STANDING COMMITTEE ON STATE DEVELOPMENT INQUIRY INTO ANIMAL WELFARE POLICY IN NEW SOUTH WALES

Sentient, The Veterinary Institute for Animal Ethics

Questions Taken on Notice

Question One

The Hon. MICK VEITCH: Can I ask you to supplement your response? In my mind I have some ideas about what aggravated cruelty would look like, but what are some examples of the escalation to aggravated cruelty?
ROSEMARY ELLIOTT: What are the indicators?
The Hon. MICK VEITCH: Yes.
ROSEMARY ELLIOTT: I agree with what Dr Ryan said, that some animals are so severely injured they may not be able to be saved. There will also be animals who can be saved, and it is an individual assessment.
I am not sure whether you base it on the state of the animal, the actual act—I mean, look at human aggravated cruelty. What do they look at there? They must look at the intent. People have gone out and purchased or created poisons. I think it is the intent; it is the lack of remorse. A lot of it is in the person as well as in what the state of the animal is. You could get animals in a terrible state who had been neglected because they had not had enough water or shade or whatever in a farm. It is a very difficult one, and I would like to take the rest of it on notice because I feel like I might hold up the proceedings here. But I do believe that it is in the act, in the state of the animal and also in the psychological make-up of that person and the proof that they were actually intending to cause this harm.

Response

We should adopt the definition of aggravated cruelty in Section 10 of Victoria's *Prevention of Cruelty to Animals Act* 1986, which defines aggravated cruelty as: "committing the offence of animal cruelty, resulting in the serious disablement or death of the animal." However, in NSW we should go one step further. Nearly 40 years after the enactment of the Victorian Act, it is now well recognised scientifically that stress is inimical to an animal's welfare. Consistent with the tenor of the provision in Victoria's Act, Sentient recommends that serious or protracted stress be recognised as capable of leading to an aggravated cruelty offence. However, instead of providing for serious or protracted stress as only a *consequence* of an act of cruelty (as Victoria's Act does with (physical) serious disablement or death), it is recommended that such additional provision be extended to an act of cruelty *in the course of which* the animal suffers protracted or serious stress. The question of whether a statutory provision for protracted or serious stress was satisfied would be determined on a case by case basis, according to the

evidence, including expert evidence. The concept of stress is already well provided for in the cruelty provisions of the Victorian Act, see section 9 (1) (a), (c), (d), (e), (i).

Further, In the event of a charge proven or a conviction entered for an offence of aggravated cruelty, it should be mandatory for the court to order a period of disqualification of ownership of any animal, including permanent disqualification.

One further matter about the Victorian Act : Section 11 (2) appears to provide that it is a defence to a prosecution for an offence under section 9 (act of cruelty) or section 10 (aggravated cruelty) if the person charged was carrying out the activity in accordance with " ... a code of practice prescribed for the purposes of this subsection". Although Sentient disagrees, it may be one thing to prescribe compliance with a code of practice (or with Standards and Guidelines) as a defence to a cruelty charge under Section 9. It is quite another though for compliance with a code of practice to be a defence to an aggravated cruelty charge. It is difficult to appreciate how an animal protection statute can permit compliance with a prescribed code of practice to sanction an offence of aggravated cruelty. Industry should not be let off so easily and so lightly. If death and disablement are a feature of existing industrial-like processes of production and indifferent husbandry, why should such husbandry not be liable to legal challenge and enforcement under at least the laws prohibiting aggravated cruelty? The meat chicken industry in particular comes to mind. So too does the plight of the battery hen, where consumers and supermarket chains have voted with their feet and are moving to the sale and purchase of eggs produced from less intensive production systems. If laws are supposed to reflect society's norms, how is the public interest in proper animal welfare served by an animal protection statute which so pervasively subverts or limits its protection of animals by the formulation of codes of practice to create defences for, in particular, industry? And it does so no matter the result for the animal or the widespread systemic and egregious breaches of basic animal welfare standards.

