Animal Sentience Workshop Report

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Strong foundations through effective involvement of people

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Glossary of terms

AEC	animal ethics committee
ANZCCART	The Australian and New Zealand Council for the Care of Animals in Research and Teaching
AS	Animal Sentience
AQ	Assure Quality
AWO	Animal Welfare Officer
ITO	independent training organisation
MPI	Ministry for Primary Industries
MPI AWIs	MPI Animal Welfare Inspectors
NAEAC	National Animal Ethics Advisory Committee
NAWAC	National Animal Welfare Advisory Committee
NZALA	New Zealand Animal Law Association
NZDA	New Zealand Deerstalkers Association Inc.
NZGAC	NZ Game Animal Council
NZPHA	New Zealand Pig Hunting Association
NZVA	SIB(FAB) - special interest branches - The New Zealand Veterinary Association - special interest branches (Food Safety, Animal Welfare and Biosecurity Branch)
QConZ	Quality Consultants New Zealand Ltd
RTT	Research Testing and Teaching
VCNZ	Veterinary Council of New Zealand
ZAA	Zoo and Aquarium Association

Executive summary

The Animal Sentience Workshop was a forum to discuss animal sentience (AS) in the Animal Welfare Act and support future changes to animal welfare codes and regulation.
Specific aims of the workshop - agreed with the Ministry for Primary Industries (MPI) - were to:

- understand the implications of including animal sentience within the Animal Welfare Act for the work of the National Animal Welfare Advisory Committee (NAWAC) and the National Animal Ethics Advisory Committee (NAEAC)
- understand the different perspectives of key stakeholders on how the change in the Act will affect them and their work

The one-day workshop was attended by approximately 150 participants representing a diverse sectors, industries and organisations. Through presentations and interactive sessions, the workshop helped participants to engage across sectors, understand the current context for AS, learn from individuals with a range of different insights into animal sentience and identify common ground. The interactive workshop sessions were designed to allow participants discuss key themes, identify questions as well as provide their own insights and advice for addressing AS in New Zealand.

MPI contracted [Groundwork Associates Limited](#) (Groundwork) to design and facilitate the workshop processes and analyse and present the results in this report. Any questions about the process or the contents of this report can be directed to Annie Perkins, who managed the project team.

Workshop Programme

- Welcome and introductions from Virginia Williams, Gwyneth Verkerk (NAWAC) and Grant Shackell (NAEAC)
- Interactive Workshop Session 1: Definition of Animal Sentience: Reflections from participants
- Presentation of Pre-Survey Results by Monica Peters and reflections from participants
- Speaker presentations:
  - **Ian Robertson**: *A view of law's "sentient" animal through the legal lens*
  - **Mark Fisher**: *Advocating for the Devil – bees, jumping spiders and the Emperor's new clothes?*
  - **Jim Webster**: *Meeting the different expectations of producers and consumers: Implications of sentience for research*
- Interactive Workshop Session 2: The Five Domains Framework
- Speaker presentations:
  - **Ngaio Beausoleil**: *Some implications of sentience for understanding and assessing animal welfare*
  - **Virginia Williams**: *Soulless machines to sentient beings - what does sentient mean for veterinarians' treatment of animals?*
  - **Nick de Graaf**: *Promoting Positive Animal Welfare: The Zoo and Aquarium Association Accreditation Programme*
  - **Jessica Stokes**: *Towards a good life for farm animals – leveraging positive welfare innovation*
- Interactive Workshop Session 3(for sector groups): Potential next steps and contributors
- Panel Discussion: Questions and answer session after drawing out key themes from the reflections of participants on the speaker presentations

Methods

Workshop organisation

Groundwork facilitated the event, running a series of interactive workshops interspersed with presentations. Participants self-selected into groups of six people per table, with the addition of a trained 'table helper' from NAWAC or NAEAC to facilitate and record discussion. The facilitator encouraged participants to join tables with others outside their sector/area of interest to generate a rich discussion. For the final workshop sessions, participants grouped themselves according to the sector they best identified with and/or where they most wanted to contribute ideas.

Prior to the event, a pre-survey was sent to all participants to determine their level of understanding of AS, and to determine the scope and nature of their opinions. Results from the pre-survey were summarised, shared and presented to the participants. Key themes from the pre-survey findings were used to analyse data from the interactive sessions.

Data analysis

Guided by objectives agreed with MPI, the data generated in the workshop was processed to communicate results effectively to stakeholders and those actioning any follow-up. Groundwork collected and stored a digital copy of all handwritten documents generated in the workshop. Groundwork also entered workshop data in a shared Google Sheet workbook with hyperlinks back to the original handwritten documents. Data from each workshop session was first synthesised during the workshop to generate a pertinent panel discussion.

