Submission No 51

## PREVENTION OF CRUELTY TO ANIMALS AMENDMENT (VIRTUAL STOCK FENCING) BILL 2024

**Organisation:** NSW Farmers' Association

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# NSW Farmers' submission to the New South Wales Legislative Inquiry into the Virtual Fencing Bill

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#### **About NSW Farmers**

NSW Farmers is Australia's largest state farming organisation, representing the interests of its farmer members in the state. We are Australia's only state-based farming organisation that represents farmers across all agricultural commodities. We also speak up on issues that matter to farmers, whether it's the environment, biosecurity, water, animal welfare, economics, trade, workforce or rural and regional affairs.

Agriculture is an economic 'engine' industry in New South Wales. Despite having faced extreme weather conditions, pandemic and natural disasters in the past three years, farmers across the state produced more than \$23 billion in 2021-22, or around 25 per cent of total national production, and contribute significantly to the state's total exports. Agriculture is the heartbeat of regional communities, directly employing almost two per cent of the state's workers and supporting roles in processing, manufacturing, retail, and hospitality across regional and metropolitan areas. The sector hopes to grow this contribution even further by working toward the target of \$30 billion in economic output by 2030.

Our state's diverse geography and climatic conditions mean a wide variety of crops and livestock can be cultivated here. We represent the interests of farmers from a broad range of commodities – from avocados and tomatoes, apples, bananas and berries, through grains, pulses and lentils to oysters, cattle, dairy, goats, sheep, pigs and chickens.

We have teams working across regional New South Wales and in Sydney to ensure key policies and messages travel from paddock to Parliament. Our regional branch network ensures local voices guide and shape our positions on issues affecting real people in real communities. Our Branch members bring policy ideas to Annual Conference, our Advisory Committees provide specialist, practical advice to decision makers on issues affecting the sector, and our 60-member Executive Council makes the final decision on the policies we advocate on.

As well as advocating for farmers on issues that shape agriculture and regional areas, we provide direct business support and advice to our members. Our workplace relations team has a history of providing tailored, affordable business advice that can save our members thousands of dollars. Meanwhile, we maintain partnerships and alliances with like-minded organisations, universities, government agencies and commercial businesses across Australia. We are also a proud founding member of the National Farmers' Federation.



#### **Executive summary**

NSW Farmers welcomes the opportunity to provide a submission to this inquiry, established to examine and report on the Prevention of Cruelty to Animals Amendment (Virtual Stock Fencing) Bill 2023. The inquiry terms of reference include that the Committee inquire into and report on the bill with particular reference to the provisions of the bill; the animal welfare, biosecurity and community safety implications of permitting virtual fencing; any benefits, issues or unintended consequences raised by the bill, and whether any amendments may address those; and any other matter. This submission addresses these terms of reference.

NSW Farmers supports the use of virtual fencing technology for livestock in New South Wales being permitted under the *Prevention of Cruelty to Animals Act (POCTA) 1979 Regulation 2012*. Similar products are permitted for use on other animal species in New South Wales.

New South Wales livestock producers prioritise the health, welfare and overall wellbeing of their animals. They also care for and sustainably manage the majority of the landmass of the state, achieving positive environmental outcomes each and every day. Virtual fencing, if commercialised in New South Wales, will provide another tool to enhance animal health, welfare, sustainability and positive environmental and conservation outcomes, as well as agricultural productivity, across the state.

Currently virtual fencing is permitted for commercial use in other jurisdictions around Australia and internationally and there must be consistency in access to innovative technology. This Bill seeks to overcome this inequity and enable the use of virtual fencing technology commercially as is currently permitted in Tasmania, Queensland and Western Australia, and other countries including the United Kingdom, United States of America, Norway and New Zealand.

NSW Farmers recommends to this inquiry, that the NSW Parliament enable the commercial use of virtual fencing technology for livestock on New South Wales farms.

Supporting information is provided through this submission below.



#### **Virtual Fencing Bill 2023**

NSW Farmers supports the intent of the Prevention of Cruelty to Animals Amendment (Virtual Stock Fencing) Bill 2024 introduced in the Legislative Assembly of the New South Wales Parliament. The bill seeks to amend legislation to permit the use of virtual stock fencing devices under the Prevention of Cruelty to Animals Act (POCTAA) 1979 Regulation 2012.

