Subcontractors, for the purposes of preventing, detecting, investigating or dealing with a fraud or security incident relating to a Contract.
- D.2 When providing personal information of a natural person under this clause, the Supplier warrants it will have obtained the consent of or provided reasonable notification to the person in accordance with the *Privacy Act 1988* (Cth).
- D.3 Nothing in these clauses limits or derogates from the Supplier's obligations under the *Privacy Act 1988* (Cth).
- 21.E Confidential Information**
- E.1 The Supplier agrees not to disclose to any person, other than the Customer, any Confidential Information relating to the Contract or the Goods and/or Services, without prior written approval from the Customer.
- E.2 This obligation will not be breached where:
- the relevant information is publicly available (other than through breach of a confidentiality or non-disclosure obligation), or
 - the Supplier is required by law, an order of the court or a stock exchange to disclose the relevant information, but any such request must be reported by Notice to the Customer without delay and the text of the disclosure provided in writing to the Customer as soon as practicable.
- E.3 The Customer may at any time require the Supplier to arrange for its officers, employees, agents or Subcontractors to give a written undertaking relating to nondisclosure of the Customer's Confidential Information in a form acceptable to the Customer.
- E.4 The Customer will keep any information in connection with the Contract confidential to the extent it has agreed in writing to keep such specified information confidential.
- E.5 The Customer will not be in breach of any confidentiality agreement if the Customer discloses the information for the purposes of managing the Contract or if it is required to disclose the information by law, a Minister or a House or Committee of Parliament, or for accountability or reporting purposes.
- 21.F Security and Safety**
- F.1 When accessing any Commonwealth place, area or facility, the Supplier must comply with any security and safety requirements notified to the Supplier by the Customer or of which the Supplier is, or should reasonably be aware. The Supplier must ensure that its officers, employees, agents and Subcontractors are aware of, and comply with, such security and safety requirements.
- F.2 If directed by the Customer, the Supplier and its officers, employees, agents and Subcontractors are required to undertake a security briefing prior to being able to work inside a Commonwealth office, area or facility.
- F.3 The Supplier must ensure that all information, material and property provided by the Customer for the purposes of the Contract is protected at all times from unauthorised access, use by a third party, misuse, damage and destruction and is returned as directed by the Customer.

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F.4 The Supplier acknowledges that unauthorised disclosure of security-classified information is an offence. Legislation (including the *Criminal Code Act 1995* (Cth)) contains provisions relating to the protection of certain information and sets out the penalties for the unauthorised disclosure of that information.

21.G Criminal Code

G.1 The Supplier acknowledges that the giving of false or misleading information to the Commonwealth is a serious offence under section 137.1 of the schedule to the *Criminal Code Act 1995* (Cth).

G.2 The Supplier must ensure that its officers, employees, agents and Subcontractors engaged in connection with the Contract are aware of the information contained in this clause.

21.H Fraud

H.1 The Supplier must take all reasonable steps to prevent and detect Fraud in relation to the performance of this Contract. The Supplier acknowledges the occurrence of Fraud will constitute a breach of this Contract.

H.2 If an investigation finds that the Supplier or its officers, employees, agents or Subcontractors have committed Fraud, or the Supplier has failed to take reasonable steps to prevent Fraud, the Supplier must reimburse or compensate the Customer in full.

21.I Taxation

I.1 The Supplier agrees to comply, and to require its subcontractors to comply, with all applicable laws relating to taxation.

21.J Public Interest Disclosure

J.1 The Supplier must familiarise itself with the *Public Interest Disclosure Act 2013* (Cth) and acknowledges that public officials, including service providers and their Subcontractors under a Commonwealth contract, who suspect wrongdoing within the Commonwealth public sector may raise their concerns under the *Public Interest Disclosure Act 2013* (Cth).

J.2 Information for disclosers is available at <https://www.ombudsman.gov.au/Our-responsibilities/making-a-disclosure>.



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Commonwealth Contracting Suite Glossary and Interpretation

Glossary

In the Commonwealth Contracting Suite (CCS):

“Additional Contract Terms” means the terms and conditions set out in the section of the Approach to Market, RFQ or the Contract as relevant with the heading ‘Additional Contract Terms’.

“Additional DoSO Terms” means the terms and conditions set out in the section of the DoSO with the heading ‘Additional DoSO Terms’.

“Approach to Market” or **“ATM”** means the notice inviting Potential Suppliers to participate in the relevant procurement.

“Black Economy Policy” means the *Black economy – increasing the integrity of government procurement: Procurement connected policy guidelines March 2019* available at <https://treasury.gov.au/publication/p2019-t369466>.

“Business Days” means a day that is not a Saturday, a Sunday or a public holiday or bank holiday in the place concerned, as defined by the *Corporations Act 2001* (Cth), and also excludes the period between Christmas Day and New Year's Day.

“Closing Time” means the closing time and date as specified in the Approach to Market.

“Commonwealth Contracting Suite” or **“CCS”** means the suite of proprietary documents developed for Commonwealth procurements.

“Commonwealth Procurement Rules” means the legislative instrument issued by the Finance Minister under section 105B of the *Public Governance, Performance and Accountability Act 2013* (PGPA Act), which establishes the framework under which entities govern and undertake their own procurement.

“Confidential Information” means any information that any Party does not wish to be shared outside those involved in the Contract or Standing Offer Arrangement. It can include anything that has been acquired, developed or made available to any of the Parties in the course of the relationship between the Parties. It includes, but is not limited to, information:

- a) specifically identified as confidential in the Contract or DoSO
- b) where disclosure would cause unreasonable detriment to the owner of the information or another party, or
- c) where the information was provided under an understanding that it would remain confidential.

“Conflicts of Interest” means any real or apparent situation where the personal interests of the Supplier, its officers, employees, agents or Subcontractors could improperly influence the Supplier's performance of the Contract or DoSO as relevant.

“Contract” means the documents (specified in the Commonwealth Contract Terms or the Commonwealth Purchase Order Terms as relevant) as executed or amended from time to time by agreement in writing between the Supplier and the Customer.

“Contract Details Schedule” means the section in a Contract issued under the DoSO with the heading ‘Contract Details Schedule’.

“Contract Manager” means the ‘Contract Manager’ for the Customer or Supplier representative (as relevant) specified in the Contract.

“Contract Price” means the maximum contract price specified in the Contract, including any GST component payable, but does not include any simple interest payable on late payments.

“Correctly Rendered Invoice” means an invoice that:

- a) is correctly addressed and includes any purchase order number or other Customer reference advised by the Customer's Contract Manager and the name and specified contact details of the Customer's Contract Manager
- b) relates only to the Goods and/or Services that have been accepted by the Customer in accordance with the Contract or a payment or milestone schedule identified in the Contract
- c) is correctly calculated and charged in accordance with the Contract
- d) is for an amount which, together with previously Correctly Rendered Invoices, does not exceed the Contract Price, and
- e) is a valid tax invoice in accordance with the GST Act.

“Customer” means the party specified in the Contract as the Customer.

“Deed of Standing Offer” or **“DoSO”** means the documents (specified in the Commonwealth DoSO Terms) as executed or amended by agreement in writing between the Lead Customer and the Supplier.

“Delivery and Acceptance” means the process by which Goods and/or Services are delivered to the Customer and accepted by the Customer as meeting the terms specified in the Contract.

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“DoSO Manager” means the ‘DoSO Manager’ for the Lead Customer or Supplier representative (as relevant) specified in the DoSO.

“Electronic invoicing” or **“eInvoicing”** means the automated exchange of invoices directly between the Customer and Supplier’s software or financial systems via the Peppol network, as long as both Parties are Peppol eInvoicing enabled.

“Eligible Data Breach” means an ‘Eligible Data Breach’ as defined in the *Privacy Act 1988* (Cth).

“End Date” means the date specified in the Contract or DoSO (as relevant) on which the agreement ceases.

“Fraud” means dishonestly obtaining a benefit from the Commonwealth or causing a loss to the Commonwealth by deception or other means and includes alleged, attempted, suspected or detected fraud.

“General Interest Charge Rate” means the general interest charge rate determined under section 8AAD of the *Taxation Administration Act 1953* (Cth) on the day payment is due, expressed as a decimal rate per day.

“Goods and/or Services” means:

- a) the Goods and/or Services and any Material, and
- b) all such incidental Goods and/or Services that are reasonably required to achieve the Requirement of the Customer,

as specified in the Contract and, where relevant, offered under a Standing Offer Arrangement.

“GST” means a Commonwealth goods and services tax imposed by the GST Act.

“GST Act” means *A New Tax System (Goods and Services Tax) Act 1999* (Cth).

“Indigenous Procurement Policy” means the procurement connected policy as described at the National Indigenous Australians Agency website <https://www.niaa.gov.au/resource-centre/indigenous-affairs/indigenous-procurement-policy>.

“Intellectual Property Rights” means all intellectual property rights which may subsist in Australia or elsewhere, whether or not they are current or future or registered or capable of being registered, including without limitation in relation to, copyright, designs, trade marks (including unregistered marks), business and company names, domain names, databases, circuit layouts, patents, inventions, discoveries, know-how, trade secrets and confidential information, but excluding Moral Rights.

“Lead Customer” means the party specified in the DoSO as the Lead Customer.

“Material” means any material used or brought into existence as a part of, or for the purpose of producing the Goods and/or Services, and includes but is not limited to documents, equipment, information or data stored by any means.

“Moral Rights” means the rights in Part IX of the *Copyright Act 1968* (Cth), including the right of attribution, the right against false attribution and the right of integrity.

“Notice” means an official notice or communication under the Contract or DoSO (as relevant) in writing, from one Contract or DoSO Manager to the other Contract or DoSO Manager (as the case may be), at the postal address, or email address, or facsimile number set out in the Contract or DoSO or as notified by the relevant Party.

“Peppol” means the Pan-European Public Procurement On-Line framework as described at the Australian Taxation Office website <https://softwaredevelopers.ato.gov.au/eInvoicing>.

“Party” or **“Parties”** means (as relevant) the Customer and Supplier specified in the Contract or the Lead Customer and Supplier specified in the DoSO.

“Personal Information” means information relating to a natural person as defined in the *Privacy Act 1988* (Cth).

“Potential Customer” means an Australian Government entity that is identified within the DoSO as being able to use the Standing Offer Arrangement.

“Potential Supplier” means any entity who is eligible to respond to an ATM.

“Pricing Schedule” means a schedule of maximum pricing rates that a Supplier can offer in an RFQ for Goods and/or Services as set out in the DoSO.

“Public Interest Certificate” means a certificate issued under section 22 of the *Government Procurement (Judicial Review) Act 2018* (Cth).

“Referenced Material” means any materials referenced in the ATM, including but not limited to, reports, plans, drawings or samples.

“Request for Quote” or **“RFQ”** means any notice inviting quotations to provide specific Goods and/or Services under the DoSO.

Commonwealth Contracting Suite Glossary and Interpretation

“Required Capabilities” means:

- a) in the DoSO ATM, the description of the Lead Customer’s required Goods and/or Services. These may be categorised into several descriptions of Required Capabilities.
- b) in the DoSO, the description of the Goods and/or Services that a Supplier is approved to offer.

“Requirement” means the description of the Goods and/or Services in:

- a) for the purposes of the Commonwealth ATM Terms, the section of the Approach to Market with the heading ‘The Requirement’
- b) for the purposes of the Commonwealth Contract Terms, the section of the Contract with the heading ‘The Requirement’, or
- c) for the purposes of the Commonwealth Purchase Order Terms, the Customer’s purchase order or similar ordering document setting out the Goods and/or Services.

“Response” means information provided by a Potential Supplier or Supplier demonstrating their capacity and capability to:

- a) provide the Requirement under the ATM or Request for Quote, or
- b) meet a Required Capability under the DoSO ATM.

“Satisfactory” in relation to the Black Economy Policy only, means the Statement of Tax Record meets the conditions set out in Part 6.b of the Black Economy Policy or, if the circumstances in Part 6.c of the Black Economy Policy apply, the conditions set out in Part 8 of the Black Economy Policy.

“Specified Personnel” means personnel specified in the Contract, or who are accepted by the Customer in accordance with clause C.C.13 [Specified Personnel].

“Standing Offer Arrangement” means the DoSO arrangement, any Contract that is executed under the DoSO and any other document that applies to it.

“Standing Offer Details” means the section of the DoSO with the heading ‘Standing Offer Details’.

“Statement of Requirement” means the section of the Approach to Market with the heading ‘Statement of Requirement’.

“Statement of Tax Record” means a statement of tax record issued by the Australian Taxation Office following an application made in accordance with the process set out at https://www.ato.gov.au/Business/Bus/Statement-of-tax-record/?page=1#Requesting_an_STR.

“Statement of Work” means the section or schedule of the Contract (as the case may be) with the heading ‘Statement of Work’.

“Subcontractor” means an entity contracted by the Supplier to supply some or all of the Goods and/or Services required under the Contract.

“Supplier” means a party specified in the Contract or the DoSO as the Supplier.

“Valid” in relation to the Black Economy Policy only, means the Statement of Tax Record is valid in accordance with Part 7.e of the Black Economy Policy.

Commonwealth Contract – Consultancy Services

Commonwealth Contracting Suite Glossary and Interpretation

Interpretation

In the Commonwealth Contracting Suite, unless stated otherwise:

- a) if any word or phrase is given a defined meaning, any other part of speech or other grammatical form of that word or phrase has a corresponding meaning
- b) words in the singular include the plural and words in the plural include the singular
- c) the words 'including', 'such as', 'particularly' and similar expressions are not used as and are not intended to be interpreted as words of limitation
- d) a reference to dollars is a reference to Australian dollars
- e) a reference to any legislation or legislative provision includes any statutory modification, substitution or re-enactment of that legislation or legislative provision
- f) clause headings are for reference only and have no effect in limiting or extending the language of the terms to which they refer, and
- g) the following clause references used in Commonwealth Contracting Suite documents refer to that section or part of the relevant CCS document listed in the table below:

Clause Reference	Section / Part	CCS Document
A.A.[x]	Statement of Requirement	CCS Approach to Market (ATM)
A.B.[x]	Commonwealth Approach to Market (ATM) Terms	
A.C.[x]	Additional Contract Terms	
C.A.[x]	Statement of Work	Commonwealth Contract
C.B.[x]	Additional Contract Terms	
C.C.[x]	Commonwealth Contract Terms	
		<i>NOTE: Where relevant, this also forms part of a Contract formed under a DoSO.</i>
P.C.[x]	Commonwealth Purchase Order Terms	Commonwealth Purchase Order Terms
D.A.[x]	CCS DoSO ATM	CCS Deed of Standing Offer (DoSO)
D.B.[x]	Commonwealth DoSO ATM Terms	
D.C.[x]	DoSO ATM Response Form	
D.D.[x]	CCS DoSO	
D.D.3(x)	Additional DoSO Terms	
D.E.[x]	Commonwealth DoSO Terms	
R.A.[x]	Schedule 1 - Statement of Work	CCS DoSO RFQ and Contract
R.B.[x]	Schedule 2 - Additional Contract Terms	
R.C.[x]	Schedule 3 - Supplier's Response Form	
R.D.[x]	Contract Details Schedule	

Commonwealth Contract – Consultancy Services

Contract Signing Page

The Parties agree that by signing this Commonwealth Contract – Consultancy Services, they enter into a Contract comprising:

- a) Additional Contract Terms (if any)
- b) Statement of Work
- c) Commonwealth Contract Terms
- d) Commonwealth Contracting Suite Glossary and Interpretation
- e) Contract Annex 1 – Supplementary Information (if any).

EXECUTED as an Agreement

Signed for and on behalf of the Commonwealth of Australia as represented by Department of Agriculture, Fisheries and Forestry

ABN 34 190 894 983 by its duly authorised delegate in the presence of

Signature of witness

s 22(1)(a)(ii) _____ **s 47F(1)** _____

Name of witness (*print*)

s 22(1)(a)(ii) _____

Name of delegate (*print*)

ANDREW McDONALD

Position of delegate (*print*)

AG FIRST ASSISTANT SECRETARY

Date:

12/5/2023

Executed by Pegasus Economics ABN 44 744 332 108 in the presence of:

Signature of witness

s 47F(1) _____

Signature

s 47F(1) _____

Name

MELISSA DAVEY

Name of supplier (*print*)

PEGASUS ECONOMICS

Date:

12 MAY 2023

s 22(1)(a)(ii)

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Friday, June 9, 2023 10:48 AM

To: s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: Review and summation of studies on the live sheep trade

Hi ^{s 22(1)(a)(ii)}

Please find enclosed our first drafts on three of the reports for the literature review project.

At this stage we have one for one query in relation to the ACIL Allen report. We have arguably strayed into commentary where we have observed there is not a lot of overlap (if any) between the Northern Australia live cattle export industry and the live sheep export industry (i.e. cattle with the Bos indicus genes grazed in Northern Australia are generally not sent for live export to the Middle East) and were wondering if that was going a step too far? In drafting we had initially examined the overlap between live cattle export and live sheep export in general but eventually decided that was probably a step too far. We would appreciate your advice on where the appropriate boundary is.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Monday, May 22, 2023 2:35 PM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Great – I will get a meeting invite sent through

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Monday, 22 May 2023 2:24 PM

To: s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Wednesday at 12pm (midday) works for Roger and myself.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Monday, May 22, 2023 10:12 AM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alastair – unfortunately tomorrow is a little crazy. Would 12-12.30 on Wednesday work for you?

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Friday, 19 May 2023 8:38 AM

To: s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Sounds good, thank you.

From: s 22(1)(a)(ii)

Sent: Friday, May 19, 2023 8:22 AM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: Re: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Tuesday will work. We will find some time and flick you through a meeting request.

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Thursday, May 18, 2023 9:51:36 PM

To: s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Unfortunately Monday is not possible for me as I am down in Melbourne, but I am available on Tuesday if that works?

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Thursday, May 18, 2023 9:38 PM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi Alistair,

Please find attached a copy of the executed contract.

We will look to set up a meeting with our Assistant Secretary, s 22(1)(a)(ii) for Monday. Could you please confirm if you have availability on Monday.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Friday, 12 May 2023 1:31 PM

To: s 22(1)(a)(ii)

Cc: McDonald, Andrew Andrew.McDonald@aff.gov.au; Donaldson, Morag Morag.Donaldson@aff.gov.au; ^{s 22(1)(a)(ii)}
; s 22(1)(a)(ii) ; Roger E Fisher

refisher@pegasus-economics.com.au

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Please find enclosed a copy of the signed contract page, the vendor creation form and the additional forms required for the vendor creation form.

Also, when would you like to convene the inception meeting?

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Friday, May 12, 2023 9:53 AM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; ^{s 22(1)(a)(ii)}
; s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alistair,

Thanks for providing the additions.

I have revised the start date until today and a PDF version is attached for your signature. Could you please sign today, and send back to me, so that I can arrange for it to be countersigned.

We will provide you a copy once we have countersigned the document.

Could you please also complete the vendor creation form (also attached) so that we can get your company set up in our finance system.

We look forward to working with you.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Tuesday, 9 May 2023 10:11 AM

To: s 22(1)(a)(ii)

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Thanks s 22(1)(a)(ii)

We have reviewed the contract and have no problems with it, and have made additions/changes to subsection C.A.5.

The only potential problem with what I have added is in relation to security clearances. Roger and I both received baseline security clearances during our work on the Aged Care Royal Commission in 2019 and 2020 respectively (which I think last for up to 8 years), although the sponsorship of those clearances by the Attorney-General's Dept was revoked once we finish up with the Commission.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Monday, May 8, 2023 5:45 PM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alistair,

Please find attached the draft contract for the review and summation of studies on the live sheep trade.

Could you please review and let me know if you require any changes. Could you in particular check the requirement as well as update the specified personnel table (it has been highlighted).

Once we can finalise the contract, we will execute the signatures and kick off with an inception meeting.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Thursday, 4 May 2023 10:18 AM

To: s 22(1)(a)(ii)

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Dear s 22(1)(a)(ii)

Thank you for your email of 2 May 2023 and your request for quote following on from our teleconference last week.

In quoting for this review project, the Pegasus Economics team will include both myself as well as Roger Fisher who has been a co-author on previous Pegasus reports on the live sheep export industry.

Our understanding of the project is that we are to provide insightful and helpful commentary on the reports with a view to assisting the panel in its understanding of the economic issues associated with a timeframe for cessation of the live sheep export trade. We do not envisage that our task is to provide an alternative position on the reports, but instead to highlight key take outs, signpost significant issues, explain methodologies and provide commentary on strengths, weaknesses and potential gaps in the reports. We will seek to address complex economic and policy issues in non-technical language and are cognisant of the fact that the project must be completed by 30 June 2023.

We believe that it would be useful to commence the project with an inception meeting to discuss the project in more detail. The meeting will help ensure a mutual understanding of objectives, deliverables, methodology, timing, resources, and management of the project.

Other studies that we believe would be useful to also include in the coverage of the review project include:

- Centre for International Economics. (2014). *Contribution of live exports to the Australian Wool Industry*, Prepared for Australian Wool Innovation, Canberra.
- Centre for International Economics. (2018). *Contribution of live exports to Woolgrower's income - An Update*, Prepared for Australian Wool Innovation, Canberra.
- Davey, A., & Fisher, R. (2018). *Economic Issues Associated with the Live Sheep Export Trade*. Prepared for Animals Australia, Canberra: Pegasus Economics.
- Davey, A., Fisher, R., & Morley, M. (2022) *Economic Implications of Phasing Out the Live Sheep Export Trade*, Prepared for Animals Australia, Canberra: Pegasus Economics.
- Kingwell, R., Cunningham, P., Nath, T., Anderton, L., Xayavong, V., Curis, K., . . . Feldman, D. (2011). *The Economic Importance to Western Australia of Live Animal Exports*. Perth: Department of Agriculture and Food Western Australia.

- Mecardo. (2018). *Live Sheep Export – Brief Report*. Ballarat.
- Pritchett, K. (2019). *Implications of management decisions on the WA sheep flock in response to changing markets*. Perth: Department of Primary Industries and Regional Development.

We would seek your guidance as to whether you want us to review our own previous reports, although we do readily acknowledge they were far from perfect.

On this basis, our quote for this project is \$49,500 inclusive of GST, although we can review this budget if the Department prefers a different approach. We would also be happy to discuss and refine any elements of the suggested approach in order to ensure the end product meets your needs.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Tuesday, May 2, 2023 3:20 PM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hello Alistair,

Thanks for taking time to meet with us last week in regard to a review of studies on the live sheep trade.

Minister Watt has appointed a four-person panel to consult on how and when to phase out live exports of sheep by sea. The panel includes Ms Sue Middleton, Ms Heather Neil and the Hon. Warren Snowdon.

The panel has been asked to report to Minister Watt by 30 September on:

- potential mechanisms to phase out live sheep exports by sea
- a suggested timeframe and options for implementation
- potential ways to support the transition.

The panel's remit does not include the merits of the policy and the policy does not cover cattle or other live exports.

We would like to request a quote from you to provide the following:

- An assessment and summation of existing studies in relation to live sheep exports, including but not limited to:
 - Value analysis of the Australian Live Sheep Export Trade – Mecardo
 - Impact of the live sheep export trade's self-imposed moratorium and regulatory changes – Mecardo
 - The economic impacts of regulating live sheep exports - research report 21.01 – February 2021 – ABARES
 - The economic contribution and benefits of the Northern live export cattle industry – ACIL ALLEN

- A suggested and separate guide/index/reference list of the relevant data or parts of each report that you judge as worthy of the panel's consideration—and particularly identifying where the underlying assumptions or findings/conclusions are inaccurate or should otherwise be treated with caution (eg facts or figures).

Could you please supply a quote to us by COB Thursday 4 May 2023. We would need the review to be completed and provide to the panel by 30 June 2023.

If you require any additional information, please feel free to contact me,

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

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Title: The economic contribution and benefits of the Northern live export cattle industry

Author/Publisher, Date: ACIL Allen, August 2022

Context

The Australian Livestock Export Corporation (LiveCorp) and Meat & Livestock Australia (MLA) commissioned ACIL Allens (2022) to:

- identify the value and importance of the Northern live cattle industry to the Australian economy and Northern Australian regions and communities
- estimate the impact of a material reduction or cessation of the industry's activities
- assess the industry's comparative advantage relative to South East Asia and other global competitors.

Areas of focus

The report focused on the economic impacts of the live export cattle industry in Northern Australia, estimating the economic contribution of the industry (value added), the number of jobs created both directly and indirectly, and the adverse impact on cattle prices and land values in the event of the full or partial cessation of the live cattle export industry.

The report also includes three regional case studies looking at the economic contribution, and employment levels both direct and indirect associated with the live cattle export industry in Northern Australia.

Major findings/conclusions

The input-output analysis showed Northern Australian live cattle exports contributed \$1.4 billion and 6,573 full-time equivalent jobs (FTEs) to the Australian economy in 2020-21. This consisted of \$508 million and 1,527 FTEs contributed directly by the live cattle export industry in Northern Australia and an indirect flow-on into the wider economy of \$862 million and 5,046 FTEs across 20 major industries. Broken down by state/territory, the economic contribution of the Northern live cattle exports were:

- In the Northern Territory, a direct contribution of \$213 million of value added and employment of 522 FTEs, with a further indirect contribution of \$753 million of value added and employment of 753 FTEs.
- In Queensland, a direct contribution of \$111 million of value added and employment of 403 FTEs, with a further indirect contribution of \$191 million value added and employment of 1,202 FTEs.
- In Western Australia, a direct contribution of \$97 million of value added and employment of 328 FTEs, with a further indirect contribution of \$121 million of value added and employment of 639 FTEs.

Live cattle export contributes an average of \$37 million value added annually to each region in Northern Australia. Ranging from \$143 million in Katherine to \$0 million in East Arnhem. The differences relate to each region's overall size, area of grazing land used (for live export) and whether live cattle aggregation and port operations occur.

A reduction and cessation in the live cattle trade will result in more cattle being sent to domestic slaughter for consumption in Australian or overseas export markets. A lack of meat processing capacity in Northern Western Australia and the Northern Territory means that

cattle previously sent into the live cattle export market would need to be transported south for processing. Without an operating abattoir in NT, the main alternative available to cattle producers is shipping to a South Australian or Queensland abattoir. The Colourstone Abattoir, that is around 100 km east of Broome, is the only major abattoir operating in Northern Western Australia (Sinclair, 2022).

The econometric modelling has estimated that cattle prices received collectively by Australian cattle farmers would fall by between 1.0% and 3.7% in the event of a cessation of the live cattle trade and by 0.5% and 1.9% in the event of a 50% reduction in the live cattle trade. Prices would arguably fall across-the-board because any interruption in the live cattle export industry would result in increased supply for the domestic processing industry. However, the report notes that the estimated price impact of the increased supply of cattle slaughtered will have a high degree of uncertainty associated with it. The modelling process by which these results are derived is not transparent and the description accompanying this analysis is fairly minimal.

The estimated impact on the entire Australian beef industry from a complete ban on the live cattle industry arising from lower cattle prices is for a reduction in gross value added by 2030 of between \$131 to \$505 million. In relation to a partial 50% reduction in the live cattle industry commencing in 2023, the reduction in gross value added for the Australian beef industry reaches between \$66 to \$253 million by 2030.

In addition, the live cattle export industry will also experience a loss of value through the following channels:

- By diverting cattle from live export to the domestic market, there will be a significant reduction in the effective price per kg of meat achieved.
- The meat of the formerly exported cattle will be discounted to reflect market preferences.
- The diverted cattle will be subject to additional costs such as the cost of transport to the nearest abattoir for slaughter.

On this basis, the ACIL Allens estimates the live cattle export industry will experience a loss of value added in the order of \$737 million per annum by 2030 for a 100% cessation of live exports by 2023, \$700 million per annum in 2030 for a 100% cessation of live exports by 2030, and \$345 million per annum in 2030 for a 50% reduction by 2030.

The Net Present Value over 20 years of the total impact on the Australian beef industry and cattle industry is between \$2.8 billion and \$11.8 billion, depending on the scenario. The impact of an immediate cessation is greatest because the losses commence immediately and there is limited opportunity to adjust.

A reduction or cessation of live cattle trading is also likely to have an adverse impact on land values across Northern Australia. Assuming no further improvements or income from other uses, the value of NT grazing land is expected to decline by between 11.0% and 34.4% under the three scenarios.

The report found the key drivers for Australia's comparative advantage in live export cattle were:

- proximity to key South East Asian markets
- consistency in quantity and quality of live animals

- alignment with market requirements
- high biosecurity standards.

In particular, it found there were synergies between the Northern Australia systems and Indonesia (Australia's largest market), with mutual benefits flowing due to Australia's large grazing land base versus Indonesia's lack of land and Indonesia's lack of access to suitable cold chain infrastructure.

Approach/methodology

The report utilised a range of different methods to undertake its analysis, including:

- Input-Output analysis to establish the direct and indirect economic contribution to Australia and 18 regions in 2020-21 from the Northern live cattle industry.¹
- An econometric model
 - to estimate the price impact of the increased supply of cattle to the slaughter market due the potential cessation of the live export cattle industry; and
 - estimate the price impact on the value of grazing land in the Northern Territory arising from the cessation of the live cattle industry.
- Desktop review and qualitative analysis of available information to understand the notion of comparative advantage and the dynamics of the global live export cattle market.
- Desktop review for three regional case studies of the economic contribution of the live cattle export industry in Northern Australia:
 - Kimberley region in Western Australia
 - Charters Towers – Ayr – Ingham region in Queensland
 - Northern Territory.

Impact/reception

The ACIL Allen report received favourable coverage in the rural and agricultural press, but wasn't reported upon in the mainstream media.

Other relevant issues [to be checked with Department as these comments edge into evaluation and assessment]

There is not a lot, if any, direct overlap between the live sheep export industry and the Northern live cattle export industry.

While live cattle have been exported alongside live sheep on livestock carriers destined for the Middle East, such voyages commence exclusively out of the Port of Fremantle in the south-west Western Australia and usually carry cattle from the Southern Agricultural Region of Western Australia rather than Northern Australia.