After the workshop, Groundwork analysed each data set according to themes, sub-themes and codes (grounded in words used by the workshop participants). Groundwork also completed a second round of thematic analysis using results of the pre-survey and participant reflections recurring throughout the day to generate the major themes. This strategy retained participants' input and intent very faithfully. It also added a higher level of systematic analysis of the huge data set and helped generate a summary of results that can inform future actions.

Level of Understanding of Animal Sentience

Definition *- An animal's ability to have feelings, perceptions and experiences that matter to it.*

The participants were asked **How acceptable is this definition wording for New Zealand's animal welfare system?**

They rated their answers on a ten point scale (0=highly negative to 10= highly positive). The level of understanding and acceptance of the definition for most respondents was positive (Highly positive= 27% and positive = 43%) with less than 10% providing negative responses. One-fifth of respondents (20%) were neutral, indicating that further work could be carried out to enhance understanding of AS.

Acceptability of the Definition Wording
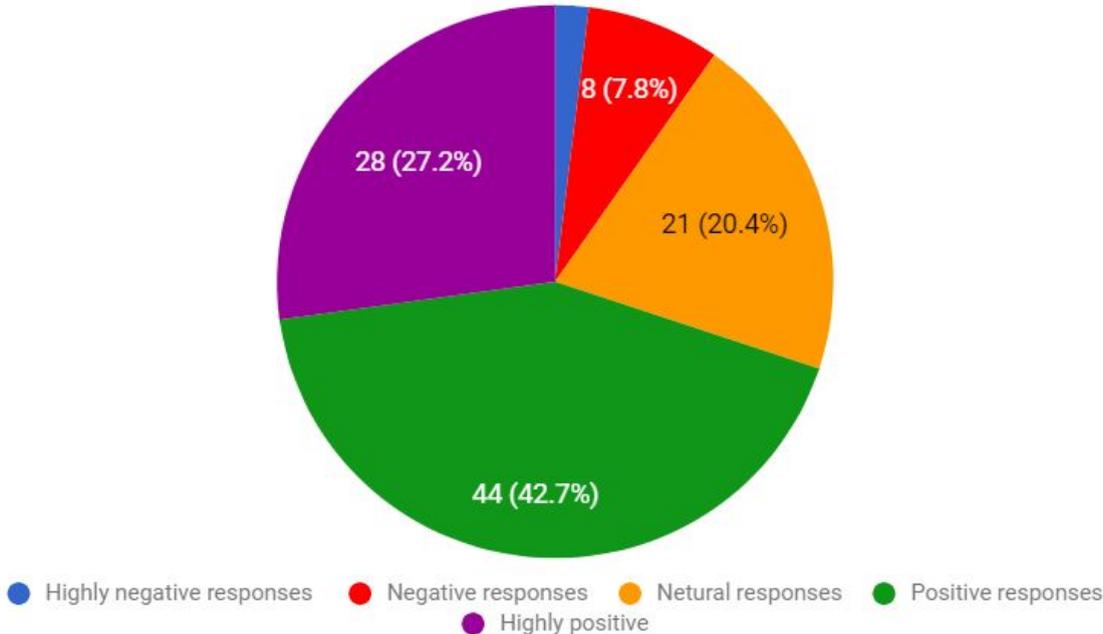
The participants were then asked to list the reasons (positive and negative) for scoring their level of acceptance of the definition of sentience. These reasons were organised into themes,most common themes are detailed below:

Positive scoring centred on the breadth of the definition (e.g. 'Breath provides scope for consideration of wider things' and 'Has multiple aspects'). The definition was seen 'good' by many participants (e.g. 'A good start', 'Extends the world by opening up conversation' and 'Best definition seen so far - hopeful for better'). There was an appreciation for using term 'Experience' (e.g. Positive that animals can experience, recognises 'EXPERIENCES' and emphasises most relevant 'outcomes' for welfare states: mental experiences that matter).

The negatives were the lack of clarity, precision and completeness of the definition (e.g. 'Not clear', 'Definition too imprecise', 'Still broad', 'Vague wording' and 'Not specific enough in how that affects the animal itself'). The definition was also identified as 'Animal-Centric' and raised significant points such as 'Sentience between Species' (e.g. 'Definitely cannot be used to assess sentience between species' and 'Are all animals equally sentient?'). Individuals, groups and stakeholders can interpret the definition subjectively. Some respondents found it difficult to understand the 'Application' and 'Implications' of the definition (e.g. 'How can we regulate with this definition?, 'No solution', 'Difficult to apply to wild or research animals', 'Too simplistic for some situations' and 'Definitions needs to be accompanied by 'implications' statement to complete').