Question Two

The Hon. EMMA HURST: Thank you for that answer. Last week we heard evidence that was put to us that an animal that has been poisoned with 1080 will look as though they are in pain, but they are actually not experiencing pain. For the benefit of the Committee, are you able to give your response to that and your view as a veterinarian on whether animals who are poisoned by 1080 do experience pain?
ROSEMARY ELLIOTT: My understanding is that they do experience pain and that when they are having seizures and in between the seizures, they are aware of what is happening. Would you mind if Dr van Ekert joined me in this, because I know that she is very well up on poisons, including 1080. Is that okay?
The Hon. EMMA HURST: Yes, definitely.
KATHERINE van EKERT: Okay, I will take over. Thanks, Dr Elliott. Yes, 1080 is not a nice poison, and we argue that it should be prohibited. I would argue there are no ethical poisons out there, but 1080 is a particularly awful one. It depends on the target species as to the degree of suffering, but in general you could think of it that 1080 causes an animal to suffer for about three days. That is normally how long it sits in their system, with an onset of action anywhere from half an hour to up to 12 or 15 hours or so. Again, it depends on the species as to what types of body systems you will see suffer the most, but in general it is cardiovascular, respiratory and/or neurological systems. As Dr Elliott was mentioning, they do suffer convulsions if they are having a neurological experience from it. They are not unconscious during those convulsions, and they are not unconscious between the convulsions. That in itself is stressful. I have not had a convulsion but, from what we know, convulsions are very stressful for the animal. They do not know what is happening to them, and they can risk serious injury during those, especially if they are so out of it that their body is out of control and they can hit themselves on the ground or on rocks and so forth. I can send you a link to this study, but there was a study done in 2010 that found that not only were they conscious during the seizures but they were able to perceive pain and experience fear and distress.

Response

Paper referenced (note date of publication was 2007, not 2010, as stated during the Inquiry): Sherley (2007) Is sodium fluoroacetate (1080) a humane poison? Animal Welfare 16:449–58. https://www.researchgate.net/publication/228620466_Is_sodium_fluoroacetate_1080_a_humane_poison

Question Three

Ms ABIGAIL BOYD: Can I just jump in there? Perhaps this is to you, Dr van Ekert. Yesterday we again heard some people arguing that perhaps the idea of psychological suffering was too vague and hard to identify. Can you tell us from the perspective of a veterinarian what behavioural traits you would be looking for in identifying whether something was causing psychological suffering?
KATHERINE van EKERT: That is a really great question and a great point. I would like to take some of that on notice because it is such a broad scope; it depends on the species. I would like to give you some links to articles and so forth. In general, it is hard for even us as humans to identify suffering in fellow humans. It is a subjective thing, and we will never be inside the minds of another animal, another human. Again, this depends on the species, but broadly we look at behaviours. So what are their body postures, their willingness to eat, their willingness to drink and their facial expressions. They display similar facial expressions to us, like grimacing. I mentioned whimpering, in the context of 1080. Generally it is pretty easy for a lay person to identify most forms of psychological suffering. Thankfully, a lot of animals have been so well domesticated that they have evolved or we ourselves have adapted to understanding them well. But I note that a lot of animals that we interact with are prey animals and they are very good at hiding suffering, they are very good at hiding their pain. Again, that is why I would like to get back to you on specifics because this is something you really want to investigate properly and do service to.

<u>Response</u>

This article[1] provides a comprehensive overview of the reasons for, and means of assessing, animal suffering - including psychological. For example, it states:

> *"4.17 The embeddedness of pain processing in the association cortex also appears to contribute to the phenomenon that suffering can be extremely variable between, and within, individuals. Some humans, and possibly also some closely related animals, have the ability to feel pain and suffering when there is no pain stimulus, to be untroubled by pain when there is what others would objectively describe as pain and even to enjoy pain being inflicted in sexual contexts…*
> *4.29 In conclusion, it is extremely difficult to determine exactly the subjective experiences of animals in relation to pain and suffering. However, the evolutionary continuum that is obvious from physiological, neurological and behavioural similarities between humans, primates and other animals allows us to make meaningful approximations...*
> *4.30 In the spirit of critical anthropomorphism, a combination of the evaluation of clinical signs, the study of animal choices, familiarity with ethological and ecological data, and consideration of physiological and neurological features can all allow for useful*

[1] https://www.nuffieldbioethics.org/wp-content/uploads/Animals-Chapter-4-The-Capacity-of-Animals-to-Experience-Pain-Distress-and-Suffering.pdf

predictions of animals' requirements and assessments of well-being, based on sound scientific evidence."