While the Port of Fremantle does serve as the key port for cattle entering the live export market from the Pilbara region in Northern Western Australia and cattle from even further north in the Kimberley are also transported to the Port of Fremantle for live export (van Moort, Hodby, Mazur, & Barnard, 2017, p. 4), cattle from Northern Australia are highly

¹ Input-Output Tables (IOTs) describe the sale and purchase relationships between producers and consumers within an economy (Organisation for Economic Co-operation and Development, n.d.).

unlikely to find their way to the Middle East for live export. Farmers in Northern Australia, that is characterised by tropical climates, prefer cattle with traits derived from *Bos indicus* breeds such as Brahman, because these cattle perform better in the higher temperatures associated with the tropical climate, lose less condition when transported long distances, and possess greater tick resistance (Australian Competition and Consumer Commission, 2017, p. 22). *Bos indicus* breeds from Northern Australia are generally exported to south-east Asian countries such as Indonesia, Vietnam, Malaysia and the Philippines (LiveCorp, 2023).

Cattle from the Southern Agricultural Region of Western Australia tend to be predominantly *Bos taurus* or European breeds such as Angus and Hereford (Department of Primary Industries and Regional Development, 2021; LiveCorp, 2023). These cattle are sold to a variety of Middle Eastern countries such as Israel (LiveCorp, 2023).

Main Takeaways

Significant economic losses would be incurred by the reduction or cessation of the Northern Australia live export cattle trade as there is often little alternative for cattle farmers, particularly in the Northern Territory and Northern Western Australia, other than to transport cattle to abattoirs that are primarily located in southern Australia.

Title: Live Sheep Export – Brief Report

Author/Publisher and date: Mecardo, 20 April 2018

Context

The report was commissioned by the WA Farmers Federation (WAFarmers), with the support of Sheep Producers Australia (Mecardo, 2018). The report examines the significance of the live sheep export industry to the broader WA sheep industry, and assesses the likely economic impact arising from a ban on the trade (WAFarmers, 2018).

The Mecardo report was released following the *Awassi* incident, but before there was any response by the Federal Government. Hence, the report was prepared during a period when restrictions on the trade were being widely canvassed in the media, but had not yet been implemented. Mecardo's analysis in this report is therefore forward-looking, and did not benefit from actual experience through the period of the prohibition on live sheep exports during the Northern Hemisphere summer.

Mecardo has produced a number of other reports on the live sheep trade, some produced post-2018. Mecardo is currently owned by Nutrien, a Canadian multi-national company that provides services to the agricultural industry.

Areas of focus

The report is focused on the economic contribution of the live sheep export trade to the WA sheep industry and the possible impacts of a ban on that trade on sheep farmers' incomes.

The report includes some observations about constraints on the capacity in WA to divert live sheep export volumes into the wool producing sector in WA, including the diversion of land in recent years to cropping and the supply of shearers.

There is no discussion of animal welfare issues or the broader social or economic consequences of a ban on live sheep exports.

Major fundings/conclusions

The report makes five key claims:

- The live sheep export represents a significant proportion (roughly 30%, albeit slowly declining) of the WA sheep trade.
- The correlation in price returns between live export wether price returns and WA mutton or trade lamb is comparable to the relation between sheep prices in WA and the eastern states.
- The increased share of land used for crops leaves little capacity to increase domestic flocks, and there is insufficient shearing capacity to support a full transition into wool production.
- Despite the capacity for shipment of WA sheep to the eastern states, the price of mutton and lamb decreases as the amount slaughtered domestically in WA increases.
- The prices of lamb and mutton would both decrease by 18-35% if the sheep currently sent for live export were instead processed domestically, and the final cost to WA sheep producers would be in the range of \$80-150 million.

According to Mecardo, its results were driven by analysis of the historic relationship between WA slaughter levels and the average weighted WA sale yard price achieved for trade lamb and mutton sales.

Approach/methodology

The data on which the report is based is drawn from the Department of Agriculture and Water Resources, Meat & Livestock Australia, Australian Wool Innovation, the Australian Bureau of Statistics, and Mecardo itself. However, while organisations are listed where data is presented, Mecardo has not made the data that underpins its analysis available. There is no bibliography nor list of specific source documents cited in the report. Mecardo has indicated that some of the key data used in the report was proprietary (Breusch, 2018, p. 2).

The report finds that WA prices for various lamb and sheep categories are more closely dependent upon each other than they are dependent upon eastern state markets. The report also finds a strong correlation between WA slaughter rates and export prices for mutton and trade lamb. Mecardo provides detailed values for these claimed correlations.

These findings are used to perform a regression analysis to determine the potential price impact on WA lamb and sheep markets from a change to WA slaughter levels. However, the assumptions used to generate these results are not fully transparent.

Mecardo's assessment of the viability of a transition to wool production is predicated on estimates of the volume of sheep that can be shorn per shearer, but the report does not indicate the source of these estimates. Other untested and unsourced assumptions include the point at which the sale of sheep to the eastern states becomes a viable option for WA sheep farmers, the number of additional sheep that can be slaughtered domestically as a result of a ban on the live sheep export industry, and the average volume of lamb and mutton carcasses.

Impact/reception

Mecardo's analysis has been reported on extensively by peak bodies, the dedicated agricultural press, as well as in the mainstream press.

Dr Trevor Breusch (2018, p. 2), formerly a Professor of Econometrics at the Australian National University, was commissioned by Animals Australia to critique the Mecardo report. Dr Breusch (2018, p. 2) reverse engineered the Mecardo data from the results and the various charts contained in the report. Dr Breusch has described the Mecardo analysis as "very superficial and unworthy as a guide to policy" and has described the assumption that export prices are determined solely by local supply in WA as implausible.

The Department of Agriculture (2019, p. 36) has observed that Mecardo appeared to have reached its results by assuming that sheep slaughter in Western Australia determined the state's export prices of mutton and lamb, rather than prices being determined in world markets. ABARES in a later report further observed there is little or no recognition of the option for WA sheep farmers to transport sheep to high-value markets in eastern Australia contained in the Mecardo report (Nelson, et al., 2021, p. 17).

The report was treated as an important reference point by the Department of Agriculture (2019) in its draft regulatory impact statement (*Live sheep exports to or through the Middle East—Northern Hemisphere summer: Draft regulation impact statement*, 2019).

Key takeaways

The abolition of the live sheep export industry could have a significant detrimental impact on the income of WA sheep farmers, but there has been criticism of Mecardo's methodology.

Title: Economic Issues Associated with the West Australian Live Sheep Export Industry

Author/Publisher and date: Alistair Davey and Roger Fisher, Pegasus Economics, April 2018

Context

This report was commissioned by Animals Australia to examine the economic impact of the phasing out of the live sheep export trade (Davey & Fisher, 2018). The report was publicly released by Animals Australia to coincide with its public relations campaign surrounding the *Awassi* incident. This is the first of several reports commissioned by Animals Australia and prepared by Pegasus Economics on the economic implications associated with the phasing out of the live sheep export industry.

Areas of focus

The report focused on sheep farmers in Western Australia (WA) where most the sheep for live export were procured.

The report examines the potential economic impact on WA sheep farmers and the WA meat processing industry arising from the termination of the live sheep export industry.

It provides a brief overview of the economics of sheep production, a history of the Australian and WA sheep industries and a review of the main customers for Australian live sheep exports.

The report also touches on opportunities arising from the cessation of the live sheep export trade to expand the WA meat processing industry.

Major findings/conclusions

The report rejected the contention the live sheep export trade underwrites farm gate prices for sheep. Instead, it pointed to the *Law of One Price* (LOP), which suggests that prices received by sheep farmers in different regions of Australia should be similar.¹ The report found that WA mutton prices with a high exposure to the live sheep export trade were highly correlated with New South Wales (NSW) mutton prices with virtually no exposure to the live sheep export trade. The report concluded that international commodity prices for mutton, rather than prices paid by live sheep exporters, underwrote prices paid for Australian sheep.

However, the report found evidence that live sheep exporters did pay a price premium at WA saleyard auctions to purchase sheep. It found that the price premium paid by live sheep exporters diminished as the quality of the sheep improved in terms of weight and conditioning. The price premium paid by live sheep exporters was found to be highest for wethers that were lighter and in worse condition, thus requiring further input in finishing them off to a level that would make them attractive to local WA meat processors.

While the report acknowledged that the cessation of the live sheep export trade would reduce overall demand to some extent as those seeking to procure sheep for live export would no longer participate in the market, the analysis conducted on price premiums suggested the price impact would be greatest in relation to wethers that were lighter and in worse condition; in other words, those least attractive to WA local processors. It also sought

¹ According to Pegasus Economics (Davey & Fisher, 2018), 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.

to downplay the potential reduction in demand following the cessation of the live sheep export industry through arguing that live sheep exporters rarely purchased young ewes, ewes and hoggets, and were not always procuring sheep if they were not seeking to fulfil an export shipment.

The report took a crude weighted average of the price premium paid by live sheep exporters for wethers that roughly worked out at \$8 per head and estimated that the cessation of the live sheep export trade would translate into a loss of around \$9 million per annum for WA sheep farmers overall, averaging just under \$2,000 per WA sheep farmer.

The report contended the capacity of live sheep exporters to pay a price premium was directly related to food subsidies provided in Middle East recipient countries that in turn artificially increased demand for Australian live sheep exports and enabled live sheep exporters to pay above market rates to procure sheep.

The report observed the largest customers for Australian live sheep exports historically have been the six Arab oil and gas producing states bordering the Persian Gulf and the Gulf of Oman. The report argued the future of food subsidies, and in turn, the ongoing ability of live sheep exporters to continue to pay price premiums, was heavily dependent on the price received by these six countries for their petroleum product exports.

In the event the live sheep export trade was phased out, the report argued that sheep diverted away from the live export could be redirected towards several alternative options, including the following:

- keep the wethers until cast (at the end of productive life) primarily to cut wool;
- finish sheep earlier to meet lamb market specifications;
- sell the wethers as store sheep to be fattened before sale for slaughter; or
- keep the wethers until they reach the heavier weights required for the slaughter market.

The report found that while WA sheep farmers may collectively lose in the order \$9 million per annum from the loss of the price premium paid the live sheep exporter, this detriment could be more than compensated for by increased value adding by WA sheep meat processors. Based on discussions with sheep meat processors, the report estimated the cessation of the live sheep export trade could facilitate the engagement of around 350 full-time equivalent employees, and be worth an additional \$18 million from increased value adding. It would also improve economies of scale in meat processing, making processed sheep meat products more price competitive.

Approach/methodology

In examining the relationship between WA and NSW sheep (mutton) prices, the report sourced data from Meat & Livestock Australia.

In estimating the price premium paid by live sheep exporters, Pegasus Economics drew on WA auction price data from Meat & Livestock Australia saleyard reports from December 2014 to December 2017, comparing the prices paid by live exporters and by those paid by other purchasers when both live exporters and other purchasers procured sheep on the same day at WA saleyard auctions.

The report assumed that 70% of live sheep exports from WA were wethers. The estimated number of sheep farmers was based on the Australian Bureau of Statistics' agricultural commodities survey.

The estimated additional value added from increased sheep meat processing in WA was based on an immediate cessation of the live sheep export trade with most sheep displaced being redirected towards local processing. However, the basis for this estimate is not transparent and the report justifies this only on the basis of discussions with WA meat processors.

Impact/reception

The Pegasus Economics report received fairly widespread coverage in the mainstream press following the release of the report in April 2022. The report was also covered in the dedicated agricultural press, although generally accompanied by criticism of the report by the WA Farmers Federation (WAFarmers) (outlined below).

The WAFarmers (2018) criticised the conclusions reached by Pegasus Economics on the cost imposed upon WA sheep farmers arising from the phasing out of the live sheep export industry. According to WAFarmers (2018):

It is our opinion that the Pegasus report appeared to confuse national and state-based data; according to them, a ban of the live export trade would translate into a loss of approximately \$9 million per annum for Western Australian sheep farmers.

WAFarmers accused the Pegasus Economic analysis of being "wildly inaccurate" based on an analysis it commissioned in a report prepared by Mecardo but did not provide further specific details.

The Pegasus Economics report was also later criticised by ABARES (Nelson, et al., 2021, p. 16). According to ABARES, the economic impact estimated by Pegasus Economics on the phasing out of the live sheep export industry was likely to underestimate the impact for two reasons. First, there is normally no domestic market for the volume of low-quality young wethers displaced by the phasing out of the live sheep export industry because consumers prefer higher quality meat. Second, Western Australia's short and unreliable growing season means that bringing these sheep to prime lamb standard for domestic processing was likely to require some purchased feed, adding both feed costs as well as additional labour costs to sheep farms in WA.

Key takeaways

The report argues that phasing out of the live sheep export industry may not impose a significant economic burden upon WA sheep farmers, although there have been counter-claims that the impact may be greater than estimated in this report.

s 22(1)(a)(ii)

From: s 22(1)(a)(ii)

Sent: Thursday, July 6, 2023 9:38 AM

To: Alistair Davey <adavey@pegasus-economics.com.au>; s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Good morning Alistair,

Thanks for providing the report. We do have some concerns with the report and would appreciate some time to discuss.

Firstly the name of the report differs for the name on the contract and secondly the summations do not match the template that we had agreed upon. There are some other issues but these are the two stand out. We believe some of the information from not sticking to the templates means that key analysis is missing.

Do you have some time available in the near future so we can arrange a meeting?

Regards

s 22(1)(a)(ii)

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Tuesday, June 27, 2023 3:31 PM

To: s 22(1)(a)(ii) ; s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Dear s 22(1)(a)(ii)

Further to my earlier email today, please find enclosed our index/reference list of major issues addressed in the reports and a separate report on challengeable assumptions used in the reports.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Tuesday, June 27, 2023 10:32 AM
To: Alistair Davey <adavey@pegasus-economics.com.au>; s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Thank you Alistair for sending this through. We look forward to reading it.

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Tuesday, June 27, 2023 9:53 AM
To: s 22(1)(a)(ii) s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Dear ^{s 22(1)(a)(ii)}

Please find enclosed our first draft report for the literature review component of our project. The draft for the second component should follow later today or tomorrow.

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Friday, June 16, 2023 4:55 PM
To: Alistair Davey <adavey@pegasus-economics.com.au>; s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hello Alistair

Apologies for the delayed response and thank you for sending through for our review.

Overall the template headers and approach are looking about right. Could I ask for an additional section about Key Assumptions be included as well. This would identify time periods data is drawn from, the assumptions used for the analysis (such as price of sheep), etc, that were utilised in the report. This would just need the information presented as points of fact rather than needing to validate the information used.

As you indicated, please omit the commentary, that way the content remains aligned with factually summarising the reports.

Please reach out if you had any further queries.

Kind regards

s 22(1)(a)(ii)

s 22(1)(a)(ii) | s 22(1)(a)(ii)
A/g Assistant Secretary | Live Sheep by Sea Phase Out Branch
Traceability, Plant and Live Animal Exports Division
Department of Agriculture, Fisheries and Forestry
Agriculture House, 70 Northbourne Ave, Canberra ACT 2601 Australia
GPO Box 858 Canberra ACT 2601 Australia
agriculture.gov.au

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Friday, June 9, 2023 10:48 AM

To: s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: Review and summation of studies on the live sheep trade

Hi ^{s 22(1)(a)(ii)}

Please find enclosed our first drafts on three of the reports for the literature review project.

At this stage we have one for one query in relation to the ACIL Allen report. We have arguably strayed into commentary where we have observed there is not a lot of overlap (if any) between the Northern Australia live cattle export industry and the live sheep export industry (i.e. cattle with the *Bos indicus* genes grazed in Northern Australia are generally not sent for live export to the Middle East) and were wondering if that was going a step too far? In drafting we had initially examined the overlap between live cattle export and live sheep export in general but eventually decided that was probably a step too far. We would appreciate your advice on where the appropriate boundary is.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Monday, May 22, 2023 2:35 PM
To: Alistair Davey <adavey@pegasus-economics.com.au>
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Great – I will get a meeting invite sent through

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Monday, 22 May 2023 2:24 PM
To: s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Wednesday at 12pm (midday) works for Roger and myself.

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Monday, May 22, 2023 10:12 AM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alastair – unfortunately tomorrow is a little crazy. Would 12-12.30 on Wednesday work for you?

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Friday, 19 May 2023 8:38 AM

To: s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Sounds good, thank you.

From: s 22(1)(a)(ii)

Sent: Friday, May 19, 2023 8:22 AM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: Re: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Tuesday will work. We will find some time and flick you through a meeting request.

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Thursday, May 18, 2023 9:51:36 PM

To: s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Unfortunately Monday is not possible for me as I am down in Melbourne, but I am available on Tuesday if that works?

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Thursday, May 18, 2023 9:38 PM
To: Alistair Davey <adavey@pegasus-economics.com.au>
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi Alistair,

Please find attached a copy of the executed contract.

We will look to set up a meeting with our Assistant Secretary, s 22(1)(a)(ii) for Monday. Could you please confirm if you have availability on Monday.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Friday, 12 May 2023 1:31 PM
To: s 22(1)(a)(ii)
Cc: McDonald, Andrew Andrew.McDonald@aff.gov.au; Donaldson, Morag Morag.Donaldson@aff.gov.au; s 22(1)(a)(ii)
; s 22(1)(a)(ii) ; Roger E Fisher
refisher@pegasus-economics.com.au
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Please find enclosed a copy of the signed contract page, the vendor creation form and the additional forms required for the vendor creation form.

Also, when would you like to convene the inception meeting?

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Friday, May 12, 2023 9:53 AM
To: Alistair Davey <adavey@pegasus-economics.com.au>
Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>;
; s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alistair,

Thanks for providing the additions.

I have revised the start date until today and a PDF version is attached for your signature. Could you please sign today, and send back to me, so that I can arrange for it to be countersigned.

We will provide you a copy once we have countersigned the document.

Could you please also complete the vendor creation form (also attached) so that we can get your company set up in our finance system.

We look forward to working with you.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Tuesday, 9 May 2023 10:11 AM
To: s 22(1)(a)(ii)
Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>;
s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Thanks ^{s 22(1)(a)(ii)}

We have reviewed the contract and have no problems with it, and have made additions/changes to subsection C.A.5.

The only potential problem with what I have added is in relation to security clearances. Roger and I both received baseline security clearances during our work on the Aged Care Royal Commission in 2019 and 2020 respectively (which I think last for up to 8 years), although the sponsorship of those clearances by the Attorney-General's Dept was revoked once we finish up with the Commission.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Monday, May 8, 2023 5:45 PM
To: Alistair Davey <adavey@pegasus-economics.com.au>
Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alistair,

Please find attached the draft contract for the review and summation of studies on the live sheep trade.

Could you please review and let me know if you require any changes. Could you in particular check the requirement as well as update the specified personnel table (it has been highlighted).

Once we can finalise the contract, we will execute the signatures and kick off with an inception meeting.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Thursday, 4 May 2023 10:18 AM
To: s 22(1)(a)(ii)
Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Dear s 22(1)(a)(ii)

Thank you for your email of 2 May 2023 and your request for quote following on from our teleconference last week.

In quoting for this review project, the Pegasus Economics team will include both myself as well as Roger Fisher who has been a co-author on previous Pegasus reports on the live sheep export industry.

Our understanding of the project is that we are to provide insightful and helpful commentary on the reports with a view to assisting the panel in its understanding of the economic issues associated with a timeframe for cessation of the live sheep export trade. We do not envisage that our task is to provide an alternative position on the reports, but instead to highlight key take outs, signpost significant issues, explain methodologies and provide commentary on strengths, weaknesses and potential gaps in the reports. We will seek to address complex economic and policy issues in non-technical language and are cognisant of the fact that the project must be completed by 30 June 2023.

We believe that it would be useful to commence the project with an inception meeting to discuss the project in more detail. The meeting will help ensure a mutual understanding of objectives, deliverables, methodology, timing, resources, and management of the project.

Other studies that we believe would be useful to also include in the coverage of the review project include:

- Centre for International Economics. (2014). *Contribution of live exports to the Australian Wool Industry*, Prepared for Australian Wool Innovation, Canberra.
- Centre for International Economics. (2018). *Contribution of live exports to Woolgrower's income - An Update*, Prepared for Australian Wool Innovation, Canberra.
- Davey, A., & Fisher, R. (2018). *Economic Issues Associated with the Live Sheep Export Trade*. Prepared for Animals Australia, Canberra: Pegasus Economics.
- Davey, A., Fisher, R., & Morley, M. (2022) *Economic Implications of Phasing Out the Live Sheep Export Trade*, Prepared for Animals Australia, Canberra: Pegasus Economics.
- Kingwell, R., Cunningham, P., Nath, T., Anderton, L., Xayavong, V., Curis, K., . . . Feldman, D. (2011). *The Economic Importance to Western Australia of Live Animal Exports*. Perth: Department of Agriculture and Food Western Australia.
- Mecardo. (2018). *Live Sheep Export – Brief Report*. Ballarat.
- Pritchett, K. (2019). *Implications of management decisions on the WA sheep flock in response to changing markets*. Perth: Department of Primary Industries and Regional Development.

We would seek your guidance as to whether you want us to review our own previous reports, although we do readily acknowledge they were far from perfect.

On this basis, our quote for this project is \$49,500 inclusive of GST, although we can review this budget if the Department prefers a different approach. We would also be happy to discuss and refine any elements of the suggested approach in order to ensure the end product meets your needs.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Tuesday, May 2, 2023 3:20 PM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>;

s 22(1)(a)(ii)

s 22(1)(a)(ii)**Subject:** Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hello Alistair,

Thanks for taking time to meet with us last week in regard to a review of studies on the live sheep trade.

Minister Watt has appointed a four-person panel to consult on how and when to phase out live exports of sheep by sea. The panel includes Ms Sue Middleton, Ms Heather Neil and the Hon. Warren Snowdon.

The panel has been asked to report to Minister Watt by 30 September on:

- potential mechanisms to phase out live sheep exports by sea
- a suggested timeframe and options for implementation
- potential ways to support the transition.

The panel's remit does not include the merits of the policy and the policy does not cover cattle or other live exports.

We would like to request a quote from you to provide the following:

- An assessment and summation of existing studies in relation to live sheep exports, including but not limited to:
 - Value analysis of the Australian Live Sheep Export Trade – Mecardo
 - Impact of the live sheep export trade's self-imposed moratorium and regulatory changes – Mecardo
 - The economic impacts of regulating live sheep exports - research report 21.01 – February 2021 – ABARES
 - The economic contribution and benefits of the Northern live export cattle industry – ACIL ALLEN
- A suggested and separate guide/index/reference list of the relevant data or parts of each report that you judge as worthy of the panel's consideration—and particularly identifying where the underlying assumptions or findings/conclusions are inaccurate or should otherwise be treated with caution (eg facts or figures).

Could you please supply a quote to us by COB Thursday 4 May 2023. We would need the review to be completed and provide to the panel by 30 June 2023.

If you require any additional information, please feel free to contact me,

Regards

s 22(1)(a)(ii)

A/g Director | **s 22(1)(a)(ii)**

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

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s 22(1)(a)(ii)

From: s 22(1)(a)(ii)

Sent: Friday, June 16, 2023 4:55 PM

To: Alistair Davey <adavey@pegasus-economics.com.au>; s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hello Alistair

Apologies for the delayed response and thank you for sending through for our review.

Overall the template headers and approach are looking about right. Could I ask for an additional section about Key Assumptions be included as well. This would identify time periods data is drawn from, the assumptions used for the analysis (such as price of sheep), etc, that were utilised in the report. This would just need the information presented as points of fact rather than needing to validate the information used.

As you indicated, please omit the commentary, that way the content remains aligned with factually summarising the reports.

Please reach out if you had any further queries.

Kind regards

s 22(1)(a)(ii)

s 22(1)(a)(ii)

| s 22(1)(a)(ii)

A/g Assistant Secretary | Live Sheep by Sea Phase Out Branch
Traceability, Plant and Live Animal Exports Division
Department of Agriculture, Fisheries and Forestry
Agriculture House, 70 Northbourne Ave, Canberra ACT 2601 Australia
GPO Box 858 Canberra ACT 2601 Australia
agriculture.gov.au

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Friday, June 9, 2023 10:48 AM

To: s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: Review and summation of studies on the live sheep trade

Hi ^{s 22(1)(a)(ii)}

Please find enclosed our first drafts on three of the reports for the literature review project.

At this stage we have one for one query in relation to the ACIL Allen report. We have arguably strayed into commentary where we have observed there is not a lot of overlap (if any) between the Northern Australia live cattle export industry and the live sheep export industry (i.e. cattle with the Bos indicus genes grazed in Northern Australia are generally not sent for live export to the Middle East) and were wondering if that was going a step too far? In drafting we had initially examined the overlap between live cattle export and live sheep export in general but eventually decided that was probably a step too far. We would appreciate your advice on where the appropriate boundary is.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Monday, May 22, 2023 2:35 PM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Great – I will get a meeting invite sent through

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Monday, 22 May 2023 2:24 PM

To: s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Wednesday at 12pm (midday) works for Roger and myself.

Regards

Dr Alistair Davey – Director



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email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

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Sent: Monday, May 22, 2023 10:12 AM
To: Alistair Davey <adavey@pegasus-economics.com.au>
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
 Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
 s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alastair – unfortunately tomorrow is a little crazy. Would 12-12.30 on Wednesday work for you?

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Friday, 19 May 2023 8:38 AM
To: s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
 Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
 s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Sounds good, thank you.

From: s 22(1)(a)(ii)
Sent: Friday, May 19, 2023 8:22 AM
To: Alistair Davey <adavey@pegasus-economics.com.au>
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
 Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
 s 22(1)(a)(ii)
Subject: Re: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Tuesday will work. We will find some time and flick you through a meeting request.

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Thursday, May 18, 2023 9:51:36 PM
To: s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
 Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
 s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Unfortunately Monday is not possible for me as I am down in Melbourne, but I am available on Tuesday if that works?

Regards
Dr Alistair Davey – Director



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Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi Alistair,

Please find attached a copy of the executed contract.

We will look to set up a meeting with our Assistant Secretary, s 22(1)(a)(ii) for Monday. Could you please confirm if you have availability on Monday.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Friday, 12 May 2023 1:31 PM
To: s 22(1)(a)(ii)
Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Please find enclosed a copy of the signed contract page, the vendor creation form and the additional forms required for the vendor creation form.

Also, when would you like to convene the inception meeting?

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Friday, May 12, 2023 9:53 AM
To: Alistair Davey <adavey@pegasus-economics.com.au>
Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>;
; s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alistair,

Thanks for providing the additions.

I have revised the start date until today and a PDF version is attached for your signature. Could you please sign today, and send back to me, so that I can arrange for it to be countersigned.

We will provide you a copy once we have countersigned the document.

Could you please also complete the vendor creation form (also attached) so that we can get your company set up in our finance system.

We look forward to working with you.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Tuesday, 9 May 2023 10:11 AM
To: s 22(1)(a)(ii)
Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>;
s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Thanks ^{s 22(1)(a)(ii)}

We have reviewed the contract and have no problems with it, and have made additions/changes to subsection C.A.5.

The only potential problem with what I have added is in relation to security clearances. Roger and I both received baseline security clearances during our work on the Aged Care Royal Commission in 2019 and 2020 respectively (which I think last for up to 8 years), although the sponsorship of those clearances by the Attorney-General's Dept was revoked once we finish up with the Commission.

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Monday, May 8, 2023 5:45 PM
To: Alistair Davey <adavey@pegasus-economics.com.au>
Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; ^{s 22(1)(a)(ii)}

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alistair,

Please find attached the draft contract for the review and summation of studies on the live sheep trade.

Could you please review and let me know if you require any changes. Could you in particular check the requirement as well as update the specified personnel table (it has been highlighted).

Once we can finalise the contract, we will execute the signatures and kick off with an inception meeting.

Regards

^{s 22(1)(a)(ii)}

A/g Director | ^{s 22(1)(a)(ii)}

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Thursday, 4 May 2023 10:18 AM

To: s 22(1)(a)(ii)

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Dear ^{s 22(1)(a)(ii)}

Thank you for your email of 2 May 2023 and your request for quote following on from our teleconference last week.

In quoting for this review project, the Pegasus Economics team will include both myself as well as Roger Fisher who has been a co-author on previous Pegasus reports on the live sheep export industry.

Our understanding of the project is that we are to provide insightful and helpful commentary on the reports with a view to assisting the panel in its understanding of the economic issues associated with a timeframe for cessation of the live sheep export trade. We do not envisage that our task is to provide an alternative position on the reports, but instead to highlight key take outs, signpost significant issues, explain methodologies and provide commentary on strengths, weaknesses and potential gaps in the reports. We will seek to address complex economic and policy issues in non-technical language and are cognisant of the fact that the project must be completed by 30 June 2023.

We believe that it would be useful to commence the project with an inception meeting to discuss the project in more detail. The meeting will help ensure a mutual understanding of objectives, deliverables, methodology, timing, resources, and management of the project.

Other studies that we believe would be useful to also include in the coverage of the review project include:

- Centre for International Economics. (2014). *Contribution of live exports to the Australian Wool Industry*, Prepared for Australian Wool Innovation, Canberra.
- Centre for International Economics. (2018). *Contribution of live exports to Woolgrower's income - An Update*, Prepared for Australian Wool Innovation, Canberra.
- Davey, A., & Fisher, R. (2018). *Economic Issues Associated with the Live Sheep Export Trade*. Prepared for Animals Australia, Canberra: Pegasus Economics.
- Davey, A., Fisher, R., & Morley, M. (2022) *Economic Implications of Phasing Out the Live Sheep Export Trade*, Prepared for Animals Australia, Canberra: Pegasus Economics.
- Kingwell, R., Cunningham, P., Nath, T., Anderton, L., Xayavong, V., Curis, K., . . . Feldman, D. (2011). *The Economic Importance to Western Australia of Live Animal Exports*. Perth: Department of Agriculture and Food Western Australia.
- Mecardo. (2018). *Live Sheep Export – Brief Report*. Ballarat.
- Pritchett, K. (2019). *Implications of management decisions on the WA sheep flock in response to changing markets*. Perth: Department of Primary Industries and Regional Development.

We would seek your guidance as to whether you want us to review our own previous reports, although we do readily acknowledge they were far from perfect.

