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Animal welfare evolution or revolution?

It's 20 years since New Zealand introduced the Animal Welfare Act 1999. This was seen as big step forward for New Zealand at the time.

We recently reviewed the Animal Welfare Act – the first major review since it came into force. Two key changes were the introduction of regulations with direct penalties to address problem low-to-medium level offending, and at the other end of the spectrum, the explicit recognition of sentience, which encourages acknowledgement of positive states of welfare – not just negative – and the consideration of positive welfare in the development of standards. The review of the Act also led to the release of a national strategy for animal welfare, Animal Welfare Matters. The two key outcomes, better care of animals, and reputation for integrity, are both recognised as important for progress in animal welfare in New Zealand.

These were undoubtedly positive changes, however, there continues to be concern raised about animal welfare in a number of areas. Most recently this includes concerns about puppy breeding, livestock export, farrowing crates for pigs, rodeos, 1080, greyhound racing, psychological test models on rodents, and teaching with animals in schools, and there are continued calls for a commissioner for animals. Some of these issues are calling for improved rules or treatment; others are questioning whether a particular use of animals is still acceptable in New Zealand.

There is no doubt that these are all important issues to address. Our job is to work to understand how to manage them: how can we encourage and support voluntary change? What changes to rules are required? What do New Zealanders think about these issues and

what uses are acceptable? Most importantly – who needs to take a role in making these changes? Everyone is responsible for animal welfare and New Zealand's animal welfare strategy lays out roles for government, animal sectors and all New Zealanders. A lot can be done through collaboration to address these issues. Regulation is only one way to drive change. This is even being recognised globally with one example being the United Nations and global food corporations taking actions to encourage “responsible consumption” – consumers taking a role in improving the environment, social welfare and animal welfare by responsible purchasing behaviour. Perhaps the problem is that this approach is more like evolution than revolution. Its strength is that it can firmly embed change with everyone understanding what is required of them and what actions to take and costs they must bear. A downside is that it takes time.

Some bigger changes will only happen by evolution rather than revolution – such as addressing the expectation that animals should be able to live a good life, not just a life that avoids unnecessary pain and distress. This is a global change that is already being addressed in different ways in New Zealand. It is a stated intention of the National Animal Welfare Advisory Committee that positive welfare will be addressed in minimum standards as codes of welfare are reviewed (currently only a few codes have standards around positive welfare). Another is the move to introduce animal welfare into global conversations about environmental sustainability, whether explicitly through the UN's Sustainable Development Goals, or more generally through the introduction of One Welfare/One Health as a holistic concept to support change.

continued...

We need a New Zealand solution that supports farmers and producers to meet obligations and expectations across animal, human/community and environmental safety and wellbeing. This is particularly so with growing limitations on resource use and management, and the reality of climate change.

In this issue we cover some good examples of collaboration to improve animal welfare, as well as giving some examples of what MPI is doing to address poor animal welfare. Happy reading!

Kate Littin
Manager Animal Welfare Team, Ministry for Primary Industries
kate.littin@mpi.govt.nz

NAEAC Appointments

The Minister of Agriculture, Hon Damien O'Connor, recently appointed Ms Rachel Heeney and Dr Dianne Wepa to the National Animal Ethics Advisory Committee.



Rachel replaces Terry Fenn and will provide knowledge and experience of education issues, including the use of animals in schools. She has taught biology for nearly three decades and loves it more every year. In her time she has taught many students, run student trips overseas to study biology in Vanuatu and Samoa, co-written textbooks, run professional development for biology teachers, taught teacher trainees, loved and cared for many animals, had one gorgeous daughter (11 years old) and been privileged to work alongside fun, caring and innovative teachers. While Rachel lives in and loves Auckland, she calls Northland home, returning to Kawakawa any time she can to get back into the outdoors.



Dianne will be the layperson on NAEAC and replaces Leasa Carlyon. Dianne is of Ngāti Kahungunu descent. She has worked for 30 years in community health, predominantly in primary health care and with Māori communities. She is a Registered Social Worker with specific experience in community mental health, family therapy, and youth health/justice. Her publishing background includes a range of journal articles and textbooks in cultural safety and clinical supervision. As a member of several ethics advisory committees,

Dianne brings a depth of knowledge about tikanga Māori and research ethics in health. As an adjunct senior lecturer for Auckland University of Technology, Dianne currently teaches undergraduate students in nursing, midwifery, occupational therapy and physiotherapy about primary Maori mental health. Dianne also teaches First Peoples' Health at the University of South Australia, where she has engaged with the Royal Society for the Prevention of Cruelty to Animals (RSPCA) on animal welfare issues.

The Minister also reappointed Grant Shackell, a retired scientist, for a second term. As NAEAC's Chair, Grant is also an ex officio member of the National Animal Welfare Advisory Committee. In addition the Minister reappointed Dr Craig Gillies, Principal Scientist at the Department of Conservation, to provide knowledge and experience of environmental and conservation management, and Bronwen Connor, Professor of Pharmacology at the University of Auckland, to provide knowledge and experience of medical science.

Carers of research animals now recognised for Continuing Professional Development

While the use of animals in research will always be ethically contentious, responsibility for their day to day care usually falls to a group of dedicated personnel whose vital contribution to animal welfare receives little attention. Most hold a tertiary qualification in animal care although until now, there was no formal means of recognising their commitment to ongoing learning. This gap has now been filled with the launch of a Continuing Professional Development (CPD) programme specific to the sector.