This paper[2] discusses an updated model, The 2020 Five Domains Model, of assessing animal well-being - including psychological suffering. It describes different conditions that can cause psychological suffering, which may help to address concerns of "vagueness" mentioned in the question.

> *"The first category, survival-critical negative affects, refers to experiences generated by sensory inputs that register imbalances or disruptions in the internal physical/functional state of animals. They include breathlessness, thirst, hunger, pain (~30 varieties), nausea, dizziness, debility, weakness and sickness. These affects are designated as survival-critical because they are aligned with essential components of genetically embedded mechanisms that elicit or are associated with behaviours on which the survival of the animals depends. The undoubted negativity of each affect creates a sense of urgency, or a dominating compulsion, to engage in behaviours which are specific to that affect and its resolution. Examples of links between affects and responses include breathlessness and respiratory activity, thirst and water seeking/drinking, hunger and food acquisition, pain and escape or avoidance responses to injury, as well as weakness/sickness and securing benefits from isolation and rest. Importantly, the greater the intensity of the negative affect, the greater the sense of urgency or compulsion to engage in the aligned behaviour, and vice versa. Once the behaviour achieves the required corrective physical/functional outcome, the intensity of the negative affect declines and, correspondingly, the motivation to perform the salient behaviour subsides… The second category, situation-related negative affects, refers to experiences generated by brain processing of sensory inputs that mainly originate from outside the body and reflect the animal's perception of its external circumstances, i.e., its situation. These affects currently include frustration, anger, helplessness, loneliness, boredom, depression, anxiety, fear, panic and hypervigilance (see References. Also note that the emotional pain of social isolation, i.e., loneliness, is now receiving increasing attention. Animals in impoverished and/or threatening situations may experience these affects in various combinations.The distinguishing attributes of each negative affect in these two categories have now been described. Identifying the specific conditions that generate this wide range of negative affects and understanding the bases of their two categories, allows potential negative welfare impacts to be assessed more thoroughly and remedial actions to be focussed more precisely than before. It is worth noting that the two categories are not mutually exclusive. For example, a tired racehorse that is being whipped may feel pain triggering escape or avoidance responses, and helplessness if those responses do not resolve the situation because the horse cannot escape the jockey who is the source of the pain. Likewise, the experience of pain may be modulated by awareness of fear-inducing stimuli such as the presence of predators.."*

[2] https://www.mdpi.com/2076-2615/10/10/1870/htm

The specific descriptors of negative affects used in the Five Domains model offer a more sophisticated assessment of animal welfare than the use of generic terms such as 'distress' or 'suffering' as used in animal welfare legislation and industry standards. They can also be applied to the regulation of animal welfare and are all readily observable through animal behaviour. The focus of this paper is on the evidence that animals consciously seek specific goals in their interactions with the environment, non-human animals and humans. Their success in achieving their goals is reflected in either positive or negative 'situation related affects'. When external circumstances hinder animals from engaging in behaviours they would find rewarding, they experience observable unpleasant or demotivating affects, such as such as frustration, anger, helplessness, loneliness, boredom, depression, anxiety, fear, panic and hypervigilance. The behaviour of humans through their interactions with animals is highly influential, whether those humans are: "livestock handlers, owners of draught animals, veterinary care staff, pound/shelter staff, zoo-keepers, wildlife managers, hunters, researchers, companion animal owners, owners of sport/recreational animals, animal trainers and service animal handlers." The authors identify the following situations where human-animal interactions may have a detrimental impact on animal welfare: "when animals have had little or no prior human contact, when human presence adds to already threatening circumstances, when human actions are directly unpleasant, threatening and/or noxious, when humans' prior actions are remembered as being aversive or noxious and when the actions of bonded humans cause unintended harms." The result of these situations is psychological harm and we submit that attention to the affective responses of animals, which reflects their underlying mental state, provides specific behavioural evidence of this. For example, animal responses to negative interactions with humans (such as rough handling, shouting, the use of punishment or lack of skill in handling) includes affects such terror, panic, confusion and helplessness, and associated behaviours can include hypervigilance, avoidance, attack, freezing and cowering.