There is significant interest in using virtual fencing technology in New South Wales, particularly from members of the Association's dairy section. The NSW Farmers Dairy Committee supports the use of virtual fencing for dairy livestock in New South Wales. As such, we see value addressing barriers currently restricting the commercialisation of virtual fencing in New South Wales, given the technology is permitted for commercial use on farms in Queensland, Tasmania and Western Australia, and overseas countries including the United States of America, the United Kingdom, Norway and New Zealand.

Groups opposing this technology make misleading and deceptive animal welfare claims to prevent commercialisation of virtual fencing in New South Wales. Support for the Bill should be based on sound, scientific evidence. Australia's lead scientific agency, the CSIRO, has found minimal perverse welfare impacts arise from the use of virtual fencing. In November 2023, the *Independent scientific literature review on animal welfare considerations for virtual fencing*<sup>1</sup> was published by the Australian Government Department of Agriculture, Fisheries and Forestry Animal Welfare Task Group (AWTG). The report is optimistic regarding future deployment of virtual fencing on farms across Australia.

Concerns raised about the operating parameters of the technology continue to be addressed by innovations in the design of the technology and the regulatory powers of the NSW Parliament do provide opportunity to ensure that virtual fencing, when commercialised, is only able to be used in appropriate settings and on suitable livestock. An addendum to the AWTG report has been published, which outlines the substantial welfare safeguards that have been put in place by technology providers. Many of these safeguards would resolve animal welfare concerns raised in relation to virtual fencing.<sup>4</sup>

NSW Farmers has supported a science-based debate through the introduction of the Virtual Fencing Bill 2023 and makes the following recommendation to this inquiry:

**RECOMMENDATION:** That the NSW Parliament enable the commercial use of virtual fencing technology for livestock on New South Wales farms.

<sup>&</sup>lt;sup>1</sup> Fisher and Comish, November 2023, *Independent scientific literature review on animal welfare considerations for virtual fencing,* Australian Government Department of Agriculture, Fisheries and Forestry. Available at: <a href="https://www.agriculture.gov.au/sites/default/files/documents/Independent%20scientific%20literature%20review%20on%20animal%20welfare%20considerations%20for%20virtual%20fencing.pdf">https://www.agriculture.gov.au/sites/default/files/documents/Independent%20scientific%20literature%20review%20on%20animal%20welfare%20considerations%20for%20virtual%20fencing.pdf</a> (Accessed 6 May 2024).



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#### Queensland, Tasmania, Western Australia.... New South Wales?

State and territory animal welfare legislation determines where and what type of electronic devices can or cannot be used on animals, including livestock. In Australia, some jurisdictions have regulations permitting the commercial use of specific products including virtual fencing devices.

Virtual fencing is permitted for commercial use in Tasmania, where it is reported that 22,000 cattle are fitted with virtual fencing collars. The Tasmanian Animal Welfare Act allows for use of virtual fencing technology for research and commercial purposes. In Western Australia, the Animal Welfare (General) Regulations 2003 were amended in June 2022 to permit the use of virtual fencing as long as the device is used in accordance with the manufacturer's instructions. The Queensland Government permits virtual fencing technology to be used for research and commercial use under the Animal Care and Protection Act 2001. In the Northern Territory, an exemption to the Animal Welfare Act allows cattle to be fitted with the collars and trials of the technology to take place.

Restrictions on the use of virtual fencing remain present in some jurisdictions. The Government of South Australia prohibits commercial use of virtual fencing for livestock under the Animal Welfare Act 1985 but a project is underway with the findings to be provided to the regulatory body to aid decisions about potential legislative amendments that would enable its use on farms. In Victoria a person may only use an electronic collar on cattle, sheep, goats, pigs, camels, alpacas or llamas as part of a scientific procedure, or program of scientific procedures, approved under a licence granted under Part 3 of the Prevention of Cruelty to Animals Act 1986. In the Australian Capital Territory, the administration of a shock to an animal, except in the case of electro-ejaculator; electric stock prod; and/or electric fences is prohibited under the Animal Welfare Act 1992 and virtual fencing is only allowed for research purposes under strict conditions.

