

Permanently improving the lives of all animals

Phone Email Website Mail

02 9262 3221 alex@animal-lib.org.au www.al.org.au Suite 378, 846-850 Military Road

1 February 2022

Department of Planning, Industry and Environment c/o Mr. Jeffrey Peng Senior Environmental Assessment Officer

Via email: jeffery.Peng@planning.nsw.gov.au.

Objection to SSD-13855453 (Baiada Grenfell)

1. Introduction

- 1.1 Animal Liberation welcome this opportunity to lodge an objection in response to SSD-13855453, lodged by Baiada Properties Pty. Ltd. ('the Proponent'), for a proposed State Significant Development ('SSD') at 1130 Gooloogong Road, Grenfell (Lot 1 DP 1022013, Lots 1-3 DP 1206485 and Lot 22 DP 866857) ('the Premises').
- 1.2 It is noted that the proposal seeks planning consent, in accordance with the associated Secretary's Environmental Assessment Requirements ('SEARs'), for the construction and operation of a 24-hour, intensive poultry breeding and rearing facility, including forty (40) sheds confining 570,000 birds across four ('4') farms, and other related infrastructure (PSA Consulting 2021; NSW Government 2022). Each of these farms are proposed to comprise ten (10) sheds containing between 132,000 and 153,000 birds each (PSA Consulting 2021: ii).
 - 1.2.1 Specifically, the proposed development includes:
 - a construction of forty (40) new poultry sheds across four (4) separate farms for the purpose of breeding and rearing chickens;
 - b each farm will house a maximum of 140,140 birds (with a maximum total capacity of 560,560 across the entire site);
 - c ancillary buildings and supporting infrastructure, being manager residences, storage facilities, amenities blocks, cool rooms, egg packing facilities, water tanks and other services and;
 - d access roads.
- Development consent is being sought for SSD-13855453 under Schedule 2 of the *Environmental Planning and Assessment Regulations 2000* ('the Regulations') (PSA Consulting 2021: i). Though the site has an existing approval for a Breeder / Production Farm issued by Weddin Shire Council ('WSC') in 2002 ('DA 75/2002'), SSD-13855453 seeks approval for the construction of the an increased number of sheds and birds (PSA Consulting 2021: iv). Specifically, SSD-13855453 seeks approval breeding and rearing poultry, ancillary buildings and supporting infrastructure (including residences and water tanks) and access roads (PSA Consulting 2021: ii-iii).
- 1.4 The purpose of the proposed project is the production of fertile eggs to be hatched at Baiada-owned hatcheries and subsequently grown at company-owned broiler farms across the state of NSW (PSA Consulting 2021: ii). The Proponent maintains that the proposal is intended to support the "poultry meat cluster" in the Central West, "provide bio-security separation" from other surrounding clusters and supply additional meat to fulfil projected growth in demand for poultry products (ibid).
 - 1.4.1 Locally and internationally, we have reached a major crossroads due to the industrial revolution of animal agriculture. While this has generated profound changes in climate, and human- animal relations, it has also triggered a corresponding growth in public awareness and interest. There has been a major shift in the public's expectations relating to the treatment of farmed animals (Futureye 2018), with 90% of Australians professing concern with current policies and conditions (McGreevy et al. 2019). The broader public is

1

increasingly demonstrating strong opposition to intensive and industrial animal agriculture on welfare (McClements et al. 2021), environmental (Lin-Schilstra and Fischer 2020) and public health (Ismail et al. 2020) grounds This has been magnified over recent decades, particularly as "traditional" animal agriculture has given way to industrial-scale intensive operations which are based on a model of high-volume and fast production designed to maximise yields and profits for an increasingly small cohort of vertically-integrated companies (May 2022). Such concentrations mean that individual profit-driven companies can be responsible for many thousands of animals at any one time, whilst also securing economic and market dominance. Such systems have benefited their operators to the significant detriment of animals and the communities in which they are situated.

- 1.4.2 We are currently facing a climate, environment, public health and animal welfare emergency. Citizens of all walks of life and ages are deeply concerned, voicing their concerns and taking action. This was well-evidenced by recent Australia-wide, peaceful public gatherings calling for greater climate change action by legislators and decision-makers. Communities and citizens, including farmers, are increasingly uniting, mobilising and opposing intensive agri-business operations, also known as factory farms or Concentrated Animal Feeding Operations ('CAFOs')! Such elected officials must critically consider and respond to emerging public perceptions and expectations.
- 1.4.3 Over the last several decades, animal agriculture in Australia has increasingly become industrialised and secretive. Though these operations are several decades behind similar ventures elsewhere in the world, large-scale and intensive animal agriculture operations are becoming increasingly commonplace across our rural landscapes. In the process, agribusiness corporations have replaced family farms. Though these are clinically referred to by the Proponent as "meat clusters" (PSA Consulting 2021: ii), these developments are changing and negatively impacting landscapes permanently. We are increasingly sacrificing public benefits for economic gain and losing all that is unique, beautiful, precious and intrinsically woven into the fabric of Australian society. As such, we are replicating the destructive path seen in other parts of the world. We must learn from mistakes made by others and heed the widely accepted conclusions that fundamental changes are urgently needed in production and consumption practices (Tilman and Clark 2014; Poore and Nemecek 2018).
- This objection is made in response to all documents provided by the Proponent, including the Environmental Impact Statement ('EIS'), and all documents made in response by all relevant agencies. While we note our consideration and application of the extensive and complex planning framework, including legislation, State Environmental Planning Planning Policies ('SEPPs'), codes of practice ('COPs'), guidelines, plans, aspect policies and methodologies, Animal Liberation has undertaken a detailed focus on the Secretary's Environmental Assessment Requirements ('SEARs') issued in response to the proposed Baiada Pty. Ltd. Grenfell Poultry Breeder Farm pursuant to section 4.12(8) of the EP&A Act
 - 1.5.1 We acknowledge assessing staff and decision-makers have an onerous responsibility with this planning proposal. However, we emphasise that the assessment review must remain independent, objective and informed during the entire process. We appreciate that this planning proposal also involves risks and impacts, including public interest considerations, which extend beyond the WSC LGA. Accordingly, the planning proposal carries an added and heavy burden of responsibility.
- 1.6 Animal Liberation respectfully request that both the Minister for Planning and Public Spaces and the Independent Planning Commission give thorough and objective consideration to our objection points and comments.

2. Background

- 2.1 Under the State Environmental Planning Policy (SEPP) (State and Regional Development) 2011, the development is classified as a State Significant Development ('SSD') as it proposes the establishment of "intensive livestock agriculture" that has a capital investment value over \$30 million (PSA Consulting 2021: iv).
 - 2.1.1 Under Schedule 3, subsection 21 of the *Environmental Planning and Assessment Regulations 2000* ('the Regulations'), the proposed facility is classified as a "Designated Development" insofar as it intends to confine "more than 250,000 birds". Under Section 4.46 of the Act, the Project is also considered an "Integrated Development".
 - 2.1.2 As such, the proposal is classified as both Integrated and Designated Development.
- 2.2 The proposed project requires approval and licensing under the *Environmental Planning and Assessment Act 1979* ('EP&A Act'), the *Environment Operations Act 1997* ('EO Act'), the *Water Management Act 2000* ('WM Act') and the *National Parks and Wildlife Act 1974* ('NPW Act').

¹ The *Right to Harm* documentary, for example, explores and questions "whether the economic rights of the agribusiness corporations [are] more important and [should] take priority over basic human rights".

- 2.2.1 The proposed project requires further approvals and licenses under other legislative instruments, including a water use approval under the WMA, an environment protection I licence under the PEO Act and an Aboriginal Heritage Permit ('AHIP') under the NWA. Each of these will be discussed in the relevant subsection of this submission.
- 2.3 Under the Weddin Local Environment Plan ('LEP'), made under the EP&A Act, the subject site is within the Primary Production ('RU1') zone (PSA Consulting 2021: iv). The objectives of this zone are to:
 - 2.3.1 Encourage sustainable primary production by maintaining and enhancing the natural resource base;
 - 2.3.2 Encourage diversity in primary industry enterprises and systems appropriate for the area;
 - 2.3.3 Minimise the fragmentation and alienation of resource lands and;
 - 2.3.4 Minimise conflict between land uses within the RU1 zone and land uses within adjoining zones.
- According to the EIS prepared by PSA Consulting and provided by the Applicant, there are "limited sites available which satisfy the specific locational requirements to allow the development" of a project of its kind (PSA Consulting 2021: iii). The EIS notes that the construction of a similar project elsewhere would require the identification and purchase of such a site while "losing the benefit of the existing infrastructure" it maintains is presently available on the subject site, particularly water supply (ibid).
 - 2.4.1 Animal Liberation strongly disagrees with and challenges many of the Proponent's claims and justifications outlined in the Alternatives section of the EIS (PSA Consulting 2021: iii). The proposed site has been selected solely on the basis that it meets the Proponent's commercial interests to secure a monopoly on intensive poultry production in NSW rather than environmental and social considerations. Ultimately, the Proponent has elected to disregard alternatives based on financial and resource access motivations.
- 2.5 In addition to the applicable planning instruments, Regulations and Government Guidelines, the following matters must be considered in line with section 4.15 of the EP&A Act. The provisions of particular interest and which will form a strong basis for Animal Liberation's points of objection to SSD-13855453 include:
 - 2.5.1 the likely impacts of the development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality;
 - 2.5.2 the suitability of the site for the development and;
 - 2.5.3 the public interest.
- 2.6 The onus is on the Proponent to provide sufficient and accurate information and detail in their application to enable a comprehensive, objective and meaningful development assessment by the consent authority. It is Animal Liberation's informed and experienced view that the Proponent has failed to do so, as is required in line with the applicable planning instruments.
 - 2.6.1 Decision-makers are compelled to thoroughly assess the adequacy of information provided and the measures proposed by the Proponent in order to mitigate any potential risks and adverse impacts (including cumulative impacts). This is clearly outlined in the *Environmental Planning and Assessment Act 1979* ('EP&A Act'), which also requires decision-makers to give due consideration to social impacts and public interest relating to any proposed development.
 - 2.6.2 These considerations are a necessary and integral part of any comprehensive, objective and meaningful assessment in line with the applicable planning instruments. We wish to emphasise that public interest is very strong and decision-makers are required to considered contemporary public views and expectations.
- 2.7 Animal Liberation contends that the Proponent has relied on numerous assumptions and statements indicating that they have various levels of "confidence". However, many of the non-evidenced control measures fail to demonstrate consideration of potential risks and impacts entirely. Such omissions prevent decision-makers from undertaking a comprehensive, objective and meaningful development assessment in line with both the applicable planning instruments and community expectations. Further, such omissions can impede sound and effective assessment and decision-making can become problematic, flawed, and generate serious, adverse, ongoing, permanent and irreversible consequences.
 - 2.7.1 The development will likely result in adverse social and economic impacts to immediate neighbours and the broader community, including the depreciation of land and residential property values. Aside from facilitating a commercial, profit-driven venture, the proposed development offers no meaningful benefits to the local community. The Proponent has failed to demonstrate how the proposed development is in the public interest.
 - 2.7.2 Animal Liberation wishes to advise the Department that a professional submission template provided to the general public in response to SSD-13855453 generated over 1,000 applications within 48 hours. We believe this demonstrates substantial opposition to the proposal and urge recognition of this in the decision-making process.

Animal Liberation has thoroughly considered and assessed whether or not the Proponent has adequately identified and addressed all impacts, including cumulative impacts, and whether they have responded to all of the SEARs requirements to conclusively demonstrate how they would mitigate and manage all risks and issues (during both the construction and operation phase). It is our informed and experienced conclusion that the Proponent has failed to do so, as is required in line with all applicable planning instruments.

3. The Proponent

- 3.1. It is noted that the Proponent is part of the Baiada Group of Companies, including the Steggles and Lilydale brands (Schneiders 2011). It is a privately-owned and vertically integrated company² (Baiada Group 2019; PSA Consulting 2021: iii). This means the company owns all components of the production chain.
 - 3.1.1 Baiada Pty. Ltd. is the holding company of the Baiada Group, which includes the following wholly owned or controlled companies:
 - a Baiada Poultry Pty. Limited;
 - b Bartter Enterprises Pty. Limited³;
 - c Steggles Foods Mt Kuring-gai Pty. Limited;
 - d BPL Adelaide Pty. Limited and;
 - e EJ Cooper and Son Pty. Limited (Baiada Group 2019).
 - 3.1.2 The Baiada Group supplies Australia's leading supermarkets Coles and Woolworths as well as many large fast-food chains, including Kentucky Fried Chicken ('KFC'), Subway and McDonalds (Schneiders 2011; Hannan 2015; Patty 2015a). In addition to these activities, Baiada has recently increased stockfeed production (Wells 2021).

Employment conditions: employee exploitation and negligence

- In 2011, employees of Baiada's Laverton North site participated in a strike and picket line in response to work conditions and job security⁴. At the time, approximately 50% of its workforce were engaged as contractors, cash-in-hand workers or sourced from labour-hire firms that paid some workers below minimum wage (Schneiders 2011). Employees explained to media sources that some employees were paid as little as 15 cents a kilogram to cut chicken wings (Schneiders 2011). While Baiada attempted to stop the strike in the Supreme Court, the National Union of Workers state secretary maintained that "the company seems more focused on hurting its workers" (Schneiders 2011). Similar conclusions were reached by the Australian Council of Trade Unions ('ACTU') in the wake of subsequent investigations by the Fair Work Ombudsman that found widespread employee exploitation (AAP 2015).
 - 3.2.1 Though Baiada rejected claims of employee underpayment in 2011 (Schneiders 2011), similar claims from employees at other Baiada-owned operations (Anon. 2015a), members of the Australian Meat Industry Employees' Union ('AMIEU') (Anon. 2015b) and the findings of the FWO's inquiry suggest otherwise (AAP 2015; Anon. 2015a). The company's subsequent three-year 'Proactive Compliance Deed' with the FWO represented Baiada's agreement to "assume responsibility for the underpayment of workers" (Ferguson 2015). Later that year, Baiada paid \$500,000 towards compensation to its workers exposed to unlawful practices (Hannan 2015). Prior to these developments, investigations found that Baiada had continued to exploit overseas workers despite the FWO's warning (Patty 2015b).
- A comprehensive inquiry undertaken by the FWO found evidence that overseas workers, primarily people from Taiwan and Hong Kong holding 417 working holiday visas (Crane 2015; Hannan 2015; OIR 2016), were "underpaid and exploited" at Baiada-owned sites across NSW (AAP 2015). This included paying contractors on the basis of the kilogram of poultry processed rather than the hours worked (Hardy 2017). In addition to significant underpayment, this exploitation included working extremely long hours (up to 19 hours per day), being charged high rents to live in overcrowded and hazardous accommodation, discrimination and the deliberate misclassification of employees as

 $^{^{2}}$ Vertically integrated companies are those that own all parts of the system from feed mill to slaughterhouse (Marchant-Forde and Boyle 2020).

