



# Welfare Pulse

Animal welfare in New Zealand and around the world

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## Reflecting on 25 years in the New Zealand veterinary service

**Sir Bob Harvey describes his life as a three-act Chinese opera. After being offered the privilege of listening to him recount some of it, I couldn't help but admire both his storytelling and his partitioning skills.**

On accepting the invitation to share a few thoughts on my time as a vet in New Zealand, having left last year to pursue an international opportunity, I can start to see in my veterinary career the time in clinical practice, then regulatory service, and then a broader leadership role across veterinary services internationally, less as distinct acts but certainly as legs of an enriching journey.

Of course, any such reflection involves acknowledgement of the many experiences and opportunities that developed my professional skills and shaped my thinking. Even more so, all the people I worked with and learned from in those times, too many to name and not the purpose of this article. One taonga I carry in my kete from home, the te Ao Māori view of the world as beings interwoven and connected through time, provides a foundation for my thoughts on animal welfare, human relationships and sustainability.

I think about home a lot, of course. I'm finding international experience very rewarding in the ongoing search for objectivity



**Matthew Stone (right) representing OIE, meets UAE Minister of Agriculture Dr Thani Al Zeyoudi (left) in the presence of UAE Chief Veterinary Officer Dr Majid Al Qasimi at the First UAE National Conference on Animal Welfare, November 2016.**

(Photo: Gulf News; <http://gulfnews.com/news/uae/environment/stronger-animal-welfare-rules-planned-in-uae-1.1922964>)

regarding New Zealand's comparative advantage (some like to say competitive advantage, but I have a more cooperative world view than that, perhaps a luxury of being removed from certain commercial realities). I think about what we can offer, and what we can learn. I'm seeing there are many ways to approach a challenge, and it is always interesting and usually helpful to learn about how others do things.

*continued...*



The most important thing I reflect on is that our scale and our culture provide for a strong public-private-partnership. I feel lucky to have been able to draw from the deep engagement and close connections across government, industry, academia, and the voluntary or community-based sectors. I highly value the opportunities my career in MPI provided me to become involved in the work of the NZ Veterinary Council, the NZ Veterinary Association, with Massey University, with various industry sectors through a well-established but dynamic and authentic regulatory stakeholder system, and with RNZSPCA and the Wellington SPCA.

Recognising that animal welfare evokes a wide range of perspectives, we must acknowledge the importance of dialogue and active communication. In New Zealand we create the space for this dialogue under the leadership of the National Animal Welfare Advisory Committee and the National Animal Ethics Advisory Committee, through the Primary Industries Chief Executives Animal Welfare Forum, and in many other standing bodies and consultative processes that create an opportunity for engagement between the representatives of people in charge of animals and regulators, academics and consumers. The dialogue can be challenging, but invariably it is enriching if it is respectful and open-minded.

The dialogue shapes the regulatory approach New Zealand takes to animal health, biosecurity, food safety and animal welfare, which to me are intricately linked. There is a strong commitment to principles of being science-driven, risk-based and ethically responsible; to co-design of systems to ensure we incentivise the behaviour we need; to consultative codification of rules; to collective responsibility for compliance; and to cooperative monitoring and review. Across the development of New Zealand's animal welfare strategy, in the subsequent review of the Act and the ongoing development of animal welfare regulations, and in the management of specific issues

such as fitness for transport, treatment of young calves, or rodeos, we explore options and strive for the balance between regulatory and non-regulatory interventions that will achieve the behavioural change in humans that is usually central to improving the wellbeing of animals. I hope we all recognise that this isn't the case for many countries in the world. I also hope this allows us to be forgiving in our collaborations when our ideals and aspirations aren't fully accomplished.