I have included examples below of techniques that can be used to assess psychological suffering for different species. The examples below demonstrate that there is a variety of behaviour-based, as well as physiological-based measures for assessing psychological suffering in different animals. In the interests of succinctness, I did not cover every species, however I am happy to provide further information for additional species if desired.

a) Pigs

This paper[3] demonstrates the use of "The Animal Welfare Assessment Grid" method for assessing quality of life in pigs and cattle. The method includes assessment of behaviour/psychology, and includes factors such as abnormal/stereotypic behaviour, expression of natural behaviours (such as various modes of locomotion, wallowing, and ruminating), and social structure. Forming new groups can be stressful for farm animals, and per the paper, *"It is fair to assume bullying within the group will cause a negative emotional state in pigs and cattle. As a result, social structure and the relationships within a group should be assessed."*

[3] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8065713/

This chapter[4] outlines different means of assessing mental states in pigs, including behavioural indicators of emotion (such as behavioural tests, qualitative behaviour assessment, vocalisations, play behaviour, defence cascade responses and facial expression and body posture), cognitive indicators of emotion in pigs and judgement bias, as well as neurophysiological indicators of emotion in pigs.

This paper[5] discusses the use of Qualitative Behavioural Assessment (QBA) to assess pig wellbeing. In this study, observers applied their own descriptive terms (for example “confident” and “unconfident”, “comfortable” and “uncomfortable”) to assess pig behaviour, vocalisation, degree of exploratory behaviour, and activity when watching video footage of the pigs, who had been treated with either a placebo or a sedative drug (Azaperone) used to prevent stress and aggression. The observers were blind to whether or not the pigs had been treated with the drug, but were able to distinguish between groups. This study demonstrates the sensitivity of qualitative assessment to pharmacologically altered neurophysiological states in pigs, supporting QBA as a valid measure of animals’ emotional state.

b) Chickens

This paper[6] summarizes existing literature on chicken emotional states - including a demonstration of fear responses such as tonic immobility upon restraint, and avoidance in some cases of the appearance of novel objects.

This paper[7] assessed psychological stress in hens with bone damage, and measured it using the fear-related behaviours outlined in the table below:

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4 https://www.researchgate.net/publication/349348178_Assessing_emotions_in_pigs_determining_negative_and_positive_mental_states

5 https://www.sciencedirect.com/science/article/pii/S0168159112001207

6 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5306232/

7 https://www.frontiersin.org/articles/10.3389/fvets.2020.589274/full

Test	Behavior	Description
OFT		
	Latency to leave the start box[D]	Length of time from the start of testing to stepping in the field with both feet
	Latency to reach the central zone [D]	Length of time when both feet reach into the central zone
	Crossing the central zone[F]	Defines how often the hen crosses the central zone
	Preening[F]	Defines how often the hen moves its head in a smoothing motion over the body
	Pecking[F]	Defines how often the hen pecks on the ground or at the wall of the platform as visual inspection
APT		
	Activity[F]	Defines how often the hen has a relaxed body stance, short or normal length of the neck (when she moves, stands, or sits) and does not vocalize or vocalizes quietly
	Freeze[F]	Defines how often the hen is completely still*
	Escape attempt[F]	Defines how often the hen tries to escape, i.e., constantly looks up at the top of the platform with neck stretched or tries to fly out
	Being alert[F]	Defines how often the hen has an alert body stance with neck stretched (when she moves, stands, or sits) and does not vocalize or vocalizes loudly
	Latency to escape[D]	Length of time from the start of testing to the platform breakout
SRT		
	Vocalization[F]	Defines how often the hen vocalizes
	Latency to vocalize[D]	Length of time to the first sound the hen makes
	Latency to escape[D]	Length of time from the start of testing to the platform breakout
	Latency to leave the start box[D]	Length of time from the start of testing to stepping in the field with both feet
	Latency to reach the social zone[D]	Length of time when at least one of the feet reaches the social zone or a hen jumps from the field on the cage located in the social zone
	Duration in social zone[D]	Time spent in the social zone*

*[F], behavior recorded as frequency; [D], behavior recorded as duration; OFT, open-field test; APT, aerial predator test; SRT, social reinstatement test. *descriptions were adjusted after Agnvall et al. (37).*

c) **Cattle**

This paper[8] discusses a variety of tools that are used to assess cow wellbeing - including psychological suffering.