³ Though the ACC initially opposed the combination of Baiada and Bartter, at the time representing Australia's second and third largest chicken processors because such a consolidation would "have the effect of substantially lessening competition in the market" (ACCC 2009) by increasing Baiada's market share from 9% to 35% (Mitchell 2008), the acquisition was subsequently approved (Palmer 2009).

⁴ Baiada closed the Laverton North facility in 2017 (Wells 2021).

⁵ Specifically, the deed states that "Baiada believes it has a moral and ethical responsibility to require standards of conduct from all entities and individuals involved in the conduct of its enterprise, that comply with the law in relation to all workers at its sites, and meet Australian community and social expectations to provide equal, fair and safe work opportunities for all workers at all of its sites" (Ferguson 2015).

contractors (AAP 2015; Anon. 2015c; FWO 2015; Hardy 2017). Workers maintained that they would not get shifts unless they rented accommodation from a labour hire contractor and that this rent was unlawfully deducted from their pay (Hannan 2015). Ultimately, the inquiry found that Baiada's operating model was "to transfer costs and risks" (FWO 2015) while others characterised the company as operating under an "illegal regime" that was "almost the business model" (Keene 2015).

- 3.3.1 Critics subsequently characterised these conditions as "slave labour" (Patty 2015a), a characterisation supported by concerns about the willingness of foreign workers on temporary visas to speak to auditors due to fear of losing employment and subsequently having to leave Australia (AAP 2015). (Baiada Group 2020). Tellingly, while the FWO was critical of Baiada's use of labour-hire firms many of these "ceased to exist" the day prior to scheduled meetings with investigators (AAP 2015). Additionally, Baiada refused Fair Work inspectors to access the factory floor at its facilities, thereby denying investigators the opportunity to scrutinise work practices or communicate with employees about conditions, policies and procedures (Hannan 2015). The FWO final report states that the "lack of cooperation from the Baiada Group [...] presented challenges in contacting directors and serving notices issues by the Fair Work Inspectors under the [Fair Work] Act" (Patty 2015a).
- 3.3.2 The FWO inquiry led Coles to audit its meat supply in response to allegations of "widespread worker exploitation" (Anon. 2015d). Meanwhile, ACTU's president maintained that "the curtain needs to be pulled back on an industry which is currently expanding, operates without adequate checks and balances and stands accused of exploitation and abuse" (AAP 2015).
- In addition to the conditions outlined above, Baiada has a recorded history of catastrophic employee outcomes and negligence.
 - 3.4.1 An employee died during cleaning a Baiada facility in 2010 (Butler 2012) and a 19-year-old recently died after an accident at another Baiada property in August 2021 (Bell et al. 2021);
 - 3.4.2 In 2016, NSW police raided Baiada's headquarters after a Lilydale truck was linked to a fatal hit-and-run incident (Proudman 2016), leading to a large number of infringements and defect notices on other Baiada-owned vehicles (Anon. 2016);
 - In 2016, forty (40) Baiada employees were hospitalised due to a malfunctioning water pump (McGowan 2016);
 - 3.4.4 In July 2018, a further nine (9) Baiada employees were hospitalised due to an ammonia leak (Rigney 2018);
 - 3.4.5 In October 2020, an employee cut off a hand in a workplace accident at another Baiada facility (Brown 2020).
- Across the country, the chicken meat industry accounts for 0.46% of employment, equating to approximately 58,000 people (Henderson 2020). Of these, however, 22,000 are directly employed by the industry and only 5,246 are employed in the sector's primary production (ibid). SSD-13855453 maintains that the proposed development will provide employment for fifty (50) full-time equivalent ('FTE') "local workers", thereby providing additional employment opportunities in the region (PSA Consulting 2021: iv). However, explicit reference to "local workers" is absent elsewhere in the EIS (PSA Consulting 2021: v).

Misleading labelling and animal welfare record

- In 2011, the ACCC commenced Federal court proceedings against Baiada, Bartter Enterprises and the Australian Chicken Meat Federation ('ACMF') in response to allegations that they had engaged in misleading and deceptive conduct. The allegations related to misleading representations that meat chickens were "free to roam around in large barns" (Marriner 2011). The Court found that Baiada and Bartter had "engaged in false, misleading and deceptive conduct (or conduct liable to mislead and deceive)" in packaging such products with this claim (ACCC 2013). This landmark decision was the culmination of an 18-month legal battle (Giuffre n.d.).
 - 3.7.1 In reaching this finding, the Court found that the "ordinary and natural meaning" of the phrase 'free to roam' is "the largely uninhibited ability of the chickens to move around at will" (ACCC 2013). In so doing, the ACCC claimed that the population density of chickens raised in facilities owned by Baiada and Bartter did not allow the birds to roam freely and that the high number of animals in each shed meant that each had a living area equal to or less than an A4 sheet of paper (Giuffre n.d.). Federal Court judge Richard Tracey toured company facilities and remarked that "with few exceptions, each bird was in physical contact with one or more other birds" (ibid).
 - 3.7.2 Ultimately, the ACCC found that Baiada and Bartter had engaged in misleading or deceptive conduct in contravention of section 52 of the *Trade Practices Act 1974* ('TP Act') and section 18 of the *Australian Consumer Law* ('ACL'). It also found that the companies had made false representations in contravention of section 53(a) of TP Act and section 29(1)(a) of the ACL while engaging in conduct liable to mislead the public about the nature

of the conditions of its facilities, thereby contravening section 55 of the TP Act and section 33 of the ACL.

- 3.8. Though Baiada's animal welfare policy⁶ maintains that the company "acknowledges and accepts responsibility" for animals, the community and its customers to "develop, implement and endorse" practices that promote positive animal welfare outcomes (Baiada Group 2018), the Proponent has a publicly exposed history involving egregious animal cruelty and public deception.
 - In 2019, an eyewitness account and video from a Baiada breeding facility and abattoir depicted widespread animal suffering caused by overcrowded conditions and ineffective stunning practices prior to slaughter. Some employees were seen on film inflicting egregious acts of animal cruelty against live chickens, including punching them in the head and bashing them against metal railings. One worker was witnessed repeatedly tearing birds' heads off. Baiada's Managing Director, Mr. Simon Camilleri, responded to the footage in a statement that claimed the company was "horrified" by the footage and the behaviour of its employees was "unacceptable" (Camilleri 2019).
- 3.9 As a direct result of Baiada's significant and ongoing historical failures regarding the treatment of its workers, animal welfare and consumer information, any previous pubic trust and confidence in its operations has now greatly diminished.

4. Impacts on amenities

- 4.1 The growth of the poultry sector, outlined elsewhere in this objection, and its accompanying trends towards intensification and concentration have triggered a number of serious environmental concerns. An immediate consequence of industrialisation, geographical concentration and intensification in commercial poultry production of the kind undertaken by the Proponent is that much more waste than can be managed is produced (Gerber et al. 2008). This results in a range of significant environmental problems (Andretta et al. 2021), including the production of problematic or harmful odours.
 - 4.1.1 Unpleasant odours represent a large number of complaints made to the Environment Protection Authority ('EPA') Environment Line and generate a significant amount of conflict within communities (EPA 2021). As such, any operation that has the potential to emit odours require an environmental impact assessment (DEC 2006). As it applies to the proposed project, the form this assessment takes is the Proponent's EIS.
- 4.2 Concerns about the impacts of odour are considered a "significant issue" for the Australian chicken meat industry" (Dunlop 2009) and "a constant obstacle" to its growth and expansion (Dunlop and Atzeni 2020). Due to a range of combined effects, including urban expansion, increasing environmental awareness and sector expansion, this has accordingly increased the risk of conflict (Briggs 2004), the majority of which is received by local councils (Jiang and Sands 2000). Ultimately, concerns associated with adverse odour production from intensive poultry production facilities can limit and restrict the sectors expansion (Dunlop 2009).
 - 4.2.1 Chickens bred for human consumption in intensive production facilities grow rapidly and the amount of manure they excrete increases accordingly (Briggs 2004). Less than a decade ago, a slaughter weight of 2.5kg could be reached in just 38 days compared to over 63 days in the 1960s (Clarke 2014). Today, chickens bred for human consumption in are killed at as low as 35 days (RSPCA Australia 2022). Recent figures show that chicken production in NSW has risen sharply (Henderson 2020). Production rose by 11% in 2018-19 and was driven by both an increase in slaughter (4.4%) and an increase in average bird weight (6.1%) (ABS 2019; DPI 2019).
- 4.3 The rapid growth rate outlined above is achieved through selective breeding and is largely responsible for the expansion of the industry (Baxter et al. 2021). However, as birds grow their excretions break down bedding litter they create volatile compounds (Briggs 2004; Cai et al. 2007). Litter is the primary source of odour from poultry production facilities because the majority of odour producing compounds are released during decomposition (Hobbs et al. 2004; Dunlop et al. 2016). Emissions from litter can cause odour nuisance within surrounding communities and generate complaints (Carey 2004; Radon et al. 2004; Hayes et al. 2014).
 - 4.3.1 In NSW, the EPA lists the statutory methods for the modelling and assessment of air pollutant emissions from stationary sources in its *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (EPA 2016a). This document is referred to in the *Protection of the Environment Operations (Clean Air) Regulation 2010* and may be referred to in conditions attached to licences or notices issued under the PEO Act and environmental assessment requirements under the EP&A Act. The document notes that industry has "an obligation to ensure compliance" with its requirements (ibid).
- 4.4 The EIS explains that modelling of the proposed project identified the "cumulative odour impact" or "odour footprint" using the EPA assessment criteria (PSA Consulting 2021: vi). This assessment criteria assesses odour units ('OUs') to provide an indication of the concentration of an odour

⁶ Included as Appendix 14 of SSD-13855453.

(EPA 2016a; Dunlop and Atzeni 2020). OUs are used to assess the likely impacts of a project and its acceptability in relation to adverse impacts on nearby landholders or users (DEC 2006).

- 4.4.1 Generally, consideration is given to the frequency, intensity, duration, offensiveness and location ('FIDOL') of an odour (DES 2013). Odour is usually described in relation to its concentration, with one OU representing the level at which odour is detected (MLA 2004). Recent reviews have confirmed that "a person with a 'normal' sense of smell would be able to detect a minimal smell" at a concentration of one OU (Dunlop and Atzeni 2020). It is also notable that while some people have a "strong" sense of smell, others have a "poor" sense of smell (Maiid et al. 2017).
- 4.5 The EIS states that the mature and floor litter will be removed from sheds at the end of each cycle (PSA Consulting 2021: 65). Farm 1 is proposed to have 2 cycles per year (every 22 weeks) while Farms 2 and 3 are proposed to have 1 cycle per year (every 45 weeks). The EIS states that Farm 4 will have less than 1 cycle per year (every 64 weeks) (PSA Consulting 2021: 14). In total, the EIS cites an average of 400 litres of shed litter waste the Proponent anticipates will be produced weekly (PSA Consulting 2021: 65), amounting to approximately 20,800 litres a year.
- 4.6 The EIS acknowledges that consultation with surrounding landholders and stakeholders identified a range of concerns. These included:
 - 4.6.1 the potential for odour and/or aid pollution impacting nearby landholders;
 - 4.6.2 the potential for adverse visual impacts;
 - 4.6.3 adverse impacts on road access and retaining unconstructed road reserves;
 - 4.6.4 the maintenance of boundary fencing and;
 - 4.6.5 the potential for adverse impacts on adjoining farming operations (PSA Consulting 2021: iv).
- 4.7 Though the EIS maintains that Baiada will "continue to engage with these landholders in both an informal and formal basis" as the project progresses (PSA Consulting 2021: iv), it does not contain any detailed discussion of how this will be achieved or facilitated. Rather, the EIS maintains that an assessment found that the proposed development "will not have a significant detrimental impact upon the community, economy and receiving environment" (PSA Consulting 2021: v). This statement may be understood as foreshadowing the Proponent's anticipated approach to any forthcoming conflicts with pre-existing landholders or other stakeholders.
- 4.8 Finally, it is important to note and acknowledge that it industry experts consider it "extremely difficult to predict the potential odour impact risk" of new poultry operations (Dunlop and Atzeni 2020). Similarly, and of complementary consideration, is the fact that it is considered equally difficult to produce odour impact criteria to accurately determine whether new developments should be approved or not (DES 2013).

5. Resource usage

- Australia has recently experienced its driest period on record that triggered a widespread water crisis (BOM 2022). Approval to access and use water for commercial purposes, including intensive animal production, is required in NSW (DPIE n.d.-a). These licenses typically limit the maximum amount that can be taken or used under conditions. Though there are exemptions for taking water without a licence that may be granted for domestic or grazing purposes, approvals are required for bore or dam construction (WaterNSW n.d.). The EIS notes that the proposed site does not currently contain any bores (PSA Consulting 2021: 7) and would therefore require approval should this be proposed.
 - 5.1.1 The Water Management Act 2000 ('WM Act') is the key piece of legislation relating to water management in NSW (AONSW 2020). The WM Act is based on the concept of ecologically sustainable development ('ESD') insofar as development undertaken today must not threaten the ability of future generations to meet their needs. The WM Act recognises:
 - a the fundamental and ongoing health of rivers, groundwater systems and associated wetlands, floodplains and estuaries must be protected;
 - b the management of water must be integrated with other natural resources, such as vegetation, soil and land:
 - c to be properly effective, water management must be a shared responsibility between the government and the community;
 - d decisions relating to water management must involve consideration of environmental, social, cultural and heritage aspects;
 - e social and economic benefits to the state will result from the sustainable and efficient use of water.