However, the Australian Government Department of Agriculture, Fisheries and Forestry Animal Welfare Task Group (AWTG) in February 2024 provided in-principle support for a preferred approach for the mechanism to facilitate harmonisation of virtual fencing regulations with agreement on the terms of participants for the stakeholder reference group.<sup>2</sup> The AWTG is responsible for resolving animal welfare policy and regulatory matters which have national and inter-jurisdictional scope in Australia. This in-principle support is a positive step toward progressing the harmonisation of, and accessibility to, virtual fencing technology for primary producers in all jurisdictions across Australia.

The AWTG has been examining the use of virtual fencing technology for livestock for several years as the technology and legislation governing its use across jurisdictions has continued to evolve. As part of this process an independent scientific literature review on animal welfare considerations for virtual fencing for livestock has been conducted to examine the implications for livestock. <sup>3</sup> An additional Addendum to this review has been provided by Halter to capture new and more detailed information on the technology. <sup>4</sup>

<sup>&</sup>lt;sup>4</sup> Halter, 2023. Addendum to the independent scientific literature review on animal welfare considerations for virtual fencing: Additional information provided by Halter – November 2023. Available at: <a href="https://www.agriculture.gov.au/sites/default/files/documents/Addendum%20to%20the%20independent%20scientific%20literature%20rev">https://www.agriculture.gov.au/sites/default/files/documents/Addendum%20to%20the%20independent%20scientific%20literature%20rev</a>



<sup>&</sup>lt;sup>2</sup> AWTG, 2024. AWTG Meeting Communiqué - February 2024. Available at: <a href="https://agriculture.gov.au/agriculture-land/animal/welfare/awtg/communique-november-2023">https://agriculture.gov.au/agricu

Fisher, A., Cornish, A., 2023. Independent scientific literature review on animal welfare considerations for virtual fencing: Report to Department of Agriculture, Fisheries and Forestry – prepared December 2022, updated November 2023. Available at: <a href="https://www.agriculture.gov.au/sites/default/files/documents/Independent%20scientific%20literature%20review%20on%20animal%20we">https://www.agriculture.gov.au/sites/default/files/documents/Independent%20scientific%20literature%20review%20on%20animal%20we</a> Ifare%20considerations%20for%20virtual%20fencing.pdf

To ensure the competitiveness of New South Wales agriculture, there must be consistency in the accessibility to, and use of, innovation like virtual fencing across jurisdictions and our international trade competitors.

#### Use in overseas countries

Overseas, countries including the United Kingdom (UK), Norway and the United States of America (USA) permit the use of virtual fencing while in New Zealand the device is being used on more than 150,000 cattle. There are currently four virtual fencing systems being commercialised globally including the Nofence, Vence, Halter and e-Shepherd systems <sup>5</sup> and it has been reported that that user uptake is increasing in the UK, Norway, USA and New Zealand. <sup>6</sup> As deployment of virtual fencing devices increases in other countries, livestock farmers in Australia may be disadvantaged compared to our trading partners if unable to access this technology to innovate their operations.

It is understood that virtual fencing customers in the USA have identified opportunities to increase grazing efficiency for cattle with the utilisation of the technology as a key factor for adoption (Lees, J. 2024. Personal communications Cooper, A. 10 May 2024). For example, allowing them to gain greater utilisation of all species in pastures in a shorter amount of time, while increasing the time a 600-acre paddock is utilised from two weeks under conventional grazing to six weeks using cell grazing with virtual fencing. This can lead to greater environmental efficiencies and improved agility to manage paddock stocking rates based on seasonal conditions and pasture growth. Once installed, virtual fencing can enable farmers to move fences without additional cost and minimal labour inputs to relocate fences. This provides a distinct competitive advantage to farmers able access virtual fencing commercially to realise these potential production efficiencies.

#### Virtual fencing will be beneficial

The benefits of virtual fencing to livestock production include positive outcomes for animal welfare, production efficiencies, and broader use to assist not only the management of livestock, but for positive conservation outcomes. There are also benefits to human health and wellbeing that could be realised.