Several terms raised mixed responses regarding their meaning, use and application. Term 'Matter' received wide responses (e.g. "Matter to it" - how to interpret? What matters to us may not be relevant - have to understand species differences and individual history, That 'matter to it' is a bit vague - how will we know what matters?). 'Feelings' and 'Perception' were also highlighted as challenging (e.g. 'How to define "feelings", and 'Feelings, perceptions of experiences are impossible/challenging to recognise or determine').

The participants also expanded on the points. Recommendations for improving the definition included incorporating a 'context' to enhance understanding among specific groups (e.g. 'Definitely needs to lead to something that is measurable', 'Relative to their environment', and 'How to deal with "but that doesn't matter/apply to me"). A need was identified for detailing positive vs negative dimensions of the concepts outlined in the definition (e.g. 'Qualify positive versus negative - and how to measure' and 'Negative and positive events'). Additional term suggested was 'quality of life' (e.g. 'A life worth living', 'a good life', and 'That contributes to a good life and a decent death'). Refinement of the use of specific terms (i.e. behavior, feelings/emotions, matter and perception) were highly recommended.

Pre-Workshop Survey Results

A seven question survey was sent out before the workshop. The survey aimed to understand participants' range and level of knowledge, concerns and thoughts regarding the 2015 Legislative Amendments. All text responses were reviewed and sub-themes were developed for each question. These sub-themes were then aggregated into broader themes to facilitate the interpretation of data by end users. A total of 54 participants representing around 17 different industries or areas of interest responded to the survey.

Some respondents occupied a number of different positions, and/or had interests in a wide range of areas e.g., 'Pest control, Education about animal care, Use of animals in research, teaching, and testing'.

- Nearly one third of responses were from those representing primary production with an even split between domestic (8 responses/15.1%) and export (8 responses/15.1%)
- Nearly one third of responses were from those engaged in the use of animals in research, teaching, and testing (15 responses/ 28.3%)
- Just under one fifth of responses were from those engaged in animal welfare verification (10 responses/18.9%)
- Others include vet/medicine, education about animals, compliance/enforcement and policy development

Results of the survey that were distributed to the participants in the workshop are included as Appendix Two. An analysis of the survey results and participants reflections on the results presented by Monica Peters are summarised below.

Views on 2015 legislation change

Nearly 75% of the respondents had a good to very good understanding of the 2015 legislation change and its implications. Nearly 90% of respondents felt positive to very positive regarding the legislative amendments.

Level of understanding of the 2015 legislation change and the implications of recognising animal sentience in New Zealand law
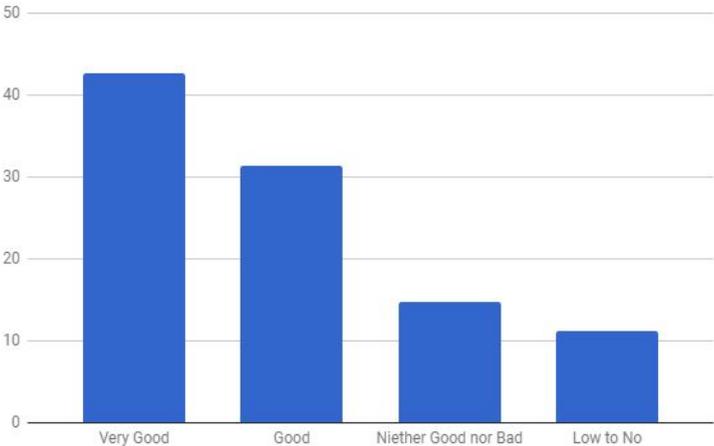
Respondents' feelings about the 2015 legislative amendments
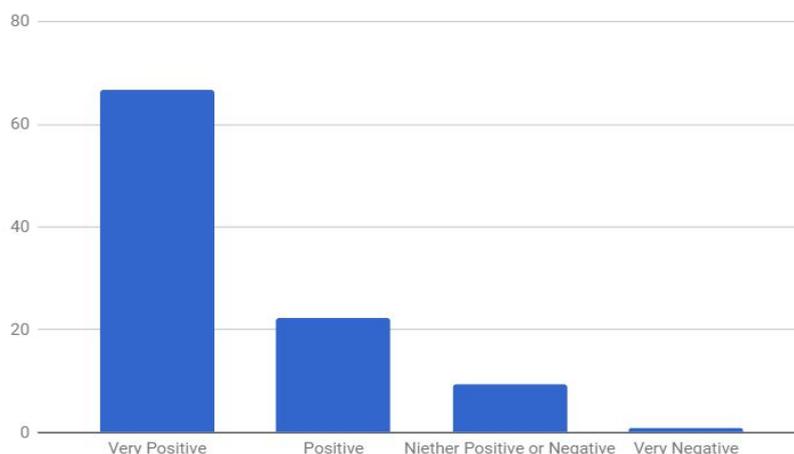
Benefits of giving effect to AS in New Zealand

The pre-survey asked respondents:
What benefits do you see in giving effect to animal sentience in New Zealand? Please help us understand the reasons for your response by describing why you feel this way about animal sentience being recognised in New Zealand law.