- 5.2 During period of intense drought, some regional NSW cities and towns can have access to zero water supplies while the quality of supplies for others can be declared unsafe for human consumption (Davies 2020). In 2019, during intense drought around ten (10) regional NSW cities or towns were "close to 'zero' water" and others had only six (6) to twelve (12) months supply (AONSW 2020).
 - 5.2.1 In 2019, the Bureau of Meteorology ('BOM') identified the Grenfell region as in a state of severe rainfall deficiency (Alexander 2019). A year later, WSC advised residents of restrictions that withdrew permission for many residential purposes across its entire supply network (Anon. 2020a; WSC 2020a). At the time, the Central Tablelands was still in drought and the same year Central Tablelands Water ('CTW') received state government funding for emergency drought works to supply drinking water to the Weddin Community (Anon. 2020b).
- 5.3 Poultry production systems require enormous amounts of resources (Andretta et al. 2021). Studies have shown that this constitutes an increasingly important source of adverse environmental impacts (McAuliffe et al. 2016). The projected growth of the Australian poultry production sector (Henderson 2020) that forms the basis of the Proponent's intention to expand its existing operations thereby represents an emerging ecological threat that will compound current environmental impacts. While the impacts of poultry production have primarily focused on reducing nutrient excretion, few mitigation methods have considered the efficiency of resource usage (Andretta et al. 2021).
 - 5.3.1 The Weddin Shire Local Strategic Planning Statement (2020-2040) ('LSPS') explicitly identifies water security and supply for agriculture, residents and the environment as "an ongoing issue" (WSC 2020b: 24). This is also recognised at a national level by the Department of Agriculture, Water and the Environment ('DAWE'), particularly in relation to the increasing impacts of climate change (DAWE 2021). The Weddin LSPS also identifies climate variability as posing "an increased risk to agricultural sustainability" and states that climate change is generating "increasing pressures to maintain viable farming sizes" that "better manage water" (WSC 2020b: 27-28).
- The EIS explains that the water usage of the proposed project is anticipated to require 1 million litres of water per day across the site (PSA Consulting 2021: v). Specifically, it explains that this amount is to be used for "drinking water for the birds, cleaning, wash down water, staff drinking water and amenities" (ibid).
 - 5.4.1 The source of this water supply is identified within the EIS as the newly-established Gooloogong-Grenfell Water Pipeline ('GGWP') (PSA Consulting 2021: v). The GGWP was recently upgraded and funded by Central Tablelands Water ('CTW') (Anon. 2020c), which primarily relies annual residential charges to fund its activities (CTW 2021). The pipeline was upgraded to provide "an ongoing and reliable supply of fresh drinking water to the Grenfell township" (Cadia Group n.d.). It is Grenfell township's drinking water supply pipeline that secures services for thousands of local residents (Anon. 2017; CTW 2020). The EIS maintains that the Proponent has engaged in "preliminary discussions" with CTW and that these discussions have led the Proponent to believe that the required water will be made available (PSA Consulting 2021: v).
- Though the CTW network of subsystems are primarily fed by Lake Rowlands, supply is supplemented in peak periods by a series of bores that draw groundwater (Fraser 2011; CTW 2019). If groundwater is taken at rates faster than it is replaced this can cause serious, adverse and long-term problems for communities and ecosystems (DPIE 2021). Recent NSW reviews have found that one in ten groundwater users in NSW are non-compliant (Hannam 2021). The fact that the proposed site falls within the boundaries of the Weddin Local Environment Plan ('Weddin LEP') groundwater vulnerability map (PSA Consulting 2021: 7) amplifies water security concerns associated with the proposed project.
 - 5.5.1 The EIS fails to adequately discuss these issues. Rather, it relies on the vague and unverified reference that "preliminary discussions" with CTW provided an indication that the required quantity of water would be made available to the Proponent.

6. Ecological impacts

- 6.1 The proposed development is not aligned to ecologically sustainable development ('ESD'), the conservation of biological diversity and ecologically integrity processes that form part of environmental law and inter-generational equity (Spijkers 2018). The consent authority is required to conserve and enhance the community's resources so that ecological processes on which life depends are maintained and that the present generation ensures that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.
 - 6.1.1 If approved, the proposed development will result in numerous and avoidable adverse impacts that pose significant risks to the local environment, biodiversity and ecosystem functioning. The precautionary principle must be applied in environmental planning decision-making with the conservation of biological diversity and ecological integrity being a fundamental consideration (Peterson 2006).

- 6.1.2 In addition to intergenerational equity, the precautionary principle is contained within the concept of ESD as per the EP&A Act (Montoya 2013). In addition, an objective of the PEO Act is to maintain ESD via reference to the principle principle. Nationally, the EPBC Act contains Commonwealth requirements that state the promotion of ESD through the application of the precautionary principle. In sum, this principle requires decision-makers give the environment the benefit of the doubt.
- 6.2 Weddin Shire Council's *Comprehensive State of the Environment Report*, including Supplementary reports prepared in accordance with the *Local Government Act 1993* ('LG Act'), contains details on any new environmental impacts observed or identified since the last report and provides updates on environmental indicator trends relating to the eight (8) environmental sectors specified under the Act (WSC 2022). These sectors relate to land, air, water, biodiversity, waste, noise, Aboriginal heritage and non-aboriginal heritage. The Report contains particular reference to management plans, special council projects and the environmental impacts of activities (Cunningham 2009).
 - 6.2.1 The Supplementary Report identifies thirty-one (31) threatened fauna species in the LGA listed in the Schedules of the *Threatened Species Conservation Act 1995* ('TSC Act'). These include (WSC 2015: 7-8):
 - 6.2.2 As the figure provided in Appendix 2 on page 19 of this submission shows, all but one (1) of the species listed in the 2015 WSC Supplementary Report have retained their status. The sole outlier is the Regent Honeyeater (*Anthochaera phrygia*), which has since been listed under both the TSC Act and the EPBC Act as critically endangered (OEH 2021). The species was listed as critically endangered under the TSC Act in the species National Recovery Plan in 2016 (Australian Government 2016) and was listed as critically endangered in the International Union for Conservation of Nature ('IUCN') Red List of Threatened Species in 2018 (IUCN 2018).
- The Office of Environment and Heritage ('OEH') notes that the Regent Honeyeater is a flagship woodland bird "whose conservation will benefit a large suite of other threatened and declining woodland fauna" (OEH 2021). However, historical and ongoing habitat loss, fragmentation and degradation (Franklin et al. 1989; Oliver 2000; Garnett et al. 2011; DPIE 2020a), largely due to agricultural developments (DAWE 2020; OEH 2021), are a key threat to the species (Ford and Ingwersen 2012). As such, any breeding or foraging areas "where the species is likely to occur" reconsidered critical for survival (Australian Government 2016: 4).
 - 6.3.1 The National Recovery Plan states that remaining habitat "faces ongoing degradation and loss of quality", particularly on agricultural land on the western slopes of New South Wales (Australian Government 2016). Supporting studies cited in the Recovery Plan provide evidence of widespread habitat loss in agricultural areas, including areas of scattered paddock trees (Webster and Menkhorst 1992), that ultimately "represents and ongoing loss of habitat [that] will likely impact the ability of the birds to disperse widely" (Australian Government 2016). This is supported by the OEH citation identifying the "loss of paddock trees and small remnants" that is further "fragmenting the available habitat" (OEH 2021).
 - 6.3.2 Though the species is relatively nomadic, experts believe that flocks contain birds that retain detailed knowledge of areas they previously found food and as the population declines, this collective knowledge is lost (Ford and Ingwersen 2012). While individuals of the species may not utilise the same nesting site as previous breeding cycles (Ingwersen et al. 2013), some exhibit fidelity to nesting sites (Oliver et al. 1998). While generalist species (i.e., those that tolerate variable environmental conditions) can adapt to a wide range of different conditions in adapting to disturbance or habitat change (Richmond et al. 2005), specialist species occupying a particularly ecological niche are highly vulnerable to such changes (SWIFFT 2022). A compounding threat of population declines is the severe loss of genetic variability this engenders (Garnett et al. 2011). The OEH note that due to the small population size and increasingly restricted habitat, the species is "highly vulnerable to extinction [...] and loss of genetic diversity" that reduces the ability to compete, increase predation pressure and reduces fledgling rates (OEH 2021).
 - 6.3.3 As the most fertile areas containing the richest and most reliable food sources were transformed into paddocks (such as those on which the Proponent intends to develop an intensive poultry production facility) or otherwise degraded by the selective removal of remaining habitat (which the Proponent intends to carry out in order to develop the proposed facility), the species became increasingly threatened (SWIFFT 2022).
- In its cursory impact assessment, the EIS notes that while a total of 1.42ha of native vegetation will be directly impacted by the proposed development there will be a host of "indirect impacts" associated with the project (PSA Consulting 2021: 53). These include impacts on adjacent habitat or vegetation and reduced viability of adjacent habitat due to "edge effects" (ibid).
 - 6.4.1 The EIS fails to provide clarification of the actual impact of these impacts. Edge effects refer to changes in population or community structures at boundary of two or more habitats (Levin 2009). They are abrupt changes that force transitions between two significantly different habitats that are adjacent to each other in the same ecosystem that represent a profound break in continuity between habitats (Vallejo 2018). In addition to

⁷ See section 6(1) of the PEO Act.

⁸ See section 3A of the EPBC Act.

- altering vegetation, these can cause changes in wildlife behaviour and population composition (Rowley et al. 2002).
- 6.4.2 Species that have particular habitat requirements (i.e., specialist species such as the Regent Honeyeater) may be lost from the area (Rowley et al. 2002). This can provide habitat vacancies or vacuums for species that have a wider tolerance for habitat disturbance with the edge creating habitat for species that would normally not be found in the area (ibid). For example, edge effects of the kind cursorily referred to in the EIS may amplify or facilitate elevated predator densities and predation (Holway 2005). Australian studies have shown that bird nests are more preyed upon in edge habitats compared to core habitats (Wilcove 1988; Andren and Anglestam 1988). These findings are supported by international studies (Lahti 2001; Batary and Baldi 2004).
- As farmland landscapes have a higher number of generalist predators (Kurki et al. 1998; Güthlin et al. 2013), this thereby increases the likelihood that the threatened species outlined above will encounter a predator whose presence has been increased in response to the creation of edge effects (Kurki et al. 2000; Seymour et al. 2004). In Australia, newly created edges provide improved access to areas for mesopredators, including foxes (Goldingay and Whelan 1997). It is also possible that the population disturbances caused by the ongoing lethal control of Australia's apex predator, the dingo (Canis lupus dingo), via the use of sodium (mono-)fluoroacetate ('1080 poison') could generate additional predation risks from these species (Wallach et al. 2010; Brook et al. 2012; Pasanen-Mortensen and Elmhagen 2015). Though the most recently published Supplementary Report states that a biodiversity audit has been completed (WSC 2015: 3), this document does not appear to be publicly available. As such, Animal Liberation consulted the NSW Government's Bionet Atlas to ascertain a generalised scope of the presence of predators in the region. Though the tool is limited, results indicate that the region contains foxes (Vulpes vulpes), cats (Felis catus) and dingoes.
- 6.4.4 Though the EIS notes the likelihood of an increase in predatory species populations and "pest animal populations" (PSA Consulting 2021: 53), it does not contain any proposed mitigation measures to minimise these potentially harmful outcomes. As such, it is reasonable to conclude that the Proponent has failed to consider the broader ecological impacts on existing wildlife populations and that many of these will be compensated for by unassociated landholders or taxpayer-funded initiatives.
- 6.5 The EIS notes that the proposed project includes the removal of native vegetation and that offsets are therefore required in the form of ecosystem credits (PSA Consulting 2021: v). It cites a list of threatened species generated by the Biodiversity Assessment Method calculator ('BAMC') requiring assessment, including 34 ecosystem credit species and 3 species credit species (ibid).
 - 6.5.1 Specifically, the EIS identifies five (5) floral community types within the property, including Fuzzy Box Woodland ('PCT 201'), White Box White Cypress Ping Western Grey Box shrub ('PCT 267'), Yellow Box grass tall woodland ('PCT 276'), unspecified "planted native trees" and "pastureland" (PSA Consulting 2021: v). The latter is considered Category 1 Land and was thereby not assessed or discussed in the EIS (ibid). Of these floral community types, the EIS identified PCT 267 as accounting for the majority of vegetation (1.16ha).
- The proposed development is large-scale and includes potentially hazardous, noxious and offensive uses as per Schedule 3 of the EP&A Regulation.
 - 6.6.1 When assessing intensive livestock agriculture, under clause 36 of the above Regulation, the consent authority is required to consider:
 - a the impact of the existing development having regard to factors including:
 - previous environmental management performance, including compliance with the conditions of any consents, licences, leases or authorisations by a public authority and compliance with any relevant codes of practice;
 - ii) rehabilitation or restoration of any disturbed land;
 - iii) the number and nature of all past changes and their cumulative effects;
 - iv) the scale, character or nature of the proposal in relation to the development;
 - b the likely impact of the proposed alterations or additions having regard to factors including:
 - the existing vegetation, air, noise and water quality, scenic character and special features of the land on which the development is or is to be carried out and the surrounding locality;
 - ii) the degree to which the potential environmental impacts can be predicted with adequate certainty;
 - iii) the capacity of the receiving environment to accommodate changes in environmental impacts;
 - iv) to mitigate the environmental impacts and manage any residual risk;

- c any proposals to facilitate compliance with relevant standards, codes of practice or guidelines published by the Department or other public authorities.
- 6.7 Pollution and contamination issues are often blurred and confused by complex argument. It is, however, in simple terms not a complex matter. If you are adding large amounts of foreign matter (rubbish and waste) on land or in/near water, there are known consequences which are immediate, medium-term and long-term. It is in many respects the medium and long-term, often permanent consequences we need to be most concerned about because we still do not fully appreciate the impacts and the cumulative impacts. We do however know that the risks, impacts and consequences are extreme, wide-scale and infiltrate people, animals, agriculture and the environment.
 - 6.7.1 In the context of the environment, everything relies on and is dependent on an interconnecting eco-chain of complex relationships. Air, water (surface, groundwater and natural water bodies), soil and habitat are equally crucial and inter-related.
- With all intensive animal agriculture operations there are significant risks and impacts with surface runoff. These depend on the topography and management practices of the operators. Ground water contamination is particularly pressing because not all soil types are suitable. This runoff and leaching can include excess nutrients (Herron 2015), pathogens (Hubbard et al. 2020), oestregens (Guardian and Aga 2019, odorants and heavy metals (Gerber et al. 2008) that can cause damage to receiving ecosystems.
 - 6.8.1 Poultry waste contains disease-causing pathogens, including Salmonella (Sheffield et al. 2014), E. coli (Wilkinson et al. 2011), Cryptosporidum (Vermeulen et al. 2017) and faecal coliform (Hartel et al. 2000). These can be ten (10) to one hundred (100) times more concentrated than in human waste. Over 150 diseases can be transferred to humans through manure (Hribar 2010), thereby representing numerous risks and impacts to public health and the environment. For example, high levels of nitrate in groundwater can cause methemoglobinemia, a blood disorder otherwise known as "blue baby disease" (Holleman 1992).
 - Poultry manure contains large amounts of nitrogen, phosphorus and potassium (Griffiths 2011). Litter has four (4) times the nitrogen and twenty-four (24) times the phosphorous than piggeries or dairy operations (Allison 1998). The annual litter taken from a typical broiler shed containing 22,000 birds can contain as much phosphorous as the sewage of a community of 6,000 people (Harkin 1997). The amount of waste produced is generally equivalent to the feed used, meaning that every truckload of feed results in the removal of a similar load of waste (Bell 1990).
 - 6.8.3 When waste water is spilt or leaks it can cause a build-up of nitrates in local waterways. Not only does this contaminated otherwise safe drinking water for the community (DPI n.d.), but in large concentrations this pollution can lead to eutrophication (Jeon et al. 2015). This occurs when high nitrate concentrations in rivers or lakes causes an "algae bloom" (McKie 2020). As the algae colony rapidly populates it covers the surface of the water and blocks light from the sub-aqua ecosystem. Without sunlight, flora cannot grow and begin to decompose and generate an increase in bacteria.
 - 6.8.4 In 2016, the Proponent was fined \$15,000 after an investigation by the EPA found evidence of an unauthorised and uncontrolled discharge from one of its facilities (EPA 2016b). The investigation found that the incident, which contravened the conditions of Baiada's Environment Protection Licence and was an offence under the POEO Act, would have been avoided "if scheduled maintenance had been carried out as planned" (ibid).
 - 6.8.5 The discharge of wastewater containing polluting contaminants therefore represents significant hazards to the environment and public health. Animal Liberation holds that the Proponent has failed to adequately satisfy compliance with waste management.