#### Animal health and welfare benefits

The CSIRO reports interest in virtual fencing has arisen from identified benefits of the technology, including for animal health and welfare through improved productivity and profitability through better feed utilisation and matching of animal demands to feed supply and quality<sup>7</sup>.

Because virtual fencing is not fixed infrastructure, Fisher and Cornish (2023)<sup>8</sup> reported that the technology may have capacity to move animals to shelter from extreme weather events or impending natural disasters. NSW Farmers members have highlighted significant interest in the potential for virtual fencing to assist managing livestock safety during severe weather events such as flooding or bushfires. The technology can be used to complement or replace wire internal fences which can be expensive and time intensive to repair if damaged by flooding or fie. The technology presents an opportunity to manage livestock and keep them

<sup>&</sup>lt;sup>8</sup> Fisher, A., Cornish, A., 2023. Independent scientific literature review on animal welfare considerations for virtual fencing: Report to Department of Agriculture, Fisheries and Forestry – prepared December 2022, updated November 2023.



<sup>&</sup>lt;sup>5</sup> Goliński, P., Sobolewska, P., Stefańska, B., Golińska, B., 2023. Virtual fencing technology for cattle management in the pasture feeding system – a review. Agriculture 13(1).

<sup>&</sup>lt;sup>6</sup> Waterhouse, T., 2023. Virtual fencing systems: balancing production and welfare outcomes. Livestock 28(5).

<sup>&</sup>lt;sup>7</sup> CSIRO, date unknown, *Virtual fencing: CSIRO and Gallagher eShepherd are turning autonomous animal control into a reality*, <a href="https://www.csiro.au/en/research/technology-space/it/virtual-fencing">https://www.csiro.au/en/research/technology-space/it/virtual-fencing</a> (accessed online 6 May 2024).

contained outside flood prone areas and supports paddock boundaries being adjusted to keep livestock safe; something that traditional fences cannot be altered readily to achieve. NSW Farmers members have also identified increasingly dysfunctional flood-flows and the opportunity for substantive cost savings that could be realised by commercialisation of virtual fencing, as fencing repair and replacement costs would be dramatically reduced in areas where hardware can be damaged or destroyed by flood and fire events.

Additionally, Virtual fencing supports the reduction and risk of stock injuries arising from plain and barbed wire fences. CSIRO has found minimal differences between virtual and comparable electric tape fencing in terms of animal injuries. Virtual fencing allows stock to move at their own pace, compared to when moved by humans, dogs, motorbikes or other means. This reduces the risk of lameness. It can be derived that the ability to utilise virtual fencing to move stock would be advantageous in the event of natural disasters, such as bushfires and flood events. Animals could be moved quickly through the ability to switch off virtual fence boundaries or use them to move stock out of harm's way. The benefits to human safety would also be enhanced through the ability for stock to be relocated in natural disasters without the requirement for people to physically move stock.

Advances in the ability of virtual fence technology to collect individual animal health and wellbeing data is an exciting prospect, as identified by Fisher and Cornish (2023). The paper prepared for the AWTG includes that animal behaviour, location tracking and thus movement, could be calculated for variables including separation from the herd and reduced movement, which may indicate a health or welfare issue. Rumination, body temperature and rumen pH data has also been identified in research conducted by Rutter (2014)<sup>9</sup> and Herlin et al. (2021),<sup>10</sup> cited in Fisher and Cornish (2023). Overall, these measurements could allow for earlier disease detection and treatment, reducing potential welfare impacts arising from disease.

A project led by several Rural Research & Development Corporations in Australia evaluated that virtual fencing has been found to have minimal behavioural and welfare impacts on livestock. <sup>11</sup> Specifically, trials have found the physiological and behavioural responses of livestock indicated they were no more adversely impacted by the cues involved in virtual fencing technology stimuli than they were by other commonly encountered stimuli. There are various factors that may influence how the animal learns and responds to the technology, including: experience with the technology, temperament of the animal, individual variation, age, and hunger. <sup>12</sup>

For this reason, it is understood that Gallagher eShepherd require operators to undertake training when they purchase the technology so that they can assist animals to learn and respond appropriately to the technology. Part E of the AWTG report includes more detail on how companies select, train and monitor customers to maximise animal welfare outcomes when virtual fencing is used. <sup>13</sup>

#### Human health and welfare benefits

There is also a reduction in labour requirements for fence building, maintenance and repair as there is no hardware per se required when virtual fencing is used on farms. Risk of, and injuries caused by, fencing

<sup>&</sup>lt;sup>13</sup> Fisher, A., Cornish, A., 2023. Independent scientific literature review on animal welfare considerations for virtual fencing: Report to Department of Agriculture, Fisheries and Forestry – prepared December 2022, updated November 2023.