On this basis, our quote for this project is \$49,500 inclusive of GST, although we can review this budget if the Department prefers a different approach. We would also be happy to discuss and refine any elements of the suggested approach in order to ensure the end product meets your needs.

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email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

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Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hello Alistair,

Thanks for taking time to meet with us last week in regard to a review of studies on the live sheep trade.

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The panel has been asked to report to Minister Watt by 30 September on:

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- potential ways to support the transition.

The panel's remit does not include the merits of the policy and the policy does not cover cattle or other live exports.

We would like to request a quote from you to provide the following:

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 - Value analysis of the Australian Live Sheep Export Trade – Mecardo
 - Impact of the live sheep export trade's self-imposed moratorium and regulatory changes – Mecardo
 - The economic impacts of regulating live sheep exports - research report 21.01 – February 2021 – ABARES
 - The economic contribution and benefits of the Northern live export cattle industry – ACIL ALLEN
- A suggested and separate guide/index/reference list of the relevant data or parts of each report that you judge as worthy of the panel's consideration—and particularly identifying where the underlying assumptions or findings/conclusions are inaccurate or should otherwise be treated with caution (eg facts or figures).

Could you please supply a quote to us by COB Thursday 4 May 2023. We would need the review to be completed and provide to the panel by 30 June 2023.

If you require any additional information, please feel free to contact me,

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

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s 22(1)(a)(ii)

From: s 22(1)(a)(ii)
Sent: Monday, May 22, 2023 3:49 PM
To: Alistair Davey <adavey@pegasus-economics.com.au>
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii)
s 22(1)(a)(ii)
Subject: RE: Meeting on Wednesday [SEC=OFFICIAL]

Great! See you then! I will be working from home but will organise someone to meet you downstairs at 12. We are meeting on the ground floor so no need to sign in.

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Monday, 22 May 2023 3:47 PM
To: s 22(1)(a)(ii)
Subject: RE: Meeting on Wednesday [SEC=OFFICIAL]

Thanks ^{s 22(1)(a)(ii)}

I will set you at midday on Wednesday!

From: s 22(1)(a)(ii)
Sent: Monday, May 22, 2023 3:46 PM
To: Alistair Davey <adavey@pegasus-economics.com.au>
Subject: RE: Meeting on Wednesday [SEC=OFFICIAL]

Of course Alistair – I will leave teams link in there for anyone working from home but will also book a meeting room.

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Monday, 22 May 2023 3:35 PM
To: s 22(1)(a)(ii)
Subject: Meeting on Wednesday

Hi ^{s 22(1)(a)(ii)}

Roger and I would be happy to do a face-to-face meeting on Wednesday at DAFF on Wednesday if that is a possibility? We have found face-to-face meetings are more productive and we pick up on things that we might not otherwise in a video teleconference.

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

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 Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
 s 22(1)(a)(ii)
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Great – I will get a meeting invite sent through

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Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
 Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
 s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Wednesday at 12pm (midday) works for Roger and myself.

Regards
 Dr Alistair Davey – Director



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 email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

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Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
 Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alastair – unfortunately tomorrow is a little crazy. Would 12-12.30 on Wednesday work for you?

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Sent: Friday, 19 May 2023 8:38 AM

To: s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

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Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: Re: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Tuesday will work. We will find some time and flick you through a meeting request.

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Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

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Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Unfortunately Monday is not possible for me as I am down in Melbourne, but I am available on Tuesday if that works?

Regards

Dr Alistair Davey – Director



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Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

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Sent: Friday, 12 May 2023 1:31 PM

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Cc: McDonald, Andrew Andrew.McDonald@aff.gov.au; Donaldson, Morag Morag.Donaldson@aff.gov.au; s 22(1)(a)(ii) ; Roger E Fisher

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s 22(1)(a)(ii)

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Monday, May 22, 2023 2:24 PM

To: s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Wednesday at 12pm (midday) works for Roger and myself.

Regards

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Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

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Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alastair – unfortunately tomorrow is a little crazy. Would 12-12.30 on Wednesday work for you?

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Friday, 19 May 2023 8:38 AM

To: s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

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GPO Box 858 Canberra ACT 2601 Australia

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Sent: Friday, 12 May 2023 1:31 PM

To: s 22(1)(a)(ii)

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii) ; Roger E Fisher

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email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

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- A suggested and separate guide/index/reference list of the relevant data or parts of each report that you judge as worthy of the panel's consideration—and particularly identifying where the underlying assumptions or findings/conclusions are inaccurate or should otherwise be treated with caution (eg facts or figures).

Could you please supply a quote to us by COB Thursday 4 May 2023. We would need the review to be completed and provide to the panel by 30 June 2023.

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Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alistair,

Please find attached the draft contract for the review and summation of studies on the live sheep trade.

Could you please review and let me know if you require any changes. Could you in particular check the requirement as well as update the specified personnel table (it has been highlighted).

Once we can finalise the contract, we will execute the signatures and kick off with an inception meeting.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Thursday, 4 May 2023 10:18 AM

To: s 22(1)(a)(ii)

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Dear s 22(1)(a)(ii)

Thank you for your email of 2 May 2023 and your request for quote following on from our teleconference last week.

In quoting for this review project, the Pegasus Economics team will include both myself as well as Roger Fisher who has been a co-author on previous Pegasus reports on the live sheep export industry.

Our understanding of the project is that we are to provide insightful and helpful commentary on the reports with a view to assisting the panel in its understanding of the economic issues associated with a timeframe for cessation of the live sheep export trade. We do not envisage that our task is to provide an alternative position on the reports, but instead to highlight key take outs, signpost significant issues, explain methodologies and provide commentary on strengths, weaknesses and potential gaps in the reports. We will seek to address complex economic and policy issues in non-technical language and are cognisant of the fact that the project must be completed by 30 June 2023.

We believe that it would be useful to commence the project with an inception meeting to discuss the project in more detail. The meeting will help ensure a mutual understanding of objectives, deliverables, methodology, timing, resources, and management of the project.

Other studies that we believe would be useful to also include in the coverage of the review project include:

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- Mecardo. (2018). *Live Sheep Export – Brief Report*. Ballarat.
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We would seek your guidance as to whether you want us to review our own previous reports, although we do readily acknowledge they were far from perfect.

On this basis, our quote for this project is \$49,500 inclusive of GST, although we can review this budget if the Department prefers a different approach. We would also be happy to discuss and refine any elements of the suggested approach in order to ensure the end product meets your needs.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Tuesday, May 2, 2023 3:20 PM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hello Alistair,

Thanks for taking time to meet with us last week in regard to a review of studies on the live sheep trade.

Minister Watt has appointed a four-person panel to consult on how and when to phase out live exports of sheep by sea. The panel includes Ms Sue Middleton, Ms Heather Neil and the Hon. Warren Snowdon.

The panel has been asked to report to Minister Watt by 30 September on:

- potential mechanisms to phase out live sheep exports by sea
- a suggested timeframe and options for implementation
- potential ways to support the transition.

The panel's remit does not include the merits of the policy and the policy does not cover cattle or other live exports.

We would like to request a quote from you to provide the following:

- An assessment and summation of existing studies in relation to live sheep exports, including but not limited to:

- Value analysis of the Australian Live Sheep Export Trade – Mecardo
- Impact of the live sheep export trade’s self-imposed moratorium and regulatory changes – Mecardo
- The economic impacts of regulating live sheep exports - research report 21.01 – February 2021 – ABARES
- The economic contribution and benefits of the Northern live export cattle industry – ACIL ALLEN
- A suggested and separate guide/index/reference list of the relevant data or parts of each report that you judge as worthy of the panel’s consideration—and particularly identifying where the underlying assumptions or findings/conclusions are inaccurate or should otherwise be treated with caution (eg facts or figures).

Could you please supply a quote to us by COB Thursday 4 May 2023. We would need the review to be completed and provide to the panel by 30 June 2023.

If you require any additional information, please feel free to contact me,

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

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s 22(1)(a)(ii)

From: s 22(1)(a)(ii)
Sent: Tuesday, June 27, 2023 10:32 AM
To: Alistair Davey <adavey@pegasus-economics.com.au>; s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Thank you Alistair for sending this through. We look forward to reading it.

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Tuesday, June 27, 2023 9:53 AM
To: s 22(1)(a)(ii) s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Dear ^{s 22(1)(a)(ii)}

Please find enclosed our first draft report for the literature review component of our project. The draft for the second component should follow later today or tomorrow.

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Friday, June 16, 2023 4:55 PM
To: Alistair Davey <adavey@pegasus-economics.com.au>; s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hello Alistair

Apologies for the delayed response and thank you for sending through for our review.

Overall the template headers and approach are looking about right. Could I ask for an additional section about Key Assumptions be included as well. This would identify time periods data is drawn from, the assumptions used for the analysis (such as price of sheep), etc, that were utilised in the report. This would just need the information presented as points of fact rather than needing to validate the information used.

As you indicated, please omit the commentary, that way the content remains aligned with factually summarising the reports.

Please reach out if you had any further queries.

Kind regards

s 22(1)(a)(ii)

s 22(1)(a)(ii) | s 22(1)(a)(ii)
A/g Assistant Secretary | Live Sheep by Sea Phase Out Branch
Traceability, Plant and Live Animal Exports Division
Department of Agriculture, Fisheries and Forestry
Agriculture House, 70 Northbourne Ave, Canberra ACT 2601 Australia
GPO Box 858 Canberra ACT 2601 Australia
agriculture.gov.au

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Friday, June 9, 2023 10:48 AM

To: s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii)

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: Review and summation of studies on the live sheep trade

Hi ^{s 22(1)(a)(ii)}

Please find enclosed our first drafts on three of the reports for the literature review project.

At this stage we have one for one query in relation to the ACIL Allen report. We have arguably strayed into commentary where we have observed there is not a lot of overlap (if any) between the Northern Australia live cattle export industry and the live sheep export industry (i.e. cattle with the Bos indicus genes grazed in Northern Australia are generally not sent for live export to the Middle East) and were wondering if that was going a step too far? In drafting we had initially examined the overlap between live cattle export and live sheep export in general but eventually decided that was probably a step too far. We would appreciate your advice on where the appropriate boundary is.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,

email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Monday, May 22, 2023 2:35 PM
To: Alistair Davey <adavey@pegasus-economics.com.au>
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Great – I will get a meeting invite sent through

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Monday, 22 May 2023 2:24 PM
To: s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Wednesday at 12pm (midday) works for Roger and myself.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Monday, May 22, 2023 10:12 AM
To: Alistair Davey <adavey@pegasus-economics.com.au>
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alastair – unfortunately tomorrow is a little crazy. Would 12-12.30 on Wednesday work for you?

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Friday, 19 May 2023 8:38 AM
To: s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Sounds good, thank you.

From: s 22(1)(a)(ii)
Sent: Friday, May 19, 2023 8:22 AM
To: Alistair Davey <adavey@pegasus-economics.com.au>
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii)
Subject: Re: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Tuesday will work. We will find some time and flick you through a meeting request.

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Thursday, May 18, 2023 9:51:36 PM
To: s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Unfortunately Monday is not possible for me as I am down in Melbourne, but I am available on Tuesday if that works?

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

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To: Alistair Davey <adavey@pegasus-economics.com.au>
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Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi Alistair,

Please find attached a copy of the executed contract.

We will look to set up a meeting with our Assistant Secretary, s 22(1)(a)(ii) for Monday. Could you please confirm if you have availability on Monday.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Friday, 12 May 2023 1:31 PM

To: s 22(1)(a)(ii)

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>;
s 22(1)(a)(ii); Roger E Fisher

<refisher@pegasus-economics.com.au>

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi s 22(1)(a)(ii)

Please find enclosed a copy of the signed contract page, the vendor creation form and the additional forms required for the vendor creation form.

Also, when would you like to convene the inception meeting?

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Friday, May 12, 2023 9:53 AM

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Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>;
s 22(1)(a)(ii); s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alistair,

Thanks for providing the additions.

I have revised the start date until today and a PDF version is attached for your signature. Could you please sign today, and send back to me, so that I can arrange for it to be countersigned.

We will provide you a copy once we have countersigned the document.

Could you please also complete the vendor creation form (also attached) so that we can get your company set up in our finance system.

We look forward to working with you.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Tuesday, 9 May 2023 10:11 AM

To: s 22(1)(a)(ii)

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Thanks s 22(1)(a)(ii)

We have reviewed the contract and have no problems with it, and have made additions/changes to subsection C.A.5.

The only potential problem with what I have added is in relation to security clearances. Roger and I both received baseline security clearances during our work on the Aged Care Royal Commission in 2019 and 2020 respectively (which I think last for up to 8 years), although the sponsorship of those clearances by the Attorney-General's Dept was revoked once we finish up with the Commission.

Regards

Dr Alistair Davey – Director



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Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Tuesday, May 2, 2023 3:20 PM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

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 - The economic contribution and benefits of the Northern live export cattle industry – ACIL ALLEN
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If you require any additional information, please feel free to contact me,

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

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s 22(1)(a)(ii)

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Thursday, July 6, 2023 10:36 AM
To: s 22(1)(a)(ii) ; s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Thanks for your email, preliminary feedback and the meeting request.

Would 10am tomorrow or Monday be convenient for a zoom meeting?

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Thursday, July 6, 2023 9:38 AM
To: Alistair Davey <adavey@pegasus-economics.com.au>; s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Good morning Alistair,

Thanks for providing the report. We do have some concerns with the report and would appreciate some time to discuss.

Firstly the name of the report differs for the name on the contract and secondly the summations do not match the template that we had agreed upon. There are some other issues but these are the two stand out. We believe some of the information from not sticking to the templates means that key analysis is missing.

Do you have some time available in the near future so we can arrange a meeting?

Regards

s 22(1)(a)(ii)

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Tuesday, June 27, 2023 3:31 PM

To: s 22(1)(a)(ii) ; s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Dear ^{s 22(1)(a)(ii)}

Further to my earlier email today, please find enclosed our index/reference list of major issues addressed in the reports and a separate report on challengeable assumptions used in the reports.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Tuesday, June 27, 2023 10:32 AM

To: Alistair Davey <adavey@pegasus-economics.com.au>; s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Thank you Alistair for sending this through. We look forward to reading it.

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Tuesday, June 27, 2023 9:53 AM

To: s 22(1)(a)(ii) s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>

economics.com.au>; s 22(1)(a)(ii)

Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Dear ^{s 22(1)(a)(ii)}

Please find enclosed our first draft report for the literature review component of our project. The draft for the second component should follow later today or tomorrow.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Friday, June 16, 2023 4:55 PM

To: Alistair Davey <adavey@pegasus-economics.com.au>; s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hello Alistair

Apologies for the delayed response and thank you for sending through for our review.

Overall the template headers and approach are looking about right. Could I ask for an additional section about Key Assumptions be included as well. This would identify time periods data is drawn from, the assumptions used for the analysis (such as price of sheep), etc, that were utilised in the report. This would just need the information presented as points of fact rather than needing to validate the information used.

As you indicated, please omit the commentary, that way the content remains aligned with factually summarising the reports.

Please reach out if you had any further queries.

Kind regards

^{s 22(1)(a)(ii)}

s 22(1)(a)(ii)

| s 22(1)(a)(ii)

A/g Assistant Secretary | Live Sheep by Sea Phase Out Branch
Traceability, Plant and Live Animal Exports Division
Department of Agriculture, Fisheries and Forestry
Agriculture House, 70 Northbourne Ave, Canberra ACT 2601 Australia
GPO Box 858 Canberra ACT 2601 Australia
agriculture.gov.au

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Friday, June 9, 2023 10:48 AM
To: s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii)
Subject: Review and summation of studies on the live sheep trade

Hi ^{s 22(1)(a)(ii)}

Please find enclosed our first drafts on three of the reports for the literature review project.

At this stage we have one for one query in relation to the ACIL Allen report. We have arguably strayed into commentary where we have observed there is not a lot of overlap (if any) between the Northern Australia live cattle export industry and the live sheep export industry (i.e. cattle with the Bos indicus genes grazed in Northern Australia are generally not sent for live export to the Middle East) and were wondering if that was going a step too far? In drafting we had initially examined the overlap between live cattle export and live sheep export in general but eventually decided that was probably a step too far. We would appreciate your advice on where the appropriate boundary is.

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Monday, May 22, 2023 2:35 PM
To: Alistair Davey <adavey@pegasus-economics.com.au>
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Great – I will get a meeting invite sent through

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Monday, 22 May 2023 2:24 PM
To: s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Wednesday at 12pm (midday) works for Roger and myself.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Monday, May 22, 2023 10:12 AM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alastair – unfortunately tomorrow is a little crazy. Would 12-12.30 on Wednesday work for you?

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Friday, 19 May 2023 8:38 AM

To: s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Sounds good, thank you.

From: s 22(1)(a)(ii)

Sent: Friday, May 19, 2023 8:22 AM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: Re: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Tuesday will work. We will find some time and flick you through a meeting request.

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Thursday, May 18, 2023 9:51:36 PM

To: s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Unfortunately Monday is not possible for me as I am down in Melbourne, but I am available on Tuesday if that works?

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Thursday, May 18, 2023 9:38 PM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi Alistair,

Please find attached a copy of the executed contract.

We will look to set up a meeting with our Assistant Secretary, s 22(1)(a)(ii) for Monday. Could you please confirm if you have availability on Monday.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Friday, 12 May 2023 1:31 PM

To: s 22(1)(a)(ii)

Cc: McDonald, Andrew Andrew.McDonald@aff.gov.au; Donaldson, Morag Morag.Donaldson@aff.gov.au; ^{s 22(1)(a)(ii)}

; s 22(1)(a)(ii)

; Roger E Fisher

refisher@pegasus-economics.com.au

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Please find enclosed a copy of the signed contract page, the vendor creation form and the additional forms required for the vendor creation form.

Also, when would you like to convene the inception meeting?

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Friday, May 12, 2023 9:53 AM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: s 22(1)(a)(ii) ; Donaldson, Morag <Morag.Donaldson@aff.gov.au>;
; s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alistair,

Thanks for providing the additions.

I have revised the start date until today and a PDF version is attached for your signature. Could you please sign today, and send back to me, so that I can arrange for it to be countersigned.

We will provide you a copy once we have countersigned the document.

Could you please also complete the vendor creation form (also attached) so that we can get your company set up in our finance system.

We look forward to working with you.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Tuesday, 9 May 2023 10:11 AM

To: s 22(1)(a)(ii)

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Thanks s 22(1)(a)(ii)

We have reviewed the contract and have no problems with it, and have made additions/changes to subsection C.A.5.

The only potential problem with what I have added is in relation to security clearances. Roger and I both received baseline security clearances during our work on the Aged Care Royal Commission in 2019 and 2020 respectively (which I think last for up to 8 years), although the sponsorship of those clearances by the Attorney-General's Dept was revoked once we finish up with the Commission.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Monday, May 8, 2023 5:45 PM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alistair,

Please find attached the draft contract for the review and summation of studies on the live sheep trade.

Could you please review and let me know if you require any changes. Could you in particular check the requirement as well as update the specified personnel table (it has been highlighted).

Once we can finalise the contract, we will execute the signatures and kick off with an inception meeting.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>**Sent:** Thursday, 4 May 2023 10:18 AM**To:** s 22(1)(a)(ii)**Cc:** McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)**Subject:** RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Dear s 22(1)(a)(ii)

Thank you for your email of 2 May 2023 and your request for quote following on from our teleconference last week.

In quoting for this review project, the Pegasus Economics team will include both myself as well as Roger Fisher who has been a co-author on previous Pegasus reports on the live sheep export industry.

Our understanding of the project is that we are to provide insightful and helpful commentary on the reports with a view to assisting the panel in its understanding of the economic issues associated with a timeframe for cessation of the live sheep export trade. We do not envisage that our task is to provide an alternative position on the reports, but instead to highlight key take outs, signpost significant issues, explain methodologies and provide commentary on strengths, weaknesses and potential gaps in the reports. We will seek to address complex economic and policy issues in non-technical language and are cognisant of the fact that the project must be completed by 30 June 2023.

We believe that it would be useful to commence the project with an inception meeting to discuss the project in more detail. The meeting will help ensure a mutual understanding of objectives, deliverables, methodology, timing, resources, and management of the project.

Other studies that we believe would be useful to also include in the coverage of the review project include:

- Centre for International Economics. (2014). *Contribution of live exports to the Australian Wool Industry*, Prepared for Australian Wool Innovation, Canberra.
- Centre for International Economics. (2018). *Contribution of live exports to Woolgrower's income - An Update*, Prepared for Australian Wool Innovation, Canberra.
- Davey, A., & Fisher, R. (2018). *Economic Issues Associated with the Live Sheep Export Trade*. Prepared for Animals Australia, Canberra: Pegasus Economics.
- Davey, A., Fisher, R., & Morley, M. (2022) *Economic Implications of Phasing Out the Live Sheep Export Trade*, Prepared for Animals Australia, Canberra: Pegasus Economics.
- Kingwell, R., Cunningham, P., Nath, T., Anderton, L., Xayavong, V., Curis, K., . . . Feldman, D. (2011). *The Economic Importance to Western Australia of Live Animal Exports*. Perth: Department of Agriculture and Food Western Australia.
- Mecardo. (2018). *Live Sheep Export – Brief Report*. Ballarat.
- Pritchett, K. (2019). *Implications of management decisions on the WA sheep flock in response to changing markets*. Perth: Department of Primary Industries and Regional Development.

We would seek your guidance as to whether you want us to review our own previous reports, although we do readily acknowledge they were far from perfect.

On this basis, our quote for this project is \$49,500 inclusive of GST, although we can review this budget if the Department prefers a different approach. We would also be happy to discuss and refine any elements of the suggested approach in order to ensure the end product meets your needs.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Tuesday, May 2, 2023 3:20 PM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; ^{s 22(1)(a)(ii)}

Subject: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hello Alistair,

Thanks for taking time to meet with us last week in regard to a review of studies on the live sheep trade.

Minister Watt has appointed a four-person panel to consult on how and when to phase out live exports of sheep by sea. The panel includes Ms Sue Middleton, Ms Heather Neil and the Hon. Warren Snowdon.

The panel has been asked to report to Minister Watt by 30 September on:

- potential mechanisms to phase out live sheep exports by sea
- a suggested timeframe and options for implementation
- potential ways to support the transition.

The panel's remit does not include the merits of the policy and the policy does not cover cattle or other live exports.

We would like to request a quote from you to provide the following:

- An assessment and summation of existing studies in relation to live sheep exports, including but not limited to:
 - Value analysis of the Australian Live Sheep Export Trade – Mecardo
 - Impact of the live sheep export trade's self-imposed moratorium and regulatory changes – Mecardo
 - The economic impacts of regulating live sheep exports - research report 21.01 – February 2021 – ABARES
 - The economic contribution and benefits of the Northern live export cattle industry – ACIL ALLEN
- A suggested and separate guide/index/reference list of the relevant data or parts of each report that you judge as worthy of the panel's consideration—and particularly identifying where the underlying assumptions or findings/conclusions are inaccurate or should otherwise be treated with caution (eg facts or figures).

Could you please supply a quote to us by COB Thursday 4 May 2023. We would need the review to be completed and provide to the panel by 30 June 2023.

If you require any additional information, please feel free to contact me,

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

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s 22(1)(a)(ii)

From: s 22(1)(a)(ii)
Sent: Wednesday, July 26, 2023 1:39 PM
To: Alistair Davey <adavey@pegasus-economics.com.au>; s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Thanks Alistair for sending this through and updating.

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Tuesday, July 18, 2023 9:55 AM
To: s 22(1)(a)(ii) ; s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Further to our teleconference last Friday, please enclosed an updated version of our report on the assumptions.

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Thursday, July 13, 2023 2:28 PM
To: Alistair Davey <adavey@pegasus-economics.com.au>; s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Thanks Alistair. Let's chat tomorrow at 10am. I will send through a meeting request.

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Thursday, July 13, 2023 2:03 PM
To: s 22(1)(a)(ii) ; s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

I could do it alone tomorrow at 10am, but Roger has other commitments.

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Thursday, July 13, 2023 1:59 PM
To: Alistair Davey <adavey@pegasus-economics.com.au>; s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: Re: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Any chance you may have some availability tomorrow? ^{s 22(1)(a)(ii)} is on leave for the beginning of next week.

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Thursday, July 13, 2023 1:39:01 PM
To: s 22(1)(a)(ii) ; s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

What about a MS Team meeting at 10am on Monday if that is convenient?

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Thursday, July 13, 2023 11:16 AM
To: Alistair Davey <adavey@pegasus-economics.com.au>; s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi Roger and Alistair,

Could we please set up another meeting to discuss the reports provided to us. We have a few things that we would like to discuss.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Thursday, July 6, 2023 10:36 AM
To: s 22(1)(a)(ii) ; s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Thanks for your email, preliminary feedback and the meeting request.

Would 10am tomorrow or Monday be convenient for a zoom meeting?

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Thursday, July 6, 2023 9:38 AM
To: Alistair Davey <adavey@pegasus-economics.com.au>; s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Good morning Alistair,

Thanks for providing the report. We do have some concerns with the report and would appreciate some time to discuss.

Firstly the name of the report differs for the name on the contract and secondly the summations do not match the template that we had agreed upon. There are some other issues but these are the two stand out. We believe some of the information from not sticking to the templates means that key analysis is missing.

Do you have some time available in the near future so we can arrange a meeting?

Regards

s 22(1)(a)(ii)

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Tuesday, June 27, 2023 3:31 PM
To: s 22(1)(a)(ii) ; s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Dear ^{s 22(1)(a)(ii)}

Further to my earlier email today, please find enclosed our index/reference list of major issues addressed in the reports and a separate report on challengeable assumptions used in the reports.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Tuesday, June 27, 2023 10:32 AM
To: Alistair Davey <adavey@pegasus-economics.com.au>; s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Thank you Alistair for sending this through. We look forward to reading it.

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Tuesday, June 27, 2023 9:53 AM
To: s 22(1)(a)(ii) s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Dear ^{s 22(1)(a)(ii)}

Please find enclosed our first draft report for the literature review component of our project. The draft for the second component should follow later today or tomorrow.

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Friday, June 16, 2023 4:55 PM
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Hello Alistair

Apologies for the delayed response and thank you for sending through for our review.

Overall the template headers and approach are looking about right. Could I ask for an additional section about Key Assumptions be included as well. This would identify time periods data is drawn from, the assumptions used for the analysis (such as price of sheep), etc, that were utilised in the report. This would just need the information presented as points of fact rather than needing to validate the information used.

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Please reach out if you had any further queries.

Kind regards

s 22(1)(a)(ii)

s 22(1)(a)(ii) | s 22(1)(a)(ii)
A/g Assistant Secretary | Live Sheep by Sea Phase Out Branch
Traceability, Plant and Live Animal Exports Division
Department of Agriculture, Fisheries and Forestry
Agriculture House, 70 Northbourne Ave, Canberra ACT 2601 Australia
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Sent: Friday, June 9, 2023 10:48 AM

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Subject: Review and summation of studies on the live sheep trade

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Great – I will get a meeting invite sent through

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Wednesday at 12pm (midday) works for Roger and myself.

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s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

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s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alistair,

Thanks for providing the additions.

I have revised the start date until today and a PDF version is attached for your signature. Could you please sign today, and send back to me, so that I can arrange for it to be countersigned.

We will provide you a copy once we have countersigned the document.

Could you please also complete the vendor creation form (also attached) so that we can get your company set up in our finance system.

We look forward to working with you.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Tuesday, 9 May 2023 10:11 AM

To: s 22(1)(a)(ii)

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Thanks s 22(1)(a)(ii)

We have reviewed the contract and have no problems with it, and have made additions/changes to subsection C.A.5.

The only potential problem with what I have added is in relation to security clearances. Roger and I both received baseline security clearances during our work on the Aged Care Royal Commission in 2019 and 2020 respectively (which I think last for up to 8 years), although the sponsorship of those clearances by the Attorney-General's Dept was revoked once we finish up with the Commission.

Regards

Dr Alistair Davey – Director



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Sent: Monday, May 8, 2023 5:45 PM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; ^{s 22(1)(a)(ii)}

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alistair,

Please find attached the draft contract for the review and summation of studies on the live sheep trade.

Could you please review and let me know if you require any changes. Could you in particular check the requirement as well as update the specified personnel table (it has been highlighted).

Once we can finalise the contract, we will execute the signatures and kick off with an inception meeting.

Regards

^{s 22(1)(a)(ii)}

A/g Director | ^{s 22(1)(a)(ii)}

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Thursday, 4 May 2023 10:18 AM

To: ^{s 22(1)(a)(ii)}

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; ^{s 22(1)(a)(ii)}

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Dear ^{s 22(1)(a)(ii)}

Thank you for your email of 2 May 2023 and your request for quote following on from our teleconference last week.

In quoting for this review project, the Pegasus Economics team will include both myself as well as Roger Fisher who has been a co-author on previous Pegasus reports on the live sheep export industry.

Our understanding of the project is that we are to provide insightful and helpful commentary on the reports with a view to assisting the panel in its understanding of the economic issues associated with a timeframe for cessation of the live sheep export trade. We do not envisage that our task is to provide an alternative position on the reports, but instead to highlight key take outs, signpost significant issues, explain methodologies and provide commentary on strengths, weaknesses and potential gaps in the reports. We will seek to address complex economic and policy issues in non-technical language and are cognisant of the fact that the project must be completed by 30 June 2023.

We believe that it would be useful to commence the project with an inception meeting to discuss the project in more detail. The meeting will help ensure a mutual understanding of objectives, deliverables, methodology, timing, resources, and management of the project.

Other studies that we believe would be useful to also include in the coverage of the review project include:

- Centre for International Economics. (2014). *Contribution of live exports to the Australian Wool Industry*, Prepared for Australian Wool Innovation, Canberra.
- Centre for International Economics. (2018). *Contribution of live exports to Woolgrower's income - An Update*, Prepared for Australian Wool Innovation, Canberra.