7. Cultural heritage

- 7.1 Cultural heritage is managed by several State and Commonwealth Acts. These laws define "cultural heritage" as objects and places that are significant to Indigenous people under Aboriginal or Torres Strait Islander tradition (EDO 2020). In NSW, the Office of Environment and Heritage ('OEH') is responsible for protecting Aboriginal culture and heritage. They key NSW law regarding the protection and management of Aboriginal culture and heritage is the *National Parks and Wildlife Act 1974* ('NPW Act'). The OEH keeps a register, known as the Aboriginal Heritage Information Management System ('AHIMS'), of all Aboriginal objects and places in NSW. Though the AHIMS holds over 60,000 records, it is not considered comprehensive (NSWALC 2011).
 - 7.1.1 Aboriginal heritage sites in NSW range from shell middens, stone artefact scatters, isolated artefacts, grinding grooves, rock art and engravings, rock shelters, scarred trees, stone arrangements, stone and ochre quarries, fish traps, water holes and burial sites (Heritage NSW 2022a; Heritage NSW 2022b). Though it is a criminal offence to knowingly harm or desecrate an Aboriginal object under the NPW Act, objects or places can be destroyed with consent from relevant departments. An Aboriginal heritage impact permit ('AHIP'), for instance, can be issued that authorised their harm or desecration, thereby permitting

- actions that would otherwise be offences under the NPW Act. In some cases, planning laws override heritage provisions (NSWALC 2011).
- 7.1.2 Under NSW planning law, all development and planning takes place in accordance with State Environmental Planning Policies ('SEPPs') and local environmental plans ('LEPs') (EDO 2020). These planning instruments set out types of development that can take place on which areas and what areas are protected. However, there is no guarantee that culture and heritage is protected.
- 7.2 The DPIE confirms that "engaging with Aboriginal communities is a specialised area which needs a culturally sensitive approach" (DPIE n.d.-b). The Department's 'Practice Note' entitled 'Engaging with Aboriginal Communities' is intended to provide "guidance on understanding of the value of this engagement and the principles and protocols to consider when planning for and engaging with Aboriginal communities for social impact assessment" ('SIA') (ibid) We note and fully concur with the position outlined in the Practice Note that "Aboriginal communities may experience the social impacts and benefits of a project differently to non-Aboriginal communities" (DPIE n.d.-b).
 - 7.2.1 We also note that the Practice Note discussed above contains the following important considerations in relation to the likelihood of cultural or spiritual loss. It defines this as the "loss or diminution of traditional attachment to the land or connection to Country, and associated cultural obligations to care for Country, or loss of rights to gain spiritual sustenance from the land" (DPIE n.d.-b). Furthermore, the Practice Note explains that such a loss "may need to be assessed" when preparing a SIA and project teams should be aware that cultural or spiritual loss:
 - a is a sensitive subject that is not always appropriate for the project team to determine in isolation. As such, an Aboriginal cultural heritage specialist may be recruited to provide advice. However, the Practice Note emphasis that engagement with Aboriginal communities and knowledge holders may be necessary in order to confirm findings;
 - b can mean different things to different communities despite its definition in the SIA Guideline. Liaison and discussions with communities may therefore be necessary to ascertain what it means to them;
 - c may not be appropriately understood by all members of a community. The Practice Note advises that "stakeholder mapping will assist with understanding who can discuss this topic in each community";
 - d historic and ongoing trauma may impact discussions on impacts to Country and culture and;
 - e may never be entirely mitigated or returned. The language adopted when discussing potential mitigation measures must be sensitive of potential impacts (DPIE n.d.-b).
- 7.3 The EIS advises that an Aboriginal Cultural Heritage Assessment Report ('ACHAR') has been undertaken in compliance with both the Office of Environment and Heritage ('OEH') Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales and relevant state legislation (PSA Consulting 2021: vi). This included a survey of the area with the assistance of a Cowra Local Aboriginal Land Council representative (OzArk Environment and Heritage 2021: vii).
 - 7.3.1 Animal Liberation is familiar with the work practices and output of OzArk Environment and Heritage through our lengthy and ongoing (~4 year) opposition to a controversial and well-publicised NSW Hilltops region intensive piggery which includes OzArk as a consultant engaged by the Applicant. We have very strong views on the urgent need to respect and protect all known and unknown, identified and unidentified, objects and places of Aboriginal heritage and culture. We hold that what is or is not significant in terms of culture and heritage is always best determined by First Nations peoples rather than consultants or bureaucrats.
 - 7.3.2 The Proponent confirms that an ACHAR has been prepared and the EIS states as as a SSD section 4.41 of the EP&A Act will apply an AHIP under section 90 of the NPW Act will not be required if approved (PSA Consulting 2021: 34). Rather, the EIS maintains that "all management related to Aboriginal cultural heritage within the study area will be governed by the policies within an approved Aboriginal Cultural Heritage Management Plan (ACHMP)" (ibid). Similarly, the EIS confirms that if approved section 4.41 of the EP&A Act will apply and activity approval will therefore not be required for work undertaken on waterfront land as per section 91 of the WM Act (ibid).
- 7.4 During this survey outlined in subsection 7.3 above, one cultural heritage site (Wallah Wallah Creek OS-1) was recorded. Critically, Wallah Wallah Creek OS-1 is "located within the impact footprint of the proposed access track" (OzArk Environment and Heritage 2021: vii) and will therefore be impacted by the proposed project (PSA Consulting 2021: vi). The EIS notes that due to this expected impact, the project will "require management and mitigation measures" that should be completed and operational prior to the commencement of any work (ibid).
 - 7.4.1 We note and identify with concern an almost dismissive attitude to the presence of various Aboriginal cultural and heritage sites or objects. For example, Wallah Wallah Creek in the impact footprint of the proposed project. The EIS replicates claims contained within the ACHAR that "Wallah Wallah Creek OS-1 is a low density artefact scatter with associated

potential archaeological deposit" (OzArk Environment and Heritage 2021: vii; PSA Consulting 2021: vi). The EIS goes on to claim that "any associated subsurface deposits are considered unlikely to be intact due to previous levels of disturbance" (PSA Consulting 2021: vi). Similarly, the ACHAR maintains that though scarred trees are "the most recorded site type within 40km of the study area" and account for over 50% of recorded site types, it concludes that "this site type is unlikely to be identified within the study area as it has been cleared for grazing and farming activities" (OzArk Environment and Heritage 2021: 29). Finally, the ACHAR claims that because burials are "generally found in elevated sandy contexts or in association with rivers and major creeks" and no examples of these are found within the study area, "such sites are unlikely to occur" (ibid).

7.4.2 Like many, Animal Liberation holds the strong view that the laws and policies which are ostensibly intended to protect Aboriginal culture and heritage are completely inadequate and continue to fail Australia's First Nations peoples. We have no confidence in the claims and statements made by the Proponent or their consultants.

8. Animal welfare

- 8.1 Chickens are intelligent creates with complex emotional and individual character traits similar to most other birds and mammals (Marino 2017). Scientific evidence is increasingly showing self-awareness (Abeyesinghe et al. 2005) and the capacity to reason and make logical inferences (Hogue et al. 1996). Other research demonstrates their cognitive complexity based on social structures and problem-solving ability (Jarvis et al. 2005), as well as complex referential communication systems (Evans et al. 1993a; Evans et al. 1993b; Wilson and Evans 2008; Kokolakis et al. 2010).
 - 8.1.1 As a result of these characteristics, chickens are capable of experiencing a wide array of emotions, including boredom, frustration, happiness and grief (King 2013; Hazel et al. 2015). These emotions mean that chickens have the capacity to experience empathy (Edgar et al. 2011). These innate characteristics
- 8.2 The intensive production of poultry for human consumption is under increasing scrutiny, largely due to welfare concerns associated with rapid growth rates and stocking densities (Rayner et al. 2020). Animal Liberation agrees with the premise that "what makes the existence of domesticated farm animals particularly cruel is not just the way in which they die, but above all how they live" (Harari 2015). The scientific study of animals has played a deleterious role in this unfolding tragedy as the scientific community has used its growing knowledge primarily to manipulate their biology to produce scales of efficiency and productivity in the service of commercial industry. Though science and technological advancement has deciphered the secrets of animals, these discoveries have been used to subject animals to extreme living conditions. Vaccinations, medications, hormones, pesticides, housing systems, husbandry procedures and automatic feeders now make it possible to cram hundreds of thousands of chickens into intensive confinement to produce meat and byproducts with unprecedented efficiency and profit. Yet this same knowledge has demonstrated beyond reasonable doubt that farmed animals are sentient and possess intricate social relations and sophisticated psychological patterns (Shriver 2020).
 - 8.2.1 It is notable that sentience is no more scientifically provable in humans than other animals (Balcombe 2009). As there is currently no consensus on how to definitively gauge which animals can be classified as sentient (Shriver 2020), the precautionary principle is relevant and should be applied in policymaking relating to sentience in other animals (Broom 2007; Jones 2016; Birch 2017). Though the precautionary principle is a concept historically applied to the regulation of risk in environmental issues, it has increasingly gained currency in other domains (McIntyre and Mosedale 1997; Feintuck 2005). For instance, the development of an Animal Sentience Precautionary Principle ('ASPP') has been promoted when there are threats of negative animal welfare outcomes any lack of scientific certainty regarding sentience should not be used as a reason for postponing measures to prevent them from occurring (Birch 2017). This, combined with the fact that sentience in other animals has been asserted as fact by scientists (Kotzmann 2020), notably in the 2012 Cambridge Declaration of Consciousness (Bekoff 2013).
 - 8.2.2 Despite such widespread acceptance of animal sentience, chickens experience numerous and ongoing adverse welfare impacts in intensive facilities of the kind proposed by the Proponent. These include, but are not limited to:
 - a confinement in unnatural and often unsanitary conditions in such large numbers that they struggle to find space to move or reach food, water or shelter;
 - b harmful and standard procedures, including the mutilation of sensitive areas without pain relief (Cheng 2007).
 - 8.2.3 Though such treatment is no longer accepted by an increasing cohort of the Australian public (Futureye 2018; McGreevy et al. 2019), these practices persist. As a compassionate and aware society, we must consider that simply because something is legal this does not make it moral, ethical or justifiable. There are various example of in history that have demonstrated this. Humanity dictates we all have a moral obligation to challenge injustice and societal wrongs to shape who we are as a society. Our leaders and decision-makers have a clear responsibility to listen, question and act in this regard. Animal welfare as expected and increasingly demanded by the community includes the provision of rights