> *"Motion detectors can provide automated remote monitoring of behavior and it is likely that there will be advances in the interpretation software to increase the utility of this technology for assessing well-being. Cortisol levels in body fluids, feces and pelage are prominent as a marker of poor animal welfare, but like many of the other objective measures that are used, are not wholly reliable at the individual animal level. These other measures include: plasma serotonin, heart rate variation, infra-red thermography, cytokines, salivary alpha amylase, and acute phase proteins. Use of automated facial expression recognition may supplement electrophysiological recording as means to quantify the pain experience of animals… Behavioural assessments can include social interaction, reproductive activity, play, self-grooming, anticipatory hyperactivity, and exploration, ear position, vocalisation, facial expression."*

This study[9] aimed to establish a calf-specific term list for Qualitative Behavior Assessment (QBA), a technique that is already validated for assessing emotional states in many animal species. Included below is a table from the paper that includes a number of behavioural assessments used to determine the psychological state of cattle.

[8] https://www.frontiersin.org/articles/10.3389/fvets.2019.00289/full
[9] https://www.mdpi.com/2076-2615/9/10/757/pdf

Table 1. QBA fixed-term list (20 terms) with definition of terms, loadings of Principal Component 1 and 2 (PC1 and PC2) and extracted weights for the simplified score aggregation.

Terms (Factors)	Definition of Term	PC1	PC2	Weights (Estimate)
(Intercept) = 'constant'				−2.031
Active	Engage in an activity in a conscious manner, regardless of motor activity; can be resting, while attentive	0.39	0.63	0.001792
Relaxed	Body language is at ease, animals seem not stressed	0.74	0.03	0.003648
Uncomfortable	Animals display physical or mental discomfort in the given situation, may show attempts to avoid source of discomfort	−0.67	0.30	−0.006389
Calm	Even-tempered, still and quiet in the performance of activities	0.62	−0.19	0.003380
Content	Animals express overall contentment with their life situation and seem mentally balanced, in control of their constitution	0.91	−0.08	0.004339
Tense	Rigid postural or /and facial expression, muscle strains visible, stiff body posture or movements	−0.56	0.68	−0.009337
Enjoying	Express satisfaction in the given situation and occupation	0.76	0.21	0.003411
Indifferent	Animals are aware of their environment and stimuli, but do not engage in activities or react	−0.61	−0.36	−0.003649
Frustrated	Motivation cannot be satisfied, may lead to compulsive or replacement behavior	−0.74	0.48	−0.009898
Friendly	Animals display friendliness towards other animals and humans	0.65	0.31	0.003293
Bored	animals are idling or active without any purpose, no motivation detectable to engage in any kind of activity (Results of prolonged lack of stimuli)	−0.55	0.18	−0.003098
Positively occupied	Animals actions express that they "like to do what they do"in a given situation	0.80	0.09	0.003530
Inquisitive	Desire to perform active investigation of surroundings or conspecifics on the hunt for new experiences and stimuli	0.54	0.35	0.002364
Irritable	animals are easily upset and irritated or agitated	−0.38	0.45	−0.006465
Nervous	Elevated level of arousal and vigilance, might be combined with restlessness and body movements	−0.18	**0.72**	−0.002303
Boisterous	Heedless, reckless behavior without any sign of aggression	0.24	0.17	0.001505
Uneasy	Physically or mentally troubled, long-term state of discomfort	−0.72	0.00	−0.006855
Sociable	Actively seeking for social engagement	0.50	0.30	0.002185
Happy	Displaying excitement, joy and pleasure in a given situation	**0.92**	−0.02	0.004075
Distressed	Comprised adaptability resulting in incapability of action; animals resign, withdraw completely; close to death	−0.60	−0.41	−0.009291

Highest loading for each term is typed in bold.