<sup>&</sup>lt;sup>9</sup> Rutter, S. M., 2014. Smart technologies for detecting animal welfare status and delivering health remedies for rangeland systems. Rev Sci Tech, 33(1).

<sup>&</sup>lt;sup>10</sup> Herlin, A., Brunberg, E., Hultgren, J., Högberg, N., Rydberg, A., & Skarin, A., 2021. Animal welfare implications of digital tools for monitoring and management of cattle and sheep on pasture.

<sup>&</sup>lt;sup>11</sup> Rural R&D for Profit Program - Enhancing the profitability and productivity of livestock farming through virtual herding technology project. Available at: <a href="https://www.dairyaustralia.com.au/resource-repository/2021/02/16/rural-rd-for-profit-program">https://www.dairyaustralia.com.au/resource-repository/2021/02/16/rural-rd-for-profit-program</a>.

<sup>&</sup>lt;sup>12</sup> King, RH., 2020. Enhancing the profitability and productivity of livestock farming through virtual herding technology – Final Report. Dairy Australia, Melbourne, November 2020.

products and machinery would be reduced given there is no requirement for posts, rail, or wire. This leads to improved labour efficiencies – as does the ability to move livestock without conventional mustering requirements – which CSIRO reports also benefits farm businesses through reduced capital investment in fencing but can also be a significant solution to reduce the risk of injury on farms (for example, negating the need to use quadbikes or motorcycles to muster stock)<sup>7</sup>. The labour efficiencies achieved by virtual fencing use can also be part of a holistic solution to the agricultural workforce shortage, given the reduced labour requirement for fence building and repairs would see labour concentrated on other tasks, or the need for labour reduced on farms.

It has been anecdotally reported that an elderly farmer in New Zealand using the technology has reduced occupational health and safety risk through use of the technology, as it has enabled him to move and manage stock without needing to venture into extreme weather conditions such as rain, sleet and snow (Lees, J. 2024. Personal communications Cooper, A. 15 March 2024). Similar efficiencies in human occupational health and safety risk reduction could be realised on farms across New South Wales should the technology be permitted for commercial use, given the extremes in inclement weather that occur across the state.

Other examples of benefits gained through the use of virtual fencing include the ability to fence off parts of properties to regenerate or build carbon sinks where it may be difficult or too expensive to install physical fences. As a tool for farmers to utilise to help increase biodiversity, capture carbon and offset emissions, this may provide trade advantages to those able to access virtual to enhance environmental outcomes on farm which is an increasing pressure for market access globally (Lees, J. 2024. Personal communications Cooper, A. 10 May 2024).

#### Environmental benefits

Fisher and Cornish (2023) reported that the technology may offer advantages including protection of riparian zones or environmentally sensitive areas, citing previous research to support this claim (Bord et al., 2022<sup>14</sup>; Campbell et al., 2020<sup>15</sup>; and Campbell, Haynes et al., 2019<sup>16</sup>). They also cited other research papers that supported the potential for virtual fencing to enable more efficient rangeland management, for example, reducing overgrazing in some areas whilst promoting grazing in others (Umstatter, 2011<sup>17</sup>; Anderson et al., 2014<sup>18</sup>). A scientific literature review by Riesch et al., (2021)<sup>19</sup> found that 27 papers addressed the benefits of virtual fencing from a conservation point of view, of which a majority of studies were conducted in Australia. Benefits reported include the protection of environmentally sensitive areas, protection of rare species, improved natural resource management and being wild-life friendly.