- and protection under the internationally recognised Five Freedoms (Goodfellow 2015). This includes both physical and mental state as good animal welfare implies physiological fitness and psychological wellbeing (Kotzmann 2019).
- 8.2.4 The fate of animals in industrial installations of the kind proposed by the Proponent have become one of the most pressing ethical issues of our time (Harari 2015). In 2013, around 95% of meat chickens eaten in Australia are factory farmed (Kirby 2013). It is entirely possible that a higher figure is true today.
- 8.3 The EIS cites a stocking density ('SD') at the proposed facility of 30kg per square metre of shed floor space (PSA Consulting 2021: 13). It is notable that SD is a key factor that directly impacts a wide range out outcomes, including behaviour, litter quality and welfare outcomes (AHA 2018). While international jurisdictions have SDs at 34kg/m2 (AHA n.d.), other reports note that "it is clear from the behaviour and leg disorder studies that the stocking density must be 25kg/m2 or lower for major welfare problems to be largely avoided" (SCAHW 2000).
 - 8.3.1 Increasingly across NSW, once pristine rural landscapes are being transformed into industrial wastelands. Intensive factory environments are not only deleterious to environmental health, but are cesspits of abnormal stress for animals. Excessive overcrowding and stock densities generate an accumulation of organic waste solely in order to maximise output and profit margins. These intensive environments also represent petri dishes in which diseases such as H1N1 ('swine flu'), H5N1 ('bird flu') and other viruses have occurred. Though studies suggest that these outbreaks were constrained because their transmissibility and virulence made them more manageable through public health control measures (Roche et al. 2020), prior to the onset of COVID-19 scientists and public health experts had been issuing warnings about the potential for contagious influenzas or coronavirus spillovers to become the next global pandemic for years (Cheng et al. 2007; WHO 2018). These sources have also "repeatedly shown" the ability of these diseases to "infect humans through multiple spillover events" that subsequently cause human-to-human transmission (Roche et al. 2020). Increasingly, agribusiness itself is the source, cause and responsible party for all disease outbreaks across NSW and Australia.
- 8.4 Recent impacts on supply chain processes caused by the SARS-CoV-2 ('COVID 19') pandemic have been described as "unprecedented" by the Australian chicken industry (May 2022). While these impacts have generated a range of adverse outcomes, including workforce (Risse and Jackson 2021) and food security impacts (Asher 2021; Galanakis et al. 2021; McKay 2021), these also relate to adverse animal welfare outcomes (Baptista et al. 2021).
 - 8.4.1 Globally, the world has been crippled by the COVID-19 pandemic which many eminent scientists believe originated in "wet markets" (Shreedhar and Mourato 2020). COVID-19 has been described as a "perfect example" of a zoonosis spillover from wildlife that subsequently became established in human populations (Roche et al. 2020). Though this type of event has happened many times in human history (Lloyd-Smith et al. 2009), the connectivity of current human populations, the globalisation of trade networks and high rates or urbanisation mean that such a disease could spread at an accelerated pace post-spillover (Saker et a. 2004; Shrestha et al. 2020; Sigler et al. 2021).
 - 8.4.2 Despite this, focus has generally disregarded the breeding grounds for diseases that originate in global and industrialised food production systems. Much of the focus has also ignored the large-scale destruction of habitats that is forcing animals out of their natural environments and into closer proximity with people and other animals. The world has a long history of deadly pandemics that are, like COVID-19, deeply rooted in our treatment of wildlife, the environment and the estimated 80 billion domestic animals who are raised and killed for food each year around the world (Ritchie and Roser 2019).
- While no industry has been immune to the impacts of COVID-19, the industrial animal agriculture production sector has been cited as a particularly important site (Garcés 2020). This was initially seen as slaughterhouses emerged as major transmission hotspots (Lakhani 2020; Taylor et al. 2020; Yussuf 2020). A range of factors, including prolonged contact with infected co-workers, an inability to social distance, shared working areas and common transportation methods, contributed to the role played by employees of the intensive animal agriculture sector during Australia's "second wave" outbreak of COVID-19 clusters (AAP 2020; Boseley 2020; Cunningham 2020; Marshall and Unger 2020; Teperman 2020).
 - 8.5.1 A significant animal welfare risk that arose due to these factors related to the extent to which human movement was restricted (Baptista et al. 2021). Though the impact of COVID-19 was recognised as a major welfare concern (Gortázar and de la Fuente 2020), particularly for intensive industries such as chicken meat production (Baptista et al. 2021), this primarily related to the risk of disruption caused by furloughed personnel who had contracted the virus and there has been little investigation into adverse outcomes. It is known, however, that these factors generated staff shortages that reduced the sector's ability to maintain facilities and impacted processing capacities (FAO 2020), subsequently causing additional overcrowding and "a backlog of animals at farms" that would have otherwise been slaughtered (Baptista et al. 2021). Though similar examples have been noted in other intensive animal production industries (Marchant-Forde and Boyle 2020), this is a particularly profound problem for chicken welfare due to the rapid rate at which they grow.
- As earlier subsections of this submission have noted, chickens bred for human consumption in Australia reach slaughter weight in as few as 35 days (RSPCA Australia 2022). A lockdown or staff shortage period of just a few weeks therefore represents the production time and risks severe

welfare issues (AWC 2020) by placing additional stress on stocking densities and generate significant welfare issues (Julian 1998; Bessei 2006). Birds bred in intensive production systems will generally not survive longer than three (3) months due to the pressure caused by rapid growth. This could trigger their on-farm destruction and the killing of many thousands of birds (Ijaz et al. 2021).

- 8.6.1 The adverse outcomes associated with animal welfare impacts and COVID-19 include potential environmental issues. As poultry industries are often concentrated in specific geographical areas, killing thousands of birds⁹ could create a stream of waste in an already strained environment (Mallin et al. 2015; Marchant-Forde and Boyle 2020).
- 8.6.2 Aside from a cursory reference to a hypothetical disease outbreak, the Waste Management Plan ('WMP') prepared and provided by the Applicant fails to adequately demonstrate how it will mitigate catastrophic animal welfare outcomes in the event that they occur other than claiming that "birds may be removed either for processing, rendering or disposal" (Dickson 2021). As such, the Proponent has failed to specify precisely how such an event will be managed and how the spread of disease would be mitigated. Given comparable examples elsewhere in the world (FAO 2020; Hauser 2020; Kevany 2020), this represents a significant deficiency that must be adequately addressed.
- 8.7 Intensive animal factory farming often involves the use of large amounts of antibiotics. This can and does result in the development of antibiotic resistant strains of diseases (also known as "superbugs") that can be transferred to humans. In spite of increasing concerns being raised, governments have failed to investigate and satisfy public health authorities that there will not be any further cases of antibiotic resistance in the general public. This remains so despite the current focus on biosecurity. This leave people and workers in intensive production facilities at serious risk.
 - 8.7.1 Researchers led by the University of Sheffield and Bath have recently warned that intensive farming that involves the overuse of antibiotics, high numbers of animals and low genetic diversity are hotbeds for pathogens to spread. Professor Dave Kelly, who led the study, explained that "human pathogens carried in animals are an increasing threat and our findings highlight how their adaptability can allow them to switch hosts and exploit intensive farming practices". Professor Kelly went on to state that "human activities have had a profound effect on the Earth's ecosystems and biodiversity, particularly among livestock species".
- Australia's leading animal welfare authority, the RSPCA, opposes intensive animal agriculture for the reasons and inherent issues outlined above. It notes that "intensive farming methods involve removing animals from their natural environments and keeping them housed or confined for all, or a large part, of their lives" (RSPCA Australia 2020). It emphasises that many are confined in large numbers under controlled conditions, regularly involving the use of hormones, antibiotics or vaccines. Ultimately, the RSPCA "opposes intensive farming practices that cause suffering or distress to animals or prevent the animal from moving freely and satisfying its behavioural, social or physiological needs" (ibid).
 - 8.8.1 Despite such damning claims made by Australia's leading animal welfare authority, industry representatives have disproportionate influence over the animal welfare standards setting process. This results in animal welfare standards being established that fail to adequately protect animals. Rather, the very function of such standards simply reinforce existing and inadequate industry practices. Self-regulation and self-auditing member bodies have no regulatory powers or authorities and, accordingly, all inclusion, reference or reliance on these should be ignored. Self-regulation is a conflicted and inappropriate approach to managing animal welfare because at its core it relies on a promise by industry to abide by woefully inadequate standards rather than meaningful and independent monitoring or enforcement mechanisms.
- 8.9 The EIS contains a number of management recommendations it maintains will minimise potentially adverse animal welfare impacts on wildlife. It also maintains that an assessment, undertaken by Cumberland Ecology, suggest that the impacts of the proposed project on biodiversity will be "minimal" and can be "appropriately managed" (PSA Consulting 2021: v).
 - 8.9.1 The continued destruction of remaining wilderness for commercial enterprises has been identified as the leading cause of biodiversity loss and extinction (Carrington 2018). Though habitat protection is widely accepted as vital in preventing further extinctions (Sodhi et al. 2009), the Australian Government has only identified, listed and supported five (5) critical habitats (DAWE n.d.), none of which have been listed in the previous fifteen (15) years (Cox 2018). During this time, at least thirteen (13) more native species have become extinct (Morton 2021).
 - 8.9.2 Though land clearing is implicated in habitat fragmentation and destruction, it is also a significant animal welfare issue (Finn and Stephens 2017). Estimates suggest that almost 5 million animals have died due to land clearing every year in the decade between 2005 and 2015 (WWF 2018). By 2018, the figure had risen to 10 million animals killed each year from land clearing in NSW alone (Hannam 2018).

⁹ Such a process, referred to by the industry as "depopulation", has been noted elsewhere in the world. In the United States, for example, nearly 2 million chickens were killed because employees were unable to attend due to COVID restrictions (Hauser 2020). Similar figures have been noted elsewhere, including the United Kingdom (Kevany 2020) and China (FAO 2020).

- 8.10 Landowners in NSW have a duty of care to avoid cruelty and harm to animals (domestic, introduced and native) when clearing trees and vegetation in accordance with the Rural Boundary Clearing Code (RFS 2021). As such, landholders are not exempt from prosecution under the *Biodiversity Conservation Act 2016* ('BC Act') for harm to protected animals or for acts of cruelty under the *Prevention of Cruelty to Animals Act 1979* ('POCTA Act').
 - 8.10.1 As it applies to the clearing of land on the proposed project site, the EIS states that any uninjured animals disturbed or dislodged will be "assisted to move to adjacent bushland" (PSA Consulting 2021: xii). Injured animals, according to the EIS, will either be taken to a veterinary clinic for treatment or "humanely euthanized [sic]" if it is believed they are "unlikely to survive" (ibid).
 - 8.10.2 Critically, the EIS fails to provide any discussion or account of the relevant training or experience that those carrying out such activities will have. Wildlife rehabilitation is a specialised activity that involves the capture, handling, treatment, release or compassionate euthanasia of sick, injured or orphaned native species (DPIE n.d.-c). The Australian Veterinary Association ('AVA') maintains that decisions to euthanise a wild animal requires the assessment of a veterinarian (AVA 2019). In NSW, the Department of Planning and Environment regulates these activities on the basis that their undertaking requires significant and officially regulated experience and expertise (DPIE n.d.-d). As untrained responders may cause substantial harm, either to themselves or the animal, the Department states that people without the proper skills and training must not do so (DPIE n.d.-e).
 - 8.10.3 The EIS fails to refer to or exhibit awareness of the regulations applicable under such circumstances. It fails, for instance, to refer to, acknowledge or demonstrate cognisance of:
 - a the protections contained within the Biodiversity Conservation Act 2016 ('BC Act');
 - b the relevant code of practice ('COP') that sets standards relating to the protection of native fauna in NSW (i.e., the Code of Practice for Injured, Sick and Orphaned Protected Fauna);
 - c the standards contained within the Rehabilitation of Protected Native Animals Policy which only grants new licences on a "need for services" basis (DPIE n.d.-d);
 - 8.10.4 Wildlife translocations are the deliberate movement of organisms from one site for release in another (Langrdige et al. 2020). The proposal to release uninjured wildlife by moving them to an unspecified area of "adjacent bushland" thereby qualifies as translocation. The proposal to do so is unacceptably vague and provides insufficient information with which to form an informed decision. Under the Rehabilitation of Protected Native Animals Policy, the release of native animals requires the written approval and must comply with Departmental policies on translocation (DPIE 2020b). The EIS also fails to consider or demonstrate awareness of the OEH Translocation Operation Policy. This document states that "translocation is not generally an appropriate measure to mitigate the impacts of development" and explains that the practice "may do more harm than good where impacts to recipient site(s)/ecosystem(s) are not appropriately assessed and addressed (OEH 2019: 5). The Proponent has failed to demonstrate any measures taken to do so. It is therefore reasonable to conclude that this proposed management approach is inconsistent with existing state policy, particularly its general principle that such actions be "rigorously planned, appropriately resourced, managed and monitored over appropriate timescales" (ibid).
 - 8.10.5 Likewise, the EIS does not indicate acknowledgement or awareness of the interaction of the Code of Practice for Injured, Sick and Orphaned Protected Fauna with other binding state requirements, including those stipulating licensing for such activities under Section 120 of the NPW Act or relevant provisions contained within the *Prevention of Cruelty to Animals Act 1979* ('POCTA Act'), associated Regulations, or the *Local Government Act 1993* ('LG Act') (OEH 2011). The absence of any reference to or discussion on the proposed method of euthanasia reveals the Proponent's lack of consideration regarding the gravity of its claims. Similarly, the Proponent's failure to consider the legislated requirements regarding the release of native wildlife further demonstrates this further.
- 8.11 Tens of billions of sentient beings, each naturally endowed with individual and complex sensations and emotions, live and die on a high-volume, fast-paced production line controlled and guided by agribusiness interests. The Proponent has completely failed to address these considerations, public interest and expectations and emerging government policy directions. The general public, including rural communities, increasingly hold high expectations that animals will be treated will and not be exposed to cruelty, pain or suffering. This applies equally to animals kept for food as much as to the animals kept as companions. The Proponent's planning proposal and accompanying EIS fail to meet or address these important public expectations.
 - 8.11.1 Animal welfare is increasingly becoming a key issue on the agenda of both consumers and investors. The fourth edition of the Business Benchmark on Farm Animal Welfare ranks leading food companies, including Coles and Woolworths to whom the Proponent supplies products, on animal welfare practices (.
 - 8.11.2 Simon O'Connor, CEO of the Responsible Investment Association Australasia, identified animal welfare as a key issue for business as well as an ethical issue. Mr. O'Connor explains that "in the same way good practices in human rights result in stronger businesses, similar links are ever more apparent between strong animal welfare practices being simply good business and better investment opportunities". The historic and evidenced practices of

Baiada Pty. Ltd. outlined above, including their lack of prioritising progressive animal welfare policies, would not rate in these business models.

8.11.3 Consumers are increasingly making product choices on the grounds of personal ethics and health. The relevant watchdog authorities have, through various legal cases, confirmed that they will not tolerate consumers being misled or deceived in terms of how food is grown and raised in respect to packaging, marketing and advertising¹⁰. It is Animal Liberation's intention to ensure that both the slaughter component and environmental footprint considerations will be incorporated into this concept in the near future.

9. Social and economic considerations

- 9.1 Intensive factory farm workers are consistently exposed to and routinely inhale a variety of hazardous levels of particulate matter, as well as ammonia and hydrogen sulfide gases¹¹. Employees also suffer from repetitive stress injuries.
 - 9.1.1 Inhalable particulate matter is generally defined as airborne particles capable of reaching the lungs during normal breathing. In intensive factory farms, these particles can come from many sources including dry faecal matter, feed, animal dander, fungi, dry soil and bacterial endotoxins. Individually, each of these components is capable of causing severe health complications. It is their collective effect, however, that is most harmful. The resulting health effects are well documented and include chronic aches and pains, respiratory disorders, cardiovascular complications and premature death. Rigid contracts and production schedules knowingly jeopardise workers' health in order to maximise profits. Because company profits are predicated on extreme efficiency at every stage of 'production', workers are expected to perform their duties at a rate that often compromises their health as well as causing great suffering and cruelty for the animals.
 - 9.1.2 Levels of inhalable particulate matter increase significantly during regular and routine periods of peak activity such as moving large numbers of animals from one area to another, collecting and packing animals for transport to the slaughterhouse and cleaning the sheds.

10. Conclusion

10.1 For the reasons outlined in the submission above, Animal Liberation objects to SSD-13855453. We strongly recommend approval be refused.

¹⁰ See section 3 of this submission for an overview of relevant cases applicable to the Proponent.