d) Sheep

This paper[10] lists numerous behavioural indicators for assessing welfare - including psychological suffering - in sheep. For example, discomfort, which can be a type of psychological suffering, can be measured by assessing time spent lying, lying synchrony (whether all sheep could lie down simultaneously), and coat cleanliness. Social withdrawal,

[10] https://www.frontiersin.org/articles/10.3389/fvets.2017.00210/full

vocalization, and behavioral synchrony can be used to assess social engagement, a lack of which can be demonstrated when a sheep is suffering psychologically. More research is needed into Qualitative Behavioral Assessment for sheep, and assessment of play behaviours (for lambs) as evidence of positive or negative mental states.

e) Dogs

This article[11] provides a detailed summary of behaviours that can demonstrate psychological distress in dogs, such as panting and salivation, tucked tail, lowered ears, gazing away, low body posture, piloerection, vocalization, or displacement behaviors such as yawning or lip licking.

f) Laboratory rodents

This paper[12] discusses popular and novel behavioral methods to assess anxiety in rodents, and this paper[13] discusses behavioural indicators of distress, including:

> *".... abnormal respiration (shallow, labored, or rapid); assessment of grooming and hair coat (piloerected or greasy, possibly reflecting reduced grooming); examination of the eyes (runny, glassy, or unfocused); examination of motor postures (hunching or cowering in the corner of the cage, lying on one's side, lack of movement with loss of muscle tone); absence of alertness or quiescence (inattention to ongoing stimuli); changes in body weight; the ability or failure to produce urine or feces; unusual features of urine (volume, smell, and color) or feces (quantity, consistency, and color); the presence of vomit; the status of the animal's appetite and water intake; and intense or frequent vocalizations… Types of behavior commonly explored to investigate the presence of stress include open-field activity, movements in an elevated plus maze, changes in innate behaviors (e.g., movement, grooming, feeding, sexual behavior), defensive behaviors (to external threats), and avoidance/escape."*

g) **Fish**

This paper[14] outlines indicators of fish welfare.

> *"A number of indicators can be used to assess fish welfare-suffering, both in a scientific and practical context, such as behavioural, haematic, cellular, tissue post mortem fish stress and quality indicators, but none of them are optimal. The best strategy for a reliable assessment of fish welfare/suffering and their impact on product quality is a multidisciplinary approach that takes into account animal behaviour and the different biochemical and physiological ante mortem and post mortem processes involved:*

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[11] https://www.msdvetmanual.com/behavior/normal-social-behavior-and-behavioral-problems-of-domestic-animals/behavioral-problems-of-dogs
[12] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5573562/
[13] https://www.ncbi.nlm.nih.gov/books/NBK4033/
[14] https://www.researchgate.net/publication/41393404_Farmed_fish_welfare-suffering_assessment_and_impact_on_product_quality

several components, all influenced in a similar way by the same condition, suggest real welfare and quality reduction."

Question Four

The Hon. SCOTT BARRETT: On the poisoning stuff, last year we saw plagues of mice literally eating people's incomes, in children's bedrooms and kitchens and that sort of stuff. You mentioned community expectations before. In lieu of any alternative other than poison, do you think community expectation is that we do nothing in that scenario?
ROSEMARY ELLIOTT: No, and that is a very difficult scenario you raise. It is almost a natural disaster. Where people for the reasons of their children's health and their own health had to kill those animals, what I would always argue is that it be humane.
The CHAIR: In terms of our inquiry, how would you regulate for that? For example, which poisons get approved? Do certain types have to be licensed?
ROSEMARY ELLIOTT: I will take it on notice because I would like to look into all of the poisons available.

Response

Sentient advocates the prohibition of any method of pest control that does not cause instant death. This means that we only recommend the use of snap traps for rodent control. This is consistent with RSPCA Australia's position that anticoagulant poisons are not considered to be humane due to their toxic effects, which include difficulty breathing, weakness, vomiting, bleeding gums, seizures, abdominal swelling and pain. In addition, the body of the poisoned rodent presents a significant risk if it is eaten by other animals, including native wildlife. A recent Australian study showed that over 70% of dead and dying boobook owls sampled had been exposed to rodent anticoagulants and that over 50% had dangerously high levels.[15]

Recent poison products labelled as "natural", including Ratsak Naturals and Yates Natura, which contain the active ingredients corn gluten meal and sodium chloride, appear to be safer for non-target species, but still cause suffering owing to the induction of a prolonged sensation of dehydration. We would consider this poison to be preferable to 1080 but would only recommend it use as an interim measure.