- Davey, A., & Fisher, R. (2018). *Economic Issues Associated with the Live Sheep Export Trade*. Prepared for Animals Australia, Canberra: Pegasus Economics.
- Davey, A., Fisher, R., & Morley, M. (2022) *Economic Implications of Phasing Out the Live Sheep Export Trade*, Prepared for Animals Australia, Canberra: Pegasus Economics.
- Kingwell, R., Cunningham, P., Nath, T., Anderton, L., Xayavong, V., Curis, K., . . . Feldman, D. (2011). *The Economic Importance to Western Australia of Live Animal Exports* . Perth: Department of Agriculture and Food Western Australia.
- Mecardo. (2018). *Live Sheep Export – Brief Report*. Ballarat.
- Pritchett, K. (2019). *Implications of management decisions on the WA sheep flock in response to changing markets*. Perth: Department of Primary Industries and Regional Development.

We would seek your guidance as to whether you want us to review our own previous reports, although we do readily acknowledge they were far from perfect.

On this basis, our quote for this project is \$49,500 inclusive of GST, although we can review this budget if the Department prefers a different approach. We would also be happy to discuss and refine any elements of the suggested approach in order to ensure the end product meets your needs.

Regards

Dr Alistair Davey – Director



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Sent: Tuesday, May 2, 2023 3:20 PM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hello Alistair,

Thanks for taking time to meet with us last week in regard to a review of studies on the live sheep trade.

Minister Watt has appointed a four-person panel to consult on how and when to phase out live exports of sheep by sea. The panel includes Ms Sue Middleton, Ms Heather Neil and the Hon. Warren Snowdon.

The panel has been asked to report to Minister Watt by 30 September on:

- potential mechanisms to phase out live sheep exports by sea
- a suggested timeframe and options for implementation
- potential ways to support the transition.

The panel's remit does not include the merits of the policy and the policy does not cover cattle or other live exports.

We would like to request a quote from you to provide the following:

- An assessment and summation of existing studies in relation to live sheep exports, including but not limited to:
 - Value analysis of the Australian Live Sheep Export Trade – Mecardo
 - Impact of the live sheep export trade’s self-imposed moratorium and regulatory changes – Mecardo
 - The economic impacts of regulating live sheep exports - research report 21.01 – February 2021 – ABARES
 - The economic contribution and benefits of the Northern live export cattle industry – ACIL ALLEN
- A suggested and separate guide/index/reference list of the relevant data or parts of each report that you judge as worthy of the panel’s consideration—and particularly identifying where the underlying assumptions or findings/conclusions are inaccurate or should otherwise be treated with caution (eg facts or figures).

Could you please supply a quote to us by COB Thursday 4 May 2023. We would need the review to be completed and provide to the panel by 30 June 2023.

If you require any additional information, please feel free to contact me,

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

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s 22(1)(a)(ii)

From: s 22(1)(a)(ii)
Sent: Friday, July 7, 2023 10:08 AM
To: s 22(1)(a)(ii)
Subject: FW: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

From: Alistair Davey <adavey@pegasus-economics.com.au>
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Sent: Friday, May 12, 2023 9:53 AM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>;
s 22(1)(a)(ii); s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alistair,

Thanks for providing the additions.

I have revised the start date until today and a PDF version is attached for your signature. Could you please sign today, and send back to me, so that I can arrange for it to be countersigned.

We will provide you a copy once we have countersigned the document.

Could you please also complete the vendor creation form (also attached) so that we can get your company set up in our finance system.

We look forward to working with you.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Tuesday, 9 May 2023 10:11 AM

To: s 22(1)(a)(ii)

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Thanks s 22(1)(a)(ii)

We have reviewed the contract and have no problems with it, and have made additions/changes to subsection C.A.5.

The only potential problem with what I have added is in relation to security clearances. Roger and I both received baseline security clearances during our work on the Aged Care Royal Commission in 2019 and 2020 respectively (which I think last for up to 8 years), although the sponsorship of those clearances by the Attorney-General's Dept was revoked once we finish up with the Commission.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Monday, May 8, 2023 5:45 PM
To: Alistair Davey <adavey@pegasus-economics.com.au>
Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; ^{s 22(1)(a)(ii)}
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alistair,

Please find attached the draft contract for the review and summation of studies on the live sheep trade.

Could you please review and let me know if you require any changes. Could you in particular check the requirement as well as update the specified personnel table (it has been highlighted).

Once we can finalise the contract, we will execute the signatures and kick off with an inception meeting.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Thursday, 4 May 2023 10:18 AM
To: s 22(1)(a)(ii)
Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; ^{s 22(1)(a)(ii)}
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Dear ^{s 22(1)(a)(ii)}

Thank you for your email of 2 May 2023 and your request for quote following on from our teleconference last week.

In quoting for this review project, the Pegasus Economics team will include both myself as well as Roger Fisher who has been a co-author on previous Pegasus reports on the live sheep export industry.

Our understanding of the project is that we are to provide insightful and helpful commentary on the reports with a view to assisting the panel in its understanding of the economic issues associated with a timeframe for cessation of the live sheep export trade. We do not envisage that our task is to provide an alternative position on the reports, but instead to highlight key take outs, signpost significant issues, explain methodologies and provide commentary on strengths, weaknesses and potential gaps in the reports. We will seek to address complex economic and policy issues in non-technical language and are cognisant of the fact that the project must be completed by 30 June 2023.

We believe that it would be useful to commence the project with an inception meeting to discuss the project in more detail. The meeting will help ensure a mutual understanding of objectives, deliverables, methodology, timing, resources, and management of the project.

Other studies that we believe would be useful to also include in the coverage of the review project include:

- Centre for International Economics. (2014). *Contribution of live exports to the Australian Wool Industry*, Prepared for Australian Wool Innovation, Canberra.
- Centre for International Economics. (2018). *Contribution of live exports to Woolgrower's income - An Update*, Prepared for Australian Wool Innovation, Canberra.
- Davey, A., & Fisher, R. (2018). *Economic Issues Associated with the Live Sheep Export Trade*. Prepared for Animals Australia, Canberra: Pegasus Economics.
- Davey, A., Fisher, R., & Morley, M. (2022) *Economic Implications of Phasing Out the Live Sheep Export Trade*, Prepared for Animals Australia, Canberra: Pegasus Economics.
- Kingwell, R., Cunningham, P., Nath, T., Anderton, L., Xayavong, V., Curis, K., . . . Feldman, D. (2011). *The Economic Importance to Western Australia of Live Animal Exports*. Perth: Department of Agriculture and Food Western Australia.
- Mecardo. (2018). *Live Sheep Export – Brief Report*. Ballarat.
- Pritchett, K. (2019). *Implications of management decisions on the WA sheep flock in response to changing markets*. Perth: Department of Primary Industries and Regional Development.

We would seek your guidance as to whether you want us to review our own previous reports, although we do readily acknowledge they were far from perfect.

On this basis, our quote for this project is \$49,500 inclusive of GST, although we can review this budget if the Department prefers a different approach. We would also be happy to discuss and refine any elements of the suggested approach in order to ensure the end product meets your needs.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Tuesday, May 2, 2023 3:20 PM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hello Alistair,

Thanks for taking time to meet with us last week in regard to a review of studies on the live sheep trade.

Minister Watt has appointed a four-person panel to consult on how and when to phase out live exports of sheep by sea. The panel includes Ms Sue Middleton, Ms Heather Neil and the Hon. Warren Snowdon.

The panel has been asked to report to Minister Watt by 30 September on:

- potential mechanisms to phase out live sheep exports by sea

- a suggested timeframe and options for implementation
- potential ways to support the transition.

The panel's remit does not include the merits of the policy and the policy does not cover cattle or other live exports.

We would like to request a quote from you to provide the following:

- An assessment and summation of existing studies in relation to live sheep exports, including but not limited to:
 - Value analysis of the Australian Live Sheep Export Trade – Mecardo
 - Impact of the live sheep export trade's self-imposed moratorium and regulatory changes – Mecardo
 - The economic impacts of regulating live sheep exports - research report 21.01 – February 2021 – ABARES
 - The economic contribution and benefits of the Northern live export cattle industry – ACIL ALLEN
- A suggested and separate guide/index/reference list of the relevant data or parts of each report that you judge as worthy of the panel's consideration—and particularly identifying where the underlying assumptions or findings/conclusions are inaccurate or should otherwise be treated with caution (eg facts or figures).

Could you please supply a quote to us by COB Thursday 4 May 2023. We would need the review to be completed and provide to the panel by 30 June 2023.

If you require any additional information, please feel free to contact me,

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

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Literature Review on the Live Sheep Export Industry





Pegasus Economics • www.pegasus-economics.com.au • PO Box 449 Jamison Centre, Macquarie ACT 2614

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.

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

For information on this report please contact:

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Telephone: + 61 2 6100 4090

Mobile: 0422 211 110

Email: adavey@pegasus-economics.com.au

Front cover photograph shows a sheep near Lakes Entrance in Victoria.

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1. Introduction

Pegasus Economics (Pegasus) has been commissioned by the Department of Agriculture, Fisheries and Forestry to provide an assessment and summation of existing studies in relation to live sheep exports, including but not limited to:

- *The economic impacts of regulating live sheep exports - research report 21.01* – February 2021 – ABARES
- *The economic contribution and benefits of the Northern live export cattle industry* – August 2022 – ACIL Allen
- *Contribution of live exports to the Australian Wool Industry* – March 2014 – The Centre for International Economics
- *Contribution of live exports to Woolgrower’s income - An Update* – July 2018 - The Centre for International Economics
- *The Economic Importance to Western Australia of Live Animal Exports* – July 2011 – Kingwell, R., Cunningham, P., Nath, T., Anderton, L., Xayavong, V., Curis, K., . . . Feldman, D., Department of Agriculture and Food Western Australia.
- *Live Sheep Export – Brief Report* – April 2018 - Mecardo
- *Value analysis of the Australian Live Sheep Export Trade* – September 2019 – Mecardo
- *Impact of the live sheep export trade’s self-imposed moratorium and regulatory changes* – January 2020 – Mecardo
- *Economic Issues Associated with the Live Sheep Export Trade* – March 2018 – Pegasus Economics.
- *Economic Implications of Phasing Out the Live Sheep Export Trade* - April 2022 – Pegasus Economics
- *Implications of management decisions on the WA sheep flock in response to changing markets.* – April 2019 – Pritchett, K, Department of Primary Industries and Regional Development, Western Australia.

The views and opinions expressed in this report are entirely those of the authors and not the Department of Agriculture, Fisheries and Forestry.

2. Mecardo Reports

Mecardo has produced three reports since 2018 funded by industry interests examining the impact of the live sheep export industry on sheep farmers, with a particular focus on Western Australia (WA).

Mecardo is currently owned by Nutrien, a Canadian multi-national company that provides services to the agricultural industry.

2.1 Title: Live Sheep Export – Brief Report

Author/Publisher and Date: Mecardo, 20 April 2018

Context

The report was commissioned by the WA Farmers Federation (WAFarmers), with the support of Sheep Producers Australia (Mecardo, 2018). The report examines the significance of the live sheep export industry to the broader WA sheep industry and assesses the likely economic impact of a ban on the trade (WAFarmers, 2018).

The Mecardo report was released following the *Awassi* incident, but before there was any response by the Federal Government. Hence, the report was prepared during a period when restrictions on the trade were being widely canvassed in the media but had not yet been implemented. Mecardo's analysis in this report is therefore forward-looking and does not benefit from actual experience through the period of the prohibition on live sheep exports during the Northern Hemisphere summer.

Areas of Focus

The report is focused on the economic contribution of the live sheep export trade to the WA sheep industry and the possible impacts of a ban on sheep farmers' incomes.

The report includes some observations about constraints on the capacity in WA to divert live sheep export volumes into the wool producing sector in WA, including the diversion of land in recent years to cropping and the supply of shearers.

There is no discussion of animal welfare issues or the broader social or economic consequences of a ban on live sheep exports.

Major Findings & Conclusions

The report observes the live sheep export trade represents around one third of the WA sheep offtake each year.

The report finds a strong correlation between WA slaughter rates and export prices for mutton and trade lamb. In turn, it uses this relationship to estimate that the prices of lamb and mutton would both decrease by 18-35% if the sheep sent for live export were instead processed domestically. On this basis, Mecardo finds that:

- Lamb prices would fall by between \$23 and \$43 per head
- Mutton prices would fall by between \$18 and \$35 per head.

According to Mecardo, this would equate to the loss in the range of between \$80-150 million per annum to WA sheep farmers.

The report finds the suggestion that sheep could be diverted from the live sheep export trade and kept until cast for age to be cut for wool as impractical due to two key capacity constraints:

- The decline in land available for wool production in WA that has been reallocated to cropping
- The decline in available shearers in WA to undertake the additional shearing of more sheep held for wool, instead of being sold for live export.

Key Assumptions and Methodology

According to Mecardo, its results are driven by analysis of the historic relationship between WA slaughter levels and the average weighted WA sale yard price achieved for trade lamb and mutton sales. The Department of Agriculture (2019, p. 36) has observed that Mecardo appeared to have assumed in this report that sheep slaughter in Western Australia determine the state's export prices of mutton and lamb, rather than prices being determined in world markets.

The data on which the report is based is drawn from the Department of Agriculture and Water Resources, Meat & Livestock Australia, Australian Wool Innovation, the Australian Bureau of Statistics, and Mecardo itself. However, while organisations are listed where data is presented, Mecardo has not made the data that underpins its analysis available. There is no bibliography nor list of specific source documents cited in the report. Mecardo has indicated that some of the key data used in the report was proprietary (Breusch, 2018, p. 2). It has been suggested that the price variable used in the report is a composite price index of Mecardo's own devising that covers "WA mutton and trade lamb (in US\$ terms)" (Breusch, 2018, p. 5).

Mecardo's findings that there is a strong correlation between WA slaughter rates and export prices for mutton and trade lamb was used to undertake a regression analysis to determine the potential price impact on WA lamb and sheep markets from a change to WA slaughter levels. However, the assumptions and modelling used to generate these results are not transparent.

A report that sought to replicate Mecardo's data and results found the statistical model was a simple regression of one variable on another over 17 annual observations from 2001 to 2017 (Breusch, 2018, p. 5). The dependent variable (or response) was a composite price of sheep meat, while the single explanatory (or control) variable was the quantity of animals sent to slaughter in WA, with both variables expressed as the percentage change from the previous year.

Mecardo's assessment of the viability of a transition to wool production is predicated on estimates of the volume of sheep that can be shorn per shearer, but the report does not indicate the source of these estimates. Other untested and unsourced assumptions include the point at which the sale of sheep to the eastern states becomes a viable option for WA sheep farmers, the number of additional sheep that can be slaughtered domestically as a result of a ban on the live sheep export trade, and the average weight of lamb and mutton carcasses.

Impact/Reception

Mecardo's analysis has been reported on extensively by peak bodies, the dedicated agricultural press, as well as in the mainstream press.

Dr Trevor Breusch (2018, p. 2), formerly a Professor of Econometrics at the Australian National University, was commissioned by Animals Australia to critique the Mecardo report. Dr Breusch (2018, p. 2) reverse engineered the Mecardo data from the results and the various charts contained in the report. According to Dr Breusch (2018, p. 7):

I come to the view that the Mecardo report is more a document of persuasion than an expert analysis of the cost to the industry of banning live sheep export.

Dr Breusch (2018, p. 7) summarised his criticism of the Mecardo modelling in the following terms:

A proper forecast of the effects would allow for adjustments both in the quantity supplied to the market each period and the expansion of markets interstate or internationally. New markets take time to develop and would not be reflected simply in the historical year-by-year shifts in slaughter quantity and price that form the basis of this report. Even within the narrow approach adopted, the forecast is based on a statistical relationship that is inconsistent with the choice of variables. The failure to account for other variables, including lags, further removes the approach from proper policy analysis.

In his overall assessment of the modelling contained in the report, Dr Breusch (2018, p. 6) commented:

This naïve statistical model in the Mecardo report is unsuitable for the policy evaluation in which it is employed.

Dr Breusch (2018, p. 2) described the Mecardo analysis as "very superficial and unworthy as a guide to policy." and has described the assumption that export prices are determined solely by local supply in WA as implausible.

ABARES (Nelson, et al., 2021, p. 17) has noted studies funded by industry tend not to recognise that prices are set in world markets, as appears to be the case in this instance. In relation to this Mecardo report, ABARES (Nelson, et al., 2021, p. 17) observed there was little or no recognition of the option for WA sheep farmers to transport sheep to high-value markets in eastern Australia.

The report was treated as an important reference point by the Department of Agriculture (2019) in its draft regulatory impact statement (*Live sheep exports to or through the Middle East—Northern Hemisphere summer: Draft regulation impact statement*, 2019).

Key Takeaways

The abolition of the live sheep export industry could have a significant detrimental impact on the income of WA sheep farmers, but there has been criticism of Mecardo's methodology.

2.2 Title: Value analysis of the Australian live sheep export trade

Author/Publisher and Date: Matt Dalglish, Olivia Agar, Mecardo, September 2019

Context

This report was commissioned by LiveCorp and Meat & Livestock Australia (Dalglish, M; Agar, O, 2019).

The aim was to identify the economic benefit that flows from the live sheep export trade to businesses and individuals along the supply chain in Australia (Meat & Livestock Australia, 2020).

The report was commissioned following the imposition of a suspension and later moratorium on the live sheep export trade during the Northern Hemisphere summer that commenced in early June 2018.

Areas of Focus

The focus of the report is on the direct and indirect employment opportunities created by the live sheep export industry.

Major Findings & Conclusions

On-farm direct employment on a full-time equivalent basis related to the live sheep export trade is estimated to be 1,037 employees nationally, with 798 of those jobs found in WA.

Across the entire live sheep export supply chain, full time equivalent employment was estimated to be 3,443 workers, of which 77% (or around 2,650) were in WA.

Key Assumptions and Methodology

Mecardo's estimates of on-farm employment related to live sheep exports is based on 2017-18 Australian Agricultural and Grazing Industries Survey (AAGIS) data published by ABARES. However, in forming these calculations, Mecardo makes assumptions regarding the labour intensity of sheep farming and the allocation of that labour between different sheep outputs. The basis of these assumptions is not provided in the report.

Mecardo uses an employment multiplier to gross up the number of on-farm jobs it attributes to the live sheep export industry to the wider economy.¹ The employment multiplier figure is derived from the *State of the Industry Report 2018: The Australian red meat and livestock industry* publication (Meat & Livestock Australia and Ernst & Young, 2018, p. 12). The report takes the total direct and indirect estimated employment of the red meat and livestock industry in 2016-17 of 438,100 and divides that by the direct employment of the meat production sector (composed of meat livestock producers and feedlots) of 132,100 in 2016-17 to derive an employment multiplier of 3.32.

¹ Economic multipliers (e.g. for income, output, employment, value added, or imports) are typically derived from input-output tables (The Treasury (NSW Government), 2017, p. 63) that are produced as a by-product from the compilation of the national accounts.

Impact/Reception

The Mecardo report received limited coverage in the dedicated agricultural press on its release and was reported on by *The West Australian* newspaper in September 2019.² The then LiveCorp Chairman Terry Enright commented at the time of the release of the report in September 2019 that while WA sheep farmers were well aware of the importance of the industry, it was important to collate objective numbers about the benefits to the farmers, the supply chain and broader community through the report (Brammer, 2019).

In March 2023, press reports indicated that the heads of 25 peak farming groups had informed the Minister for Agriculture, Fisheries and Forestry, Senator the Hon. Murray Watt, that the Albanese government's policy to phase out live sheep exports would cost 3,000 jobs in Western Australia (Peel, 2023). Signatories to the letter include the Australian Livestock Exporters Council, Sheep Producers Australia, National Farmers Federation and the Australian Lot Feeders Association. The claimed loss of 3,000 jobs in Western Australia attributed to producer groups are possibly sourced from this report.

According to Pegasus Economics (Davey & Fisher, 2020, p. 35), only around 136 of the 798 full-time on-farm jobs related to the live sheep export industry in WA estimated by Mecardo actually related to hired labour, with over 80 per cent of farm labour being performed by the farmer and associated family members. Pegasus Economics (Davey & Fisher, 2020, pp. 35-36) also warned about the potential abuse of employment multipliers as used by Mecardo, quoting Paul Gretton (2013, p. 1) from the Productivity Commission:

Abuse primarily relates to overstating the economic importance of specific sectoral or regional activities. It is likely that if all such analyses were to be aggregated, they would sum to much more than the total for the Australian economy. Claims that jobs 'gained' directly from the cause being promoted will lead to cascading gains in the wider economy often fail to give any consideration to the restrictive nature of the assumptions required for input-output multiplier exercises to be valid. In particular, these applications fail to consider the opportunity cost of both spending measures and alternate uses of resources, and may misinform policy-makers.

Following the effective curtailment of the live sheep export trade to the Middle East during the Northern Hemisphere summer in 2018 and 2019, Pegasus Economics (Davey & Fisher, 2020, pp. 23-24) observed there had been a sharp increase in the slaughter of mutton sheep in trend terms, and that full time employment in the WA meat processing sector had at that time reached record levels. Pegasus contended that extending the prohibition even further would result in a greater overall net increase in employment due to higher levels of employment in the meat processing sector (Davey & Fisher, 2020, p. 38).

Key Takeaways

Up to 3,000 jobs could be lost in WA if the live sheep export industry is phased out, although the extent of the jobs losses has been contested and it takes no account of other job opportunities that could be created in the absence of the live sheep export industry.

² See Brammer (2019).

2.3 Title: Impact of the Live Sheep Export Trade's Self-Imposed Moratorium and Regulatory Changes

Author/Publisher and Date: Matt Dalglish, Olivia Agar, Robert Herrmann, Mecardo, January 2020

Context

Mecardo was commissioned to prepare this report by LiveCorp and Meat & Livestock Australia, following the effective suspension of the live sheep export trade during the 2018 Northern Hemisphere summer when the Federal Government suspended the export license of the largest live sheep exporter and the decision by the live sheep exporters to self-impose a moratorium on the trade during 2019 Northern Hemisphere summer (Dalglish, Agar, & Herrmann, 2020). The Federal Government also issued 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).

The objective of the report was to:

1. Identify and outline the economic benefit that flows from the live sheep export trade to participants in the Australian supply chain.
2. Analyse the impact from the industry's self-imposed three-month moratorium and the regulatory changes introduced in 2018.
3. Assess a range of farm level decision-making options (domestic fundamentals) influencing national sheep flock numbers, with a primary focus on Western Australia.

Areas of Focus

This report provides an overview of the individuals, communities and suppliers involved in the live sheep export trade and the impacts of changes in the trade on their income and economic well-being.

The report identifies the effects of the impact of the suspension and moratorium on industry sectors, operators and individuals that form part of the supply chain for the live sheep export trade, including sheep farmers, road transport operators, shearing services, fodder manufacturers, contract balers and stackers, livestock agents, exporters, veterinarians, and more. Each element of the supply chain is discussed separately, and each discussion covers social as well as economic costs, alternatives available in the absence of the live sheep export trade, and, in many cases, direct quotes and reports from individuals working in that industry.

There is a brief overview of the events surrounding the suspension and moratorium. The report summarises the animal welfare-oriented regulations introduced by the Department of Agriculture and refers to the updated Australian Livestock Exporters' Council (ALEC) Code of Conduct.

The overall economic impact of the suspension and moratorium are discussed, but not closely analysed. In general, state-wide or national economic outcomes are not the focus of the report.

Major Findings & Conclusions

The report's key findings are that the suspension and moratorium on the live sheep export trade imposed significant costs on individuals and communities involved in the live sheep trade.

Costs

The report estimates the cost of disrupting the live sheep trade in 2018 nationally to have been \$83.6 million in terms of lost revenue, with an estimated \$37.6 million of lost sales revenue to the farm gate. The report estimates that this would equate to a final loss of revenue at the farm gate in WA of between \$9.3 and \$15.4 million during 2018.

The moratorium during the 2019 season is estimated to have cost the industry \$65.8 million in foregone revenue nationally, with a shortfall of \$29.6 million in farm revenue earned via the live sheep export trade. The report estimates that this would have resulted in a loss to WA farmers of between \$7.3 and \$12.1 million during 2019.

Mortality

The report finds that the reforms introduced by the Department of Agriculture and ALEC, combined with the moratorium on the trade during the months of peak mortality, resulted in much lower mortality rates for sheep exported in 2019 compared to the 2013-2017 average.

Mecardo undertook an analysis of the consequences of a one-month (August), two-month (July-August and August-September), and three-month (June-August) moratorium for year-round average mortality. The report finds:

- No moratorium: 0.8%
- One-month moratorium: 0.75%
- Two-month moratorium: 0.73% (very slightly lower for the August-September scenario)
- Three-month moratorium: 0.73%

This analysis was conducted on the basis of the 2005-2017 figures, and therefore does not incorporate any effect from regulatory changes introduced from 2018. The report does note, however, that the moratorium would have a less noticeable impact if the overall survival rate were improved.

While the report acknowledges a moratorium would limit the chance of heat stress periods from occurring, it also notes that a moratorium would have a significant impact upon participants within the live sheep export industry across the supply chain.

Effects on related industry sectors

The report examines a wide range of industries and their level of exposure to the live sheep export trade, noting that each industry itself helps sustain other elements of the local economy, such as grocers and service stations.

Sheep farmers

According to the report, WA sheep farmers rely on the live export trade as a purchaser of lambs and sheep that cannot be sold on the domestic market, and as an additional source of competition that helps underwrite prices. While sheep farmers would make adjustments in the case of a moratorium or cessation of the live sheep export trade, there would be a loss in profitability and business security, and unexpected or unpredictable changes in conditions would impose much greater costs.

Road transport operators

The live sheep export trade provides a stable source of demand for road transport operators. While alternatives exist, they would not be as profitable or as reliable as the live sheep export trade. However, exposure is uneven: some road transport operators were barely affected by the moratorium and would be unaffected by a ban, while others experienced severe financial stress during the moratorium, and would be forced out of business by a cessation of the trade.

Shearing services

While the live sheep export does not significantly increase demand for shearing services overall, it has helped to smooth out the workload through the year. During the moratorium, there was greatly reduced demand for shearing services from May to July as a result of reduced demand from the live sheep export industry, and a corresponding increase in demand over September and October, resulting in difficulty in maintaining workers.

Fodder manufacturers

Fodder for the live export market is different from fodder provided for general agricultural use, resulting in specialisation among providers, and an uneven exposure of fodder manufacturers and suppliers to the trade. Since fodder production has a long lead-time, some providers of fodder for the export market were unable to adapt, incurring significant losses. Fodder manufacturers have multiple alternative markets and would likely be able to adapt given predictable conditions, though those in areas producing lower-quality hay would likely suffer greater losses.

Contract balers and stackers

Like the fodder manufacturers with whom their work is associated, contract balers experience differing levels of exposure to the live export trade. As their work is conducted on the basis of expectations for the following season, predictability is the most important aspect of the market environment for them.

Livestock agents

The live sheep export trade has traditionally provided a source of competitive pressure for the purchase of sheep by livestock agents against meat processors. In 2019, agents were able to sell livestock to the eastern states, and were therefore little affected by the moratorium, although effects varied depending on the region and the traditional consumer of livestock from that region. The report contends that the option of selling sheep to the eastern states may not always be available and that this will only be the case during periods of drought-recovery, or when there are pronounced seasonal differences between WA and the eastern states for other reasons.

Exporters

The exporters consulted experienced a 10-25% reduction in revenue from the 2018 suspension, and a 5-10% reduction from the 2019 moratorium. This reduced impact reflected adaptations conducted within the industry over the intervening period in the expectation of future bans. This includes the exporters diversifying their operations into sheep meat processing. Overall, traditional participants in the live export trade have experienced significant disruption to their business model, but have been and will be able to adapt, although the unexpected ban did impact upon perceptions of Australia as a reliable customer.

Veterinarians

Veterinarians are a broad group, with widely varying levels of exposure. Australian Government Accredited Veterinarians are, however, necessary for several roles in the live sheep export trade that would not be replaced directly in the trade's absence, so veterinarians specialising in those roles were significantly impacted by the moratorium – the report clarifies that these impacts were psychological as well as financial – and would be adversely affected by any further ban. Veterinarians, however, have multiple alternative forms of employment, and adjustments were already observed between 2018 and 2019.

Associated down-chain participants

The report lists various occupations employed by exporters and importers to fulfil shipments, including stock handlers, stevedores, ship handlers, and others. Many of the people traditionally employed by the live export industry were unable to find alternative employment during the moratorium; some of these occupations involve transferable skills and would be able to adjust, while others do not.

Sheep buyers

The sheep buyer industry is complicated by regulations preventing a buyer purchasing sheep of the same type for multiple clients. The moratorium prevented buyers who were contracted by exporters from buying export-type sheep for other clients, resulting in a significant loss of income. Sheep

buyers active in lamb may profit, and in the case of a total cessation of the trade, sheep buyers currently under contract with exporters may find other clients, but their business model has been and will be disrupted, and the regional nature and low labour requirements of the industry means that there is no guarantee of finding alternative employment.

Shipping services

Live sheep exports were reported as making up 15-25% of revenue for shipping services providers in a normal year. Since these services are in demand from a wide variety of industries and the skills are largely transferable, there was little to no loss in income associated with the moratorium. However, since livestock shipping is highly labour-intensive compared to most alternatives, a sustained shift away from live sheep exports may result in lower staffing requirements and the shedding of some staff.

Cattle farmers

According to the report, the live sheep export industry also assists in facilitating the sale of live cattle from WA to the Middle East. From 2014 to 2018, 78% of the 68,643 live cattle exported from Australia to Middle Eastern markets were transported on vessels that also carried sheep. The moratorium imposed some costs on cattle farmers in carrying livestock for longer than would otherwise have otherwise been necessary and finding alternate routes for export. In the longer term, a continuation or resumption of the moratorium would force further adjustments in destination and type of cattle sold.

Key Assumptions and Methodology

The key assumption in the report draws on modelling of the price effects arising from the cessation of the live sheep export trade conducted by The Centre for International Economics (CIE) (2018). On this basis, Mecardo assumes that in the absence of the live sheep trade results in a 30-50% approximate reduction in prices at the saleyard in WA.

The analysis of costs rests on historical data from Meat & Livestock Australia, the Australian Bureau of Statistics, LiveCorp, and Mecardo itself.