The Australian and New Zealand Laboratory Animal Association (ANZLAA) is a volunteer-run industry association that represents animal care staff, animal technicians and veterinarians who provide first hand care for animals used in research. In addition to delivery of annual conferences and other networking events, ANZLAA now operates a programme that offers members formal recognition for their participation in a wide range of CPD activities.

It is hoped that the ANZLAA CPD Programme will both encourage further commitment to ongoing learning and boost recognition of the contribution made by those who dedicate their careers to the welfare of animals used in research. For further information, please contact cpd@anzlaa.org.

Malcolm France
Chair
ANZLAA CPD Committee
cpd@anzlaa.org

Cull Season

With culling season underway following drought in some areas, MPI has been reminding stock owners planning to cull livestock that each animal is their responsibility until they're accepted by the processing premises or sale yard.

It's been a successful campaign, with rural paper advertising and a press release which has seen widespread uptake – including a long segment on RNZ National Rural Report.

MPI's Director of Animal Health and Welfare, veterinarian Dr Chris Rodwell, says while most animals travel without any problems, he has a simple message: "Don't take the risk with unfit stock – it's not good for the animal, and if they don't arrive in acceptable condition you could end up with no return and a fine of \$500."

Dr Rodwell summarises MPI's advice in six key points:

- **Plan ahead and talk to your stock agent and transporter:** tell them if any stock are too tall for a standard truck; ask them how long the trip will be; and ask for plenty of notice so you can ensure stock are in good shape for travel.
- **Don't assume your stock are going to the nearest works** – it's not always the case. The longer the trip, the harder it is on the animal, so keep that in mind.
- **Prepare stock before the trip** – stand them off green feed for 4-12 hours, provide hay or baleage and always have water available.
- **Dry off dairy cows to avoid metabolic issues.** If that's not possible, dose them with calcium and magnesium, stand them off green feed a few hours before loading, and milk them as close to pick up as you can.
- **Call your vet if you're unsure about any animal** – if in doubt, leave it out.
- **Finally, use the Fit for Transport app** – it's designed to make it easier for stock owners, agents and transporters to select animals before transport. The app will help ensure the welfare of your animals during transport and avoid the risk of fines for sending animals that are lame; have ingrown or injured horns; have injured or diseased udders; or have eye cancer. It's free to download from iTunes or Google Play and will work on your smartphone or tablet even while offline.

Leonie Ward
Manager Animal Welfare Sector Liaison
leonie.ward@mpi.govt.nz

End of Life and Welfare

It has long been recognised that the young, old, pregnant and immune-comprised animals are the vulnerable portion of the population. This has been well established when it comes to food safety. The bobby calf working group acknowledge the risk in this "young" population with regards to welfare. The attention is now being turned to the end of life "older" animals.

The Animal Welfare Act 1999 already places a duty of care on persons in charge to provide for the physical, health and behavioural needs of their animals. The Animal Welfare (Dairy Cattle) Code of Welfare 2018, Animal Welfare (Sheep & Beef) Code of Welfare 2018 and Animal Welfare (Transport within New Zealand) Code of Welfare 2018 contain details about selecting and preparing animals for transport. The Animal Welfare (Care & Procedures) Regulations 2018 include infringement offences for transporting unfit animals.

Annually, approximately 1000 dairy cattle become recumbent after transport to slaughter. In the face of this statistic, an MPI and industry working group was developed in 2016 to review and validate advice on reducing the risk of recumbency in dairy cattle. From this working group, the *Transporting Dairy Cows* brochure was developed. Guidance was targeted at farmers, transporters, saleyards and meat processors. In 2018, cattle recumbency still remained a significant issue during transport and at meat processors. The Recumbent Cattle Working Group was developed to further the work of the 2016 group by developing further guidance material, *Preventing Downer Cows while Transporting to Slaughter*, with targeted messaging.

The October 2018 meeting of the Farm to Processor Animal Welfare Forum found recumbency on the agenda again. It was agreed

to widen the scope of the project beyond recumbency and to look at improving welfare of all cull animals. The aim is to establish a working group similar to the bobby calf project, with the purpose of developing and implementing a work programme to improve welfare for end of life animals.

The End of Life working group will develop initiatives to affect behaviour change along the supply chain through preparation on farm, procurement practices that enable better preparation, during transport, at saleyards and in the yards prior to either meat or pet food processing.

MPI Verification Services (VS) will continue to be a major contributor to the work programme. VS have an active role in animal welfare issues at processing premises. They are actively involved along the supply chain providing education and guidance, warnings where issues arise and enforcement where a breakdown has occurred under the Animal Welfare Act 1999, Care and Procedure Regulations and the Codes of Welfare. Data gathered by VS is critical to enable MPI and industry initiatives to monitor the effectiveness of work programmes.

Kristi Hamblin
Veterinary Technical Supervisor
kristi.hamblin@mpi.govt.nz

MPI Animal Welfare Compliance Prosecution Results November 2018 – February 2019

The Ministry for Primary Industries (MPI) carries out a range of activities to encourage compliance and to enforce the Animal Welfare Act 1999. This includes responding to over 1000 animal welfare complaints from the public per year. Around 30 prosecutions are taken per year when more serious offending is detected. Lower level offences are dealt with in other ways including by providing education and issuing infringements. See [Issue 24](#) for more information.

Here we summarise some recent cases which have resulted in prosecution. Thankfully cases like this are very rare in the farming sector. We encourage everyone to report animal cruelty when they see it by phoning 0800 00 83 33.