For wild dog and cat control, PAPP (para-aminopropiophenone) appears to be more humane than 1080, as the toxin has a faster onset of action. However, it can still cause suffering, including anxiety caused by immobility, and breathlessness. PAPP also poses a risk to native animals including quolls, bandicoots, crows, and large lizards such as goannas.[16] We recommend the use of PAPP over 1080 but only as an interim measure, and that be used exclusively by authorised officers.

[15] https://kb.rspca.org.au/knowledge-base/what-is-the-most-humane-way-to-kill-pest-rats-and-mice/
[16] https://kb.rspca.org.au/knowledge-base/is-papp-a-more-humane-toxin-than-1080-for-pest-animal-control/

The first form of control in all situations should be non-lethal. For rodent infestation[17], options include sealing water and power inlets, holes in skirting boards and gaps or holes in grain storage facilities. Modern vermin-proof facilities in commercial settings can be more cost-effective than buying baits and reduce the risk of secondary poisoning of wildlife.

In terms of regulating the use of pest control products, we suggest that only licensed operators be allowed to use poisons, and that these operators undertake training that includes an understanding of the method of action of products as well as how to avoid impacts on wildlife and other non-target species. We advocate for a phase-out of all existing poisons on the market, with PAPP and gluten/sodium chloride poisons to be used in favour of 1080. More research is needed to develop poisons that are species-specific and have a rapid onset of action so as to not cause pain or suffering. The general public should be able to have continued and unrestrained access to snap traps. Glue traps and traps that cause animals to drown to death must be prohibited because they involve slow, distressing and painful deaths.

[17] https://www.abc.net.au/news/2022-04-27/what-baits-to-use-to-avoid-poisoning-native-wildlife/101016664?utm_campaign=abc_news_web&utm_content=facebook&utm_medium=content_shared&utm_source=abc_news_web&fbclid=IwAR0uEF1ERlKBKEOhkfUAl0RPXblC8f1d9noeOUsH1qZ-gpjnNg6S56yPK1U

Question Five

There is a really good technique that they are using now in animal welfare science, which is not invasive, and it is called qualitative behavioural assessments. In a recent study—and I can send the link on notice—you have observers who are blind to the conditions of the animals and they are rating different aspects of their presentation—their affect, if you call it.

Response

QBA[18] is now established as a reliable and valid method of determining the emotional state of animals in different situations, which is a key component of animal welfare assessments. It involves trained observers describing the animals' expressive body language by using a list of terms that indicate how animals feel (eg. relaxed versus tense). This is based on the premise that we can see how animals experience their environments by observing their dynamic demeanour. These ratings have been shown to have good correlations with quantitative measures of welfare such as behavioural, physical and physiological measures, proving the validity of the method. QBA can be used in the field (such as on-farm assessments) or retrospectively, via viewing video footage.

For example, an Australian study[19] using QBA showed that calves show very different emotions and behaviours during the two phases of calf-roping assessed: the chase and recovery. Raters viewed still images of calves captured from videos of calf-roping and scored each image (on a scale of 1–10) for 12 descriptive terms (such as stressed, energetic, confused, frightened) based on how strongly they thought the animal was experiencing that emotion. The video and images were also analysed for behaviours associated with the calves' ears, neck, legs and tail to develop a behavioural ethogram. The chase phase attracted significantly higher scores for stressed, agitated, anxious and frightened, and the behavioural ethogram revealed that calves commonly galloped and held their tails rigidly during this phase. In contrast, the recovery phase was characterised by significantly higher scores for calm, contented and relieved, and calves moved more slowly with more neutral ear positions. A clear pre- and post-rope effect was evident, showing that QBA indicated that calves were anxious while being chased and were relieved when they had been released.These results indicate that a QBA approach has potential for assessing animal welfare in the entertainment industry.