Reflecting on an analysis of the pre-survey responses to these questions, workshop participants felt that it captured themes coherently and completely.The table below outlines the major themes and their definition.

Theme	Scope/Definition of Theme
Leadership and international reputation	Demonstrating international leadership and enhancing industry/sector/organisation reputation
Positive outcomes	Creating positive outcomes for animals (including currently underrepresented species)
Standardising and normalising	Standardising and normalising the humane treatment of animals
Enhancement and regulation	Developing consistency in the enforcement of animal welfare, tighter regulation of industries/sectors/organisations as well as enhancing their transparency and accountability
Education and awareness	Creating educational opportunities and raising public awareness to help build a more compassionate and informed society
Research and innovation	Promoting/supporting excellence in research and innovation

Challenges arising from the AS Legislation

The pre-survey also collected responses on challenges by asking the following question: *What do you see as the biggest challenges to your sector, industry, or organisation in recognising animal sentience?*

Participants were asked to reflect on the pre-survey data in their table groups and make additional comments to the results. While reflecting on the pre-survey results, participants identified a wide range of challenges. The following major themes emerged from the data.

Legal Dimensions

The legal definition of AS raised questions such as 'Which species are included in the definitions and are 'animal' (e.g. where are spiders/bees etc. placed)?' A gap was identified in defining and detailing what the minimum standards for AS were, along with determining how much 'positive' is enough to meet legal requirements. The consistency in legal interpretations and legitimacy of the definition was questioned. Some participants felt that if the legislation only resulted in further regulations, that outcome-based codes would be lost.

Practicalities of Implementation

Participants highlighted that the day-to-day implementation of AS needed to be recognized and described. They highlighted lack of ease in applying the concept across species, individuals compared with herds or flocks and non-industry animals such as pets (e.g. 'Recognising day-to-day implementations of sentience'). Practical barriers to implementation on farm included common farm management practices that impinge on animal welfare (e.g. cow/calf separation), with numerous animal industry stakeholders identifying that behavioral changes may be required in order to better implement the legislation both at an industry level, and more specifically among some individual operators. Some participants expressed the need for NAWAC/NAEAC to develop strategies and policies for implementing AS.

Impact on Industry

Participants iterated that sectors had their own needs, codes and standards. Each needed time to experiment and evaluate any additional requirements brought about by the new legislation. Also raised was the varied costs between sectors, with costs being higher in some sectors than others (e.g. production industries). The need was expressed to balance interests between industry insiders and outsiders, costs and benefits, efficiencies and efficacy against animal welfare, e.g., when looking at pest animals and animal transport. Some participants felt there needed to be a mechanism for rewarding good practice. Those complying to laws should have some added advantage which can interest them in sustainable compliance and can draw more people too.

Morning Session Speaker Presentations

Three speakers gave their presentations in the morning session (15 minutes each). The aim was to familiarise participants with:
- the history and development of codes of animal welfare.
- concepts of quality of life and affective state of animals
- codes of ethical conduct, society's changed expectations and implications for research

Following are the titles and summaries of the presentations.

1. Ian Robertson: *A view of law's "sentient" animal through the legal lens*

The presentation considered the alternative legal interpretations that might be applied following the legislative recognition of animals as "sentient" in the Animal Welfare Act 1999. One interpretive pathway may be summed up as "business as usual". The second legal interpretation demonstrates how a stated "symbolic" intention regarding a word (i.e. "sentient") can be transformed in law's house-of-words to create a tangible shift in day-to-day legal responsibilities, accountabilities and liabilities. The presentation sets out how advocates of the second approach can use established protocols and legal precedents to implement a legal definition of "sentient" and amend the pre-amendment legal test of animal welfare in a way that meets courtroom evidential requirements and evolves the legal standard of animal care. Consequences and opportunities associated with a revised legal standard of "animal welfare" are provided, along with options for meaningful implementation in context of wider associated governance responsibilities that include New Zealand's international reputation and trade interests.