McLean

In October 2018, Mr Kyle Peter McLean of Whangarei was convicted and sentenced on one charge under the Animal Welfare Act for dehorning 15 cattle using loppers. No pain relief was administered and the sensitive parts of the horns were cut into, resulting in pain and distress. A member of the public sighted the cattle with decapitated horn stumps and blood running down their faces. When MPI Animal Welfare Inspectors arrived, blood was found on the persons who had performed the procedure. Mr McLean was convicted and fined \$3,000 plus court costs.

Johnstone

In February 2019, Mr Lester Donald Reuben Johnstone of Whangarei was convicted and sentenced on three charges under the Animal Welfare Act – two for contravening a 20-year Disqualification Order made under the Animal Welfare Act (he had been prosecuted and disqualified for animal welfare offending on a previous occasion) and a third for aiding and abetting Mr Kyle Peter McLean to dehorn cattle using loppers (see previous case). Mr Johnstone was fined \$20,000 and the Judge reminded him of his Disqualification Order. The Court also ordered the proceeds from the sale of the thirty one animals seized be made to MPI. This figure totalled \$20,780.50.

Aitchison

In October 2018, Mr Eric Aitchison of Tangiteroria, Northland was convicted and sentenced on two charges under the Animal Welfare Act for failing to meet his obligations in relation to

cattle – specifically, for failing to feed six emaciated cattle, and for failing to provide veterinary treatment to alleviate the pain and distress of six additional cattle, which were found recently deceased at the time of the Animal Welfare Inspector's visit. Mr Aitchison was fined a total of \$6,000 plus court costs.

Worrall

In October 2018, Mr Gary Craig Worrall of Auckland was convicted and sentenced on two charges under the Animal Welfare Act. The first was for keeping a calf alive while it was suffering severe pain and distress from untreated infection in the joint resulting in arthritis – the calf was later euthanased. A few months later, MPI Animal Welfare Inspectors returned to Mr Worrall's property for a severely lame heifer. A veterinarian determined the heifer had deformed hooves, extensive swelling and infection in the affected leg. She was in a considerable degree of pain, and given that the condition was untreatable, this animal was also euthanased. Mr Worrall was convicted on both offences, and an order was put in place to come up for sentencing if called upon again. He was also ordered to pay the veterinary costs incurred by MPI.

Crowe

In February 2019, Mr Kenneth Brian Crowe of Morrinsville was convicted and sentenced on a charge of contravening a partial Disqualification Order made under the Animal Welfare Act in 2018. Mr Crowe had twice previously appeared before the Court on animal welfare matters. The partial Order restrained Mr Crowe from having more than 100 cattle in his ownership, under his authority, or in his charge at any one time. Mr Crowe was fined \$5,000 plus court costs. A revised partial Disqualification Order was imposed, further reducing the number of cattle Mr Crowe could have in his ownership, under his authority, or in his charge at any one time, from 100

to 70. The Judge advised Mr Crowe this was his final warning in relation to breaching the conditions of his Disqualification Order.

Lovett

In February 2019, Mr Alistair Ray Lovett of Balclutha was convicted and sentenced on one charge under the Animal Welfare Act, relating to a cow with a prolapsed vagina and rectum. Mr Lovett failed to provide treatment to the cow and the pain and distress caused to the animal was so great, that it was necessary to euthanase her. Mr Lovett was fined \$3,150 plus court costs and ordered to pay \$1,330 in reparation to MPI for veterinary fees.

Bourton

In February 2019, Mr Leonard Bourton of Oamaru was convicted and sentenced on one charge under the Animal Welfare Act, for transporting a cattle beast with advanced cancer eye, making it unfit for transport. The cow had significant swelling above and below the eye socket, no eyeball was present and the eye socket was discharging. The owner of the cow was also prosecuted and sentenced for this matter at an earlier date. Mr Bourton was fined \$2,500 and ordered to pay an enforcement fee.

Molloy

In February 2019, Mr Peter Herbert Molloy of Reporoa, Bay of Plenty was convicted and sentenced on two charges under the Animal Welfare Act, both relating to a dairy cow suffering from a condition involving infection and necrosis of her anus and vulva. The first charge was for failing to provide treatment to alleviate the pain and distress being suffered by the animal, and the second for allowing the animal to be transported while it was unfit. Mr Molloy was fined \$6,000 plus court costs.

Canine Body Language

What it means for us in terms of reducing the number of dog bites in New Zealand.

Over the past 10 years, the Accident Compensation Corporation (ACC) has recorded over 125,000 dog bites, costing almost \$40 million. We have seen a more than 25 percent increase from 10,764 reported bites in 2008 to 14,694 in 2017. What makes these statistics even more alarming is that studies completed in the Netherlands have shown that fewer than 40 percent of dog bites are actually reported. In New Zealand, bites can go unreported for a multitude of reasons – the person may know the dog and not want to cause ill feelings between themselves and the owner; the bite may not have required medical attention; or, in a workplace, it may be that the bite is reported through an insurance company, so the figures are not shown in ACC statistics.

Dogs are very popular pets¹ and, with numbers increasing, we are seeing more dog bites. It is a popular belief that many of these bites would have been avoidable if victims had a basic knowledge of canine body language.

Education in this area is the key to reducing dog bites. In 2014, the Dog Safe Workplace started investigating where the numbers of bites were increasing the most, and what education was currently available – as well as what was missing. We realised that there was a lot that we could do to help educate people, with the goal being to reduce dog bites both in New Zealand and internationally.