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18 https://warwick.ac.uk/fac/soc/sociology/research/projects/isc/shapinginterspeciesconnectedness/interspeciesconnectedness/summary/qba/#:~:text=Qualitative%20behaviour%20assessment%20(QBA)%20is,Shaping%20Inter%2DSpecies%20Connectedness'.

19 Rizzuto et al, 2020, Exploring the use of a qualitative behavioural assessment approach to assess emotional state of calves in rodeos. https://www.mdpi.com/2076-2615/10/1/113

Supplementary Questions – 21 March 2022

The Hon. Emma Hurst MLC

1. The committee heard evidence that hunting groups would like to see the ban on game parks in NSW removed from the Bill. What are your thoughts on lifting the ban on game parks in NSW? If this ban was removed, what would that mean for animals in NSW?

Opening up NSW parks to hunting would pose unjustifiable suffering to countless animals. Hunting exposes animals to terror from being stalked or chased, particularly where hunting dogs are used. Many suffer from capture myopathy (painful muscle damage from extreme exertion). Hunting results in pain and suffering from shooting or other injuries and animals are often killed inhumanely by methods that don't cause a quick and painless death. It is well documented that hunters breach their own protocols by failing to collect injured animals, who are then left to die of their injuries. These animals experience terror, pain and dehydration, worsened by exposure to predators and the elements. For example, in states where duck hunting is legal (SA and Victoria), there is evidence from one report[20] that nearly 25% of ducks were wounded and not killed outright, but this number may be closer to 33%.

Recreational hunting causes extreme suffering to both hunted animals and to animals used in hunting, such as dogs. A review on the welfare of pig hunting dogs in Australia[21] highlighted breeding surplus to requirements, early retirement of dogs due to behavioural incompatibilities, punishment-based training techniques including electric shock collars, keeping dogs isolated in kennels or on tethers, exposure to numerous infectious diseases, high rates of traumatic injuries, poor transportation methods, high mortality during hunts, and suboptimal quality of life after retiring from hunting. Furthermore, hunted pigs are exposed to fear and stress while being chased, and are then subjected to terrifying and painful restraint by dogs biting on their ears as a form of restraint while the hunters stab them with a knife. The time to death could take minutes, depending on which organs are lacerated, so these pigs are fully conscious during exsanguination.

This example of the suffering experienced by hunted animals would be magnified if the ban on game parks in NSW is removed from the Bill. Affected species would include all 'feral' animals (including pigs, deer, foxes, rabbits, rodents, birds, wild dogs, feral cats, goats, horses), and also non-target species, including native animals and potentially domestic pets. We know from

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[20] https://kb.rspca.org.au/knowledge-base/how-many-ducks-and-quail-are-wounded-due-to-recreational-hunting/

[21] Orr B et al (2019), The welfare of pig hunting dogs in Australia. Animals, 22 October 2019. https://www.mdpi.com/2076-2615/9/10/853

the duck hunting seasons in Victoria and other states that hunting is poorly regulated by the Game Management Authority, so if this is opened up in NSW there are real risks to the welfare of both target and non-target animals and to human safety. Our focus of animal welfare legislation should be on banning recreational hunting and policing and prosecuting individuals who enter private properties or national parks to illegally shoot native animals such as kangaroos and wombats and also non-native species. Sentient also objects to the current supplementary pest control program in NSW[22] whereby NPWS partners with qualified volunteer shooters to help remove 'pest' animals in 12 national parks and reserves.This program has extended beyond its three year trial and could become the 'thin edge of the wedge', opening up avenues for recreational hunting in these areas.

There is already too much animal suffering from illegal hunting that falls under the radar. There is no justification for making these activities legal, particularly under animal welfare legislation. We are aware that those with vested interests in shooting have been very vocal on this matter but there is no evidence that their activities have any benefits, such as reducing environmental damage from non-native species or conserving native species. Feral animal population control needs to be led from the front by government, with the introduction of well advanced scientific research on immunocontraception and other non-lethal methods such as exclusion fencing.

We submit that the whole premise of finding satisfaction from shooting animals is ethically questionable and is not an example we should be setting to children and young people. If hunters are determined to have an outlet, however, we propose that the only game parks allowed should limit all shooting to non-animal targets, such as clay pigeons.

[22] https://www.environment.nsw.gov.au/questions/licence-hunt-national-park