¹¹ Ammonia is released from the large volumes of urine and manure that accumulate on factory farms. Ammonia is known to cause eye irritation and respiratory problems in levels as low as 6 parts per million ('PPM'). Regular exposure to ammonia also damages the cilia of the throat, allowing inhaled particulate matter to travel deep into the respiratory tract. Hydrogen sulfide gas is emitted primarily from liquid manure. Repeat exposure to low volumes of hydrogen sulfide can cause symptoms such as dry skin, eye irritation, nausea, low blood pressure, headaches and chronic coughs.

<u>Appendix 1</u> The following planning instruments, state legislation and policies are observed in this document:

Document	Acronym
Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW	N/A
Australian Welfare Standards and Guidelines - Land Transport of Livestock 2012	AWS&G
Austroads Guide to Road Design	N/A
Austroads Guide to Traffic Management	N/A
Biodiversity Conservation Act 2016	BC Act
Central West and Orana Regional Plan	CWORP
Code of Practice for Injured, Sick and Orphaned Protected Fauna	FCOP
Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW	AO COP
Environmental Biodiversity and Conservation Act 1999	EBC Act
Environmental Planning and Assessment Act 1979	EP&A Act
Environmental Planning and Assessment Regulation 2000	EPA Reg
Environmental Protection and Biodiversity Conservation Act 1999	EP&BC Act
Environment Operations Act 1997	EO Act
Interim Construction Noise Guideline	N/A
Local Government Act 1993	LG Act
National Animal Welfare Standards for the Chicken Meat Industry	N/A
NSW Best Practice Management for Meat Chicken Production in NSW	N/A
NSW Road Noise Policy	N/A
National Parks and Wildlife Act 1974	NPW Act
Protection of the Environment Operations Act 1997	PEO Act
Rehabilitation of Protected Native Animals Policy	N/A
RTA Guide to Traffic Generating Developments	N/A
Rural Boundary Clearing Code for New South Wales	N/A
State Environmental Planning Policy (SEPP) (State and Regional Development) 2011	SRD SEPP
State Environmental Planning Policy 33 (Hazardous and Offensive Development)	HRD SEPP
Trade Practices Act 1974	TP Act
Water Management Act 2000	WM Act
Weddin Local Environment Plan 2011	LEP
Weddin Shire Council Comprehensive State of the Environment Report	N/A

Appendix 2 Native animals present in the WSC (including status)

Species	Status as per the OEH database (2022)	Status as per the WSC Supplementary Report (2015)
Australian Bustard	Endangered	Endangered
Barking Owl	Vulnerable	Vulnerable
Black-chinned Honeyeater	Vulnerable	Vulnerable
Brown Tree-creeper	Vulnerable	Vulnerable
Brush-tailed Rock- wallaby	Endangered	Endangered
Corben's Long-eared Bat	Vulnerable	Vulnerable
Diamond Firetail	Vulnerable	Vulnerable
Flame Robin	Vulnerable	Vulnerable
Gang-gang Cockatoo	Vulnerable	Vulnerable
Gilbert's Whistler	Vulnerable	Vuinerable
Grey-crowned Babbler	Vulnerable	Vulnerable
Hooded Robin	Vulnerable	Vulnerable
Koala	Vulnerable	Vulnerable
Major Mitchell's Cockatoo	Vulnerable	Vulnerable
Little Eagle	Vulnerable	Vulnerable
Little Lorikeet	Vulnerable	Vulnerable
Little Pied Bat	Vulnerable	Vulnerable
Painted Honeyeater	Vulnerable	Vulnerable
Pied Honeyeater	Vulnerable	Vulnerable
Regent Honeyeater	Endangered	Critically endangered
Scarlet Robin	Vulnerable	Vulnerable
Speckled Warbler	Vulnerable	Vulnerable
Spotted Harrier	Vulnerable	Vulnerable
Spotted-tail Quoll	Vulnerable	Vulnerable
Square-tailed Kite	Vulnerable	Vuinerable
Superb Parrot	Endangered	Endangered
Swift Parrot	Vulnerable	Vulnerable
Turquoise Parrot	Vulnerable	Vulnerable
Varied Sitella	Vulnerable	Vulnerable
White-fronted Chat	Vulnerable	Vulnerable

References

Abeyesinghe, S., Nicol, C., Hartnell, S. and Wathes, C. 2005. Can domestic fowl, *Gallus gallus domesticus*, show self-control? *Animal Behaviour*, 70: 1-11.

Alexander, H. 2019. Scrapping over puddles: the desperate battle for water in NSW towns. *The Sydney Morning Herald*, 8 November.

Allison, W. 1998. Poultry trade taken aback. Richmond Times Dispatch, 1 March.

Andren, H. and Anglestan, P. 1988. Elevated predation rates as an edge effect in habitat islands: experimental evidence. *Ecology*, 69: 544-547.

Andretta, I., Hickmann, F., Remus, A., Franceschi, C.. Mariani, A., Orso, C., Kipper, M., Létourneau-Montminy, M. and Pomar, C. 2021. Environmental impacts of pig and poultry production: insights from a systematic review. *Frontiers in Veterinary Science*, 8: 750733.

Animal Health Australia (AHA). n,d. Poultry S&Gs - NSW feedback on Final Draft S&Gs. Available via www.parliament.nsw.gov.au/lcdocs/other/16474/Attachment%20to%20SQ%209%20-%20NSW%20feedback%20on%20Standards%20and%20Guidelines%20for%20Poultry.pdf.

——. 2018. Why a minimum 30kg/m2 stocking density matters for meat chickens. Available via www.animalwelfarestandards.net.au/files/2018/07/m63 WAP-3.pdf.

Animal Welfare Committee (AWC). 2020. AWC Opinion on the Animal Welfare Issues Related to COVID-19. London: Animal Welfare Committee.

Anonymous. 2015a. Fair Work Ombudsman highlights Baiada's operations at Beresfield. Maitland Mercury, 18 June.

- ---. 2015b. Fair Work investigates Baiada Group. Inside FMCG, 18 June.
- ---. 2015c. Baiada Group busted by Fair Work Ombudsman. Food and Beverage Industry News, 18 June.
- ---. 2015d. Coles to audit Baiada after 'exploitation'. Northern Daily Leader, 15 July.
- ---. 2016. NSW chicken company raided again. 9 News, 1 June.
- ---. 2017. Replacement of historic water pipes. The Grenfell Record, 17 April.
- ——. 2020a. CTW: a return to level four limits. *The Grenfell Record*, 7 July.
- ---. 2020b. Central Tablelands welcomes funding for drought works. Cowra Guardian, 2 June.
- ---. 2020c. New pipeline between Grenfell and Gooloogong officially opened. Canowindra News, 18 December.

Asher, N. 2021. Victoria's emergency aid providers struggling to keep up with growing demand for help. *ABC News*, 6 June.

Audit Office of New South Wales (AONSW). 2020. Support for regional town water infrastructure. Available via www.audit.nsw.gov.au/our-work/reports/support-for-regional-town-water-infrastructure.

Australian Associated Press (AAP). 2015. Coles audits poultry meat supplier Baiada. Nine News, 14 July.

——. 2020. Cedar Meats abattoir at centre of Victoria's largest first-wave coronavirus outbreak cleared in probe. SBS, 15 December.

Australian Bureau of Statistics (ABS). 2019. 7218.0.55.001: Livestock and Meat Australia. Available via www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/367753DE55C671DFCA2583A00018C855?opendocument

Australian Competition and Consumer Commission (ACCC). 2009. ACCC allows chicken processing merger after sale of Victorian assets. Available via www.accc.gov.au/media-release/accc-allows-chicken-processing-merger-after-sale-of-victorian-assets.

———. 2013. Court orders chicken companies to pay \$400,000 for 'free to roam' misleading claims. Available via www.accc.gov.au/media-release/court-orders-chicken-companies-to-pay-400000-for-%E2%80%98free-to-roam%E2%80%99-misleading-claims.

Australian Government. 2016. *National Recovery Plan for the Regent Honeyeater (Anthochaera phrygia*). Canberra: Commonwealth of Australia.

Australian Veterinary Association (AVA). 2019. Euthanasia of injured wildlife. Available via www.ava.com.au/policy-advocacy/policies/euthanasia-of-injured-wildlife.

Baiada Group. 2018. *Animal Welfare Policy*. Available via https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-13855453%2120211206T043637.409%20GMT. **Balcombe**, J. 2009. Animal pleasure and its moral significance. *Applied Animal Behaviour Science*, 118: 208-216.

——. 2020. *Modern Slavery Statement, 2019-20*. Available via https://modernslaveryregister.gov.au/statements/file/1bc1efc5-5d6d-4e02-8ec4-8ec9ac72207b.

Baptista, J., Blache, D., Cox-Witton, K., Craddock, N., Dalziel, T., de Graaff, N., Fernandes, J., Green, R., Jenkins, H., Kahn, S., Kelly, D., Lauber, M., Maloney, S., Peachey, B., Rodger, I., Skuse, J., Tilbrook, A., Walker, F., Wall, K. and Zito, S. 2021. Impact of the COVID-19 pandemic on the welfare of animals in Australia. *Frontiers in Veterinary Science*, 7(1219): 619287.

Batary, P. and Baldi, A. 2004. Evidence of an edge effect on avian nest success. Conservation Biology, 18: 389-400.

Baxter, M., Richmond, A., Lavery, U. and O'Connell, N. 2021. A comparison of fast growing broiler chickens with a slower-growing breed type reared on Higher Welfare commercial farms. *PLOS One*, 16(11): e0259333.

Bekoff, M. 2013. Animals are conscious and should be treated as such. New Scientist, 19 September.

Bell, D. 1990. An egg industry perspective, Poultry Digest, January.

Bell, P., Reading, K. and Oataway, L. 2021. Teenager dies after industrial accident at Baiada Poultry plant in Tamworth. *ABC News*, 17 August.

Bessei, W. 2006. Welfare of broilers: a review. World's Poultry Science Journal, 62(3): 455-466.

Birch, J. 2017. Animal sentience and the precautionary principle. Animal Sentience, 16(1).

Boseley, M. 2020. Coronavirus clusters: why meatworks are at the frontline of Australia's 'second wave'. *The Guardian*, 22 July.

Briggs, G. 2004. Odour management options for meat chicken farms. AgNote, 1-7.

Brook, L., Johnson, C. and Ritchie, E. 2012. Effects of predator control on behaviour of an apex predator and indirect consequences for mesopredator suppression. *Journal of Applied Ecology*, 49(6): 1278-1286.

Broom, D. 2007. Cognitive ability and sentience: which aquatic animals should be protected? *Diseases of Aquatic Organisms*, 75: 99-108.

Brown, J. 2020. Man cuts off hand in 'gruesome' workplace accident at Baiada Beresfield: investigation launched. *Maitland Mercury*, 7 October.

Bureau of Meteorology (BOM). 2022. Water in Australia. Available via www.bom.gov.au/water/waterinaustralia.

Butler, B. 2012. Behind the closed doors of poultry processing. The Sydney Morning Herald, 18 February.

Cadia Group. n.d. Grenfell and Trunk K Case Study. Available via https://d347awuzx0kdse.cloudfront.net/cadiagroup/content-file/Grenfell%20and%20TrunkK%20Case%20Study%20smaller.pdf?y=5ce5a052f92ca53816bb96bd74bca9d44f72d147.

Cai, L., Koziel, J., Liang, Y., Nguyen, A. and Xin, H. 2007. Evaluation of zeolite for control of odourants emissions from simulated poultry manure storage. *Journal of Environment Quality*, 36: 184-193.

Camilleri, S. 2019. Statement in response to PETA video. Available via www.lilydalefreerange.com.au/ckeditor_assets/attachments/146/baiada_statement_in_response_to_the_peta_video.pdf.

Carey, J. 2004. Nuisance and odour issues in broiler production: a case study. *Journal of Applied Poultry Research*, 13: 146-148.

Carrington, D. 2018. Avoiding meat and dairy is 'single biggest way' to reduce your impact on Earth. The Guardian, 1 June.

Carter, E. and Hubrecht, R. 2018 Updated code of practice for the welfare of meat chickens and meat breeding chickens in England. *Animal Welfare*, 27: 181-185.

Central Tablelands Water (CTW). 2019. Water system. Available via www.ctw.nsw.gov.au/your-water/water-system.

——. 2020. Media release: 39km Gooloogong to Grenfell pipeline commissioned. Available via www.ctw.nsw.gov.au/wpcontent/uploads/2020/12/Media-Release-Trunk-Main-K-Official-Opening-16-12-20.pdf.

——. 2021. Annual Report 2020-2021. Available via www.ctw.nsw.gov.au/wp-content/uploads/2021/11/CTW_ANNUAL_REPORT_2020-21.pdf.

Cheng, H. 2007. Morphopathological changes and pain in beak trimmed laying hens. *World's Poultry Science Journal*, 62(1): 41052.

Cheng, V., Lau, S., Woo, P. and Kwok, Y. 2007. Severe acute respiratory syndrome coronavirus as an agent of emerging and reemerging infection. *Clinical Microbiology Reviews*, 20(4): 660-694.

Clarke, R. 2014. Poultry production through the ages. Farmers Weekly, 11 April.

Cox, L. 2018. Australia has 1,800 threatened species but has not listed critical habitat in 10 years. The Guardian, 6 March.

Crane, E. 2015. Working for 18 hours a day for \$10 an hour: the shocking work conditions at chicken factories that supply KFC, Red Rooster and McDonald's. *The Daily Mail*, 18 June.

Cunningham, G. 2009. Weddin Shire Council Comprehensive State of the Environment Report 2008-2009. Killara: Geoff Cunningham Natural Resource Consultants Pty. Ltd.

Cunningham, M. 2020. COVID-positive Cedar Meats worker was turned away from testing twice: inquiry. *The Age*, 18 November.

Davies, A. 2020. Damning report blames NSW government for water shortages in regional towns. *The Guardian*, 24 September.

Department of Agriculture, Water and the Environment (DAWE). n.d. Register of critical habitat. Available via www.environment.gov.au/cgi-bin/sprat/public/publicregisterofcriticalhabitat.pl.

——. 2020. Regent honeyeater. Available via www.awe.gov.au/environment/biodiversity/threatened/species/20-birds-by-2020/regent-honeyeater.

——. 2021. Climate Vulnerability Assessment. Available via www.dpi.nsw.gov.au/agriculture/water/climate-vulnerability-assessment.

Department of Environment and Conservation (DEC). 2006. *Technical Framework: Assessment and Management of Odour from Stationary Sources in NSW*. Sydney: Department of Environment and Conservation.