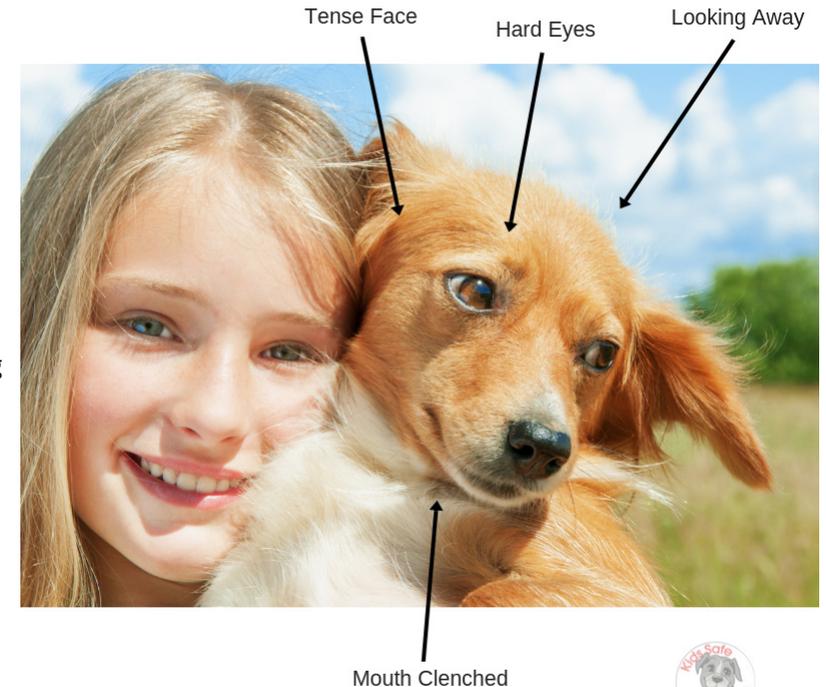
We met with, and started working with, companies whose workers come into contact with dogs and are therefore at risk of being bitten. We also liaised with organisations throughout Europe and the USA and looked at situations where people were being bitten, what was potentially causing the bites and what was currently being offered to help. The general

consensus was that the large majority of people lacked an understanding of what dogs were telling them, and many had some misconceptions about what certain behaviours meant.

As a result, we developed a Canine Body Language course. The course is designed to help people who own a dog, are looking at getting a dog, work with dogs, or are scared of dogs, plus families and communities as a whole. A variety of information is covered, with the aim of increasing the understanding of a dog's body language. To begin with, some background information is given on dogs in general and a few myths about dog behaviour are discussed. Then the course dives deeper into more specific behaviours that dogs will use to communicate with humans – all done through text, pictures and videos. The learner is then asked to complete a quiz to show that they have learnt and understood the information in the course.

A more specific course has also been developed for companies that have workers who enter properties where dogs may be present. This course deals more specifically with how workers can “read” the dogs, allowing them to respond appropriately when they detect a change in the animal's body language. The course also teaches them how to remove themselves from the property in the safest way possible to minimise the possibility of being bitten.

The online course allows people to view photographs and videos showing behaviours of dogs as many times as they need to assist with their understanding. It also shows them how to recognise when a dog is showing fear or apprehension, or an unwillingness to interact.



www.kidssafewithdogs.co.nz

Participants are required to pass a quiz, to ensure they have understood the information. They can return to the course as many times as they want in order to complete it.

Joanna Clough
Director and Founder
The Dog Safe Workplace and Kids Safe With Dogs Charitable Trust
Jo@dogssafeworkplace.com

¹ May 2018 figures from the National Dog Database give a figure of 560 511, but this of course does not include unregistered dogs.

Choosing an appropriate sample size for research

Choosing an appropriate sample size is an issue that all researchers need to consider, or animals will potentially be wasted. Use too few animals and you may not be able to draw any reliable conclusions from your experiment. Use too many animals and, as well as ethical concerns, the statistical tests can become over-sensitive. You should document the method used to select sample size to allow review by ethical review bodies.

When performing many statistical analyses, we start by assuming the experimental intervention has no effect. We then attempt to disprove this assumption by collecting evidence. The more animals we use the more evidence we collect. It's a bit like the process in a court of law: it starts with an assumption the person is innocent – it's then the prosecution's job to collect sufficient evidence to show the person is not innocent. Failure to prove guilt does not prove innocence; it just implies the prosecution can't prove they are guilty – and the same is true in animal experiments!

If too few animals are used, then there's not enough evidence to disprove the initial assumption. In other words, even if there is a biologically relevant "real" effect of the intervention, it is not going to be possible to confirm this in the analysis. For example, if the intervention has a real and large impact but only N=2 animals per group are used, then the researcher will not be able to conclude the effect is present with any level of confidence.

Using too many animals is clearly ethically problematic. However, there are also statistical issues. If the sample size is too large, then small effects, which are of no biological interest, may be declared statistically significant.

Getting the balance right between using too many and not enough animals is key to generating reliable experimental conclusions. Ideally, once the intervention effect becomes practically relevant then, given the variability of the response, the results of an analysis will be statistically significant. *Getting this balance right involves choosing a suitable sample size.*

One way to calculate sample size is to use the **power analysis approach**. The power of the experiment is the ability of the study (for a given sample size) to be able to identify a true effect. Ideally the power of an experiment should be between 80-

90 percent, i.e. if there is a real effect, then you want to be 80-90 percent sure of achieving statistical significance. To perform a power analysis, you'll need:

- Size of the biologically relevant effect (what effect do you consider to be "of interest"?)
- Variability of the responses (how variable are your results likely to be?)
- Statistical power (how certain do you want to be of identifying a true effect?)
- False positive risk (usually this is 5 percent)

This approach does have its issues: an estimate of the variability of the responses is required, so preferably you'll need to have conducted a pilot study before you can perform a power analysis. Also the variability estimate may be unreliable, so you should repeat the power analysis after every experiment to confirm the power curves you are relying on are reliable.