2. Mark Fisher*: Advocating for the Devil - bees, jumping spiders and the Emperor's new clothes?*

The presentation outlined the progression of animal welfare in New Zealand. There are varying understanding of sentience about public and practitioners working with animals. Some are common across sectors whereas some are placed within unique context. similarly, the degrees and limits of sentience varies. In the perceptions of people as well as among various species. Certain species' sentience is much easily comprehensible as opposed to others such as the bees and the spiders. There are those 'non-sentient animals' for whom it is difficult to advocate animal sentience and propose a good life and a good death.

3. Jim Webster: *Meeting the different expectations of producers and consumers - Implications of sentience for research*

Animal welfare research helps producers align their practices with societal expectations. In doing this, research plays an important role in shaping expectations about animal care and

how these expectations are met. Society's requirements for the level of animal care have only increased albeit in a gradual progressive manner. With the incorporation of sentience into legal considerations, research must find new ways to address a potential leap in expectations that may not yet be matched with supporting knowledge or practices, for example the incorporation of positive affective state and welfare assessment schemes that take into account individuals.

Participants' reflections on the presentations

After the presentations, participants were asked to synthesise their thoughts and questions prior to adding to the sheets of paper laid out on each of the tables. Comments were then re-ordered and grouped into overlapping themes that emerged from the data: Legal dimensions; Definitions; Philosophical dimensions; Impact on Industry; Perceptions/Society; Research; Practicalities of implementation; International Spin-offs. The comments were used to shape the content of the afternoon sessions. Some comments were selected for panel speakers to address toward the end of the event.

The Five Domains Framework: Ease of use across sectors

The workshop session was designed to determine the ease of use and applicability of the Five Domains Framework by participants. The session aimed to incorporated the learning of the participants from the presentation of the morning session speakers. Using the example of a dog, the participants worked through the Five Domains in table groups. The example of dog was used to minimise disagreement (considering the diversity of participants) allowing focus on the practical application of the framework.

Workshop participants generated a total of 67 ideas/indicators utilising the five domain framework. The findings were analysed quantitatively (comments were aggregated where they overlapped). A breakdown by domain category is as follows:

Participants' response frequency while reflecting on the Five Domains Framework

Category	Positive Indicators	Negative Indicators	Number of Concepts	Total Number of Responses
'Nutrition'	11	7	18	112
'Environment'	23	14	37	154
'Behaviour'	15	3	28	137
'Health'	15	17	32	120
Affective State	16	21	45	156

The table primarily shows that the participants were able to identify indicators that can establish/reflect the experience of the domain category in an animal. Even using the example of a dog, participants responded rigorously and consistently indicating active engagement with the Framework. This highlights significant potential for applying the Framework across multiple sectors, industries and organisations.

Afternoon Session Speaker Presentation

Four speakers gave their presentations in the afternoon session (15 minutes each). The aim was the exploration of the possible impact of the legislation on:
- Better understanding of the animal welfare
- Veterinarians' treatment of animals
- Zoo and Aquarium animals
- Farm animals

Following are the titles and summaries of the presentations.

1.   Ngaio Beausoleil*: Dissecting distress: The importance of specific terminology and the value of the Five Domains model for better understanding animal welfare.*

In the past, evaluations of animal welfare have often been centred on the absence of 'pain and distress/suffering', with the use of generic terms such as 'distress' and 'suffering' aimed at covering all negative experiential bases. However, the use of such generic phrases can limit the accuracy of welfare evaluations and lead to the 'no pain, no welfare problem' fallacy. For example, their usage can lead to under-emphasis of the importance of other unpleasant experiences that are qualitatively dissimilar from pain but which can be equally or more detrimental to welfare (e.g. air hunger), as well as the failure to systematically look for, or recognise, indicators of such experiences. In addition, the use of 'distress' or 'suffering' does not facilitate understanding of what causes the aversion expressed by animals, nor how to specifically avoid or mitigate those experiences.

Related to this, one benefit of the Five Domains model for systematically assessing animal welfare state is the requirement for the user to mechanistically link physical/functional evidence with the specific pleasant or unpleasant state the animal is likely to experience. A growing body of neuroscience evidence is available to support such inferences. Thus, use of the model encourages seeking and recognition of evidence of a wider range of specific negative and positive experiences; this will facilitate a deeper and more holistic understanding of welfare state as well as development of targeted strategies to reduce impacts and realise benefits.