It is understood that the New Zealand Government will permit virtual fencing to support the introduction of legislation to protect waterways (Lees, J. 2024. Personal communications Cooper, A. 15 March 2024). Similar

<sup>&</sup>lt;sup>19</sup> Riesch, F., Komainda, M., Horn, J., & Isselstein, J. (2021). Real-World Applications for Virtual Fences – What Are Potential Benefits for Conservation? International Grassland Congress Proceedings. <a href="https://uknowledge.uky.edu/igc">https://uknowledge.uky.edu/igc</a>.



<sup>&</sup>lt;sup>14</sup> Boyd, C. S., O'Connor, R., Ranches, J., Bohnert, D. W., Bates, J. D., Johnson, D. D., Davies, K. W., Parker, T., & Doherty, K. E, 2022. Virtual Fencing Effectively Excludes Cattle from Burned Sagebrush Steppe. Rangeland Ecology and Management, 81, 55–62.

<sup>&</sup>lt;sup>15</sup> Campbell, D. L. M., Ouzman, J., Mowat, D., Lea, J. M., Lee, C., & Llewellyn, R. S., 2020. Virtual fencing technology excludes beef cattle from an environmentally sensitive area. *Animals*, *10*(6), 1–15.

<sup>&</sup>lt;sup>16</sup> Campbell, D. L. M., Haynes, S. J., Lea, J. M., Farrer, W. J., & Lee, C., 2019. Temporary exclusion of cattle from a Riparian zone using virtual fencing technology. Animals, 9(1).

<sup>&</sup>lt;sup>17</sup> Umstatter, C., Morgan-Davies, J., & Waterhouse, T., 2015. Cattle responses to a type of virtual fence. Rangeland Ecology and Management, 68(1), 100–107.

<sup>&</sup>lt;sup>18</sup> Anderson, D. M., 2007. Virtual fencing past, present and future. Rangeland Journal, 29(1), 65–78.

benefits to protect water health and other environmental impacts related to water areas, such as erosion and bank degradation, could be realised in New South Wales should the technology be permitted for commercial use in the state.

Virtual fencing can be considered for use in areas where physical fences may not be the most appropriate type of fencing (for example, flood prone and riparian areas) and to better define grazing on different soil types or environmentally sensitive areas. through enabling greater flexibility and precision with fence location based on GPS coordinates, there are opportunities for farmers to more easily establish exclusion fences to protect habitat of threatened species and preserve movement corridors for native fauna.

CSIRO has reported that the interest in virtual fencing arises also from improved sustainability and environmental outcomes realised through the ability to better control weeds and nutrient management.<sup>20</sup> This management contributes positively to upholding and protecting Australia's biosecurity at a farm level, with benefits extending beyond to a local, state and national level.

#### Benefits extend to other animal species

Australian wildlife could also benefit from the introduction of virtual fencing for commercial use in New South Wales. Risks to their health and welfare from fence injuries would be reduced.<sup>21</sup> This includes virtual fencing removing physical barriers to wildlife that pass through or over fences and becoming entangled, trapped during natural disasters because of fencing, or disruption to their natural habitat when fences are erected. There has also been a trial of virtual fencing at Long Beach in New South Wales to protect wildlife from injuries and fatalities arising from road accidents.<sup>22</sup> Additionally, Fisher and Cornish (2023) cite research by Perlut and Strong (2011)<sup>23</sup> that identified the potential for virtual fencing to overcome trampling of ground-nesting birds by cattle, which can arise if the birds nest in spelled or skipped paddocks.

#### **Commercialisation of virtual fencing**

The CSIRO has been undertaking research in this area since 2005 to demonstrate feasibility of virtual fencing technology. <sup>24</sup> In 2016, a 4-year project led by Dairy Australia in conjunction with Meat and Livestock Australia, Australian Wool Innovation, Australian Pork Limited and other research partners to evaluate the application of the technology across major livestock industries (dairy, beef, wool and pork) demonstrated productivity benefits for livestock producers and improved environmental outcomes. <sup>25</sup> Adoption pathways for the technology for the beef, dairy and sheep industries were developed through the industry-led project. The federal AWTG has, as outlined previously in this submission, been examining regulatory approaches to

<sup>&</sup>lt;sup>25</sup> Rural R&D for Profit Program - Enhancing the profitability and productivity of livestock farming through virtual herding technology project. Available at: <a href="https://www.dairyaustralia.com.au/resource-repository/2021/02/16/rural-rd-for-profit-program">https://www.dairyaustralia.com.au/resource-repository/2021/02/16/rural-rd-for-profit-program</a>.