The results of the power analysis can be summarised using a power-curves plot. The plot on the right is generated using the free-to-use package InVivoStat (www.invivostat.co.uk). To use InVivoStat, you enter an estimate of the variability and biologically relevant effects. InVivoStat then generates power curves to allow you to assess how increasing sample size effects the statistical power, see Figure 1. Using this approach will give you a justifiable and hopefully reliable sample size for your studies.

Dr Simon Bate
GlaxoSmithKline
Simon.t.bate@gsk.com

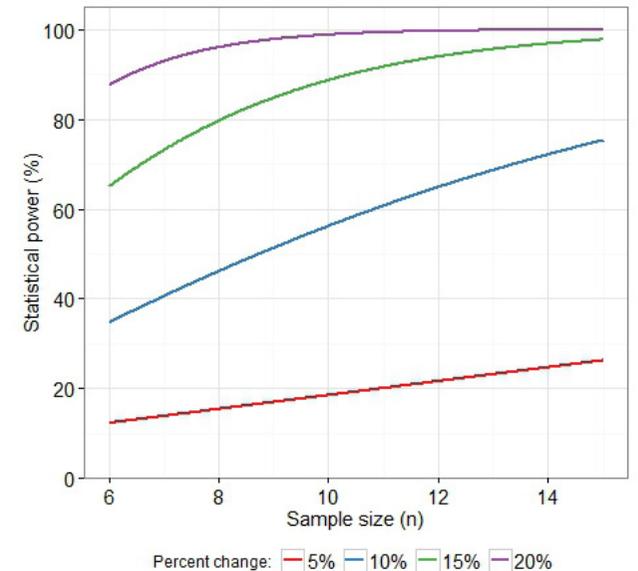


Figure 1: Power curves, for a given variability estimate, when the true effect is a 5, 10, 15 or 20 percent change from control. If the true effects size is a 15 percent change from control, then a sample size of N=8 will give a study with 80 percent power.

Why are we still failing in zoo animal welfare around the world?

Finding solutions to the animal welfare gap within the global zoo and aquarium community

The number of zoos and aquariums around the world is unknown, but it has been estimated to be anywhere between 7,000 and 16,000. A small percentage fall under effective protective legislation and guiding principles from a zoo membership association such as the Zoo and Aquarium Association (ZAA). However, a significant number of facilities fall outside any ethical oversight from any association or are not influenced by adequate legislation. So, despite meaningful advances in animal welfare science by leading zoo bodies, poor animal welfare is still widely observed around the world. United Kingdom animal welfare charity, Wild Welfare, is working globally to address this welfare gap and raise captive animal welfare standards.

From barren, overcrowded enclosures and inadequate veterinary care, to forced performances or visitor interactions that cause undue stress, overwhelming evidence indicates that potentially thousands of wild animals in captivity are suffering. Wild Welfare works collaboratively with captive facilities, regional animal welfare partners and national stakeholders to address these issues, but, as a global problem, where do we start?

Reasons for the animal welfare gap

We have identified three main reasons why a knowledge and practical welfare gap continues between a smaller group of leading zoos and aquariums and the rest of the captive community. We have created a framework to tackle these reasons and provide the necessary support to help build good welfare standards.

Firstly, our experience suggests some of the most common and major welfare concerns in the zoo and aquarium community are ones involving the provision, or lack, of primary care practices. Despite continued growth in animal welfare research, many countries' practices can still be based on historical values, beliefs or cultural perceptions. Without effective

regulations in place, as a result of misguidance or simply a lack of government consideration for animal protection, an inconsistent approach to daily duty of care procedures results in poor animal care.

Secondly, in many cases, poor animal welfare is due to a basic lack of understanding of species biology and behaviour, what constitutes good animal welfare, and an inability to research or gather information. Despite a proliferation of species-specific care guidelines, many are of limited use due to language barriers, lack of online access, or cultural implications of practice, and this results in a lack of available animal care and welfare literature for the facilities that really need it.

The third reason for the welfare gap is behavioural barriers that inhibit a change in practices that improve animal welfare. People will change their attitude and behaviours if their values around a perceived problem change. Despite the welfare of animals under human care being a moral issue, it is often governed by a scientific approach that can potentially inhibit engagement in the learning opportunities that encourage behavioural change. Identifying the barriers to developing appropriate engagement in animal welfare-related issues is critical for improving welfare standards, promoting long-term changes in attitude, behaviour and knowledge within institutions, supporting the development of regulations and increasing expertise.

Tackling the gap with a welfare framework

Our approach engages zoos in all activities pertaining to animal care, creating opportunities for open, honest dialogue on what animal welfare really means. We encourage the development of relevant literature, incorporating cultural and legislative differences without diluting the welfare standard, and we identify what the important moral values are to those we are working with, so we can utilise these to encourage engagement



Wild Welfare works collaboratively with zoos around the world, improving animal welfare through compassion-based training. Copyright: Wild Welfare

and learning.

As custodians of captive wildlife controlling all aspects of an animal's life, our ethical obligation is to provide them opportunities to thrive. No single solution exists for reducing global zoo animal welfare failings, but a culturally competent, collaborative, sensitive approach can help encourage engagement in welfare concepts, bringing in the age of compassionate care by all.

To find out more visit www.wildwelfare.org

Georgina Groves

Director

Wild Welfare

georgina@wildwelfare.org

Editor's note: See Welfare Pulse 26 (October 2018) for articles on zoo welfare in New Zealand.