2.   Virginia Williams*: Soulless machines to sentient beings - what does sentient mean for veterinarians' treatment of animals?*

As veterinarians, we know that the nervous systems of most of the animals we treat are essentially similar to our own, with there being no doubt that they feel pain. The work of David Mellor and his associates has definitely introduced the idea of emotional responses to animal experiences. The implications for veterinary treatment are that the simple provision of pain relief is only one step in ensuring animal welfare. In any interactions with any of the animals we treat, the opportunity is there to both minimise negative and maximise positive treatment experiences.

3. Nick de Graaf*: Promoting Positive Animal Welfare. The Zoo and Aquarium Association Accreditation Program*

Sentience is recognised in the ZAA Accreditation Program and the broad variety of species managed in our industry can make it challenging in establishing a 'one size fits all' assessment tool. The Program aims to promote positive welfare and to empower members to apply their knowledge of the species they manage in the validation process. The 5 Domains Model is suited to the purpose. The program commenced approx. 4 years ago, this program has demanded a significant paradigm shift within the zoo community. Many lessons learned as a result, such as the following:

- Positive experiences are already occurring a lot in the industry. We just haven't had a framework to recognise it until now.
- Our Program has a two pronged approach in assessment (1) establishing the animals experiences i.e its welfare status, and (2) establishing if the organisation is actively playing a role in promoting its welfare i.e its practices and standards of care. Focusing on one part or the other provides an incomplete picture e.g. if animal is having good experiences now, how do we know it will continue unless we also know how it will be cared for in future?
- Positive experiences are hard to benchmark. They occur in many ways and for many reasons. A 'minimum' cannot be defined as yet. However, our framework works to identify where negative experiences should be minimised, and where positive experiences can, or is, being promoted.
- An advantage identified with this approach is that we don't benchmark one zoo against another. A zoo is benchmarked against their own animals experiences. Meaning every zoo has complete ownership over the assessment findings.

4. Jessica Stokes*: Towards a good life for farm animals - leveraging positive welfare innovation*

Society values animal's quality of life and consumer awareness, willingness to pay and demand for higher welfare products is increasing. Many consumers want to buy products from happy animals that have had positive welfare experiences towards a 'good life' and high animal welfare assurance schemes want to demonstrate they can provide these products. However, there are barriers and challenges to applying various approaches on farm, particularly within the time and space of an assurance visit. Have we got measures that are valid enough and practical to use? What are the alternatives? How do we motivate and facilitate positive welfare on farm?

Policy initiatives, legislation, government and market incentives, certification schemes, and facilitation are all mechanisms through which positive welfare can to be encouraged. Positive welfare advancement will require different approaches depending on the barriers and motivations for change. For example, where cost to the farmer or industry is high, government or market incentives may be required. Where value to the animal and consumer is high but farmer motivation is low, voluntary membership to high welfare schemes, welfare stewardships or participatory approaches with farmers maybe more effective. Rewarding positive welfare can motivate farmer's more than just penalising negative welfare, enriching farmer satisfaction and wellbeing. And in practice, a survey of 50 free range and organic laying hen flocks demonstrated that some farmers under higher welfare market initiatives in the UK already provide resources which give farm animals positive welfare opportunities. Focusing on positive welfare can be a more effective approach in bringing about substantive behaviour change across industry.

Participants' reflections on the presentations

Following the presentations, participants were asked to synthesise their thoughts and questions prior to adding to the sheets of paper laid out on each of the tables. Key themes emerging from their responses include Practicalities of implementation, Research, Legal dimensions, Definitions, Philosophical dimensions, Education and awareness-raising. and Impact on Industry. Some comments were selected for panel speakers to address toward the end of the event.

Practical Steps to support those working in the AS sector

The interactive session was designed to capture the solutions proposed by the participants stemming from their prior knowledge, learning from the workshop and discussion with peers (from diverse sectors). Participants were asked to group themselves by sectors/areas of interest to address the question:
How do we best support those working in this sector to make change and better address sentience?

Participants divided themselves into 13 groups. The groups were based on the following sectoral categories.

Sectoral Categories			
Primary Production Domestic	Animal Husbandry/ Exports	Compliance and Enforcement	Education about Animal Care
Research Testing Teaching	Education	Pest Control	Policy Development
Wildlife and Zoos	Companion Animals	Vet and Medicine	Animal Advocates Sector
Rodeo/Thoroughbred/Greyhound			

Groups were asked to discuss and identify what practically needs to be done. All the comments from the groups were then drawn into themes. Following are the most recurrent themes.

'Education' as an active tool to change was the most recurrent theme. The potential of campaigns, consumer education, sharing knowledge and resources, training (including skill upgradation as well as tertiary training for farmers) was highlighted.

> 'Communication' of the AS concept was the second most dominant theme and included compliance among consumers, raising awareness among vets with trickle-down to farmers, holding round-table dialogues (including political stakeholders), and disseminating sector-specific positive outcomes (e.g. economic).