The report clearly spells out its methodology in terms of estimating the impact arising from the suspension of the moratorium on the live sheep export trade during 2018 and 2019. However, there is a lack of transparency around the actual process it undertook.

The report conducts what it describes as multifactorial regression modelling of annual live sheep export volumes and the relationship between the live export trade, flock size and slaughter, both nationally and within Western Australia. This was used to estimate monthly live export sheep volumes in the event the industry was not subject to the 2018 suspension and the 2019 moratorium. No details are provided on the raw data used in the regression modelling. Further, it is unclear exactly what type of regression modelling has been undertaken and no information is provided in relation to results and diagnostic testing that would enable the reliability of the results to be assessed.

The analysis of sheep mortality draws on data from the Department of Agriculture and Water Resources. The results are presented clearly and transparently. The precise reference documents are not provided, but the source is clear.

The main body of the report is based on stakeholder consultation. Mecardo conducted 64 interviews across all industries and provides a breakdown by occupation. The report includes four case studies of individuals (identified by occupation and full name), describing the impact of the moratorium on their work and life, usually including direct quotes, and two unidentified quotes. The discussions of the different industries also incorporate information from or references to unidentified respondents.

Impact/Reception

The report was well-received and widely-publicised among industry peak bodies and in the dedicated agricultural press. However, the report does not appear to have been reported on nor discussed in the mainstream media.

ABARES (Nelson, et al., 2021, pp. 17-18) has observed in relation to several reports on the live sheep export industry funded by industry groups, including this Mecardo report, that they tend not to recognise that lamb and sheep prices are set in world markets, or that short-term price falls in Western Australia are limited to \$20 per head by the cost of trucking sheep to eastern state markets.

Specifically, in relation to this Mecardo report, ABARES (Nelson, et al., 2021, p. 17) contends the report is likely to overstate the impact of restricting live exports for 2 reasons. First, a 30% to 50% reduction in saleyard prices was assumed based on a report by CIE (2018), despite a footnote in the Mecardo report recognising that saleyard prices were observed to fall by only 15% to 30% (Dalglish, Agar, & Herrmann, 2020, p. 5n). Second, there is no recognition of the likely short-term nature of these price impacts or the likelihood that prices will rise as an expansion of domestic meat processing reduces processing costs.

Key Takeaways

The report's key findings are that the suspension and moratorium imposed significant costs upon most elements of the live sheep export value chain, although regulations introduced to improve animal welfare outcomes did achieve lower sheep mortality rates during sea voyages. However, the size of the estimated impact arising from the suspension and moratorium of the live sheep export trade during 2018 and 2019 in this report has been challenged.

3. Reports by The Centre for International Economics

The Centre for International Economics (CIE) has produced two reports on the live sheep export trade since 2014, both of which have been funded by Australian Wool Innovation (AWI). CIE is a boutique economic consultancy firm that has offices located in Canberra and Sydney. These two reports are reviewed below.

3.1 Title: Contribution of live exports to the Australian Wool Industry

Author/Publisher and Date: CIE, March 2014

Context

Australian Wool Innovation commissioned CIE (2014) to estimate the contribution of the live sheep trade to woolgrowers nationally.

Areas of Focus

The report focuses on sheep farmer incomes related to the live sheep export trade. It examines returns for sheep farmers on the sale of their lamb and sheep, changes in the size of the sheep flock and changes in the price of wool from the cessation of the live sheep export trade. The report examines the impact of the changes on an average national basis, as well as distinguishes between the impact for sheep farmers in the eastern states and in Western Australia (WA).

The report also provides case studies on eight regions in South Australia, Victoria and New South Wales that have a greater exposure to the live sheep export industry.

There is consideration of the impact on sheep meat processors from the cessation of the live sheep export industry in terms of increased throughput. However, there is no consideration of broader economic, social and community impacts.

Animal welfare issues are not considered.

Major Findings & Conclusions

CIE found that if the live sheep export industry were to close, average saleyard prices would fall by:

- \$4.07 per head or 4.5% for lambs
- \$13.20 per head or 24.4% for older sheep.

On this basis, CIE found that prices would have been between \$4 and \$13 per head lower than those observed in 2011-12 across all Australian regions.

The closure of the live sheep export industry was also expected to impact on the wool industry in the following ways additional ways:

- the national sheep flock would fall by 2 million, a reduction of around 3.5% relative to 2011-12 levels
- the national wool clip would fall in line with the decline in the national flock by 2.3% or 7.9 million kilograms greasy basis
- the eastern (and western market indicator) would increase by 1.49% or 17.9 cents per kilogram clean basis as a result of lower wool production Australia-wide.

The combined impacts upon sheep farmers would reduce the gross value of production of woolgrowers by 1.55% or \$39 million.

CIE observed that expected impact on wool production and gross value of production was relatively small compared to other economic drivers such as variations in the exchange rate and seasonal conditions and that the impacts would be significantly different between different production regions.

In relation to Western Australian producers, CIE found the termination of the live sheep export trade would be devastating and was estimated to involve falls in the saleyard price of:

- \$32 per head , or 35.1%, for lambs
- \$36 per head, or 66.2%, for sheep.

The implications for WA woolgrowers were estimated to be:

- the state sheep flock would likely to fall between 10.2 and 15.1% for specialist and mixed enterprises, equivalent to a decline of 1.8 million sheep
- production of meat from lamb and older sheep would increase (as a result of diversion from the export trade)
- wool production could fall by 12% statewide flowing on from lower enterprise profitability.

As a result of lower prices and production decisions, enterprise revenues in Western Australia would fall, with the gross value of production \$302 million or 6.5% lower each year compared with what would have otherwise been the case with the continuation of the live sheep export trade. On an aggregate basis, CIE found that:

- WA sheep farming breeding enterprises would be hit hardest with the gross margin falling by \$41 per ewe or 44.8% as a result of its dependence on livestock sales.
- Wethers for wool production suffer a fall in gross margin of \$4 per wether or 21.6% because of the lower reliance of this enterprise on livestock sales and an offsetting fall in variable costs as a result of lower hogget prices.

In relation to the eastern states, the cessation of the live sheep export industry would result in average saleyard price reductions of:

- \$1.24 per head or 1.4% for lambs
- \$5.96 per head or 24.4% for older sheep.

According to CIE, the impact arising from the cessation of the live sheep export industry is much lower in the eastern states as compared to WA because of:

- the lower contribution of live exports to total sales of sheep
- the larger number of marketing options woolgrowers have in the eastern states.

CIE observed that its results for the eastern states include regions that have different exposures to the live sheep export trade operating out of Adelaide and Portland, Victoria. Based on eight case studies, CIE found that the live sheep export industry also contributed significantly to the incomes of eastern woolgrowers, particularly in the pastoral zones of South Australia and New South Wales. However, it also found that the benefit of participation in live sheep export had been eroded by the introduction of the Exporter Supply Chain Assurance System (ESCAS) by the Australian Government in October 2011 that had reduced demand for sheep and significantly increased costs for stock agents and live sheep exporters.

Key Assumptions and Methodology

The report assumes that the export of live sheep underwrites the saleyard price of lambs and sheep in Western Australia and nationally.

A key assumption is that WA woolgrowers, and particularly specialist woolgrowers, have limited capacity to transform their enterprise mix away from sheep.

Without live exports, CIE assumes that the Western Australian price paid by processors would default to the eastern states (South Australian) price less the transport cost. This transport cost would be most likely in the range of \$25 to \$30 per head.

CIE uses 2011-12 as the base year for its analysis. The impact on woolgrowers is calculated by comparing the market outcomes observed in 2011-12, with what they would have otherwise been the case with the closure of the live sheep export industry. A 3-5 year transition period is assumed.

The Global Meat Industry (GMI) model on which the report is a proprietary model maintained by the CIE on behalf of Meat & Livestock Australia (2017). The report provides no description of the GMI model.³ The underlying assumptions and the way in which the model treats the data is therefore difficult to determine.

In the preparation of its regional case studies on the impact of the live sheep export industry in the eastern states, CIE acknowledges that estimating the impact of closure of live sheep export industry at a regional level was a challenge because of the lack of data.

The CIE has drawn on data from the Australian Bureau of Statistics, ABARES, Meat & Livestock Australia and LiveCorp. Source organisations are clearly indicated in tables where figures are provided, however, details on the underlying source data series have not been provided. References are listed at the end of the report.

Impact/Reception

The report received widespread coverage in the dedicated agricultural press as well as coverage in *The West Australian* newspaper (Thompson, 2014).

Patrick Francis (2014), a Victorian sheep farmer who runs the Moffitts Farm website has criticised the CIE report in the following terms:

The Centre for International Economics' (CIE) analysis of what cessation of the live sheep trade would do to incomes of Australia wool sheep producers must be one of the worst researched industry analyses produced in the last decade.

According to Francis (2014), eastern states sheep farmers rely very little on the live trade and if it no longer existed would have virtually no impact on business profitability. Francis is also critical of CIE's conclusion that WA wool grower businesses would suffer financially in that it doesn't stack up in face of evidence for increasing sheep meat demand on world markets, with sheep slaughter numbers in Australia having levelled off, putting a cap on domestic production. Furthermore, Francis is also critical of some of CIE's underlying assumptions.

This debate is, however, largely moot as since May 2018 the only live sheep exports from New South Wales, Victoria and South Australia have been small shipments carried via airfreight.

Pegasus Economics (Davey & Fisher, 2018, p. 14) challenged the CIE's contention that the live sheep export trade underwrites farm gate prices for sheep. According to Pegasus Economics (Davey & Fisher, 2018, p. 18), domestic sheep prices are more likely to be determined by international commodity prices for mutton than by the live sheep export trade.

Pegasus Economics (Davey & Fisher, 2018, p. 45) also criticised CIE for effectively assuming that a significant amount of sheep diverted away from the live export trade in WA would in turn be transported to the eastern states for processing even though CIE recognised there was spare processing capacity available in WA.

ABARES (Nelson, et al., 2021, pp. 17-18) has observed in relation to several reports on the live sheep export industry funded by industry groups, including the 2014 CIE report, that they tend not to

³ According to the CIE (2020) website, the GMI model is a multi-country, multicommodity, Armington style model of world meat industries that identifies 26 regions and ten meat types. Multi-country computable general equilibrium (CGE) models used to analyse tariff and trade policy changes typically incorporate the Armington structure which differentiates commodities by their country of origin (national product differentiation), and assumes them to be imperfect substitutes for each other (Lloyd & Zhang, 2006, p. VIII).

recognise that lamb and sheep prices are set in world markets, or that short-term price falls in Western Australia are limited to \$20 per head by the cost of trucking sheep to eastern state markets.

Key Takeaways

The impact from the closure of the live sheep export industry would have significant impacts on WA sheep farmers, less so for sheep farmers in the eastern states, although some of the findings and conclusions have been contested.

3.2 Title: Contribution of live exports to Woolgrower's incomes: An update

Author/Publisher and Date: CIE, 27 July 2018

Context

CIE (2018) was commissioned to produce the report by Australian Wool Innovation (AWI), with the intention of estimating the contribution of live sheep exports to woolgrowers and livestock producers and the hypothetical impact of closing the live trade.

Areas of Focus

The report focuses on sheep farmer incomes related to the live sheep export trade. It examines returns for sheep farmers on the sale of their lamb and sheep, changes in the size of the sheep flock and changes in the price of wool from the cessation of the live sheep export trade. The report examines the impact of the changes on an average national basis and distinguishes between the impacts of the trade for sheep farmers in the eastern states and in Western Australia (WA).

In addition to considering the impact of a total closure of the live sheep export industry, the report includes an appendix considering the impact of a reduction in the trade by volume of 10, 25, and 50%.

There is some consideration of the impact on sheep meat processors arising from the cessation of the live sheep export. However, there is no consideration of what those adjustments might imply at a broader social level, or on overall employment levels.

Animal welfare issues are not considered.

Major Findings & Conclusions

The primary finding of the report is that closure of the live sheep export trade would result in markedly reduced saleyard prices for sheep and lamb, which in turn would lead to a reduction in flock sizes. The consequent reduction in national flock size would result in slightly higher prices for wool, but overall much lower enterprise receipts for woolgrowers.

Under the headline analysis, average saleyard prices across Australia would fall by:

- \$6 per head or 4.7% for lambs
- \$13.60 per head or 15% for older sheep.

The impact of lower sheep prices upon wool growers arising from the closure of the live sheep export industry would result in:

- A reduction in the national sheep flock of between 1.8% relative to 2017-18 levels representing a reduction of 1.4 million head
- A fall in the national wool clip in line with the flock by 1.1% or 3.8 kt greasy basis
- An increase in the eastern (and western market indicator) by 0.4% or 5.3 cents per kilogram clean basis as a result of lower wool production Australia-wide.

These impacts combine to reduce the gross value of production of wool by 0.8% or \$23.3million with. total enterprise receipts for woolgrowers nationally falling by 2.2% or \$363 million.

For WA sheep farmers, the closure of the live sheep export trade would be devastating, and involve price reductions of:

- \$32 per head for lambs or a fall in the saleyard price of 28.6%
- \$39 per head for sheep or a fall in the saleyard price of 51.1%.

The implications for WA woolgrowers would be:

- a reduction in the WA sheep flock of between 4.6 and 7.5% for specialist and mixed enterprises, equivalent to a decline of 0.9 million sheep
- an increase in the production of lamb and mutton as a result of the diversion of lamb and sheep from the live sheep export trade
- a fall in wool production of 4% or the equivalent of reduction by 13.5 greasy – flowing from lower farm profitability.

Overall, CIE estimate that the total enterprise receipts for WA woolgrowers would be \$290 million or 7.1% lower each year compared to 2017-18 terms without the live trade.

Aside from its headline analysis, CIE also provides an alternative scenario in which the price differential between WA and SA markets varies across the seasons and the year and average \$10 per head. Under this scenario, average saleyard prices across Australia would only fall by:

- \$2.90 per head for lambs
- \$9.75 per head for older sheep.

The reduction in the wool clip (0.4 %) and the gross value of wool production (0.3% or \$8.5 million) representing 37% of the loss in the headline analysis. Total enterprise receipts for woolgrowers nationally fall by 1.2% or by only \$205 million.

Under the alternative scenario for WA sheep farmers, the impact of closing the trade would result in average WA saleyard prices falling by:

- \$10.83 per head for lambs
- \$19.08 per head for older sheep.

For WA woolgrowers, the wool clip would fall by 1.4% and the gross value of wool production would decline by 0.3% or \$8.5 million. Total WA sheep farming enterprise receipts would fall by \$114 million each year or 2.8%.

The report finds that a 10% or 25% reduction in operational capacity for the live sheep export trade would have minimal impact on WA woolgrowers, while a 50% reduction would have an impact around one third of that created by a total closure of the trade.

Kay Assumptions and Methodology

The GMI model on which the report is based is opaque and the underlying assumptions are difficult to determine.

The headline analysis in the report assumes that, in the absence of the live sheep export trade, local processors in WA would price down livestock by \$30 per head, equivalent to the cost of transporting stock to the nearest alternative processors in South Australia.

The report assumes a 3-5 year transition period.

CIE used 2017-18 as the base year for its analysis. The impact on woolgrowers was calculated by comparing the market outcomes observed in 2017-18, with what they would have otherwise been the case with the closure of the live sheep export industry.

The report appears to have been conducted as a desktop review, drawing on the GMI model to produce its results. The GMI model is a proprietary model maintained by the CIE on behalf of Meat &

Livestock Australia (2017). However, CIE provides no background nor description of the GMI model in the report. According to the CIE (2020) website, the GMI model is a multi-country, multicommodity, Armington-style model of world meat industries that identifies 26 regions and ten meat types.⁴

The report draws on data from the Australian Bureau of Statistics, ABARES, the Federal Department of Agriculture, and Meat & Livestock Australia. Source organisations are clearly indicated in tables where figures are provided. Where up-to-date data was unavailable or assumptions had to be made for a table or chart, this was clearly specified. However, more detailed documentation or bibliographical information, however, is absent.

Impact/Reception

The CIE 2018 report on woolgrower's incomes appears to have had very little public impact. It wasn't reported in the dedicated agricultural press or in the mainstream media.

The CIE 2018 report was drawn on in a Mecardo report (Dalglish, Agar, & Herrmann, 2020, p. 5) to justify a 30% to 50% reduction in saleyard prices following the imposition of the prohibition on the live sheep export trade during the Northern Hemisphere summer.

ABARES (Nelson, et al., 2021, pp. 17-18) has observed in relation to several reports on the live sheep export industry funded by industry groups, including the 2018 CIE report, that they tend not to recognise that lamb and sheep prices are set in world markets, or that short-term price falls in Western Australia are limited to \$20 per head by the cost of trucking sheep to eastern state markets.

Key Takeaways

The impact from the closure of the live sheep export industry would have significant impacts on WA sheep farmers, although some of the findings and conclusions have been contested.

4. Reports by Pegasus Economics

Pegasus Economics has produced several reports on the live sheep export trade funded by Animals Australia, an animal welfare NGO. Pegasus Economics is a boutique economic consultancy based in Canberra.

4.1 Title: Economic Issues Associated with the West Australian Live Sheep Export Industry

Author/Publisher and Date: Alistair Davey and Roger Fisher, Pegasus Economics, April 2018

Context

This report was commissioned by Animals Australia to examine the economic impact of the phasing out of the live sheep export trade (Davey & Fisher, 2018). The report was publicly released by Animals Australia to coincide with a campaign surrounding the *Awassi* incident.

Areas of focus

The report examines the potential economic impact on WA sheep farmers and the WA meat processing industry arising from the termination of the live sheep export industry.

It provides a brief overview of the economics of sheep production, a history of the Australian and WA sheep industries and a review of the main customers for Australian live sheep exports.

⁴ Multi-country computable general equilibrium (CGE) models used to analyse tariff and trade policy changes typically incorporate the Armington structure which differentiates commodities by their country of origin (national product differentiation), and assumes them to be imperfect substitutes for each other (Lloyd & Zhang, 2006, p. VIII).

The report also touches on opportunities arising from the cessation of the live sheep export trade to expand the WA meat processing industry.

Major Findings & Conclusions

The report challenged the contention the live sheep export trade underwrites farm gate prices for sheep. Instead, it pointed to the *Law of One Price* (LOP), which suggests that prices received by sheep farmers in different regions of Australia should be similar.⁵ The report found that WA mutton prices with a high exposure to the live sheep export trade were highly correlated with New South Wales (NSW) mutton prices with virtually no exposure to the live sheep export trade. The report concluded that international commodity prices for mutton, rather than prices paid by live sheep exporters, underwrote prices paid for Australian sheep.

However, the report found evidence that live sheep exporters did pay a price premium at WA saleyard auctions to purchase sheep. It found that the price premium paid by live sheep exporters diminished as the quality of the sheep improved in terms of weight and conditioning. The price premium paid by live sheep exporters was found to be highest for wethers that were lighter and in worse condition, thus requiring further input in finishing them off to a level that would make them attractive to local WA meat processors.

While the report acknowledged that the cessation of the live sheep export trade would reduce overall demand to some extent as those seeking to procure sheep for live export would no longer participate in the market, the analysis conducted on price premiums suggested the price impact would be greatest in relation to wethers that were lighter and in worse condition; in other words, those least attractive to WA local processors. It also sought to downplay the potential reduction in demand following the cessation of the live sheep export industry through arguing that live sheep exporters rarely purchased young ewes, ewes and hoggets, and were not always procuring sheep if they were not seeking to fulfil an export shipment.

The report took a crude weighted average of the price premium paid by live sheep exporters for wethers that roughly worked out at \$8 per head and estimated that the cessation of the live sheep export trade would translate into a loss of around \$9 million per annum for WA sheep farmers overall, averaging just under \$2,000 per WA sheep farmer.

The report contended the capacity of live sheep exporters to pay a price premium was directly related to food subsidies provided in Middle East recipient countries that in turn artificially increased demand for Australian live sheep exports and enabled live sheep exporters to pay above market rates to procure sheep.

The report observed the largest customers for Australian live sheep exports historically have been the six Arab oil and gas producing states bordering the Persian Gulf and the Gulf of Oman. The report argued the future of food subsidies, and in turn, the ongoing ability of live sheep exporters to continue to pay price premiums, was heavily dependent on the price received by these six countries for their petroleum product exports.

In the event the live sheep export trade was phased out, the report argued that sheep diverted away from the live export could be redirected towards several alternative options, including the following:

- keep the wethers until cast (at the end of productive life) primarily to cut wool;
- finish sheep earlier to meet lamb market specifications;
- sell the wethers as store sheep to be fattened before sale for slaughter; or
- keep the wethers until they reach the heavier weights required for the slaughter market.

⁵ According to Pegasus Economics (Davey & Fisher, 2018, p. 15), 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.

The report found that while WA sheep farmers may collectively lose in the order \$9 million per annum from the loss of the price premium paid the live sheep exporter, this detriment could be more than compensated for by increased value adding by WA sheep meat processors. Based on discussions with sheep meat processors, the report estimated the cessation of the live sheep export trade could facilitate the engagement of around 350 full-time equivalent employees and be worth an additional \$18 million from increased value adding. It would also improve economies of scale in meat processing, making processed sheep meat products more price competitive.

Key Assumptions and Methodology

In examining the relationship between the saleyard mutton indicator price in WA as compared to New South Wales (NSW), Victoria and South Australia, the report sources data from Meat & Livestock Australia from December 2014 until December 2017. While the raw data is not provided, the data source is clearly indicated.

The saleyard mutton indicator price in WA from December 2014 until December 2017 is modelled as a function of a constant and the NSW saleyard mutton indicator price over the same period using dynamic ordinary least squares. Diagnostic testing of the raw data is reported, although the results of the diagnostic tests themselves have not been provided.

In estimating the price premium paid by live sheep exporters, the report draws on WA auction price data from Meat & Livestock Australia saleyard reports from December 2014 to December 2017, comparing the prices paid by live exporters and by those paid by other purchasers when both live exporters and other purchasers procured sheep on the same day at WA saleyard auctions. While the raw data is provided, the data source is clearly indicated. The report assumes that the payment of a price premium by live exporters would constitute the major impact on WA sheep prices arising from the live sheep export trade .

The report assumes that 70% of live sheep exports from WA were wethers. The estimated number of sheep farmers is based on the Australian Bureau of Statistics' agricultural commodities survey.

The estimated additional value added from increased sheep meat processing in WA assumes an immediate cessation of the live sheep export trade with most sheep displaced being redirected towards local processing. However, the basis for this estimate is not transparent and the report justifies this only on the basis of discussions with WA meat processors.

Impact/Reception

The Pegasus Economics report received fairly widespread coverage in the mainstream press. The report was also covered in the dedicated agricultural press, although generally accompanied by criticism of the report by the WA Farmers Federation (WAFarmers).

WAFarmers (2018) challenged the Pegasus conclusions:

It is our opinion that the Pegasus report appeared to confuse national and state-based data; according to them, a ban of the live export trade would translate into a loss of approximately \$9 million per annum for Western Australian sheep farmers.

WAFarmers accused the Pegasus Economic analysis of being "wildly inaccurate" based on an analysis it commissioned in a report prepared by Mecardo but did not provide further specific details.

The findings in this report were also challenged by ABARES (Nelson, et al., 2021, p. 16). According to ABARES, the economic impact estimated by Pegasus Economics on the phasing out of the live sheep export industry was likely to underestimate the impact for two reasons. First, there is normally no domestic market for the volume of low-quality young wethers displaced by the phasing out of the live sheep export industry because consumers prefer higher quality meat. Second, Western

Australia's short and unreliable growing season means that bringing these sheep to prime lamb standard for domestic processing was likely to require some purchased feed, adding both feed costs as well as additional labour costs to sheep farms in WA.

Key takeaways

The report argues that phasing out of the live sheep export industry may not impose a significant economic burden upon WA sheep farmers, although there have been counter-claims that the impact may be greater than estimated in this report.

4.2 Title: Economic Implications of Phasing Out the Live Sheep Export Trade

Author/Publisher and Date: Alistair Davey, Roger Fisher, Melissa Morley, Pegasus Economics, April 2022

Context

The report was commissioned by Animals Australia to provide an analysis of the economic impacts arising from the prohibition on live sheep exports to the Middle East during the Northern Hemisphere summer and the economic implications arising from a gradual phasing out of the live sheep export trade (Davey, Fisher, & Morley, 2022).

The report was produced in the aftermath of the prohibition on the live sheep export trade during the Northern Hemisphere summer in response to animal welfare concerns.

Areas of Focus

The report is primarily focused on economic outcomes, especially changes to the sale price of lambs and sheep, and the impact on the incomes of WA sheep farmers.

The main body of the report provides a history of the live sheep export trade and the changing dynamics of the sheep farming industry (covering trends in land-use by farmers, patterns of consumption, destinations for the export of live sheep, and the relationship between sheep price in WA as compared to the east coast).

The report is concerned with large-scale trends and outcomes; there is no discussion of the possible impacts of phasing out the trade on individual farm enterprises, adjacent industries or the broader social or regional consequences. The report mentions, but does not examine in detail, any employment impacts.

There is also a brief discussion of animal welfare incidents leading up to the prohibition of the live sheep export trade during the Northern Hemisphere summer.

Major Findings & Conclusions

The report rejected the contention the live sheep export trade underwrites WA farm gate prices for sheep that has long been offered as a justification for the continuation of the trade. Instead, it is argued that international commodity prices for lamb and mutton underwrite farm gate prices paid for Australian sheep. The report finds since the Northern Hemisphere summer prohibition, farm gate prices for WA sheep farmers have not crashed and the sheep displaced from the live sheep export trade have found other uses and markets.

The report also tested whether the margin in prices in trade lamb and mutton between saleyards in the eastern states and WA rose following the imposition of the Northern Hemisphere summer prohibition that commenced from June 2018. The report found a statistically significant negative price impact on lamb and mutton prices received by sheep farmers in WA saleyards relative to the eastern states:

- Trade lamb sold in WA saleyards fell by around 60.4 cents per kg cwt or by around \$12.08 per head (based on a 20 kg lamb) (in real 2020 prices)

- Mutton sold in WA saleyards fell by around 42.2 cents per kg cwt or by around \$8.86 per head (based on a 21 kg sheep) (in real 2020 prices).

Extrapolating on these results for WA saleyard sheep throughput suggests an aggregate price impact on WA sheep farmers in the order of:

- \$14.5 million in 2018-19 (in real 2020 prices)
- \$13.2 million in 2019-20 (in real 2020 prices)
- \$11.8 million in 2020-21 (in real 2020 prices).

This represented an average cost through the reduction in sheep sale receipts per WA sheep farmer in the order of less than \$2,800 (in real 2020 prices) in 2020-21. According to the report, these costs appeared to be modest on average.

However, the report found no evidence for any statistically significant negative price impact arising from the Northern Hemisphere summer prohibition in relation to prices received by WA sheep farmers for heavy trade lamb and heavy mutton sold over the hooks to abattoirs as compared to NSW sheep farmers.

While the report found there had been some costs imposed on WA sheep farmers through reduced sheep sale receipts at WA saleyards, it also acknowledged there were likely to be other costs incurred by WA sheep farmers that were not as transparent, such as the loss of any price premium associated with the live sheep export trade from direct paddock sales, and increased on-farm costs incurred from redirecting sheep from the live sheep export trade to meet prime lamb specifications.

The report argued that in the absence of the live sheep export trade, WA sheep farmers would transition towards what they perceive as their next most profitable option or options, whether that be through increasing prime lamb production, redirecting sheep to east coast markets, or transitioning to more wool or crop production. The feasibility of increasing wool production and prime lamb production were judged to be the most viable based on the then prevailing commodity price forecasts at the time.

The report argued that given the live sheep export trade in 2021 was then only one third the size it was back in 2017 in volume terms, most of the adjustment costs for WA sheep farmers in transitioning away from the live sheep export trade had already been incurred.

Key Assumptions and Methodology

The key assumption in the report is that with the decline in the live sheep export trade, most of the costs of transition away from the trade have already been incurred.

The report draws on a wide range of earlier studies but relies primarily on the WA Department of Agriculture and Food, and the Federal Department of Agriculture (especially the *Australian Bureau of Agricultural and Resource Economics and Sciences*) for its primary data regarding trends in agricultural production.

The core of the report is the statistical and econometric analysis of changes in the price of trade lamb and mutton at saleyard auctions. For this purpose, raw data was collected from Meat & Livestock Australia, and converted into constant price series that compared prices in WA against the eastern states. These price series is then subjected to a series of quantitative statistical tests and time series econometric modelling.

Although number-heavy, the modelling is clearly and methodically presented. The original data is not provided within the report however, the data sources are documented, and all operations conducted on the data is documented in a transparent manner.

Impact/Reception

This report was not widely circulated and did not receive much press coverage. However, it was reported on in *The Guardian Australia* website (Wahlquist, 2022).

Key Takeaways

While the phasing out of the live sheep export industry will have a detrimental impact on the incomes of WA sheep farmers, this impact is relatively small and farmers will transition towards what they perceive as their next best most profitable alternative. Given the live sheep industry has contracted to one third its size in 2017 to 2021, most of the transition costs from phasing out the live sheep export industry have already been incurred.

5. Reports by the Government of Western Australian

Reports were published by the Government of Western Australia on the live sheep export trade in 2011 and in 2019.

5.1 Title: The Economic Importance to Western Australia of Live Animal Exports

Author/Publisher and Date: Ross Kingwell (Ed), Peter Cunningham, Tanmoy Nath, Lucy Anderton, Vilaphonh Xayavong, Kimbal Curtis, Richard Norris, Graham Annan, David Warburton and David Feldman, Department of Agriculture and Food (Government of Western Australia), July 2011

Context

This report was commissioned by the Department of Agriculture and Food Western Australia (DAFWA) following the decision by the then Minister for Agriculture, Fisheries and Forestry in the Gillard Government, Senator the Hon. Joe Ludwig, to suspend the live cattle industry between Australia and Indonesia in early June 2011 (Kingwell, et al., 2011). The report formed the main part of the DAFWA submission to a Senate inquiry established in June 2011 into animal welfare standards in Australia's live export markets.