Department of Environment and Science (DES). 2013. *Guideline: Odour Impact Assessment from Developments*. Brisbane: Department of Environment and Science.

- **Department of Planning, Industry and Environment (DPIE)**. n.d.-a. How water sharing plans work. Available via water-sharing-plans-work.
- ——. n.d.-b. *Practice Note: Engaging with Aboriginal Communities Social Impact Assessment Practice Notes*. Available via www.planning.nsw.gov.au/-/media/Files/DPE/Practice-notes/Social-impact-assessment/SIA-Aboriginal-Engagement-Practice-Note.pdf?la=en.
- ——. n.d.-c. Rehabilitating injured, sick or orphaned native animals. Available via www.environment.nsw.gov.au/topics/animals-and-plants/native-animals/rehabilitating-native-animals.
- ——. n.d.-d. Wildlife rehabilitation licences. Available via www.environment.nsw.gov.au/topics/animals-and-plants/native-animals/rehabilitating-native-animals/wildlife-rehabilitation-licences.
- ---. 2020a. Regent Honeyeater: On the Edge. Parramatta: Department of Planning, Industry and Environment.
- ---. 2021. Bore audit puts focus on groundwater compliance. Available via $\underline{\text{www.dpie.nsw.gov.au/nrar/news/bore-audit-puts-focus-on-groundwater-compliance}}$

Department of Primary Industries (DPI). n.d. Blue-green algae. Available via www.dpi.nsw.gov.au/agriculture/water/guality/pubs-and-info/blue-green-algae.

---. 2019. Livestock: poultry. Available via https://www.dpi.nsw.gov.au/about-us/publications/pdi/2019/poultry.

Dickson, E. 2021. Waste Management Plan: Grenfell Farms 1, 2, 3 and 4 - Gooloogong Road, Grenfell, NSW, 2810. Available via https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent? AttachRef=SSD-13855453%2120211206T043738.803%20GMT.

Dunlop, M. 2009. *Control of Odour and Dust from Chicken Sheds: Review of 'Add-On' Technologies*. Barton: Rural Industries Research and Development Corporation.

- ———, Blackall, P. and Stuetz, R. 2016. Odour emissions from poultry litter: a review litter properties, odour formation and odorant emissions from porous materials. *Journal of Environmental Management*, 177: 306-319.
- —— and Atzeni, M. 2020. Summarised Findings from Australian Poultry Odour Research (2005-2018). Wagga Wagga: AgriFutures Australia.

Edgar, J., Lowe, J., Paul, E. and Nicol, C. 2011. Avian maternal response to chick distress. *Proceedings of the Royal Society B: Biological Sciences*, 278(1721): 3129-3134.

Environmental Defenders Office (EDO). 2012. Caring for Country: A Guide to Environmental Law for Aboriginal Communities in NSW. 2nd edition. Available via www.edo.org.au/wp-content/uploads/2019/11/120924CaringforCountry2012.pdf.

——. 2020. Aboriginal culture and heritage in NSW. Available via www.edo.org.au/publication/aboriginal-culture-heritage-in-nsw.

Environment Protection Authority (EPA). 2016a. Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales. Sydney: Environment Protection Authority.

- $---.\ 2016b.\ Baiada\ Poultry\ fined\ \$15,000\ for\ uncontrolled\ discharge.\ Available\ via\ \underline{www.epa.nsw.gov.au/news/media-releases/2016/epamedia16070501}.$
- ——. 2021. Managing odour. Available via www.epa.nsw.gov.au/your-environment/air/industrial-emissions/managing-odour.

Evans, C., Evans, L. and Marler, P. 1993a. On the meaning of alarm calls: functional reference in an avian vocal system. *Animal Behaviour*, 46: 23-38.

———, Macedonia, J. and Marler, P. 1993b. Effects of apparent size and speed on the response of chickens, *Gallus gallus*, to computer-generated simulations of aerial predators. *Animal Behaviour*, 46: 1-11.

Fair Work Ombudsman (FWO). 2015. A Report on the Fair Work Ombudsman's Inquiry into the Labour Procurement Arrangements of the Baiada Group in New South Wales. Canberra: Commonwealth of Australia.

Feintuck, M. 2005. Precautionary maybe, by what's the principle? The precautionary principle, the regulation of risk and the public domain. *Journal of Law and Society*, 32(3): 371-398.

Ferguson, A. 2015. Baiada pay scandal catches Coles. Sydney Morning Herald, 26 October.

Finn, H. and Stephens, N. 2017. The invisible harm: land clearing is an issue of animal welfare. *Wildlife Research*, 44(5): 377-391.

Food and Agriculture Organisation of the United Nations (FAO). 2020. Guidelines to Mitigate the Impact of the COVID-19 Pandemic on Livestock Production and Animal Health. Rome: Food and Agriculture Organisation of the United Nations.

Ford, H. and Ingwersen, D. 2012. Australian endangered species: Regent Honeyeater. The Conversation, 13 December.

Franklin, D., Menkhorst, P. and Robinson, J. 1989. Ecology of the Regent Honeyeater *Xanthomyza phrygia*. *Emu*, 89: 140-154.

Fraser, A. 2011. Central Tablelands Water Drought Management Plan. Sydney: HydroScience Consulting Pty. Ltd.

Futureye. 2018. Australia's Shifting Mindset on Farm Animal Welfare. Windsor: Futureye Pty. Ltd.

Galanakis, C., Rizou, M., Aldawoud, T., Ucak, I. and Rowan, N. 2021. Innovations and technology disruptions in the food sector within the COVID-19 pandemic and post-lockdown era. *Trends in Food Science and Technology*, 108: 103-110.

Garcés, L. 2020. COVID-19 exposes animal agriculture's vulnerability. Agriculture and Human Values, 37: 621-622.

Garnett, S., Szabo, J. and Dutson, G. 2011. The Action Plan for Australian Birds 2010. Melbourne: CSIRO Publishing.

Gerber, P., Opio, C. and Steinfeld, H. 2008. Poultry production and the environment: a review. In *Poultry in the 21st Century: Avian Influenza and Beyond*. Rome: Food and Agriculture Organisation of the United Nations.

Giuffre, E. n.d. Case note: ACCC v. Turi Foods. Available via www.voiceless.org.au/case-note-accc-v-turi-foods.

Goldingay, R. and Whelan, R. 1997. Powerline easements: do they promote edge effects in eucalyptus forest for small mammals? *Wildlife Research*, 24: 737-744.

Goodfellow, J. 2015. Animal welfare regulation in the Australian agricultural sector: a legitimacy maximising analysis. Thesis presented for the degree of Doctor of Philosophy in Law at Macquarie University.

Gortázar, C. and de la Fuente, J. 2020. COVID-19 is likely to impact animal health. *Preventive Veterinary Medicine*, 180: 105030.

Griffiths, N. 2011. Best Practice Guidelines for Using Poultry Litter on Pastures. Available via www.dpi.nsw.gov.au/_data/assets/pdf_file/0004/140359/Best-practice-guidelines-for-using-poultry-litter-on-pastures.pdf.

Guardian, M. and Aga, D. 2019. Mineralization and biotransformation of estrone in simulated poultry litter and cow manure runoff water. *Journal of Environmental Quality*, 48(4): 1120-1125.

Güthlin, D., Storch, I. and Küchenhoff, H. 2013. Landscape variables associated with relative abundance of generalist mesopredators. *Landscape Ecology*, 28(9): 1687-1696.

Hannam, P. 2018. 10 million animals a year die from tree clearing in NSW, report finds. *The Sydney Morning Herald*, 7 November.

———. 2021. One-tenth of groundwater users in breach of licences, investigation finds. *The Sydney Morning Herald*, 5 August.

Hannan, E. 2015. Baiada to pay \$500,000 to underpaid contractors. Australian Financial Review, 25 October.

Harari, Y. 2015. Industrial farming is one of the worst crimes in history. The Guardian, 25 September.

Hardy, T. 2017. Reconsidering the notion of 'employer' in the era of the fissured workplace: traversing the legislative landscape in Australia. *Bulletin of Comparative Labour Relations*, 95: 53-80.

Harkin, T. 1997. *Animal West Pollution in America: An Emerging National Problem*. Washington: United States Senate Committee on Agriculture, Nutrition and Forestry.

Hartel, P., Segars, W., Summer, J., Collins, J., Phillips, A. and Whittle, E. 2000. Survival of fecal coliforms in fresh and stacked broiler litter. *Journal of Applied Poultry Research*, 9(4): 505-512.

Hauser, C. 2020. Nearly 2 million chickens killed as poultry workers are sidelined. The New York Times, 28 April.

Hayes, J., Stevenson, R. and Stuetz, R. 2014. The impact of malodour on communities: a review of assessment techniques. *Science of the Total Environment*, 500-501: 395-407.

Hazel, S., O'Dwyer, L. and Ryan, T. 2015. 'Chickens are a lot smarter than I originally thought': changes in student attitudes to chickens following a chicken training class. *Animals*, 5(3): 821-837.

Henderson, W. 2020. Economic Contribution of the Australian Chicken Meat Industry. Wagga Wagga: AgriFutures Australia.

Heritage NSW. 2022a. Conservation of Aboriginal cultural heritage. Available via www.heritage.nsw.gov.au/protecting-our-heritage/conservation-of-aboriginal-cultural-heritage.

——. 2022b. Aboriginal cultural heritage. Available via <u>www.heritage.nsw.gov.au/about-our-heritage/aboriginal-cultural-heritage</u>.

Herron, S. 2015. Reducing nutrient runoff from poultry production facilities using locally-source iron and aluminium byproducts. Thesis presented to the University of Arkansas.

Hobbs, P., Webb, J., Mottram, T., Grant, B. and Misselbrook, T. 2004. Emissions of volatile organic compounds originating from UK livestock agriculture. *Journal of the Science of Food and Agriculture*, 84: 1414-1420.

Hogue, M., Beaugrand, J. and Laguë, P. 1996. Coherent use of information by hens observing their former dominant defeating or being defeated by a stranger. *Behavioural Processes*, 38(3): 241-252.

Holleman, J. 1992. In Arkansas which comes first, the chicken or the environment? *Tulane Environmental Law Journal*, 21: 29-30

Holway, D. 2005. Edge effects of an invasive species across a natural ecological boundary. *Biological Conservation*, 121(4): 561-567.

Hribar, C. 2010. *Understanding Concentrated Animal Feeding Operations and Their Impact on Communities*. Ohio: National Association of Local Boards of Health.

Hubbard, L. Givens, C., Griffin, D., Iwanowicz, L., Meyer, M. and Kolpin, D. 2020. Poultry litter as potential source of pathogens and other contaminants in groundwater and surface water proximal to large-scale confined poultry feeding operations. *Science of the Total Environment*, 735: 139459.

Ijaz, M., Yar, M., Badar, I., Ali, S., Islam, M., Jaspal, M., Hayat, Z., Sardar, A., Ullah, S. and Guevara-Ruiz, D. 2021. Meat production and supply chain under COVID-19 scenario: current trends and future prospects. *Fronteirs in Veterinary Science*, 8: 660736.

Ingwersen, D., Gering, D. and Menkhorst, P. 2013. *Draft National Recovery Plan for the Regent Honeyeater Anthochaera Phrygia, 2013-2017*. Canberra: Commonwealth of Australia.

International Union for Conservation of Nature (IUCN). 2018. Regent Honeyeater: *Anthochaera phrygia*. Available via www.iucnredlist.org/species/22704415/130992272.

Ismail, I., Hwang, Y. and Joo, S. 2020. Meat analog as future food: a review. *Journal of Animal Science and Technology*, 62(2): 111-120.

Jarvis, E., Güntürkün, O., Bruce, L., Csillag, A., Karten, H., Kuenzel, W., Medina, L., Paxinos, G., Perkel, D., Shimizu, T., Striedter, G., Wild, J., Ball, G., Dugas-Ford, J., Durand, S., Hough, G., Husband, S., Kubikova, L., Lee, D., Mello, C., Powers, A., Siang, S., Smulders, T., Wada, K., White, S., Yamamoto, K., Yu, J., Reiner, A. and Butler, A. 2005. Avian brains anda new understanding of vertebrate brain evolution. *Nature Reviews: Neuroscience*, 6: 151-159.

Jasper, C. 2015. Supermarket Coles forced to defend its supply chain audit at a Senate hearing into temporary work visas. *ABC News*, 15 July.

Jeon, J.. Park, C. and Engel, B. 2015. Evaluating effects of poultry waste application on phosphorous loads to Lake Tenkiller. *Sustainability*, 7: 10116.

Jiang, J. and Sands, J. 2000. *Odour and Ammonia Emission from Broiler Farms*. Barton: Rural Industries Research and Development Corporation.

Jones, R. 2016. Fish sentience and the precautionary principle. Animal Sentience, 3(10).

Julian, R. 1998. Rapid growth problems: ascites and skeletal deformities in broilers. Poultry Science, 77(12): 1773-1780.

Keene, N. 2015. Baiada sets aside \$500,000 after workers paid chicken feed for shifts up to 19 hours. *The Daily Telegraph*, 26 October.

Kevany, S. 2020. Hundreds of thousands of chickens to be culled after Covid disruption. The Guardian, 31 August.

King, B. 2013. How Animals Grieve. Chicago: University of Chicago Press.

Kirby, M. 2013. Factory farming masks meat's true costs. ABC News, 21 June.

Kokolakis, A., Smith, C. and Evans, C. 2010. Aerial alarm calling by male fowl (*Gallus gallus*) reveals subtle new mechanisms of risk management. *Animal Behaviour*, 79: 1373–1380.

Kotzmann, J. 2019b. ACT's new animal sentience law recognises an animal's psychological pain and pleasure, and may lead to better protections. *The Conversation*, 3 October.

2020. Recognising the sentience of animals in law: a justification and framework for Australian States and Territories. *Sydney Law Review*, 42(3): 281-310.

Kurki, S., Nikula, A., Helle, P. and Linden, H. 1998. Abundances of red fox and pine marten in relation to composition of boreal forest landscapes. *Journal of Animal Ecology*, 67(6): 874-886.

——, Nikula, A., Helle, P. and Linden, H. 2000. Landscape fragmentation and forest composition effects on grouse breeding success in boreal forests. *Ecology*, 81(7): 1985-1997.

Lahti, D. 2001. The 'edge effect on nest predation' hypothesis after 20 years. Biological Conservation, 99: 365-374.

Lakhani, N. 2020. US coronavirus hotspots linked to meat processing plants. The Guardian, 15 May.