Addressing the 'Research Gap' to generate evidence-based knowledge to help define the scope and boundaries of AS was also highlighted. This included identifying current animal welfare practices, rates of compliance, industry-specific challenges and describing animals' positive experiences. Research, supported by targeted funding was also seen as underpinning how animal sentience could effectively and efficiently be implemented across different sectors. Reference was made to the existing systems of best practices/codes of conduct across sectors and aligning these to the Five Domains. Also included was the need to review existing welfare toolkits and codes of conduct.

Following is the summary of the thematic analysis of the participants feedback. The table includes examples from the workshop data.

Theme Title	Example	Frequency
Education and Communication	Education at all levels! Give farmers the resources to do the right thing. Education via sector database/social media	32
Research Needs	More research to identify what positive experiences for animals are. Identify action with high leverage (low cost, simple, easy, broad potential). More research/data - targeted funding	15
Message Delivery Methods	Connecting with the community about animal sentience via: media, direct contact, social media, education, other	12
Codes/ Standards/ Regulation	License and codes of welfare. Regulatory intervention - banning some breeds? OR banning outcomes (e.g., arthritis/breathing issues, etc.)	11
Best Practise Methods	Look for/use least inhumane methodologies (across all approaches) while being practical, economic, etc. Within limits of law - selection of methods - applies time of year when no young. Affiliation with organisation that follows best practices	8
Communication content	Clearly explain/identify what is acceptable and/or expected. Put positive examples out.	6
Training	Tertiary training facilities - training farmers. Upskill enforcement officers.	4
Tool revision	Welfare toolkit revision.Vets Act 2006, COPC, AWA 1999	3
Sharing knowledge	Discuss sentience with staff/AECs and make sure your institution is on the same page. Conference somewhere warm and fun :)	3
On ground activities	Supporting user groups such as game council. Manage herds of special interest.	3
Legal dimensions	Prioritising sentience in court submission/prosecutions - sufficient scientific evidence to back it up	2

Groups were then asked to identify potential contributors - who could help execute the practical steps?

The recommended changes were seen as the responsibility of wide range of people and professional bodies, including government agencies and office bearers (e.g., MPI, local government and ministers), educational institutions, scientists, media as well as the general public. Regulatory bodies along with animal industry stakeholders were also highlighted as playing an important role (e.g., ANZCCART, AWO, Dairy NZ, NZ Pork, NAWAC, NAEAC, VCNZ and RNZSPCA).

Conclusion

The event was designed to stimulate rich discussion between participants on the concept of AS and cover a range of different perspectives including moral and ethical, practical, political, scientific, and local to international. The themes resulted from synthesising participants' thoughts and questions from the workshop session and speaker presentations. The workshop data reflects broader dimensions to AS in the Animal Welfare Act which resonates with the major themes discussed in the report. These include defining animal rights from a sentient perspective, speciesism, and positioning/hierarchical categorisation of various species on the sentience scale. To summarize the breadth of the thought provoking discussions of the day, some quotes and questions posed by the participants are as follows.

- Should expectations of providing a good quality of life be higher, the same, or lower for zoos versus food animals? When does a positive experience become too plentiful?
- How do we assess sentience which differs from our own? (i.e. human understanding of sentience likely cannot comprehend all forms of sentience)
- If we have 'legal responsibility' to ensure positive states but we cannot 'force' animals to have these? How can we achieve this?
- If animals are acknowledged as having sentience - full cognitive positive/negative experience, perception and feelings, how does this translate into right of full freedom from human interference?
- How positive is positive? How many positives outweigh a negative?
- Where is the balance legal/moral rights of independence and human interests - business, research, leisure.
- Be careful what we wish for.
- Interesting link of animal and farmer welfare.

The philosophical thoughts and questions posed by participants reflects the diversity of their values, beliefs and cultural norms and provides an insight into those of wider New Zealand society.