Nesting behaviour for farrowing sows: changing laws and minds

Marie McAninch, member of the Ministry for Primary Industries' Animal Welfare Science Team, recently completed a Master's project extramurally with the University of Edinburgh's International Animal Welfare, Ethics and Law course. Her project focused on the perspectives of pig farmers on the use of nesting (or "manipulable") material for sows.



Most people are familiar with the story of the three little pigs, where we learned that only unsuccessful pigs build their houses out of sticks and straw. To keep the wolf at bay, more effort than that is required. A solid, modern building of brick makes for prosperous pigs.

In today's farming environment, a pig farmer may argue for something similar – that a farrowing crate or pen in a manmade shed is the best environment for a farrowing sow. It allows the stockperson to easily view and handle the animals and provides a controlled thermal environment. Why should the animals need straw or sticks? The wolf in this scenario – high piglet mortality – can be kept under control in the buildings provided.

However, a sow is highly motivated to build her own nest in the period just before birth, and this may not be provided for in indoor farming systems. To change this, we need to understand the concerns of farmers. As Becky Whay stated in her paper "The journey to animal welfare improvement"¹: "Legislation,

financial penalties or group meetings will only achieve some, but not optimal, welfare improvement unless the animal carers truly believe in the changes they are making."

My study used an online questionnaire to explore whether there are differences in New Zealand farmer attitudes to providing material across differing farm systems, and to identify the barriers, if any, to farmers providing manipulable material to farrowing sows.

As expected, all farmers who responded reported that they highly valued animal welfare, and aimed to provide more than the minimum welfare standards. Most respondents agreed with the statement "If I provided material to my farrowing sows, they would use it", and that "Building a nest is important to sows before farrowing".

However, of those farmers who were not providing manipulable material (i.e. indoor farmers), the intention to do so in the future was low. This could be because:

- Farmers highly valued health and production aspects of welfare. In other words, the proposed animal welfare improvement, which focused on behaviour, conflicted with their definition of animal welfare.



- Farmers consider the available options of manipulable materials to be poor. Common responses when describing why were around the idea that the material would not allow for effective nest building in a crate. Items were seen to be possibly effective for "entertainment", but not nesting.
- Farmers who did not provide manipulable material were more likely to agree with the statement that "Significant cost (e.g. labour, building cost) would be required by me to meet this standard".

The findings presented in this project can be used to improve animal welfare by improving animal welfare policy. Assessing the factors that potentially lead to a risk of animal welfare compromise is an important part of the process of improving animal welfare.

Standards and messages conveying the positive influence of effective nesting on production and health, supported by veterinarians who understand that farmers highly value animal welfare and suggest solutions to the identified barriers are likely to have the most influence. Farmers can access excellent resources at www.freefarrowing.org.

I am grateful to have been able to do this project, and would like to thank the farmers who responded and supported this work, as well as my supervisors, Dr Mhairi Sutherland (AgResearch) and Dr Emma Baxter (University of Edinburgh).

Marie McAninch (MSc)
Adviser, Animal Welfare Science
Ministry for Primary Industries
Marie.McAninch@mpi.govt.nz

¹ Whay HR. The journey to animal welfare improvement. Animal Welfare 16 (2) 117-122, 2007

Considering greater openness in animal research and teaching

“OPEN THE DOORS!!” This command is at the top of a flyer from an animal advocacy group. “If There Is Nothing To Conceal – Why Not Open The Doors?” This is a familiar request, increasingly heard by those working in animal research – I heard it myself when I was an animal scientist. I continue to hear it as a bioethicist at the University of Otago. The Australian and New Zealand Council for the Care of Animals in Research and Teaching (ANZCCART), of which I’m a member, has also noticed steady, and increasing, support for greater openness about research and teaching involving animals.

Animal research and teaching is often beneficial for humans, animals and the environment – this is a significant means by which valuable scientific progress is made currently, and how this knowledge is taught to students. The public in general has an interest – that is to say a stake – in animal research and teaching, just like they have an interest in science more generally. They have an interest because scientific research and teaching is to their benefit, or to the benefit of animals or the environment, all of which we rightly value. If I have an interest or stake in a company, I have reason to want access to information about how it’s operating, how it’s performing, and so on. I might or might not follow this information on a daily basis, but if I wanted it, I should be able to find it without too much trouble.

The stake that the public has in animal use in research and teaching is not only due to its benefits, but also because of its costs, which they, in part, bear. They do this through paying taxes, some of which are used to fund and support animal-based research and teaching (through public funding bodies, or through state funding of research institutions such as Crown entities), and they do this through paying, as consumers, for the products resulting from animal-based research: new medical interventions, or other technologies. This means that they are funders, as well as consumers, of some research, and

as such can reasonably make an ethical claim to information about how the money they have provided is being used.

This claim cannot be absolute, nor is the duty to satisfy the interest that the public has in animal research: it is not a reason to provide information no matter what the cost. It could perhaps be unreasonably burdensome or difficult to provide some kinds of information, or to present it in some forms, or it could violate reasonable expectations of privacy, or confidentiality agreements, for example. However, the public interest in increased openness, as well as their legitimate claim to it, means that reasons to withhold information must be significant, and must only be used as particular reasons to withhold some sensitive information as long as those reasons are relevant and significant, not as general reasons not to openly and proactively provide information in an accessible form.