<sup>&</sup>lt;sup>20</sup> CSIRO, date unknown, Virtual fencing: CSIRO and Gallagher eShepherd are turning autonomous animal control into a reality. Available at: https://www.csiro.au/en/research/technology-space/it/virtual-fencing (accessed online 6 May 2024).

<sup>&</sup>lt;sup>21</sup> Fisher, A., Comish, A., 2023. Independent scientific literature review on animal welfare considerations for virtual fencing: Report to Department of Agriculture, Fisheries and Forestry – prepared December 2022, updated November 2023.

<sup>&</sup>lt;sup>22</sup> Eurobodalla Shire Council, date unknown. Virtual fence pilot project. Available at: <a href="https://www.esc.nsw.gov.au/environment/native-and-threatened-species/virtual-fencing">https://www.esc.nsw.gov.au/environment/native-and-threatened-species/virtual-fencing</a> (accessed 6 May 2024).

<sup>&</sup>lt;sup>23</sup> Perlut, N. G., Strong, A. M., (2011). Grassland birds and rotational-grazing in the northeast: Breeding ecology, survival and management opportunities. The Journal of Wildlife Management, 75(3), 715–720.

<sup>&</sup>lt;sup>24</sup> CSIRO, date unknown, Virtual fencing: CSIRO and Gallagher eShepherd are turning autonomous animal control into a reality. Available at: <a href="https://www.csiro.au/en/research/technology-space/it/virtual-fencing">https://www.csiro.au/en/research/technology-space/it/virtual-fencing</a> (accessed online 6 May 2024).

virtual fencing and commissioned an independent scientific literature review on the considerations for animal welfare to inform this.

While the terms of reference to this inquiry seek information on unintended consequences of virtual fencing, these would be minimal, if there are any at all that have not been addressed through research already. As such, it could be expected that unintentional consequences would not outweigh the benefits that could be realised if the technology is permitted for commercialisation in New South Wales. It is apparent that for any perceived risk that the technology may present, there is a tangible solution available that has either been incorporated within the technology already or that could be provided for within the regulation.

It is known that developments and innovation in the technology address concerns about perverse animal welfare outcomes that may arise from technology malfunction or breach of the virtual perimeter by an animal. As aforementioned, there are several safeguards incorporated into the technology that would reduce the risk of these experiences. Regulations could define the species of stock animals permitted to be fitted with virtual fencing collars. There could be a requirement that properties must have a physical perimeter fence and that virtual fencing can only be used within this physical boundary. As aforementioned, operators of the technology can be required by the legislation to be trained on its appropriate use prior to the product being sold to them.

The permitted use of virtual fencing by other jurisdictions provides precedent upon which many of these concerns have been sufficiently addressed. This includes that regulatory change may support the legislature permitting the use of virtual fencing technology and in fact, may be more appropriate than amendments to the New South Wales Prevention of Cruelty to Animals Act. However, NSW Farmers supports that this is not delayed until a future review of the Prevention of Cruelty to Animals Act which has been flagged by the NSW Government. <sup>26</sup> NSW Farmers would welcome the opportunity to work with the NSW Government in development of regulations that permit the commercial use of virtual fencing in New South Wales, to support appropriate use of the technology on farms across the state.

<sup>&</sup>lt;sup>26</sup> Parliament of New South Wales, 21 March 2024, Legislative Assembly Hansard – Prevention of Cruelty to Animals Amendment (Virtual Stock Fencing) Bill 2023, <a href="https://www.parliament.nsw.gov.au/Hansard/Pages/HansardResult.aspx#/docid/HANSARD-1323879322-140037">https://www.parliament.nsw.gov.au/Hansard/Pages/HansardResult.aspx#/docid/HANSARD-1323879322-140037</a> (accessed online 6 May 2024).