Areas of Focus

This report provides a detailed overview of the history of the live sheep and live cattle export industries operating in Western Australia (WA), its position at the time of publication and the supply chains associated with those industries. The report also provided a brief overview of the WA live goat export industry.

The report provides a summary of previous adverse animal welfare incidents affecting the live sheep and the live cattle export industries. It also provides a literature review and summary of findings from previous reports examining the live sheep and live cattle export industries.

The report presents a case study on the various impacts arising from the suspension of the live cattle industry to Indonesia that occurred in 2011 for a cattle farmer operating in the Kimberley region.

The report also examines the economic implications arising from the possible cessation of the live sheep and the live cattle industries.

Major Findings & Conclusions

Overall, the report found that pastoral beef production in Northern WA would be the most vulnerable to a cessation of the live export trade. While it found that sheep farmers locked into sheep production would also face revenue reductions from the cessation of the live sheep export trade, the report concluded that many other farmers who engaged in mixed-enterprise farming including sheep or cattle production may be able to transition to alternative enterprises and lessen any losses incurred.

According to the report, the primary impact of a cessation of live cattle export would be on cattle producers in regions highly dependent on the live export trade. This impact would probably be greatest on producers in the Kimberley region who were almost entirely dependent on the live cattle trade. The report observed that pastoralists in the north of the state would generally have less opportunity to diversify out of the live export cattle trade and subsequently would experience greater adverse impact from its cessation than beef farmers in the south of the WA whose properties could more easily switch to alternate enterprises.

Pastoralists, particularly those in remote regions, could expect lower returns on their cattle sold to a domestic market in the event of a cessation of the live cattle export trade. The reduction in returns would be due to a lower price per kilogram that the pastoral cattle receive in the local market and the increase in transport costs that would be incurred as cattle would have to be transported longer distances for processing.

The report identified adverse flow-on effects from the suspension of the live cattle trade with Indonesia, pointing to anecdotal evidence that, in the weeks immediately following the announced suspension of the live trade with Indonesia, pastoral businesses were revising budgets and deleting all nonessential capital expenditure until the trade resumed. The report found that businesses operating in the Kimberley, which were more reliant on the live export cattle trade, would be more adversely affected than those in the Pilbara, which derived a higher proportion of their income from other sources.

The report found that the further south from the Pilbara the enterprise was located, the less adversely affected WA cattle farmers would be.

The report also provides a case study to illustrate the impact of the suspension of the live cattle trade to Indonesia. While the exact details provided on the Kimberley based cattle farming enterprise are fictitious, the numbers provided are based on survey data collected by DAFWA. Following the suspension of the live cattle trade with Indonesia, the Kimberley based farming enterprise suffered an average fall in cattle prices of 30% on the sale of their steers. Holding on to stock was not an option as the property did not have excess grazing capacity and retaining stock would have had a devastating impact on the condition of their rangeland that would have taken many years to recover. In turn the farming enterprise carried a substantial loss.

The report notes there had already been a significant structural change within the WA sheep sector with significant declines in sheep numbers between 2005-06 and 2011-12 largely due to the relative profitability of other enterprises and declining wool prices, all compounded by drought. It was observed the reduction in the sheep population had been associated with the conversion of farmland to cropping, with the report expressing the view that further conversion was technically possible. However, the report noted that land suitability constraints, when combined with the likelihood that additional cropping could increase the risk profile of a farm business due to highly variable yields and prices, and capital requirements, and suggested that a rapid switch of farm resources into extreme crop dominance was unlikely to occur.

The report observed that a disruption or termination of the live sheep trade would either shift the supply of sheep normally destined for live export on to domestic markets, via abattoirs, or that sheep would be retained on farm for more years of wool production. In turn, additional domestic supply would place downward pressure on sheep prices, therefore reducing margins for producers whilst improving margins for processors, at least in the short and medium term.

In the event of a permanent or gradual cessation in the live sheep trade, the report argued that businesses already focused on lamb production would face lower profits due to a likely reduction in lamb prices, due to a switch of sheep industry resources into lamb production and reduced demand for ram lambs and other older sheep from live sheep exporters. It also observed that farms with flock structures centred on the production of wethers for live sheep export could adjust towards

more lamb production or focus on wool and mutton production or shift resources further into cropping enterprises.

The report found gross margins for medium/high rainfall enterprises with the live sheep trade gross margin for a wool enterprise was \$317 per hectare (ha) and \$302/ha for a prime lamb enterprise at the then prevailing prices for sheep sold to the live sheep export trade and wool, but without the live sheep export trade this would fall to \$237/ha and \$214/ha respectively. The report found gross margins in the low rainfall areas for a wool enterprise was \$118/ha and \$114/ha for a prime lamb enterprise at the then prevailing prices for sheep sold to the live sheep export trade and wool, but without the live sheep export trade this would fall to \$89/ha and \$80/ha respectively.

The report found that the WA sheep farms most vulnerable to termination or gradual erosion of the live sheep export trade were sheep dominant farms with little capacity or appetite to switch away from sheep production into more cropping enterprises. According to the report, the regions in WA most vulnerable to the cessation of the live sheep export trade were in the Upper and Lower Great Southern regions and the Midland region. This was because those regions were medium to high rainfall areas, where the reliance on sheep income was higher because only 40% to 60% of farm area, on average, was cropped compared to the Central and South-Eastern regions, where 70% or more of farm area was cropped.

The report found that if the live sheep export trade were to cease then WA sheep meat processors would become more profitable with more sheep to slaughter, on the assumption there was a market for the product. On the other hand, the report suggested that in the medium to long term the reduced profitability of sheep production in the farm sector would reduce sheep numbers further and processors could eventually end up in a worse position.

Based on computable general equilibrium (CGE) modelling of the impact on the WA Australian economy from a reduction in the live sheep export trade undertaken by DAFWA, the report concluded:

As might be expected, the economy-wide impacts are relatively minor, causing small percentage changes in the state's gross state product (GSP), employment, export values and the [consumer price index]. (Kingwell, et al., 2011, p. 43)

The report observed that the main impacts arising from any reduction or cessation in the export of live sheep was likely to be felt most strongly within the sheep supply chain rather than across a wider group of sectors or more generally throughout the economy.

Key Assumptions and Methodology

Most of the report was compiled through a desktop review of previous animal welfare incidents involving the livestock export industries and previous reports on the live cattle and sheep export industries, supplemented with information obtained through a surveys and stakeholder interviews of cattle farmers in Northern WA.

The report makes various assumptions, including the applicability of generalised data to the case study, the availability of demand for additional domestic consumption of sheep meat, the behavioural responses of producers to a termination of the trade and the impacts of changes in the supply of sheep on the profitability of domestic meat processors.

The report assumes that prices for all categories of sheep will decline in the event the live sheep export trade were to cease. However, the report does not specify by how much sheep prices could be expected to fall as part of its analysis. Otherwise the report is transparent in relation about its other underlying assumptions. The report also documents its references.

Impact/Reception

The report did not receive any media attention when it was released. However, the report was cited several times in the report by the Senate Standing Committee on Rural Affairs & Transport (2011) on *Animal welfare standards in Australia's live export markets*.

Key Takeaways

The cessation of the live cattle trade would have a much greater impact on cattle farmers in Northern WA, especially the Pilbara, than the cessation of the live sheep export trade on WA sheep farmers. While there would be an adverse impact on the incomes of WA sheep farmers arising from the cessation of the live sheep export trade, they generally have other options available. The possible exception to this was WA sheep farmers located in medium to high rainfall areas with a greater reliance on sheep than cropping.

5.2 Title: Implications of management decisions on the WA sheep flock in response to changing markets

Author/Publisher, and Date: Kate Pritchett, Department of Primary Industries and Regional Development Western Australia, April 2019

Context

The report models the effect of management decisions by individual producers on the size, structure and productivity of the entire WA sheep flock in the event the live sheep export industry was no longer available as an option for Western Australian sheep farmers (Pritchett, 2019).

Areas of Focus

The report considers the size and composition of the WA sheep flock under four alternative scenarios.

The report focuses on the WA sheep flock as a whole rather than individual sheep enterprises, regions or communities.

The report outlines the significant structural change that has already occurred in the WA sheep flock over a quarter of a century between the early 1990s until 2016-17 as the flock contracted and shifted from being a wool dominated flock to a dual-purpose flock producing both wool and sheep meat.

Major Findings & Conclusions

Under scenario 1, wethers increase a proportion of the WA sheep flock from 7% to 15% at the expense of the breeding ewes over a 10-year period.⁶ This situation may arise due to:

- high wool prices causing an increase in the retention of wethers to increase the wool-producing capacity of the flock
- Cereal-Sheep Zone producers opting for a flock with lower risk
- sell down of the ewe flock due to restocking activity in eastern Australia.

An increase in the number of wethers while maintaining the same number of ewes resulting in an increased total flock size was not considered likely as this would require a greater amount of land to be dedicated to the sheep enterprise in order to carry more sheep, which was considered unlikely to occur under current market conditions.

⁶ The report points out that wethers are a useful low-risk enterprise in farm businesses focussed on grain production or as a low-input wool production system (Pritchett, 2019, p. 13).

Under scenario 2, there is an increase by sheep farmer compliance with processor specifications for prime lamb by producing crossbred or meat breed lambs because their growth rates are generally faster. More producers in the Medium Rainfall Zone sell meat lambs compared to the Cereal-Sheep Zone. This is because the Medium Rainfall Zone has access to longer growing seasons for pastures and are less likely to have poor or variable seasons. More producers in the Cereal-Sheep Zone are focussed on cropping and have less available labour and time to manage sheep enterprises such as prime lamb production which requires significant input to manage efficiently. Scenario 2 showed that changing the ratio of ewes joined to Merino and non-Merino rams had little impact on flock size or production.

Under scenario 3, producers respond to unfavourable market signals by reducing their sheep area and reducing sheep flocks or getting out of sheep altogether. This might occur if sheep and wool profitability reduced relative to the profitability of cropping or cattle. Scenario 3 found that small changes in the percentage of farm-land for sheep in mixed farms can have dramatic impacts on the size of the WA flock.

Scenario 4 examines more WA sheep being transported to the Eastern States. Sheep sales to the eastern seaboard represent a viable and profitable market for lambs and breeding ewes. This market is strongly influenced by the feed conditions in eastern Australia and whether producers there are rebuilding their flocks after drought, the availability of lambs for slaughter and the price differential between eastern and western markets. Sheep (including lambs) transported east may go direct to a processor or go to rebuilding sheep flocks. Scenario 4 found that the class of sheep transferred interstate had a larger impact on the flock than the number transferred interstate. When less breeding ewes and more lambs were transferred interstate, it enabled more lambs to be born as replacement stock.

The largest decline in flock size over a 10-year period occurred when the proportion of wethers in the flock was increased to 15% at the expense of ewes. There was a similar response when there was a large number of ewes transferred east. It was also found that a small change in the percentage of land dedicated to the sheep enterprise in mixed farming systems could have dramatic impacts on the size of the flock.

The largest decline in lamb slaughter occurred following the increase in the proportion of wethers to 15% of the flock at the expense of ewes, reducing the flock's productivity and growth.

Increasing the proportion of wethers in the flock was more detrimental to lamb slaughter than increasing the number of sheep transferred interstate. Changing the ratio of ewes joined to Merino and non-Merino rams had little impact on lamb slaughter.

Carrying more wethers also resulted in a reduction in lamb slaughter and an increase in mutton production.

The largest effect on wool production was seen in the scenario where the proportion of wethers in the flock increased from 7% to 15% at the expense of the breeding ewe flock. This resulted in a large decline in wool production over the 10 years modelled due to the reduced number of ewes and replacement lambs.

When investigating the impacts of interstate transfers on the WA sheep flock some variation in wool production was noted, however, this was largely due to changes in flock size.

When the ratio of ewes joined to Merino and non-Merino rams was altered the volume of wool produced converged over the 10-year period. Based on this observation it was noted that changing the ratio of ewes joined to Merino and non-Merino rams had little impact on wool production in this instance, although it would have an impact on the quality of wool produced.

Key Assumptions and Methodology

This report examines four possible scenarios over a 10-year period in the event the live sheep export industry is closed down:

- the proportion of wethers in the WA flock could increase with a corresponding reduction in the proportion of ewes
- the ratio of ewes joined to Merino rams and ewes joined to non-Merino rams could change
- the amount of land dedicated to sheep enterprises could change or
- the type of sheep or the number of sheep transferred interstate could change.

Each scenario is modelled in isolation to examine the possible effects on the WA sheep flock, lamb turn-off and wool production over a 10-year period in the absence of live sheep exports compared to a baseline model.

Key assumptions used in the preparation of the report include:

- Demand for sheep meat and wool and prices remain strong at the prevailing levels when the report was prepared.
- Live export is not included as a market option within the modelling.
- The modelling does not address economic considerations or individual decisions that enterprises, processors or exporters would make in response to the changes modelled.

Under the baseline model developed over a 10-year period developed to compare the results of the scenarios:

- The WA sheep flock declined by 3%
- Total turn-off declined by 3%
- Lambs marked declined by 9%
- Wool production declined by 6%.

Impact/Reception

The report did not receive much media attention at the time of its release. It has only received attention subsequently in the WA dedicated agricultural press when certain scenarios have actually been played out, such as a dramatic increase in interstate sheep transfers from Western Australia in 2020.

Main Takeaways

A range of options are available for WA sheep farmers in the event that the live sheep export trade is terminated or phased out.

6. Report by the Australian Bureau of Agricultural and Resource Economics and Sciences

This report was published in February 2021. ABARES is the science and economics research division of the Department of Agriculture, Fisheries and Forestry based in Canberra.

6.1 Title: The economic impacts of regulating live sheep exports

Author/Publisher and Date: Rohan Nelson, Chris Mornement, Mikayla Bruce, Aruni Weragoda, Fred Litchfield and Peter Collins, ABARES, February 2021

Context

This report provides an economic analysis on the likely impacts on WA sheep farmers arising from the prohibition during the Northern Hemisphere summer (Nelson, et al., 2021). The report also critiques other relevant reports prepared on behalf of advocacy organisations.

Areas of Focus

The report focuses on the economic impacts likely to have been incurred by WA sheep farmers arising from the prohibition during the Northern Hemisphere summer. This includes price impacts on lambs at WA sheep auctions, the additional on-farm costs incurred from redirecting sheep away from the live sheep export industry, and an estimate of the total aggregate amount by which WA sheep farmers are worse-off.

The report also compares ABARES analysis with studies commissioned by industry and animal welfare groups.

Major Findings & Conclusions

ABARES observed that while WA saleyard lamb prices are usually lower than prices in Australia's eastern states, they were much lower again during September and October following the Northern Hemisphere summer prohibition from 2018 to 2020.

The report estimated that the combined incomes of around 4,000 sheep farms in Western Australia could have been up to \$68 million lower in the short term than they would have been in the year that export restrictions were first introduced. It was estimated this would fall to \$36 million in the second year. In the long term, it was estimated the reduction in collective incomes was reduced to \$12 million per year as markets adjusted.

However, overall ABARES found the loss of income incurred by WA sheep farmers from the restriction on the live sheep export trade was more than made up by more buoyant market conditions for Australian sheep meat.

Key Assumptions and Methodology

The ABARES report estimated the impact on farm incomes from switching sheep from live export to increased lamb production if the trade in live exports was restricted. In order to develop what the authors considered to be a plausible scenario, it was assumed the number of sheep for live export would halve if the trade was restricted to the cooler months in the Northern Hemisphere, arising from a sudden disruption to the trade. This was considered to be a worst-case scenario that increased the short-term costs of transitioning to expanded lamb production.

It was further assumed that restrictions on live exports were known just before the growing season, and that farmers could divert one-quarter of the sheep intended for live export that year to prime lamb production and 50 per cent in the second and subsequent years of adjustment. Sheep that couldn't be diverted to lamb production in the first year – assumed to be one-quarter of the sheep intended for live export – were assumed to be diverted to domestic processing as mutton, which attracted lower saleyard prices.

Data from the Australian Agricultural and Grazing Industries Survey (AAGIS) was used to estimate average receipts and production costs per head of live sheep, prime lambs and adult sheep. Receipts and costs for an average farm were adjusted relative to a base year, according to the number of live sheep, prime lambs and adult sheep sold in each year. The base year reflected average operating conditions for the 5 years ending in 2017 – the last year of unrestricted trade.

It was assumed that WA sheep farmers diverting sheep from the live sheep export trade to produce prime lambs for slaughter would require more labour and other inputs than producing live sheep for export. These costs would be associated with procuring and administering additional feed during summer and autumn when green pasture is not available in WA.

The change in farm cash income (total cash receipts minus total cash costs) was estimated for each year relative to the base year. An estimate of the aggregate cost of the scenario was obtained by multiplying the average change in income by the number of WA sheep farms with more than 100 sheep.

Impact/Reception

The report received only limited coverage in the dedicated rural press.

The ABARES report has been criticised by Pegasus Economics (Davey, Fisher, & Morley, 2022, p. 21) as something of a 'black box' as there is not a lot of transparency surrounding its assumptions and underpinnings.

Key Takeaways

Based on assumptions in the report, the prohibition on the live sheep in the northern summer cost WA sheep framers around \$68 million in the first year, falling to around \$12 million as markets adjusted.

More generally, economic losses for WA sheep farmers from restrictions on the live sheep export industry could be expected to dissipate over time as farmers adjust their operations to the next most profitable options available to them.

7. Report by ACIL Allens

ACIL Allens was commissioned by industry interests to examine the economic impact of the Northern Australian live cattle export industry. ACIL Allens is an economics, policy and strategy advisory firm with offices in Brisbane, Melbourne, Perth and Sydney.

7.1 **Title:** The economic contribution and benefits of the Northern live export cattle industry

Author/Publisher and Date: ACIL Allen, August 2022

Context

The Australian Livestock Export Corporation (LiveCorp) and Meat & Livestock Australia (MLA) commissioned ACIL Allens (2022) to:

- identify the value and importance of the Northern live cattle industry to the Australian economy and Northern Australian regions and communities
- estimate the impact of a material reduction or cessation of the industry's activities
- assess the industry's comparative advantage relative to South East Asia and other global competitors.

Areas of focus

The report focused on the economic impacts of the live export cattle industry in Northern Australia, estimating the economic contribution of the industry (value added), the number of jobs created both directly and indirectly, and the adverse impact on cattle prices and land values in the event of the full or partial cessation of the live cattle export industry.

The report also includes three regional case studies looking at the economic contribution, and employment levels both direct and indirect associated with the live cattle export industry in Northern Australia.

Major Findings & Conclusions

The input-output analysis showed Northern Australian live cattle exports contributed \$1.4 billion and 6,573 full-time equivalent jobs (FTEs) to the Australian economy in 2020-21. This consisted of \$508 million and 1,527 FTEs contributed directly by the live cattle export industry in Northern Australia and an indirect flow-on into the wider economy of \$862 million and 5,046 FTEs across 20

major industries. Broken down by state/territory, the economic contribution of the Northern live cattle exports were:

- In the Northern Territory, a direct contribution of \$213 million of value added and employment of 522 FTEs, with a further indirect contribution of \$753 million of value added and employment of 753 FTEs.
- In Queensland, a direct contribution of \$111 million of value added and employment of 403 FTEs, with a further indirect contribution of \$191 million value added and employment of 1,202 FTEs.
- In Western Australia, a direct contribution of \$97 million of value added and employment of 328 FTEs, with a further indirect contribution of \$121 million of value added and employment of 639 FTEs.

Live cattle export contributes an average of \$37 million value added annually to each region in Northern Australia. Ranging from \$143 million in Katherine to \$0 million in East Arnhem. The differences relate to each region's overall size, area of grazing land used (for live export) and whether live cattle aggregation and port operations occur.

A reduction and cessation in the live cattle trade will result in more cattle being sent to domestic slaughter for consumption in Australian or overseas export markets. A lack of meat processing capacity in Northern Western Australia and the Northern Territory means that cattle previously sent into the live cattle export market would need to be transported south for processing. Without an operating abattoir in NT, the main alternative available to cattle producers is shipping to a South Australian or Queensland abattoir. The Colourstone Abattoir, that is around 100 km east of Broome, is the only major abattoir operating in Northern Western Australia (Sinclair, 2022).

The report estimates that cattle prices received collectively by Australian cattle farmers would fall by between 1.0% and 3.7% in the event of a cessation of the live cattle trade and by 0.5% and 1.9% in the event of a 50% reduction in the live cattle trade. Prices would fall across-the-board because any interruption in the live cattle export industry would result in increased supply for the domestic processing industry. The modelling process by which these results are derived is not transparent and the description accompanying this analysis is fairly minimal. However, the report does note that a high degree of uncertainty is associated with the estimated price impact arising from the increased supply of cattle.

The estimated impact on the entire Australian beef industry from a complete ban on the live cattle industry arising from lower cattle prices is for a reduction in gross value added by 2030 of between \$131 to \$505 million. In relation to a partial 50% reduction in the live cattle industry commencing in 2023, the reduction in gross value added for the Australian beef industry reaches between \$66 to \$253 million by 2030.

In addition, the live cattle export industry will also experience a loss of value through the following channels:

- By diverting cattle from live export to the domestic market, there will be a significant reduction in the effective price per kg of meat achieved.
- The meat of the formerly exported cattle will be discounted to reflect market preferences.
- The diverted cattle will be subject to additional costs such as the cost of transport to the nearest abattoir for slaughter.

On this basis, the report estimates that the live cattle export industry will experience a loss of value added in the order of \$737 million per annum by 2030 for a 100% cessation of live exports by 2023, \$700 million per annum in 2030 for a 100% cessation of live exports by 2030, and \$345 million per annum in 2030 for a 50% reduction by 2030.

The Net Present Value over 20 years of the total impact on the Australian beef industry and cattle industry is between \$2.8 billion and \$11.8 billion, depending on the scenario. The impact of an immediate cessation is greatest because the losses commence immediately and there is limited opportunity to adjust.

A reduction or cessation of live cattle trading is also likely to have an adverse impact on land values across Northern Australia. Assuming no further improvements or income from other uses, the value of NT grazing land is expected to decline by between 11.0% and 34.4% under the three scenarios.

The report found the key drivers for Australia's comparative advantage in live export cattle were:

- proximity to key South East Asian markets
- consistency in quantity and quality of live animals
- alignment with market requirements
- high biosecurity standards.

In particular, it found there were synergies between the Northern Australia systems and Indonesia (Australia's largest market), with mutual benefits flowing due to Australia's large grazing land base versus Indonesia's lack of suitable land and Indonesia's lack of access to suitable cold chain infrastructure.

Key Assumptions and Methodology

The report utilises a range of different methods to undertake its analysis, including:

- Input-Output analysis to establish the direct and indirect economic contribution to Australia and 18 regions in 2020-21 from the Northern live cattle industry.⁷
- An econometric model
 - to estimate the price impact of the increased supply of cattle to the slaughter market due the potential cessation of the live export cattle industry; and
 - estimate the price impact on the value of grazing land in the Northern Territory arising from the cessation of the live cattle industry.
- Desktop review and qualitative analysis of available information to understand the notion of comparative advantage and the dynamics of the global live export cattle market.
- Desktop review for three regional case studies of the economic contribution of the live cattle export industry in Northern Australia:
 - Kimberley region in Western Australia
 - Charters Towers – Ayr – Ingham region in Queensland
 - Northern Territory.

The input-output analysis was conducted for the 2020-21 financial year using the Australian Bureau of Statistics (ABS) Statistical Area 3 (SA 3) level data.⁸ Other ABS data used for this analysis includes the National Accounts Input-Output data and additional industry level data from ABS and ABARES.

To estimate the impact of the cessation of the live export industry on grazing land in the Northern Territory, ACIL Allen adopted a financial approach that estimated the net present value of the impact on revenues generated per hectare of land both before and after the cessation of the live cattle export industry. While the key parameter assumptions were provided, no data sources other than ACIL Allen were cited.

⁷ Input-Output Tables (IOTs) describe the sale and purchase relationships between producers and consumers within an economy (Organisation for Economic Co-operation and Development, n.d.).

⁸ SA3s are designed to provide a regional breakdown of Australia (Australian Bureau of Statistics, 2017).

Impact/Reception

The ACIL Allen report received favourable coverage in the dedicated agricultural press but wasn't reported upon in the mainstream media.

Main Takeaways

Significant economic losses would be incurred by the reduction or cessation of the Northern Australia live export cattle trade as there is often little alternative for cattle farmers, particularly in the Northern Territory and Northern Western Australia, other than to transport cattle to abattoirs that are primarily located in southern Australia.

References

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s 22(1)(a)(ii)

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Tuesday, June 27, 2023 3:31 PM

To: s 22(1)(a)(ii) ; s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Dear ^{s 22(1)(a)(ii)}

Further to my earlier email today, please find enclosed our index/reference list of major issues addressed in the reports and a separate report on challengeable assumptions used in the reports.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Tuesday, June 27, 2023 10:32 AM

To: Alistair Davey <adavey@pegasus-economics.com.au>; s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Thank you Alistair for sending this through. We look forward to reading it.

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Tuesday, June 27, 2023 9:53 AM

To: s 22(1)(a)(ii) ; s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Dear ^{s 22(1)(a)(ii)}

Please find enclosed our first draft report for the literature review component of our project. The draft for the second component should follow later today or tomorrow.

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Friday, June 16, 2023 4:55 PM
To: Alistair Davey <adavey@pegasus-economics.com.au>; s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hello Alistair

Apologies for the delayed response and thank you for sending through for our review.

Overall the template headers and approach are looking about right. Could I ask for an additional section about Key Assumptions be included as well. This would identify time periods data is drawn from, the assumptions used for the analysis (such as price of sheep), etc, that were utilised in the report. This would just need the information presented as points of fact rather than needing to validate the information used.

As you indicated, please omit the commentary, that way the content remains aligned with factually summarising the reports.

Please reach out if you had any further queries.

Kind regards
^{s 22(1)(a)(ii)}

^{s 22(1)(a)(ii)} | ^{s 22(1)(a)(ii)}
A/g Assistant Secretary | Live Sheep by Sea Phase Out Branch
Traceability, Plant and Live Animal Exports Division
Department of Agriculture, Fisheries and Forestry
Agriculture House, 70 Northbourne Ave, Canberra ACT 2601 Australia
GPO Box 858 Canberra ACT 2601 Australia
agriculture.gov.au

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Friday, June 9, 2023 10:48 AM
To: s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii)
Subject: Review and summation of studies on the live sheep trade

Hi ^{s 22(1)(a)(ii)}

Please find enclosed our first drafts on three of the reports for the literature review project.

At this stage we have one for one query in relation to the ACIL Allen report. We have arguably strayed into commentary where we have observed there is not a lot of overlap (if any) between the Northern Australia live cattle export industry and the live sheep export industry (i.e. cattle with the Bos indicus genes grazed in Northern Australia are generally not sent for live export to the Middle East) and were wondering if that was going a step too far? In drafting we had initially examined the overlap between live cattle export and live sheep export in general but eventually decided that was probably a step too far. We would appreciate your advice on where the appropriate boundary is.

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Monday, May 22, 2023 2:35 PM
To: Alistair Davey <adavey@pegasus-economics.com.au>
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Great – I will get a meeting invite sent through

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Monday, 22 May 2023 2:24 PM
To: s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Wednesday at 12pm (midday) works for Roger and myself.

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Monday, May 22, 2023 10:12 AM
To: Alistair Davey <adavey@pegasus-economics.com.au>
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
 Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
 s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alastair – unfortunately tomorrow is a little crazy. Would 12-12.30 on Wednesday work for you?

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Friday, 19 May 2023 8:38 AM
To: s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
 Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
 s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Sounds good, thank you.

From: s 22(1)(a)(ii)
Sent: Friday, May 19, 2023 8:22 AM
To: Alistair Davey <adavey@pegasus-economics.com.au>
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
 Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
 s 22(1)(a)(ii)
Subject: Re: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Tuesday will work. We will find some time and flick you through a meeting request.

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Thursday, May 18, 2023 9:51:36 PM
To: s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
 Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Unfortunately Monday is not possible for me as I am down in Melbourne, but I am available on Tuesday if that works?

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Thursday, May 18, 2023 9:38 PM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi Alistair,

Please find attached a copy of the executed contract.

We will look to set up a meeting with our Assistant Secretary, s 22(1)(a)(ii) for Monday. Could you please confirm if you have availability on Monday.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Friday, 12 May 2023 1:31 PM

To: s 22(1)(a)(ii)

Cc: McDonald, Andrew Andrew.McDonald@aff.gov.au; Donaldson, Morag Morag.Donaldson@aff.gov.au; ^{s 22(1)(a)(ii)}

; s 22(1)(a)(ii)

; Roger E Fisher

refisher@pegasus-economics.com.au

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Please find enclosed a copy of the signed contract page, the vendor creation form and the additional forms required for the vendor creation form.

Also, when would you like to convene the inception meeting?

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Friday, May 12, 2023 9:53 AM
To: Alistair Davey <adavey@pegasus-economics.com.au>
Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; ^{s 22(1)(a)(ii)}
; s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alistair,

Thanks for providing the additions.

I have revised the start date until today and a PDF version is attached for your signature. Could you please sign today, and send back to me, so that I can arrange for it to be countersigned.

We will provide you a copy once we have countersigned the document.

Could you please also complete the vendor creation form (also attached) so that we can get your company set up in our finance system.

We look forward to working with you.

Regards

^{s 22(1)(a)(ii)}

A/g Director | ^{s 22(1)(a)(ii)}

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Tuesday, 9 May 2023 10:11 AM

To: s 22(1)(a)(ii)

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Thanks s 22(1)(a)(ii)

We have reviewed the contract and have no problems with it, and have made additions/changes to subsection C.A.5.

The only potential problem with what I have added is in relation to security clearances. Roger and I both received baseline security clearances during our work on the Aged Care Royal Commission in 2019 and 2020 respectively (which I think last for up to 8 years), although the sponsorship of those clearances by the Attorney-General's Dept was revoked once we finish up with the Commission.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Monday, May 8, 2023 5:45 PM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alistair,

Please find attached the draft contract for the review and summation of studies on the live sheep trade.