Without sufficient open, proactive provision of information about animal-based research and teaching, it is reasonable to question whether New Zealanders can meaningfully accept that animal-based research and teaching is conducted in this country, or at least accept some forms of it. Like science in general, and in fact any activity, it operates well only if it’s accepted by the public as a legitimate activity, and it benefits from the degree of acceptance and positive regard it receives. This is often referred to as “social licence” – the permission or consent given by a society for what occurs within it, especially when there is a significant social stake in it. Just like any other form of permission or consent, it is weakened by lack of information about what is being consented to, and, as a result, consent can be withdrawn or rendered meaningless. Given the necessity of social licence for scientific research to continue, and its benefits to be realised, this is a further strong reason for openness that ought to be shared by all.

“If There Is Nothing To Conceal – Why Not Open The Doors?”. The flyer appeared over 100 years ago, in 1910. This is not a new demand. There has been enormous progress on many fronts since then, and New Zealand has been in the vanguard of this. But there is reason for more, and New Zealand is not leading on this issue. Agreements for greater openness about animal research and teaching have been reached at many overseas universities and research institutes. These agreements centre on proactively providing information about animal involvement in research and teaching in ways that are accessible to the public. The benefits of this approach for researchers as well as the beneficiaries of research are attested to by those involved. Progress on this is possible here – let’s consider it.

Mike King

**Senior Lecturer, Bioethics Centre, University of Otago, New Zealand
Royal Society Member, Australian and New Zealand Council for the Care of
Animals in Research and Teaching**

Mike.king@otago.ac.nz

NAEAC AECs Workshop November 2018

Since 2003, the National Animal Ethics Advisory Committee (NAEAC) has hosted a biennial workshop for animal ethics committee (AEC) members.

Members of AECs from around the country converge on Wellington to learn, to network and to raise and discuss the many questions that arise when they consider applications to manipulate animals for the purposes of research, testing or teaching (RTT).

Over the years, topics have ranged from detailed descriptions of very specific research topics to considering hypothetical applications and discussing how processes are managed. For the 2018 Workshop, NAEAC chose to emphasise compliance and process.

The workshop was opened by Dr Kate Littin, Manager Animal Welfare, Ministry for Primary Industries (MPI), and consisted of a combination of keynote addresses, short presentations and breakout discussions.

To start the day, NAEAC Chair Grant Shackell presented the inaugural Aotearoa New Zealand John Schofield Three Rs Implementation Award to the Massey-SPCA De-sexing Clinic, which has achieved several successful outcomes since it was launched in August 2017 by Dr Carolyn Gates, senior lecturer in veterinary epidemiology. Dr Kat Littlewood, received the \$5,000 award on behalf of the clinic.

A wide variety of areas were covered during the formal part of the day.

Two keynote addresses were given by Hayley Carr, MPI, whose presentation on animal welfare in emergency response was very well received, and Grant Shackell, who outlined NAEAC's recently developed 5-year Strategic Plan.

Gray Harrison from MPI spoke about non-compliance and Jen Jamieson, also from MPI, updated delegates on the proposed new significant surgical procedures regulations.

NAEAC has recently completely rewritten and consolidated its advisory documents for AECs. Malcolm Tingle spoke about the revised publications including the *Good Practice Guide* and code of ethical conduct template.

Craig Johnson introduced the ARRIVE guidelines, which were developed in consultation with the scientific community as part of an NC3Rs (National Centre for the Replacement Refinement & Reduction of Animals in Research) initiative to improve the standard of reporting of research using animals.

The delegates were assigned to groups relating to their position on their AEC, and two workshop sessions addressed "Consensus versus majority voting" and discussed a set of real life non-compliance scenarios.

Feedback from delegates, received informally during the day and in a formal evaluation sheet completed before departure, was consistently positive. AEC members generally found the opportunity to talk with others who fill the same role on their respective committees extremely useful.

Grant Shackell
National Animal Ethics Advisory Committee Chair
naeac@mpi.govt.nz



Delegates listen to Hayley Carr (MPI) discussing animal welfare in emergency response.



Terry Fenn and Bronwen Connor (NAEAC) lead institutional AEC members in a workshop discussion.

Killing crayfish, crabs and kōura

From October last year, anybody killing crustaceans for commercial purposes must ensure they are unconscious before killing, to avoid facing a large fine.



In effect, this applies to any business receiving live crustaceans and selling them dead, such as restaurants and fish sellers.

It does not apply to activities on board fishing vessels, recreational fishers or fish sellers selling crustaceans in a live state.

Crayfish, crabs and kōura are classed as animals under the Animal Welfare Act. It is not acceptable to 'drown' crayfish or crabs in fresh water, or to boil any crustacean while conscious - they must have a swift and humane death.

A working group of industry body representatives, training organisations and the food team at MPI took into account the regulatory requirements as well as the practical applications in order to provide the following best practice advice possible.

Chill then kill

And by chill we mean make unconscious. Making the crustacean unconscious is the first step, followed by a swift and humane death.

MPI's preferred method of stunning and killing a crustacean is with an appropriate electrical device. If this is not possible then they can be chilled in either an ice slurry or a chiller.

Any chilling method must:

- chill the crustacean to 4°C or less (but not freeze it);
- not allow the extremities to freeze before unconsciousness; and
- ensure the crustacean remains unconscious until death.

Effective chilling is likely to take at least 20 minutes, depending on the size of the animal. The crustaceans should be checked regularly, and killed swiftly once they are unconscious.

An approved chemical anaesthetic can also be used, however please be aware of restrictions under the Agricultural Chemicals and Veterinary Medicines Act and use according to the label.

Good practice killing

Once the crustacean is unconscious it should be swiftly killed by either splitting it (if it's a crayfish), or stabbing it (if it's a crab).

Further details on how to chill then kill crayfish, crabs and kōura can be found in a leaflet published for chefs on the MPI website.