Appendix One: Understanding AS Definition: Reasons for Scoring

Theme Title	Broad Definition of Theme	Frequency
Good	The definition is seen as a good start addressing important concepts and delivering meanings	14
Terminology - Matter	The term "Matter" raises significant responses regarding its meanings, operationalisations, use and available alternatives that can better serve the purpose	14
Sentience between Species	Vacuum identified as definition does not allow assessing sentience between species	12
Other	Additional comments by the participants also including their personal remarks.	12
Imprecise	The precision is missing. Not specifying animals and contexts. Too generic.	11
Applicability	Application in research, farms and New Zealand are not vividly presented.	11
Terminology - Feelings	Term-Feelings with reference to animals is not easy to comprehend and holds grey area to categorise different kinds of feelings among different kinds of animals	9
Incomplete	The definition gives a feel of incompleteness and various aspects and dimensions are missing from the perspective of participants.	7
Subjectivity in Interpretation	The definition leaves room for subjective interpretation of concepts and sentience. Thus can be subjectively interpreted according to the experiences and observations of individuals.	7
Terminology - Perception	Term-Perception does not allow clear understanding of animal states that need to be considered.	6
Broad	The breadth provides scope for consideration of additional aspects	*4*
Terminology - Experience	Term-Experience is better to deliver plausible meanings that can be overtly observed and understood.	4
Animal-Centric	Heavily driven from an animal perspective and talks about animal rights. Absence of human perspective	4
Implications	Absence of the implication for the policy and practices	3

Appendix Two: Results of Pre-Survey

Question themes:

The biggest set of questions centres on 'How'.

- How will implementation of the legislation occur across all species e.g., production, live export, pest species both on a legal level as well as on a on a practical level?
- How does this legislation relate to existing Animal Welfare frameworks/codes, or the Five Domains Framework - are there potential issues with duplication?
- Where does sentience actually begin on the spectrum from fetal to newborn? Individual to collective sentience? Will it be significant rather than symbolic? How will the legal status of animals change?
- How can the bar for animal welfare be raised?
- Why are specific activities spotlighted e.g., rodeo?

There are also contextual questions that relate to determining what the implications are for markets as well as organisations, as well as questions relating to research gaps such as how stress levels of captive animals can be measured.

Sector based, industry and organisation challenges
What do you see as the biggest challenges to your sector, industry, or organisation in recognising animal sentience?

- For most respondents, key challenges identified were around communication. This includes the need for education to build understanding of animal sentience among the public and industry, so that views and decision-making is rational and not emotionally driven
- Challenges also included the legal definition as well as consistency in legal interpretation (both in NZ and Australia) along with enforcement
- The impact on industry/sectors/organisation will require balancing interests (e.g., between those inside and outside the respective industry etc) as well as the costs and benefits. This may mean balancing efficiency and efficacy against welfare impacts of pests and will also include logistical factors (ie. the number of animals)
- Each sector will need time to experiment and evaluate additional requirements (if required), and that these are not at the expense of science-based measures in regard to the Five Freedoms and possible trade-offs that may occur
- Major research will be be needed to objectively measure and understand the behaviour of different species within different settings and to determine the relative levels of sentience in different species in different situations
- Lifting the level of stockmanship, changing behaviour/changing how animals are treated
- Compliance within industry along with enforcement e.g., so that there is credibility within industry
- Further challenges may lie in gaining ethics approvals for research, testing and teaching and stopping meat eating

Benefits of giving effect to animal sentience & why

What benefits do you see in giving effect to animal sentience in New Zealand?	Please help us understand the reasons for your response by describing why you feel this way about animal sentience being recognised in New Zealand law
Demonstrating international leadership and enhancing industry/sector/organisation reputation	- Need for practical interpretation to enhance leadership and international reputation - Better legal protection of production and research animals - Animal sentience now recognised in law - Promote a more holistic approach in commercial farming - Animal sentience is supported by science - Always room for improvement to allow for changing views and practices; humane treatment - Changing animal welfare from minimising negatives to incorporating positives and 'a life worth living'
Creating positive outcomes for animals (incl. currently underrepresented species) and standardising and normalising humane treatment of animals	- Recognition of sentience strengthens moral impetus for animal welfare 'Life worth living' - Law is appropriate; important milestone in animal welfare - Moral right supported by science (but anthropomorphically measured); science is incorporated - Expands/shifts current thinking from animals property to animals as beings - Nervousness about implications and use
Developing consistency in the enforcement of animal welfare, tighter regulation of industries/sectors/organisations as well as enhancing their transparency and accountability	- Act should drive industry to address the issue of animal sentience impacting on social license for some animal industries head-on, rather than pretending it doesn't exist - Consistency in enforcement supported by robust science - May be used as a "whipping tool" for Animal Industry - Making research e.g, animal behavioural studies, available for actioning
Creating educational opportunities and raising public awareness which will help build a more compassionate and informed society. The legislation forms a starting point for understanding societal attitudes to different animals in different situations	- Ensure that animal sentience remains active not just symbolic Valuing the sentience of an individual animal - Helping to shift thinking from animals as property to animals as beings - BUT lack of information on implementation; education programmes, additional welfare inspectors
Promoting/supporting excellence in research and innovation	- Practical application to research/teaching - Identifying research gaps: Impact of manipulation