Could you please review and let me know if you require any changes. Could you in particular check the requirement as well as update the specified personnel table (it has been highlighted).

Once we can finalise the contract, we will execute the signatures and kick off with an inception meeting.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Thursday, 4 May 2023 10:18 AM

To: s 22(1)(a)(ii)

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Dear ^{s 22(1)(a)(ii)}

Thank you for your email of 2 May 2023 and your request for quote following on from our teleconference last week.

In quoting for this review project, the Pegasus Economics team will include both myself as well as Roger Fisher who has been a co-author on previous Pegasus reports on the live sheep export industry.

Our understanding of the project is that we are to provide insightful and helpful commentary on the reports with a view to assisting the panel in its understanding of the economic issues associated with a timeframe for cessation of the live sheep export trade. We do not envisage that our task is to provide an alternative position on the reports, but instead to highlight key take outs, signpost significant issues, explain methodologies and provide commentary on strengths, weaknesses and potential gaps in the reports. We will seek to address complex economic and policy issues in non-technical language and are cognisant of the fact that the project must be completed by 30 June 2023.

We believe that it would be useful to commence the project with an inception meeting to discuss the project in more detail. The meeting will help ensure a mutual understanding of objectives, deliverables, methodology, timing, resources, and management of the project.

Other studies that we believe would be useful to also include in the coverage of the review project include:

- Centre for International Economics. (2014). *Contribution of live exports to the Australian Wool Industry*, Prepared for Australian Wool Innovation, Canberra.
- Centre for International Economics. (2018). *Contribution of live exports to Woolgrower's income - An Update*, Prepared for Australian Wool Innovation, Canberra.
- Davey, A., & Fisher, R. (2018). *Economic Issues Associated with the Live Sheep Export Trade*. Prepared for Animals Australia, Canberra: Pegasus Economics.
- Davey, A., Fisher, R., & Morley, M. (2022) *Economic Implications of Phasing Out the Live Sheep Export Trade*, Prepared for Animals Australia, Canberra: Pegasus Economics.
- Kingwell, R., Cunningham, P., Nath, T., Anderton, L., Xayavong, V., Curis, K., . . . Feldman, D. (2011). *The Economic Importance to Western Australia of Live Animal Exports*. Perth: Department of Agriculture and Food Western Australia.
- Mecardo. (2018). *Live Sheep Export – Brief Report*. Ballarat.
- Pritchett, K. (2019). *Implications of management decisions on the WA sheep flock in response to changing markets*. Perth: Department of Primary Industries and Regional Development.

We would seek your guidance as to whether you want us to review our own previous reports, although we do readily acknowledge they were far from perfect.

On this basis, our quote for this project is \$49,500 inclusive of GST, although we can review this budget if the Department prefers a different approach. We would also be happy to discuss and refine any elements of the suggested approach in order to ensure the end product meets your needs.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Tuesday, May 2, 2023 3:20 PM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hello Alistair,

Thanks for taking time to meet with us last week in regard to a review of studies on the live sheep trade.

Minister Watt has appointed a four-person panel to consult on how and when to phase out live exports of sheep by sea. The panel includes Ms Sue Middleton, Ms Heather Neil and the Hon. Warren Snowdon.

The panel has been asked to report to Minister Watt by 30 September on:

- potential mechanisms to phase out live sheep exports by sea
- a suggested timeframe and options for implementation
- potential ways to support the transition.

The panel's remit does not include the merits of the policy and the policy does not cover cattle or other live exports.

We would like to request a quote from you to provide the following:

- An assessment and summation of existing studies in relation to live sheep exports, including but not limited to:
 - Value analysis of the Australian Live Sheep Export Trade – Mecardo
 - Impact of the live sheep export trade's self-imposed moratorium and regulatory changes – Mecardo
 - The economic impacts of regulating live sheep exports - research report 21.01 – February 2021 – ABARES
 - The economic contribution and benefits of the Northern live export cattle industry – ACIL ALLEN
- A suggested and separate guide/index/reference list of the relevant data or parts of each report that you judge as worthy of the panel's consideration—and particularly identifying where the underlying assumptions or findings/conclusions are inaccurate or should otherwise be treated with caution (eg facts or figures).

Could you please supply a quote to us by COB Thursday 4 May 2023. We would need the review to be completed and provide to the panel by 30 June 2023.

If you require any additional information, please feel free to contact me,

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

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Index of major issues addressed in reports

Animal Welfare Issues	Kingwell, et al., (2011, pp. 7-9) Mecardo (Dalglish, Agar, & Herrmann, 2020, pp. 24-27) Pegasus Economics (Davey & Fisher, 2018, p. 1) Pegasus Economics (Davey, Fisher, & Morley, 2022, pp. 1-3)
Cattle Industry	ACIL Allens (2022) Kingwell, et al., (2011, pp. 6-7, pp. 16-21) Mecardo (Dalglish, Agar, & Herrmann, 2020, p. 23)
Determinants of Lamb/Sheep Prices	ABARES (Nelson, et al., 2021, p. 11, p. 17) CIE (2014, p. 6, p. 8) CIE (2018, pp. 14-16) Mecardo (2018, pp. 5-8) Pegasus Economics (2018, pp. 14-18) Pegasus Economics (Davey, Fisher, & Morley, 2022, pp. 14-19)
Economy Wide Impact of Live Sheep Export Trade Termination	Kingwell, et al., (2011, pp. 42-43) Pegasus Economics (Davey & Fisher, 2018, pp. 29-30)
Employment Impacts of Live Sheep Export Trade	Mecardo (Dalglish, M; Agar, O, 2019, p. 6) Mecardo (Dalglish, Agar, & Herrmann, 2020, p. 15, 17, 21) Pegasus Economics (2018, p. 29, pp. 30-31) Pegasus Economics (Davey, Fisher, & Morley, 2022, p. 26)
Income Impact on Farmers from Disruption/Termination of Live Sheep Export Trade	ABARES (Nelson, et al., 2021, pp. 5-6, pp. 13-15) CIE (2014, pp. 6-17) CIE (2018, pp. 1-4, pp. 14-18) Kingwell, et al., (2011, pp. 37-43) Mecardo (2018, p. 8) Mecardo (Dalglish, Agar, & Herrmann, 2020, pp. 5-6) Pegasus Economics (Davey & Fisher, 2018, pp. 12-14) Pegasus Economics (Davey, Fisher, & Morley, 2022, p. 22)
Live Sheep Export Trade Overseas Markets	Kingwell, et al., (2011, pp. 12-14) Pegasus Economics (Davey & Fisher, 2018, pp. 18-26) Pegasus Economics (Davey, Fisher, & Morley, 2022, pp. 11-14)
Price Impact from Live Export Trade Disruption/Termination	ABARES (Nelson, et al., 2021, pp. 9-11) CIE (2014, pp. 6-17) CIE (2018, pp. 1-4, pp. 14-18) Mecardo (2018, p. 8) Pegasus Economics (Davey & Fisher, 2018, pp. 12-14) Pegasus Economics (Davey, Fisher, & Morley, 2022, p. 22)
Sheep Farming in WA	Kingwell, et al., (2011, pp. 4-6, pp. 25-27) Pritchard (2019, p. 1, p. 7, pp. 12-13, p. 13, p. 15)

Sheep Meat Processing	ABARES (Nelson, et al., 2021, pp. 3-5, p. 7, p. 16) CIE (2014, p. 8, p. 9, p. 17) CIE (2018, p. 1, p. 3, p. 13, p. 15, p. 16) Kingwell, et al., (2011, p. 1. p. 2, p. 3, p. 37, p. 40, pp. 41-42) Pegasus Economics (Davey & Fisher, 2018, pp. 30-38)Pegasus Economics (Davey, Fisher, & Morley, 2022, p. 6, p. 10, p. 11, pp. 25-27) Pritchard
Social/Regional Impacts	Kingwell, et al., (2011, p, 1, p. 2, p. 3 p. 15, p. 22) Mecardo (Dagleish, Agar, & Herrmann, 2020, p. 15, p. 21, p. 28) Pritchard (2019, p. 13)
Supply Chain Impacts	Mecardo (Dagleish, M; Agar, O, 2019, pp. 7-10) Mecardo (Dagleish, Agar, & Herrmann, 2020, pp. 6-23)



Challengeable Claims and Assumptions in Reports on the Live Sheep Export Industry





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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.

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Front cover photograph shows a sheep near Lakes Entrance in Victoria.

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1. Introduction

Pegasus Economics (Pegasus) has been commissioned by the Department of Agriculture, Fisheries and Forestry to provide an assessment where the underlying assumptions or findings/conclusions of the following reports are inaccurate or should otherwise be treated with caution:

- *The economic impacts of regulating live sheep exports - research report 21.01* – February 2021 – ABARES, (Nelson, et al., 2021)
- *The economic contribution and benefits of the Northern live export cattle industry* – August 2022 – ACIL Allen (2022)
- *Contribution of live exports to the Australian Wool Industry* – March 2014 – The Centre for International Economics (CIE) (2014)
- *Contribution of live exports to Woolgrower's income - An Update* – July 2018 – CIE (2018)
- *The Economic Importance to Western Australia of Live Animal Exports* – July 2011 – Kingwell, R., Cunningham, P., Nath, T., Anderton, L., Xayavong, V., Curis, K., . . . Feldman, D., Department of Agriculture and Food Western Australia, (Kingwell, et al., 2011)
- *Live Sheep Export – Brief Report* – April 2018 – Mecardo (2018)
- *Value analysis of the Australian Live Sheep Export Trade* – September 2019 – Mecardo (Dagleish, M; Agar, O, 2019)
- *Impact of the live sheep export trade's self-imposed moratorium and regulatory changes* – January 2020 – Mecardo (Dagleish, Agar, & Herrmann, 2020)
- *Economic Issues Associated with the Live Sheep Export Trade* – March 2018 – Pegasus Economics (Davey & Fisher, 2018)
- *Economic Implications of Phasing Out the Live Sheep Export Trade* - April 2022 – Pegasus Economics (Davey & Fisher, Live Sheep Export Trade: Review of the Draft Regulation Impact Statement, 2020)
- *Implications of management decisions on the WA sheep flock in response to changing markets.* – April 2019 – Pritchett, K, Department of Primary Industries and Regional Development, Western Australia (Pritchett, 2019)

The views and opinions expressed in this report are entirely those of the authors and not the Department of Agriculture, Fisheries and Forestry.

2. *The economic contribution and benefits of the Northern live export cattle industry - ACIL Allens 2022*

There is a question as to how relevant the findings in this report are to the live sheep export trade as there is little relationship between the live sheep export industry and the Northern live cattle export industry.

While live cattle have been exported alongside live sheep on livestock carriers destined for the Middle East, such voyages commence exclusively out of the Port of Fremantle in the south-west Western Australia and usually carry cattle from the Southern Agricultural Region of Western Australia rather than Northern Australia.

Cattle from Northern Australia are highly unlikely to find their way to the Middle East for live export. Farmers in Northern Australia prefer cattle with traits derived from *Bos indicus* breeds such as Brahman, because these cattle perform better in the higher temperatures associated with the

tropical climate, lose less condition when transported long distances, and possess greater tick resistance (Australian Competition and Consumer Commission, 2017, p. 22). In turn, *Bos indicus* breeds from Northern Australia are generally exported to south-east Asian countries such as Indonesia, Vietnam, Malaysia and the Philippines (LiveCorp, 2023).

Cattle from the Southern Agricultural Region of Western Australia tend to be predominantly *Bos taurus* or European breeds such as Angus and Hereford (Department of Primary Industries and Regional Development, 2021; LiveCorp, 2023). These cattle are sold to a variety of Middle Eastern countries such as Israel (LiveCorp, 2023).

3. *Contribution of live exports to the Australian Wool Industry – CIE 2014 and Contribution of live exports to Woolgrower’s income - An Update – July 2018 – CIE 2018*

There are three assumptions made by CIE (2014) that are problematic.

The first is that the live sheep export industry underwrite sheep saleyard prices across Australia. According to CIE (2014, p. 6):

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, and so contributes to the red meat industry, however, the contribution of the live trade to the wool industry is not well understood.

ABARES (Nelson, et al., 2021, p. 17) has noted studies funded by industry tend not to recognise that prices are set in world markets, as appears to be the case in this instance.

The second is the contention by CIE (2014, p. 24) that WA sheep farmers have limited options available to them if the live sheep export trade is no longer available to them:

The bottom line is that woolgrowers, and particularly specialist woolgrowers, have limited capacity to transform their enterprise mix away from sheep. This is why the option value of the live trade is so important, in providing another channel to dispose of cull wethers for a good return.

CIE’s contention in this regard stands in marked contrast to the trend since 1990 as WA farmers have diversified their enterprises away from sheep focusing upon wool production. Low wool prices following the collapse of the wool reserve price scheme in 1991 encouraged farmers to switch from sheep to cropping (Department of Agriculture, 2019, p. 10). The fall in wool prices, coupled with rising grain prices, saw a shift towards cropping by many farms and an expansion of cropping into more marginal areas (Dahl, Leith, & Gray, 2013, p. 207). Since the 1990s, the WA sheep flock has undergone significant change in structure and composition (Department of Agriculture and Food Western Australia, 2016, p. 3). The WA sheep flock has evolved in response to market demand from being a wool dominant flock to a dual-purpose flock producing both wool and sheep meat (Pritchett, 2019, p. 2).

According to Kingwell et.al. (2011, p. 37), further conversion of WA farming land from sheep to cropping is possible. According to Pritchard (2019), WA sheep farmers have options of increasing their cropping program, increasing lamb production, increasing wool production, and transferring sheep interstate if the live sheep export trade is no longer available.

Also, the live sheep export trade has long since ceased being an outlet for cull wethers (wethers at end of their wool production life). Meat & Livestock Australia (MLA) (2001, p. 3) suggested that sheep intended for the Middle East live sheep trade should have four permanent adult teeth or less,

implying that sheep had to be no more than two years old, in turn inferring the live sheep export trade was no longer an outlet for cull wethers.

The third assumption made by CIE (2014, p. 8) is that sheep prices would default to prices in the eastern states less the cost of transport:

Without live exports to underpin prices, the Western Australian price paid by processors would default to the eastern states (South Australian) price less the transport cost. This transport cost will be most likely in the range of \$25 to \$30 per head, which until the supply side adjusts further, will be borne by wool and sheep producers.

CIE (2018, p. 3) also made the same assumption in its 2018 report:

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. This transport cost will be most likely be \$30 per head, which until the supply side adjusts further, will be borne by wool and sheep producers.

This arguably represents an upper limit on price falls and is an extreme assumption that appears to be the main factor driving the results of the price modelling in both CIE reports. Underlying this assumption is the presumption that WA sheep meat processor exercise a high degree of buyer power against WA sheep farmers in their purchase of sheep. Buyer power has been described in the following terms:

...“buyer power” refers to the circumstance in which the demand side of a market is sufficiently concentrated that buyers can exercise market power over sellers. A buyer has market power if the buyer can force sellers to reduce price below the level that would emerge in a competitive market. (Noll, 2005, p. 589)

If WA sheep meat processors do not exercise a high degree of buyer power, then WA sheep prices may not fall by as much as the prices in the eastern states less the cost of transport from WA. Perhaps recognising this possibility, CIE (2018, p. 16) also reported on results for an alternative scenario:

... recognising the uncertainties around transport distances and seasonal dynamics, the contribution of the trade was also calculated using a transport charge of \$10 per head.

ABARES (Nelson, et al., 2021, pp. 17-18) has observed in relation to several reports on the live sheep export industry funded by industry groups, including both the 2014 and 2018 CIE reports, that they tend not to recognise that lamb and sheep prices are set in world markets, or that short-term price falls in Western Australia are limited to \$20 per head by the cost of trucking sheep to eastern state markets.

Additionally, the assumed figure to transport sheep per head to eastern states of \$25 to \$30 used in the 2014 and 2018 CIE reports appears to be too high. According to ABARES (Nelson, et al., 2021), the average cost of transporting sheep to the eastern states for processing was only \$20 per head.

4. *Live Sheep Export – Brief Report – Mecardo 2018*

The modelling contained in this report has been challenged on a number of grounds. In particular, the report appears to assume that prices in WA for lamb and sheep meat are determined by the local supply factors. According to Mecardo (2018, p. 7):

The relationship between WA slaughter and the export price was used to create a regression-based model to determine the potential price impact on WA lamb and sheep markets from a change to annual WA slaughter levels. ... Using the historic variance from actual figures to the model forecast we were able to provide a potential range for percentage price declines impacting upon WA producers of lamb and sheep caused by the imposition of a live export ban.

ABARES (Nelson, et al., 2021, p. 17) has noted studies funded by industry tend not to recognise that prices are set in world markets.

Dr Trevor Breusch (2018, p. 7), formerly a Professor of Econometrics at the Australian National University, questioned the rigor of the economic analysis in the Mecardo report:

I come to the view that the Mecardo report is more a document of persuasion than an expert analysis of the cost to the industry of banning live sheep export.

Dr Breusch (2018, p. 7) summarised his criticism of the Mecardo modelling in the following terms:

A proper forecast of the effects would allow for adjustments both in the quantity supplied to the market each period and the expansion of markets interstate or internationally. New markets take time to develop and would not be reflected simply in the historical year-by-year shifts in slaughter quantity and price that form the basis of this report. Even within the narrow approach adopted, the forecast is based on a statistical relationship that is inconsistent with the choice of variables. The failure to account for other variables, including lags, further removes the approach from proper policy analysis.

Dr Breusch (2018, p. 6) expressed the view that the report did not provide a sound basis for decision-making:

This naïve statistical model in the Mecardo report is unsuitable for the policy evaluation in which it is employed.

Dr Breusch (2018, p. 2) described the Mecardo analysis as “very superficial and unworthy as a guide to policy.” and has described the assumption that export prices are determined solely by local supply in WA as implausible.

Mecardo (2018, p. 8) acknowledged that the possibility of transporting WA sheep to the eastern states imposed a price floor on how far WA sheep prices could fall:

As the WA market does not operate in isolation, the assumption was used that once percentage price declines in WA reached a point at which it was economically viable to ship the excess supply of WA sheep and lamb across to the Eastern states, producers would take advantage of this opportunity to minimize their losses.

However, in relation to this Mecardo report ABARES (Nelson, et al., 2021, p. 17) observed there was little or no recognition of the option for WA sheep farmers to transport sheep to high-value markets in eastern Australia.

5. *Value analysis of the Australian Live Sheep Export Trade - Mecardo 2019*

Mecardo (Dalgleish, M; Agar, O, 2019, p. 2) estimated the on-farm employment related to live sheep export based on data obtained from the 2017-18 Australian Agricultural and Grazing Industries Survey (AAGIS) published by the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES). This analysis assumes knowledge of the labour intensity of sheep farming and the allocation of labour between different sheep outputs, although details on those assumptions have not been provided in the report.

There are several problems associated with Mecardo's estimate of the employment associated with the live sheep export trade. In the first instance, around 80% of the labour worked on all sheep farms in WA is performed by the farmer and other farm family members – the so-called imputed labour cost where there is no actual monetary outlay on wages (based on AAGIS data). According to an ABARES report on the financial performance of lamb producing farms (Litchfield, 2020, p. 38):

A large amount of unpaid labour is used in family-operated sheep-producing farms, particularly smaller farms.

Secondly, there are problems associated with the derivation of the employment multiplier used by Mecardo:

- 13.6% of the total number of jobs 'created' by the livestock meat production sector by livestock farms and feedlots actually relate to employment in the meat processing, wholesaling and retailing sectors, all of which are outside of the scope of the live sheep export production chain.
- The *State of the Industry Report 2018: The Australian red meat and livestock industry* publication states explicitly that for the livestock meat production sector, 1.2 additional indirect jobs were created for each direct job. In other words, on the basis of its own source material Mecardo used the wrong and much higher employment multiplier when it should have used an employment multiplier of 2.2 (Meat & Livestock Australia and Ernst & Young, 2018, p. 12).

Even if one were to accept Mecardo's figure of direct employment on-farm of 798 in 2017-18, then total direct and indirect employment in WA relating to the live sheep export supply chain would be reduced to less than 1,800.

Thirdly, Mecardo calculated its estimate of the direct and indirect levels of employment attributed to the live sheep export supply chain in WA based on 2017-18 when the level of live sheep exports from WA was 1.6 million, in excess of three times the level of live sheep exports during the 2022 calendar year. If Mecardo's estimate of direct employment on-farm of 798 in 2017-18 in WA associated with the live sheep export supply chain is taken at face value and the correct employment multiplier applied to the current size of the live sheep export industry, then the total level of employment associated with the live sheep export supply chain in WA would amount to around 550.

Fourthly, the Mecardo report also takes no account of jobs that would be created in the event the live sheep industry was phased out. According to the Department of Agriculture (2019, p. 46), switching from live exports to lamb production is likely to have only minor impacts on employment in the sheep industry because the production of prime lambs requires more labour per sheep than producing sheep for live export. The Department of Agriculture (2019, p. 46) has also observed that overall total WA employment will likely increase if the live sheep export trade is curtailed as a result of increased employment in the meat processing sector.

6. *Impact of the live sheep export trade's self-imposed moratorium and regulatory changes - Mecardo 2020*

Mecardo's stakeholder engagement provides insights not otherwise available, but the number of interviews conducted is very low and there are doubts about its statistical validity. For two industries, only one interview was conducted; for an additional three industries, only two interviews were conducted. In no cases were interview transcripts provided. It is, therefore, very difficult to assess how representative the respondents chosen were, or how faithfully respondent attitudes have been reproduced in the report.

While this report contains much useful information on the broader supply chain impacts of the live sheep export trade, several elements of the modelling in the report have been challenged.

The key assumption driving results in this report is that in the absence of the live sheep trade there would be a 30-50% approximate reduction in prices at the saleyard in WA (Dalglish, Agar, & Herrmann, 2020, pp. 5-6). Mecardo sourced this key assumption from CIE (2018). This assumption is highly dubious.

ABARES (Nelson, et al., 2021, pp. 17-18) has observed that this report (and many others) tends not to recognise that lamb and sheep prices are set in world markets, or that short-term price falls in Western Australia are limited to \$20 per head by the cost of trucking sheep to eastern state markets.

ABARES (Nelson, et al., 2021, p. 17) contends that the report is likely to overstate the impact of restricting live exports for two reasons. First, a 30% to 50% reduction in saleyard prices was assumed based on a report by CIE (2018), despite a footnote in the Mecardo report recognising that saleyard prices were observed to fall by only 15% to 30% (Dalglish, Agar, & Herrmann, 2020, p. 5n). Second, there is no recognition of the likely short-term nature of these price impacts or the likelihood that prices will rise as an expansion of domestic meat processing reduces processing costs.

Transparency around the modelling in this report is also problematic. According to Mecardo (Dalglish, Agar, & Herrmann, 2020, p. 5):

Multifactorial regression modelling of annual live sheep export volumes and the relationship between the live export trade, flock size and slaughter, both nationally and within Western Australia, was used to estimate monthly live export sheep volumes if the industry was not subject to the 2018 suspension and the 2019 moratorium.

Details on what sort of modelling was conducted and the robustness of the results has not been provided, so the veracity of the modelling exercise cannot be independently verified.

7. *Economic Issues Associated with the Live Sheep Export Trade – Pegasus Economics 2018 and Economic Implications of Phasing Out the Live Sheep Export Trade - Pegasus Economics 2022*

Pegasus assumed in its 2018 report that its estimates of the price premium paid by live sheep exporters would be equivalent to the effect of a termination of the live sheep export trade. This assumption was subsequently disproved by actual saleyard data following disruptions of the trade from 2018 onwards.

ABARES (Nelson, et al., 2021, p. 16) also observed that the economic impact estimated by Pegasus Economics on the phasing out of the live sheep export industry was likely to underestimate the impact because Western Australia's short and unreliable growing season meant that bringing these

sheep to prime lamb standard for domestic processing was likely to require some purchased feed, adding both feed costs as well as additional labour costs to sheep farms in WA.

Pegasus Economics (Davey, Fisher, & Morley, 2022, p. 22) subsequently found a statistically significant negative price impact on lamb and mutton prices received by sheep farmers in WA saleyards relative to the eastern states following the prohibition on the live sheep export trade during the Northern Hemisphere summer at WA saleyards. However, Pegasus Economics at that time found no evidence for any statistically significant negative price impact arising from the Northern Hemisphere summer prohibition in relation to prices received by WA sheep farmers for heavy trade lamb and heavy mutton sold over the hooks as compared to NSW sheep farmers. Extrapolating on these results for WA saleyard sheep throughput, Pegasus Economics (Davey, Fisher, & Morley, 2022, p. 22) suggested an aggregate price impact on WA sheep farmers in the order of:

- \$14.5 million in 2018-19 (in real 2020 prices)
- \$13.2 million in 2019-20 (in real 2020 prices)
- \$11.8 million in 2020-21 (in real 2020 prices).

This worked out to an average cost through the reduction in sheep sale receipts per WA sheep farmer in the order of less than \$2,800 (in real 2020 prices) in 2020-21.

More recently, Pegasus Economics (Davey & Fisher, 2023) has revised its estimate of the price impact on WA sheep farmers arising from the prohibition on the live sheep export trade during the Northern Hemisphere summer. Pegasus Economics (2023, p. 29) found a statistically significant negative price impact on lamb prices received by sheep farmers in WA saleyards, and WA over-the-hook prices for heavy trade lamb and medium sheep relative to NSW following the prohibition on the live sheep export trade during the Northern Hemisphere summer at WA saleyards. Extrapolating these results across the entire turn-off for WA sheep during 2021-22 suggests that the prohibition during the Northern Hemisphere summer cost WA sheep farmers in the order of \$27 million (in 2021-22 constant prices) from lower sheep prices received, that comes out at around \$6,300 per WA sheep farm (Davey & Fisher, 2023, p. 29).

8. *The economic impacts of regulating live sheep exports - ABARES 2021*

This report provides a brief summation of the economics of the live sheep export industry.

The findings in the report are derived from what the authors describe as a plausible scenario:

To create a plausible scenario, the number of sheep for live export was assumed to halve if trade was restricted to the cooler months in the northern hemisphere. This scenario assumes a sudden disruption to trade. This is a worst-case scenario that increases the short-term costs of transitioning to expanded lamb production. (Nelson, et al., 2021, p. 5)

While the report has outlined its assumptions in broad terms, the major shortcoming with this report is that it is not transparent in terms of its underlying assumptions. The ABARES report has been criticised by Pegasus Economics (Davey, Fisher, & Morley, 2022, p. 21) as something of a 'black box' as there is not a lot of transparency surrounding its assumptions and underpinnings.

9. *The Economic Importance to Western Australia of Live Animal Exports* - Kingwell et al., 2011

One section of this report deals with the potential economic impact arising from the cessation of the live sheep export trade (Kingwell, et al., 2011, pp. 37-44).

This analysis assumes that prices for all categories of sheep will decline in the event the live sheep export trade were to cease (Kingwell, et al., 2011, pp. 37-39). However, the report does not specify by how much sheep prices could be expected to fall, or how different price impacts might alter the conclusions drawn from the analysis.

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s 22(1)(a)(ii)

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Tuesday, July 18, 2023 9:55 AM
To: s 22(1)(a)(ii) ; s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Further to our teleconference last Friday, please enclosed an updated version of our report on the assumptions.

Regards
Dr Alistair Davey – Director



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From: s 22(1)(a)(ii)
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Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Thanks Alistair. Let's chat tomorrow at 10am. I will send through a meeting request.

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Thursday, July 13, 2023 2:03 PM
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Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

I could do it alone tomorrow at 10am, but Roger has other commitments.

Regards
Dr Alistair Davey – Director



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From: s 22(1)(a)(ii)
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Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: Re: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Any chance you may have some availability tomorrow? s 22(1)(a)(ii) is on leave for the beginning of next week.

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Thursday, July 13, 2023 1:39:01 PM
To: s 22(1)(a)(ii) ; s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

What about a MS Team meeting at 10am on Monday if that is convenient?

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Thursday, July 13, 2023 11:16 AM

To: Alistair Davey <adavey@pegasus-economics.com.au>; s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi Roger and Alistair,

Could we please set up another meeting to discuss the reports provided to us. We have a few things that we would like to discuss.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Thursday, July 6, 2023 10:36 AM
To: s 22(1)(a)(ii) ; s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Thanks for your email, preliminary feedback and the meeting request.

Would 10am tomorrow or Monday be convenient for a zoom meeting?

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Thursday, July 6, 2023 9:38 AM
To: Alistair Davey <adavey@pegasus-economics.com.au>; s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Good morning Alistair,

Thanks for providing the report. We do have some concerns with the report and would appreciate some time to discuss.

Firstly the name of the report differs for the name on the contract and secondly the summations do not match the template that we had agreed upon. There are some other issues but these are the two stand out. We believe some of the information from not sticking to the templates means that key analysis is missing.

Do you have some time available in the near future so we can arrange a meeting?

Regards

s 22(1)(a)(ii)

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Tuesday, June 27, 2023 3:31 PM

To: s 22(1)(a)(ii) ; s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Dear ^{s 22(1)(a)(ii)}

Further to my earlier email today, please find enclosed our index/reference list of major issues addressed in the reports and a separate report on challengeable assumptions used in the reports.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Tuesday, June 27, 2023 10:32 AM

To: Alistair Davey <adavey@pegasus-economics.com.au>; s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; Roger E Fisher <refisher@pegasus-economics.com.au>

economics.com.au>; s 22(1)(a)(ii)

Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Thank you Alistair for sending this through. We look forward to reading it.

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Tuesday, June 27, 2023 9:53 AM

To: s 22(1)(a)(ii)

s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii)

; Roger E Fisher <[refisher@pegasus-](mailto:refisher@pegasus-economics.com.au)

economics.com.au>; s 22(1)(a)(ii)

Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Dear ^{s 22(1)(a)(ii)}

Please find enclosed our first draft report for the literature review component of our project. The draft for the second component should follow later today or tomorrow.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Friday, June 16, 2023 4:55 PM

To: Alistair Davey <adavey@pegasus-economics.com.au>; s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii)

; Roger E Fisher <[refisher@pegasus-](mailto:refisher@pegasus-economics.com.au)

economics.com.au>; s 22(1)(a)(ii)

Subject: RE: Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hello Alistair

Apologies for the delayed response and thank you for sending through for our review.