The Crustastun

The Crustastun has been identified as a device for electrically stunning and killing crustaceans. It is now available in New Zealand. MPI are looking to carry out some research to find out if this device is effective on our New Zealand species and to identify the best way to use it. As more information is known MPI will update their website.



Marie McAninch
Adviser, Animal Welfare Science
marie.mcaninch@mpi.govt.nz

MPI has a brochure on crustaceans:
<https://www.mpi.govt.nz/dmsdocument/34356-2018-aw-regulations-crustaceans-pamphlet>

NAWAC Appointments

The Minister of Agriculture, Hon Damien O'Connor has appointed Dr Arnja Dale to the National Animal Welfare Advisory Committee. She replaces the late Alan Sharr and provides knowledge and experience of animal welfare advocacy.



Nominated by the SPCA, Arnja is the Chief Scientific Officer for the animal welfare organisation. Arnja lectured in animal welfare and animal welfare investigations at Unitec from 2003 to 2015, and was awarded a PhD in

Applied Canine Behaviour and Welfare from the University of Auckland in 2014.

The Minister also reappointed Dr Karin Schütz, Senior Scientist at AgResearch Ltd, to provide knowledge and experience of animal science, and Professor Graeme Doole, Principal Economist at DairyNZ to provide knowledge and experience of agricultural economics.

Codes of ethical conduct

– approvals, notifications and terminations since Welfare Pulse issue 27

All organisations involved in the use of live animals for research, testing or teaching are required to adhere to an approved code of ethical conduct.

Codes of ethical conduct approved

Nil

Notifications to MPI of arrangements to use an existing code of ethical conduct

- Advanced Genetics 2015 Ltd (to use AgResearch Ltd's code) (renewal, code expired)
- Agvet NZ Ltd (to use AgResearch Ltd's code) (renewal, code expired)
- B+LNZ Genetics (to use AgResearch Ltd's code) (renewal, code expired)
- CRV Ltd (to use AgResearch Ltd's code) (renewal, code expired)
- DairyNZ Ltd (to use AgResearch Ltd's code) (renewal, code expired)
- Damar Industries Ltd (to use AgResearch Ltd's code)
- Duopharm Animal Health Ltd (to use PharmVet Solutions' code)
- Franklin Vets (to use AgResearch Ltd's code) (renewal, code expired)
- Halter Ltd (to use AgResearch Ltd's code) (renewal, code expired)
- Ministry for Primary Industries Diagnostic & Surveillance Services (to use AgResearch Ltd's code) (renewal, code expired)
- North Canterbury Veterinary Clinics (to use AgResearch Ltd's code) (renewal, code expired)

- Oamaru Veterinary Centre (to use AgResearch Ltd's code) (renewal, code expired)
- Pharmfirst Ltd (to use AgResearch Ltd's code) (renewal, code expired)
- Quantec Ltd (to use AgResearch Ltd's code) (renewal, code expired)
- StemVet New Zealand Ltd (to use PharmVet Solutions' code)
- Vence NZ Ltd (to use AgResearch Ltd's code) (renewal, code expired)
- Veterinary Enterprises Group (to use AgResearch Ltd's code) (renewal, code expired)
- VetSouth Ltd (to use AgResearch Ltd's code) (renewal, code expired)

Amendments to codes of ethical conduct approved by MPI

Nil

Minor amendments to codes of ethical conduct notified to MPI

Nil

Codes of ethical conduct revoked or expired or arrangements terminated or lapsed

- Damar Industries Ltd
- FIL (New Zealand) Ltd
- Parnell Technologies Pty Ltd
- Southern Institute of Technology
- Starboard Bio Ltd
- Vet Resource Ltd

Linda Carsons

Senior Adviser, Ministry for Primary Industries

linda.carsons@mpi.govt.nz

NAWAC member's award



Minister of Agriculture, Damien O'Connor, awards Iain Torrance for service to NAWAC

The deputy chair of the National Animal Welfare Advisory Committee (NAWAC), Iain Torrance, resigned from the Committee on 8 January 2019 in order to take up the position of Chief Executive Officer of the Royal Society for Prevention of Cruelty to Animals (RSPCA) branch in Western Australia.

Since joining NAWAC in 2015, Iain Torrance has provided an important perspective from his past experience as the Wellington SPCA CEO, and more lately from the unique position as CEO of the Chatham Islands Enterprise Trust. At the latest NAWAC meeting, the Minister of Agriculture, the Hon Damian O'Connor, was able to attend and thank Mr Torrance for his work to help safeguard animals in New Zealand.

Codes of Welfare

– update on consultation, development and review since issue 27

Codes of welfare are issued by the Minister for Primary Industries under the Animal Welfare Act 1999. Codes outline minimum standards for care and handling of animals and establish best practices to encourage high standards of animal care.

In post-consultation process

- Dairy Housing Amendment

A complete list of the codes of welfare can be found on our website.

Nicki Cross
 Manager Animal Welfare Science Team
 Ministry for Primary Industries
 nicki.cross@mpi.govt.nz

Your feedback

We look forward to hearing your views on *Welfare Pulse* and welcome your comment on what you would like to see more of, less of, or something new that we have yet to cover.

Please send your feedback to us at:
animalwelfare@mpi.govt.nz

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**For general enquiries contact: Welfare Pulse
Animal Welfare Team, Regulation & Assurance
Ministry for Primary Industries
PO Box 2526, Wellington 6140, New Zealand**

Tel: 64-4-894 0100

Email: animalwelfare@mpi.govt.nz

Animal welfare complaints: 0800 00 83 33