Langridge, J., Sordello, R. and Reyjol, Y. 2020. Outcomes of wildlife translocations in protected areas: what is the type and extent of existing evidence? A systematic map protocol. *Environmental Evidence*, 9: 16.

Levin, S. 2009. The Princeton Guide to Ecology. Princeton: Princeton University Press.

Lin-Schilstra, L. and Fischer, A. 2020. Consumer moral dilemma in the choice of animal-friendly meat products. *Sustainability*, 12(4844).

Lloyd-Smith, J., George, D., Pepin, K., Pitzer, V., Pulliam, J., Dobson, A., Hudson, P. and Grenfell, B. 2009. Epidemic dynamics at the human-animal interface. *Science*, 326(5958): 1362-1367.

Majid, A., Speed, L., Croijmans, I. and Arshamian, A. 2017. What makes a better smeller? Perception, 46(3-4): 406-430.

Marchant-Forde, J. and Boyle, L. 2020. COVID-19 effects on livestock production: a one welfare issue. Frontiers in Veterinary Science, 7: 625372.

Marino, L. 2017. Thinking chickens: a review of cognition, emotion and behaviour in the domestic chicken. *Animal Cognition*, 20: 127-147.

Marriner, C. 2011. Free to roam. The Sydney Morning Herald, 18 September.

Marshall, S. and Unger, C. 2020. Treating workers like meat: what we've learnt from COVID-19 outbreaks in abattoirs. *The Conversation*, 14 October.

May, N. 2022. Ruffled feathers: is the power imbalance in Australia's chicken industry making shortages worse? *The Guardian*, 23 January.

McKay, F. 2021. Victoria's COVID lockdown reminds us how many rely on food charity. Here's how we plan for the next inevitable crisis. *The Conversation*, 9 June.

Morton, A. 2021. Australia confirms extinction of 13 more species, including first reptile since colonisation. *The Guardian*, 3 March.

McAuliffe G., Chapman, D. and Sage, C. 2016. A thematic review of life cycle assessment (LCA) applied to pig production. *Environmental Impact Assessment Review*, 56: 12-22.

McClements, D. and Grossmann, L. 2021. A brief review of the science behind the design of healthy and sustainable plant-based foods. *NPJ Science of Food*, 5(17).

McGowan, M. 2016. Baiada seeks answers after Beresefield malfunction. Newcastle Herald, 9 March.

McGreevy, P., Cornish, A. and Jones, B. 2019. Not just activists, 9 out of 10 people are concerned about animal welfare in Australian farming. *The Conversation*, 15 May.

McIntyre, O. and Mosedale, T. 1997. The precautionary principle as a norm of customary international law. *Journal of Environmental Law*, 9(2): 221-241.

McKie, R. 2020. 'It's like pea soup': poultry farms turn Wye into wildlife death trap. The Guardian, 20 June.

Meat and Livestock Australia (MLA). 2004. *Utility of Odour Intensity for the Meat Processing Industry*. North Sydney: Meat and Livestock Australia.

Mitchell, S. 2008. Baiada's deal won't be cheep. Australian Financial Review, 14 November.

Montoya, D. 2013. NSW Planning Reforms: Sustainable Development. Sydney: NSW Parliamentary Research Service.

NSW Government. 2022. State Significant Development: Grenfell Poultry Breeder Farm. Available via www.planningportal.nsw.gov.au/major-projects/project/41111.

NSW Aboriginal Land Council (NSWALC). 2011. Planning laws and Aboriginal cultural heritage. Available via www.alc.org.au/wp-content/uploads/2019/12/Planning-Fact-Sheet-3-Planning-laws-and-Aboriginal-culture-and-heritage.pdf.

Office of Environment and Heritage (OEH). 2011. Code of Practice for Injured, Sick and Orphaned Protection Fauna. Sydney: Office of Environment and Heritage NSW.

———. 2019. Translocation Operational Policy. Sydney: Office of Environment and Heritage NSW.

——. 2021. Regent Honeyeater - profile. Available via hwww.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10841.

Office of Industrial Relations (OIR). 2018. Regulation of the Labour Hire Industry 2016. Brisbane: Queensland Government.

Oliver, D., Ley, A. and Williams, B. 1998. Breeding success and nest-site selection of the Regent Honey Eater *Xanthomyza phrygia* near Armidale, New South Wales. *Emu*, 98: 97-103.

———. 2000. Foraging behaviour and resource selection of the Regent Honeyeater *Xanthomyza phrygia* in northern New South Wales. *Emu*, 100: 12-30.

OzArk Environment and Heritage. 2021. Aboriginal Cultural Heritage Assessment Report: Grenfell Poultry Breeder Farm. Dubbo: OzArk Environment and Heritage.

Palmer, D. 2009. ACCC approval for Baiada-Bartter deal sees new chicken leader created. Australian Food News, 1 July.

Pasanen-Mortensen, M. and Elmhagen, B. 2015. Land cover effects on mesopredator abundance in the presence and absence of apex predators. *Acta Oecologica*, 67: 40-48.

Patty, A. 2015a. Human cost of chicken production. Farm Online, 18 June.

——. 2015b. Baiada labour hire companies continue to exploit overseas workers despite Fair Work Ombudsman warning. *The Sydney Morning Herald*, 18 October.

Peterson, D. 2006. Precaution: principles and practice in Australian environmental and nature resource management. Paper presented at the 50th Annual Australian Agricultural and Resource Economics Society Conference, Manly, 8-10 February.

Poore, J. and Nemecek, T. 2018. Reducing food's environmental impacts through producers and consumers. *Science*, 360(6392): 987-992.

Proudman, D. 2016. Baiada's Beresfield operations included in statewide police crackdown uncovers scores of defective trucks. *Maitland Mercury*, 1 June.

PSA Consulting. 2021. *Grenfell Poultry Breeder Farm: Scoping Report*. Available via https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent? https://AttachRef=PDA-13761026%2120210201T062112.937%20GMT.

Radon, K., Peters, A., Praml, G., Ehrenstein, V., Schulze, A., Hehl, O. and Nowak, D. 2004. Livestock odours and quality of life for neighbouring residents. *Annals of Agricultural and Environmental Medicine*, 11: 59-62.

Rayner, A., Newberry, R., Vas, J. and Mullan, S. 2020. Slow-growing broilers are healthier and express more behavioural indicators of positive welfare. *Scientific Reports*, 10: 15151.

Reverb Acoustics. 2021. Noise Impact Assessment: Poultry Breeder/Rearing Farms Lot 1 DP.1022013, Lots 1-3 DP.1206485 and Lot 22 DP.866857 - 1130 Gooloogong Road, Grenfell NSW. Available via https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent? AttachRef=SSD-13855453%2120211206T043610.120%20GMT.

Richmond, C. Breitburg, D. and Rose, K. 2005. The role of environmental generalist species in ecosystem function. *Ecological Modelling*, 188(2-4): 279-295.

Rigney, S. 2018. Beresfield chicken factory ammonia leak: nine workers taken to hospital. Northern Daily Leader, 2 July.

Risse, L. and Jackson, A. 2021. A gender lens on the workforce impacts of the COVID-19 pandemic in Australia. *Australian Journal of Labour Economics*, 24(2): 111-144.

Ritchie, H. and Roser, M. 2019. Meat and dairy production. Available via www.ourworldindata.org/meat-production.

Roche, B., Garchitorena, A., Guégan, J., Arnal, A., Roiz, D., Morand, S., Zambrana-Torrelio, C., Suzán, G. and Daszak, P. 2020. Was the COVID-19 pandemic avoidable? A call for a 'solution-oriented' approach in pathogen evolutionary ecology to prevent future outbreaks. *Ecological Letters*, 23: 1557-1560.

Rowley, L., Edwards, R. and Kelly, P. 2002. Edges: their effect on vegetation and wildlife. Land for Wildlife Notes, 1-3.

RSPCA Australia. 2020. Why can't the RSPCA prosecute farmers for keeping animals in intensive systems? Available via https://kb.rspca.org.au/knowledge-base/why-cant-the-rspca-prosecute-farmers-for-keeping-animals-in-intensive-systems.

——. 2022. How are meat chickens farmed in Australia? Available via https://kb.rspca.org.au/knowledge-base/how-are-meat-chickens-farmed-in-australia.

Rural Fire Service (RFS). 2021. Rural Boundary Clearing Code for New South Wales. Granville: NSW Rural Fire Service.

Saker, L., Lee, K., Cannito, B., Gilmore, A. and Campbell-Lendrum, D. 2004. *Globalisation and Infectious Diseases: A Review of the Linkages*. Geneva: World Health Organisation.

Schneiders, B. 2011. Strike threatens chicken supply. The Age, 17 November.

Scientific Committee on Animal Health and Welfare (SCAHW). 2000. The welfare of chickens kept for meat production (broilers). Available via https://ec.europa.eu/food/system/files/2020-12/sci-com_scah_out39_en.pdf.

Seymour, A., Harris, S. and White, P. 2004. Potential effects of reserve size on incidental nest predation by red foxes *Vulpes vulpes*. *Ecological Modelling*, 175(1): 101-114.

Sheffield, C., Crippen, T., Beier, R. and Byrd, J. 2014. *Salmonella* Typhimurium in chicken manure reduced or eliminated by addition of LT1000. *Journal of Applied Poultry Research*, 21(1): 116-120.

Shreedhar, G. and Mourato, S. 2020. Linking human destruction of nature to COVID-10 increases support for wildlife conservation policies. *Environmental and Resource Economics*, 76: 963-999.

Shrestha, N., Shad, M., Ulvi, O., Khan, M., Karamehic-Muratovic, A., Nguyen, U., Baghbanzadeh, M., Wardrup, R., Aghamohammadi, N., Cervantes, D., Nahiduzzaman, K., Zaki, R. and Haque, U. 2020. The impact of COVID-19 on globalisation. *One Health*, 11(100180).

Shriver, A. 2020. The role of neuroscience in precise, precautionary and probabilistic accounts of sentience. In L. Johnson, A. Fenton and A. Shriver (Eds.), *Neuroethics and Nonhuman Animals*. Cham: Springer.

Sigler, T., Mahmuda, S., Kimpton, A., Loginova, J., Wohland, P., Charles-Edwards, E. and Corcoran, J. 2021. The sociospatial determinants of COVID-19 diffusion: the impact of globalisation, settlement characteristics and population. *Globalisation and Health*, 17(56).

Sodhi, N., Brook, B. and Bradshaw, C. 2009. Causes and consequences of species extinctions. In S; Levin, S. Carpenter, H. Godfray, A. King, M. Loreau, J. Losos, B. Walker and D. Wilcove (Eds.), *The Princeton Guide to Ecology*. Princeton: Princeton University Press.

Spijkers, O. 2018. Intergenerational equity and the sustainable development goals. Sustainability, 10: 3836.

State Wide Integrated Flora and Fauna Teams (SWIFFT). 2022. Regent Honeyeater. Available via www.swifft.net.au/cb-pages/sp-regent_honeyeater.php.

Taylor, C., Boulos, C. and Almond, D. 2020. Livestock plants and COVID-19 transmission. *Proceedings of the National Academy of Sciences*, 117(5): 31706-31715.

Teperman, E. 2020. COVID-19 outbreaks at meat plants: lessons from Victoria's second wave. Available via www.fairr.org/article/covid-19-outbreaks-at-meat-plants-lessons-from-victorian-second-wave.

Tilman, D. and Clark, M. 2014. Global diets link environmental sustainability and human health. Nature, 515: 518-522.

Vallejo, D. 2018. Edge effects and habitat fragmentation: the main causes of species extinction. Available via www.zooportraits.com/edge-effects-habitat-fragmentation-extinction.

Vermeulen, L., Benders, J., Medema, G. and Hofstra, N. 2017. Global Cryptosporidium loads from livestock manure. *Environmental Science and Technology*, 51(15): 8663-8671.

Wallach, A., Johnson, C., Ritchie, E. and O'Neill, A. 2010. Predator control promotes invasive ecological states. *Ecology Letters*, 13: 1008-1018.

WaterNSW. n.d. Domestic and stock rights. Available via www.waternsw.com.au/customer-service/water-licensing/blr/domestic-and-stock-rights.

Webster, J. and Menkhorst, P. 1992. *The Regent Honeyeater (Xanthomyza phrygia): Population Status and Ecology in Victoria and New South Wales*. Victoria: Arthur Rylah Institute for Environmental Research.

Weddin Shire Council (WSC). 2015. Supplementary State of the Environment Report, Weddin Shire 2014-2015. Grenfell: Weddin Shire Council.

——. 2020a. Public notice: Central Tablelands water restrictions. Available via www.weddin.nsw.gov.au/council/public-notices/central-tablelands-water-restrictions.

——. 2020b. Weddin Shire Local Strategic Planning Statement 2020-2040. Available via <a href="https://shared-drupal-s3fs.s3-ap-southeast-2.amazonaws.com/master-test/fapub_pdf/Local+Strategic+Planning+Statements/LSPS+2020/LSPS+Regional%3B/200529+Weddin+LSPS+Final+for+Adoption+(Version+I).pdf.

---. 2022. State of the Environment Report. Available via $\underline{www.weddin.nsw.gov.au/environmental-services/state-of-environment-report.}$

Wells, L. 2021. More broilers in NSW to offset feedlots' reduced grain use. Grain Central, 15 February.

Wilcove, D. 1985. Nest predation in forest tracts and the decline of migratory songbirds. *Ecology*, 66: 1211-1214.

Wilkinson, K., Tee, E., Tompkins, R., Hepworth, G. and Premier, R. 2011. Effect of heating and aging of poultry litter on the persistence of enteric bacteria. *Poultry Science*, 90(1): 10-18.

Willows, K. 2021. RE: Grenfell Poultry Breeder Farm - 1130 Gooloogong Road, Grenfell - SSD 3855453. Available via https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent? https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent? https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent? https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent? https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent? https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent? <a href="https://majorprojects.pubm/projects

Wilson, D. and Evans, C. 2008. Mating success increases alarm-calling effort in male fowl, *Gallus gallus*. *Animal Behaviour*, 76: 2029-2035.

World Health Organisation (WHO). 2018. Managing epidemics. Available via www.who.int/emergencies/diseases/managing-epidemics-interactive.pdf.

World Wildlife Fund (WWF). 2018. Native Animals Lost to Tree-Clearing in NSW - 1998-2015. Ultimo: WWF-Australia.

Yussuf, A. 2020. Why are meat works COVID-19 hotspots? ABC News, 13 July.