Overall the template headers and approach are looking about right. Could I ask for an additional section about Key Assumptions be included as well. This would identify time periods data is drawn from, the assumptions used for the analysis (such as price of sheep), etc, that were utilised in the report. This would just need the information presented as points of fact rather than needing to validate the information used.

As you indicated, please omit the commentary, that way the content remains aligned with factually summarising the reports.

Please reach out if you had any further queries.

Kind regards

s 22(1)(a)(ii)

s 22(1)(a)(ii) | s 22(1)(a)(ii)
A/g Assistant Secretary | Live Sheep by Sea Phase Out Branch
Traceability, Plant and Live Animal Exports Division
Department of Agriculture, Fisheries and Forestry
Agriculture House, 70 Northbourne Ave, Canberra ACT 2601 Australia
GPO Box 858 Canberra ACT 2601 Australia
agriculture.gov.au

From: Alistair Davey <adavey@pegasus-economics.com.au>
Sent: Friday, June 9, 2023 10:48 AM
To: s 22(1)(a)(ii)
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii)
Subject: Review and summation of studies on the live sheep trade

Hi ^{s 22(1)(a)(ii)}

Please find enclosed our first drafts on three of the reports for the literature review project.

At this stage we have one for one query in relation to the ACIL Allen report. We have arguably strayed into commentary where we have observed there is not a lot of overlap (if any) between the Northern Australia live cattle export industry and the live sheep export industry (i.e. cattle with the *Bos indicus* genes grazed in Northern Australia are generally not sent for live export to the Middle East) and were wondering if that was going a step too far? In drafting we had initially examined the overlap between live cattle export and live sheep export in general but eventually decided that was probably a step too far. We would appreciate your advice on where the appropriate boundary is.

Regards
Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)
Sent: Monday, May 22, 2023 2:35 PM
To: Alistair Davey <adavey@pegasus-economics.com.au>
Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;
Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii)
Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Great – I will get a meeting invite sent through

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Monday, 22 May 2023 2:24 PM

To: s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Wednesday at 12pm (midday) works for Roger and myself.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Monday, May 22, 2023 10:12 AM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alastair – unfortunately tomorrow is a little crazy. Would 12-12.30 on Wednesday work for you?

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Friday, 19 May 2023 8:38 AM

To: s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Sounds good, thank you.

From: s 22(1)(a)(ii)

Sent: Friday, May 19, 2023 8:22 AM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)
s 22(1)(a)(ii)

Subject: Re: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Tuesday will work. We will find some time and flick you through a meeting request.

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Thursday, May 18, 2023 9:51:36 PM

To: s 22(1)(a)(ii)

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Unfortunately Monday is not possible for me as I am down in Melbourne, but I am available on Tuesday if that works?

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Thursday, May 18, 2023 9:38 PM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: s 22(1)(a)(ii) ; s 22(1)(a)(ii) ;

Roger E Fisher <refisher@pegasus-economics.com.au>; s 22(1)(a)(ii)

s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi Alistair,

Please find attached a copy of the executed contract.

We will look to set up a meeting with our Assistant Secretary, s 22(1)(a)(ii) for Monday. Could you please confirm if you have availability on Monday.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry

Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Friday, 12 May 2023 1:31 PM

To: s 22(1)(a)(ii)

Cc: McDonald, Andrew Andrew.McDonald@aff.gov.au; Donaldson, Morag Morag.Donaldson@aff.gov.au; ^{s 22(1)(a)(ii)}
; s 22(1)(a)(ii) ; Roger E Fisher

refisher@pegasus-economics.com.au

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hi ^{s 22(1)(a)(ii)}

Please find enclosed a copy of the signed contract page, the vendor creation form and the additional forms required for the vendor creation form.

Also, when would you like to convene the inception meeting?

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Friday, May 12, 2023 9:53 AM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; ^{s 22(1)(a)(ii)}
; s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alistair,

Thanks for providing the additions.

I have revised the start date until today and a PDF version is attached for your signature. Could you please sign today, and send back to me, so that I can arrange for it to be countersigned.

We will provide you a copy once we have countersigned the document.

Could you please also complete the vendor creation form (also attached) so that we can get your company set up in our finance system.

We look forward to working with you.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Tuesday, 9 May 2023 10:11 AM

To: s 22(1)(a)(ii)

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Thanks s 22(1)(a)(ii)

We have reviewed the contract and have no problems with it, and have made additions/changes to subsection C.A.5.

The only potential problem with what I have added is in relation to security clearances. Roger and I both received baseline security clearances during our work on the Aged Care Royal Commission in 2019 and 2020 respectively (which I think last for up to 8 years), although the sponsorship of those clearances by the Attorney-General's Dept was revoked once we finish up with the Commission.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Monday, May 8, 2023 5:45 PM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Alistair,

Please find attached the draft contract for the review and summation of studies on the live sheep trade.

Could you please review and let me know if you require any changes. Could you in particular check the requirement as well as update the specified personnel table (it has been highlighted).

Once we can finalise the contract, we will execute the signatures and kick off with an inception meeting.

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

From: Alistair Davey <adavey@pegasus-economics.com.au>

Sent: Thursday, 4 May 2023 10:18 AM

To: s 22(1)(a)(ii)

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: RE: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Dear s 22(1)(a)(ii)

Thank you for your email of 2 May 2023 and your request for quote following on from our teleconference last week.

In quoting for this review project, the Pegasus Economics team will include both myself as well as Roger Fisher who has been a co-author on previous Pegasus reports on the live sheep export industry.

Our understanding of the project is that we are to provide insightful and helpful commentary on the reports with a view to assisting the panel in its understanding of the economic issues associated with a timeframe for cessation of the live sheep export trade. We do not envisage that our task is to provide an alternative position on the reports, but instead to highlight key take outs, signpost significant issues, explain methodologies and provide commentary on strengths, weaknesses and potential gaps in the reports. We will seek to address complex economic and policy issues in non-technical language and are cognisant of the fact that the project must be completed by 30 June 2023.

We believe that it would be useful to commence the project with an inception meeting to discuss the project in more detail. The meeting will help ensure a mutual understanding of objectives, deliverables, methodology, timing, resources, and management of the project.

Other studies that we believe would be useful to also include in the coverage of the review project include:

- Centre for International Economics. (2014). *Contribution of live exports to the Australian Wool Industry*, Prepared for Australian Wool Innovation, Canberra.
- Centre for International Economics. (2018). *Contribution of live exports to Woolgrower's income - An Update*, Prepared for Australian Wool Innovation, Canberra.
- Davey, A., & Fisher, R. (2018). *Economic Issues Associated with the Live Sheep Export Trade*. Prepared for Animals Australia, Canberra: Pegasus Economics.
- Davey, A., Fisher, R., & Morley, M. (2022) *Economic Implications of Phasing Out the Live Sheep Export Trade*, Prepared for Animals Australia, Canberra: Pegasus Economics.
- Kingwell, R., Cunningham, P., Nath, T., Anderton, L., Xayavong, V., Curis, K., . . . Feldman, D. (2011). *The Economic Importance to Western Australia of Live Animal Exports*. Perth: Department of Agriculture and Food Western Australia.
- Mecardo. (2018). *Live Sheep Export – Brief Report*. Ballarat.

- Pritchett, K. (2019). *Implications of management decisions on the WA sheep flock in response to changing markets*. Perth: Department of Primary Industries and Regional Development.

We would seek your guidance as to whether you want us to review our own previous reports, although we do readily acknowledge they were far from perfect.

On this basis, our quote for this project is \$49,500 inclusive of GST, although we can review this budget if the Department prefers a different approach. We would also be happy to discuss and refine any elements of the suggested approach in order to ensure the end product meets your needs.

Regards

Dr Alistair Davey – Director



www.pegasus-economics.com.au, PO Box 449 Jamison Centre, Macquarie ACT 2614,
email: adavey@pegasus-economics.com.au, Ph: + 61 2 6100 4090, Mobile: 0422 211 110

From: s 22(1)(a)(ii)

Sent: Tuesday, May 2, 2023 3:20 PM

To: Alistair Davey <adavey@pegasus-economics.com.au>

Cc: McDonald, Andrew <Andrew.McDonald@aff.gov.au>; Donaldson, Morag <Morag.Donaldson@aff.gov.au>; s 22(1)(a)(ii)

Subject: Request for Quote - Review and summation of studies on the live sheep trade [SEC=OFFICIAL]

Hello Alistair,

Thanks for taking time to meet with us last week in regard to a review of studies on the live sheep trade.

Minister Watt has appointed a four-person panel to consult on how and when to phase out live exports of sheep by sea. The panel includes Ms Sue Middleton, Ms Heather Neil and the Hon. Warren Snowdon.

The panel has been asked to report to Minister Watt by 30 September on:

- potential mechanisms to phase out live sheep exports by sea
- a suggested timeframe and options for implementation
- potential ways to support the transition.

The panel's remit does not include the merits of the policy and the policy does not cover cattle or other live exports.

We would like to request a quote from you to provide the following:

- An assessment and summation of existing studies in relation to live sheep exports, including but not limited to:
 - Value analysis of the Australian Live Sheep Export Trade – Mecardo
 - Impact of the live sheep export trade's self-imposed moratorium and regulatory changes – Mecardo
 - The economic impacts of regulating live sheep exports - research report 21.01 – February 2021 – ABARES
 - The economic contribution and benefits of the Northern live export cattle industry – ACIL ALLEN

- A suggested and separate guide/index/reference list of the relevant data or parts of each report that you judge as worthy of the panel's consideration—and particularly identifying where the underlying assumptions or findings/conclusions are inaccurate or should otherwise be treated with caution (eg facts or figures).

Could you please supply a quote to us by COB Thursday 4 May 2023. We would need the review to be completed and provide to the panel by 30 June 2023.

If you require any additional information, please feel free to contact me,

Regards

s 22(1)(a)(ii)

A/g Director | s 22(1)(a)(ii)

Department of Agriculture, Fisheries and Forestry
Live Sheep Phase Out | Traceability, Plant and Live Animal Export Division
GPO Box 858 Canberra ACT 2601 Australia

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Review of Assumptions in Reports on the Live Sheep Export Industry





Pegasus Economics • www.pegasus-economics.com.au • PO Box 449 Jamison Centre, Macquarie ACT 2614

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.

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

For information on this report please contact:

Name: Dr Alistair Davey

Telephone: + 61 2 6100 4090

Mobile: 0422 211 110

Email: adavey@pegasus-economics.com.au

Front cover photograph shows a sheep near Lakes Entrance in Victoria.

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1. Introduction

Pegasus Economics (Pegasus) has been commissioned by the Department of Agriculture, Fisheries and Forestry to provide commentary on the underlying assumptions or findings/conclusions of the following reports:

- *The economic impacts of regulating live sheep exports - research report 21.01* – February 2021 – Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES), (Nelson, et al., 2021)
- *The economic contribution and benefits of the Northern live export cattle industry* – August 2022 – ACIL Allen (2022)
- *Contribution of live exports to the Australian Wool Industry* – March 2014 – The Centre for International Economics (CIE) (2014)
- *Contribution of live exports to Woolgrower's income - An Update* – July 2018 – CIE (2018)
- *The Economic Importance to Western Australia of Live Animal Exports* – July 2011 – Kingwell, R., Cunningham, P., Nath, T., Anderton, L., Xayavong, V., Curis, K., . . . Feldman, D., Department of Agriculture and Food Western Australia, (Kingwell, et al., 2011)
- *Live Sheep Export – Brief Report* – April 2018 – Mecardo (2018)
- *Value analysis of the Australian Live Sheep Export Trade* – September 2019 – Mecardo (Dalglish, M; Agar, O, 2019)
- *Impact of the live sheep export trade's self-imposed moratorium and regulatory changes* – January 2020 – Mecardo (Dalglish, Agar, & Herrmann, 2020)
- *Economic Issues Associated with the Live Sheep Export Trade* – March 2018 – Pegasus Economics (Davey & Fisher, 2018)
- *Economic Implications of Phasing Out the Live Sheep Export Trade* - April 2022 – Pegasus Economics (Davey & Fisher, Live Sheep Export Trade: Review of the Draft Regulation Impact Statement, 2020)
- *Implications of management decisions on the WA sheep flock in response to changing markets.* – April 2019 – Pritchett, K, Department of Primary Industries and Regional Development, Western Australia (Pritchett, 2019)

The views and opinions expressed in this report are entirely those of the authors and not the Department of Agriculture, Fisheries and Forestry.

2. *The economic contribution and benefits of the Northern live export cattle industry - ACIL Allens 2022*

There is a question as to how relevant the findings in this report are to the live sheep export trade as there is little relationship between the live sheep export industry and the Northern live cattle export industry.

While live cattle have been exported alongside live sheep on livestock carriers destined for the Middle East, such voyages commence exclusively out of the Port of Fremantle in the south-west Western Australia and usually carry cattle from the Southern Agricultural Region of Western Australia rather than Northern Australia.

Cattle from Northern Australia are highly unlikely to find their way to the Middle East for live export. Farmers in Northern Australia prefer cattle with traits derived from *Bos indicus* breeds such as

Brahman, because these cattle perform better in the higher temperatures associated with the tropical climate, lose less condition when transported long distances, and possess greater tick resistance (Australian Competition and Consumer Commission, 2017, p. 22). In turn, *Bos indicus* breeds from Northern Australia are generally exported to south-east Asian countries such as Indonesia, Vietnam, Malaysia and the Philippines (LiveCorp, 2023).

Cattle from the Southern Agricultural Region of Western Australia tend to be predominantly *Bos taurus* or European breeds such as Angus and Hereford (Department of Primary Industries and Regional Development, 2021; LiveCorp, 2023). These cattle are sold to a variety of Middle Eastern countries such as Israel (LiveCorp, 2023).

3. *Contribution of live exports to the Australian Wool Industry – CIE 2014 and Contribution of live exports to Woolgrower's income - An Update – July 2018 – CIE 2018*

There are three assumptions made by CIE (2014) that are worth noting.

The first assumption is that the live sheep export industry underwrite sheep saleyard prices across Australia. According to CIE (2014, p. 6):

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, and so contributes to the red meat industry, however, the contribution of the live trade to the wool industry is not well understood.

ABARES (Nelson, et al., 2021, p. 17) has noted studies funded by industry tend not to recognise that prices are set in world markets, as appears to be the case in this instance.

The second assumption made by CIE (2014, p. 24) is that WA sheep farmers have limited options available to them if the live sheep export trade is no longer available to them:

The bottom line is that woolgrowers, and particularly specialist woolgrowers, have limited capacity to transform their enterprise mix away from sheep. This is why the option value of the live trade is so important, in providing another channel to dispose of cull wethers for a good return.

CIE's assumption in this regard differs from the historical trend since 1990 as WA farmers have diversified their enterprises away from sheep focusing upon wool production. Low wool prices following the collapse of the wool reserve price scheme in 1991 encouraged farmers to switch from sheep to cropping (Department of Agriculture, 2019, p. 10). The fall in wool prices, coupled with rising grain prices, saw a shift towards cropping by many farms and an expansion of cropping into more marginal areas (Dahl, Leith, & Gray, 2013, p. 207). Since the 1990s, the WA sheep flock has undergone significant change in structure and composition (Department of Agriculture and Food Western Australia, 2016, p. 3). The WA sheep flock has evolved in response to market demand from being a wool dominant flock to a dual-purpose flock producing both wool and sheep meat (Pritchett, 2019, p. 2).

According to Kingwell et.al. (2011, p. 37), further conversion of WA farming land from sheep to cropping is possible. According to Pritchard (2019), WA sheep farmers have options of increasing their cropping program, increasing lamb production, increasing wool production, and transferring sheep interstate if the live sheep export trade is no longer available.

Also, the live sheep export trade has long since ceased being an outlet for cull wethers (wethers at end of their wool production life). Meat & Livestock Australia (MLA) (2001, p. 3) suggested that

sheep intended for the Middle East live sheep trade should have four permanent adult teeth or less, implying that sheep had to be no more than two years old, in turn inferring the live sheep export trade was no longer an outlet for cull wethers.

The third assumption made by CIE (2014, p. 8) is that sheep prices would default to prices in the eastern states less the cost of transport:

Without live exports to underpin prices, the Western Australian price paid by processors would default to the eastern states (South Australian) price less the transport cost. This transport cost will be most likely in the range of \$25 to \$30 per head, which until the supply side adjusts further, will be borne by wool and sheep producers.

CIE (2018, p. 3) also made the same assumption in its 2018 report:

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. This transport cost will be most likely be \$30 per head, which until the supply side adjusts further, will be borne by wool and sheep producers.

This arguably represents an upper limit on price falls and appears to be the main factor driving the results of the price modelling in both CIE reports. Underlying this assumption is the presumption that WA sheep meat processor exercise a high degree of buyer power against WA sheep farmers in their purchase of sheep. Buyer power has been described in the following terms:

...“buyer power” refers to the circumstance in which the demand side of a market is sufficiently concentrated that buyers can exercise market power over sellers. A buyer has market power if the buyer can force sellers to reduce price below the level that would emerge in a competitive market. (Noll, 2005, p. 589)

If WA sheep meat processors do not exercise a high degree of buyer power, then WA sheep prices may not fall by as much as the prices in the eastern states less the cost of transport from WA. Perhaps recognising this possibility, CIE (2018, p. 16) also reported on results for an alternative scenario:

... recognising the uncertainties around transport distances and seasonal dynamics, the contribution of the trade was also calculated using a transport charge of \$10 per head.

ABARES (Nelson, et al., 2021, pp. 17-18) has observed in relation to several reports on the live sheep export industry funded by industry groups, including both the 2014 and 2018 CIE reports, that they tend not to recognise that lamb and sheep prices are set in world markets, or that short-term price falls in Western Australia are limited to \$20 per head by the cost of trucking sheep to eastern state markets.

Additionally, the assumed figure to transport sheep per head to eastern states of \$25 to \$30 used in the 2014 and 2018 CIE reports appears to be on the high side. According to ABARES (Nelson, et al., 2021), the average cost of transporting sheep to the eastern states for processing was only around \$20 per head.

4. *Live Sheep Export – Brief Report – Mecardo 2018*

There are a number of assumptions underlying the modelling contained in this report that are worth noting.

The report appears to assume that prices in WA for lamb and sheep meat are determined by the local supply factors. According to Mecardo (2018, p. 7):

The relationship between WA slaughter and the export price was used to create a regression-based model to determine the potential price impact on WA lamb and sheep markets from a change to annual WA slaughter levels. ... Using the historic variance from actual figures to the model forecast we were able to provide a potential range for percentage price declines impacting upon WA producers of lamb and sheep caused by the imposition of a live export ban.

ABARES (Nelson, et al., 2021, p. 17) has noted studies funded by industry tend not to recognise that prices are set in world markets.

Dr Trevor Breusch (2018, p. 7), formerly a Professor of Econometrics at the Australian National University, questioned the rigor of the economic analysis in the Mecardo report:

I come to the view that the Mecardo report is more a document of persuasion than an expert analysis of the cost to the industry of banning live sheep export.

Dr Breusch (2018, p. 7) summarised his criticism of the Mecardo modelling in the following terms:

A proper forecast of the effects would allow for adjustments both in the quantity supplied to the market each period and the expansion of markets interstate or internationally. New markets take time to develop and would not be reflected simply in the historical year-by-year shifts in slaughter quantity and price that form the basis of this report. Even within the narrow approach adopted, the forecast is based on a statistical relationship that is inconsistent with the choice of variables. The failure to account for other variables, including lags, further removes the approach from proper policy analysis.

Dr Breusch (2018, p. 6) expressed the view that the report did not provide a sound basis for decision-making:

This naïve statistical model in the Mecardo report is unsuitable for the policy evaluation in which it is employed.

Dr Breusch (2018, p. 2) described the Mecardo analysis as “very superficial and unworthy as a guide to policy.” and has described the assumption that export prices are determined solely by local supply in WA as implausible.

Mecardo (2018, p. 8) acknowledged that the possibility of transporting WA sheep to the eastern states imposed a price floor on how far WA sheep prices could fall:

As the WA market does not operate in isolation, the assumption was used that once percentage price declines in WA reached a point at which it was economically viable to ship the excess supply of WA sheep and lamb across to the Eastern states, producers would take advantage of this opportunity to minimize their losses.

However, in relation to this Mecardo report ABARES (Nelson, et al., 2021, p. 17) observed there was little or no recognition of the option for WA sheep farmers to transport sheep to high-value markets in eastern Australia.

5. *Value analysis of the Australian Live Sheep Export Trade - Mecardo 2019*

Mecardo (Dalglish, M; Agar, O, 2019, p. 2) estimated the on-farm employment related to live sheep export based on data obtained from the 2017-18 Australian Agricultural and Grazing Industries Survey (AAGIS) published by the ABARES. This analysis assumes knowledge of the labour intensity of sheep farming and the allocation of labour between different sheep outputs, although details on those assumptions have not been provided in the report.

Mecardo uses an employment multiplier to gross up the number of on-farm jobs it attributes to the live sheep export industry to the wider economy (Dalglish, M; Agar, O, 2019).¹ The employment multiplier figure is derived from the *State of the Industry Report 2018: The Australian red meat and livestock industry* publication (Meat & Livestock Australia and Ernst & Young, 2018, p. 12). The report takes the total direct and indirect estimated employment of the red meat and livestock industry in 2016-17 of 438,100 and divides that by the direct employment of the meat production sector (composed of meat livestock producers and feedlots) of 132,100 in 2016-17 to derive an employment multiplier of 3.32 (Dalglish, M; Agar, O, 2019, p. 6n).

There are several assumptions associated with Mecardo's estimate of the level of employment attributed to the live sheep export trade that are worth noting.

In the first instance, around 80% of the labour worked on all sheep farms in WA is performed by the farmer and other farm family members – the so-called imputed labour cost where there is no actual monetary outlay on wages (based on AAGIS data). According to an ABARES report on the financial performance of lamb producing farms (Litchfield, 2020, p. 38):

A large amount of unpaid labour is used in family-operated sheep-producing farms, particularly smaller farms.

Secondly, there are a couple of issues associated with the derivation of the employment multiplier used by Mecardo:

- 13.6% of the total number of jobs 'created' by the livestock meat production sector by livestock farms and feedlots actually relate to employment in the meat processing, wholesaling and retailing sectors, all of which are presumably outside of the scope of the live sheep export production chain.
- The *State of the Industry Report 2018: The Australian red meat and livestock industry* publication states that for the livestock meat production sector, 1.2 additional indirect jobs were created for each direct job (Meat & Livestock Australia and Ernst & Young, 2018, p. 12). On this basis, Mecardo should have used an employment multiplier of 2.2 instead of the 3.32 that it did use.

Even if one were to accept Mecardo's figure of direct employment on-farm in WA of 798 in 2017-18, then total direct and indirect employment in WA relating to the live sheep export supply chain would be reduced to less than 1,800.

¹ Economic multipliers (e.g. for income, output, employment, value added, or imports) are typically derived from input-output tables (The Treasury (NSW Government), 2017, p. 63) that are produced as a by-product from the compilation of the national accounts.

Thirdly, Mecardo calculated its estimate of the direct and indirect levels of employment attributed to the live sheep export supply chain in WA based on 2017-18 when the level of live sheep exports from WA was 1.6 million, in excess of three times the level of live sheep exports during the 2022 calendar year. If Mecardo's estimate of direct employment on-farm of 798 in 2017-18 in WA associated with the live sheep export supply chain is taken at face value and the correct employment multiplier applied to the current size of the live sheep export industry, then the total level of employment associated with the live sheep export supply chain in WA would amount to around 550.

Fourthly, the Mecardo report also takes no account of jobs that would be created in the event the live sheep industry was phased out. According to the Department of Agriculture (2019, p. 46), switching from live exports to lamb production is likely to have only minor impacts on employment in the sheep industry because the production of prime lambs requires more labour per sheep than producing sheep for live export. The Department of Agriculture (2019, p. 46) has also observed that overall total WA employment will likely increase if the live sheep export trade is curtailed as a result of increased employment in the meat processing sector.

6. Impact of the live sheep export trade's self-imposed moratorium and regulatory changes - Mecardo 2020

Mecardo's stakeholder engagement provides insights not otherwise available, but the number of interviews conducted is very low and there are doubts about its statistical validity. For two industries, only one interview was conducted; for an additional three industries, only two interviews were conducted. In no cases were interview transcripts provided. It is, therefore, very difficult to assess how representative the respondents chosen were, or how faithfully respondent attitudes have been reproduced in the report.

While this report contains much useful information on the broader supply chain impacts of the live sheep export trade, several elements of the modelling in the report are worth noting.

The key assumption driving results in this report is that in the absence of the live sheep trade there would be a 30-50% approximate reduction in prices at the saleyard in WA (Dalgleish, Agar, & Herrmann, 2020, pp. 5-6). Mecardo sourced this key assumption from CIE (2018).

ABARES (Nelson, et al., 2021, pp. 17-18) has observed that this report (and many others) tends not to recognise that lamb and sheep prices are set in world markets, or that short-term price falls in Western Australia are limited to \$20 per head by the cost of trucking sheep to eastern state markets.

ABARES (Nelson, et al., 2021, p. 17) contends that the report is likely to overstate the impact of restricting live exports for two reasons. First, a 30% to 50% reduction in saleyard prices was assumed based on a report by CIE (2018), despite a footnote in the Mecardo report recognising that saleyard prices were observed to fall by only 15% to 30% (Dalgleish, Agar, & Herrmann, 2020, p. 5n). Second, there is no recognition of the likely short-term nature of these price impacts or the likelihood that prices will rise as an expansion of domestic meat processing reduces processing costs.

Transparency around the modelling in this report is also an issue. According to Mecardo (Dalgleish, Agar, & Herrmann, 2020, p. 5):

Multifactorial regression modelling of annual live sheep export volumes and the relationship between the live export trade, flock size and slaughter, both nationally and within Western Australia, was used to estimate monthly live export sheep volumes if the industry was not subject to the 2018 suspension and the 2019 moratorium.

Details on what sort of modelling was conducted and the robustness of the results has not been provided, so the veracity of the modelling exercise cannot be independently verified.

7. *Economic Issues Associated with the Live Sheep Export Trade – Pegasus Economics 2018 and Economic Implications of Phasing Out the Live Sheep Export Trade - Pegasus Economics 2022*

Pegasus Economics assumed in its 2018 report that its estimates of the price premium paid by live sheep exporters would be equivalent to the effect of a termination of the live sheep export trade. This assumption was subsequently disproved by actual saleyard data following disruptions of the trade from 2018 onwards.

ABARES (Nelson, et al., 2021, p. 16) also observed that the economic impact estimated by Pegasus Economics on the phasing out of the live sheep export industry was likely to underestimate the impact because Western Australia's short and unreliable growing season meant that bringing these sheep to prime lamb standard for domestic processing was likely to require some purchased feed, adding both feed costs as well as additional labour costs to sheep farms in WA.

Pegasus Economics (Davey, Fisher, & Morley, 2022, p. 22) subsequently found a statistically significant negative price impact on lamb and mutton prices received by sheep farmers in WA saleyards relative to the eastern states following the prohibition on the live sheep export trade during the Northern Hemisphere summer at WA saleyards. However, Pegasus Economics at that time found no evidence for any statistically significant negative price impact arising from the Northern Hemisphere summer prohibition in relation to prices received by WA sheep farmers for heavy trade lamb and heavy mutton sold over the hooks as compared to NSW sheep farmers. Extrapolating on these results for WA saleyard sheep throughput, Pegasus Economics (Davey, Fisher, & Morley, 2022, p. 22) suggested an aggregate price impact on WA sheep farmers in the order of:

- \$14.5 million in 2018-19 (in real 2020 prices)
- \$13.2 million in 2019-20 (in real 2020 prices)
- \$11.8 million in 2020-21 (in real 2020 prices).

This worked out to an average cost through the reduction in sheep sale receipts per WA sheep farmer in the order of less than \$2,800 (in real 2020 prices) in 2020-21.

More recently, Pegasus Economics (Davey & Fisher, 2023) has revised its estimate of the price impact on WA sheep farmers arising from the prohibition on the live sheep export trade during the Northern Hemisphere summer. Pegasus Economics (Davey & Fisher, 2023, p. 29) found a statistically significant negative price impact on lamb prices received by sheep farmers in WA saleyards, and WA over the hooks prices for heavy trade lamb and medium sheep relative to NSW following the prohibition on the live sheep export trade during the Northern Hemisphere summer at WA saleyards. Extrapolating these results across the entire turn-off for WA sheep during 2021-22 suggests that the prohibition during the Northern Hemisphere summer cost WA sheep farmers in the order of \$27 million (in 2021-22 constant prices) from lower sheep prices received, that comes out at around \$6,300 per WA sheep farm (Davey & Fisher, 2023, p. 29).

8. *The economic impacts of regulating live sheep exports - ABARES 2021*

This report provides a brief summation of the economics of the live sheep export industry.

The findings in the report are derived from what the authors describe as a plausible scenario:

To create a plausible scenario, the number of sheep for live export was assumed to halve if trade was restricted to the cooler months in the northern hemisphere. This scenario assumes a sudden disruption to trade. This is a worst-case scenario that increases the short-term costs of transitioning to expanded lamb production. (Nelson, et al., 2021, p. 5)

While the report has outlined its assumptions in broad terms, the report is not transparent in terms of its underlying assumptions. The ABARES report has been criticised by Pegasus Economics (Davey, Fisher, & Morley, 2022, p. 21) as something of a 'black box' as there is not a lot of transparency surrounding its assumptions and underpinnings.

9. *The Economic Importance to Western Australia of Live Animal Exports - Kingwell et al., 2011*

One section of this report deals with the potential economic impact arising from the cessation of the live sheep export trade (Kingwell, et al., 2011, pp. 37-44).

This analysis assumes that prices for all categories of sheep will decline in the event the live sheep export trade were to cease (Kingwell, et al., 2011, pp. 37-39). However, the report does not specify by how much sheep prices could be expected to fall, or how different price impacts might alter the conclusions drawn from the analysis.

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