But I should also offer a gentle criticism, perhaps more a warning. Our isolation and our ingenuity have established a certain inward-looking approach to creating our systems and solving problems along the way. We have a healthy diversity internally in New Zealand that we must explore and draw from. But we also need to continue to cultivate the international awareness that our networks in science, commerce, institutions, politics and issues-driven common interest provide. I see a tendency to align into camps, depending on your point of view regarding how we are currently doing on any particular issue, that are either defensive and perhaps even arrogant, or disruptive but not particularly constructive. I think we all recognise the benefit of collaborative efforts to explore options and solutions based on empathetic understanding of each other's perspective, and drawing upon the wealth of experience in our own communities and internationally on how similar issues are approached by others.

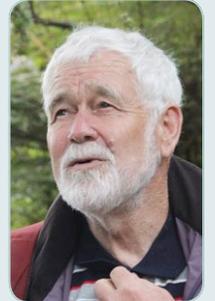
Strategic outcomes provide the compass that helps us navigate this complex landscape. For me, New Zealand's National Animal Welfare Strategy perfectly positions two outcomes, equally important: our ethical responsibilities to animals, and their economic importance to New Zealand. You may come to animal welfare favouring one or other of these, it doesn't really matter, so long as you bring an open mind.

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## Dr John Hellström receives the Minister's inaugural Biosecurity Champion Award

John Hellström, who should also be known as the grandfather of our current biosecurity system, has deservedly been presented with New Zealand's inaugural Biosecurity Champion Award.

The presentation, by Minister for Primary Industries Nathan Guy, took place at the launch of the Biosecurity 2025 direction statement at the Government's Biosecurity Forum in November last year.



**John Hellström.**  
Photo by Ned Lyke.

John, well known to Welfare Pulse readers as Chair of the National Animal Welfare Advisory Committee from 2009 to 2016, has not only been a key person in leading animal welfare improvements, but also, as the then Ministry of Agriculture's Chief Veterinary Officer, set about modernising the New Zealand approach to biosecurity in the 1980s. In fact, John introduced the word biosecurity to New Zealand - following a working trip to the USA, he combined biology and security to create the word which, in 1993, became the title of our primary legislation in this area.

John was also instrumental in developing the first comprehensive Biosecurity Strategy for New Zealand, *Tiakina Aotearoa*, which, since 2003, has been guiding the development of our biosecurity system, and on which the Biosecurity 2025 direction statement - peer-reviewed by John - builds.

**Barry O'Neil**  
Chief Executive of Kiwifruit Vine Health and Director of Biosecurity New Zealand Ltd

# Trend to remotely monitor traps results in new guidelines to safeguard animal welfare

**New guidelines for developers and users of remote monitoring systems for live capture traps have recently been developed by the Ministry for Primary Industries (MPI) in conjunction with stakeholders.**

Each year, millions of native birds are killed by vertebrate pests, such as rats, stoats and possums. The use of live capture traps is one method of pest control currently used. However, the number of traps that can be employed in any one area is restricted, as the Animal Welfare Act 1999 requires live capture traps to be inspected within 12 hours of sunrise every day they remain set, with trapped animals to be killed without delay unless they are released or treated. Those setting the traps have to be able to walk and inspect the entire trap line within the set time frame.

There is now a move in New Zealand to use technology that allows traps to be monitored remotely. These remote systems send a message to a computer and cell phone when traps have been triggered, allowing those responsible to attend to trapped animals earlier, rather than during a scheduled trap line inspection. These systems are therefore not only expected to be less labour intensive, but could lead to better animal welfare outcomes.

If remote monitoring systems for traps are the future of large-scale pest management, we can expect a big increase in both trap numbers and the distances over which they are used. MPI has therefore developed guidelines to support developers and users of remote monitoring systems to adopt good practice and to ensure animal welfare outcomes are similar or improved compared to the manual inspection of traps.

The guidelines include the need, among other requirements, for a fail-safe design to ensure that captured animals do not go unnoticed; for regular testing of the systems; for a nominated person to be responsible for monitoring the system and inspection of traps; and for sufficient back-up capacity to check and clear traps within the time requirement in case of system failure. However, the guidelines do not absolve users of live capture traps from meeting their obligations under section 36 of the Animal Welfare Act.

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The full guidelines are available here:  
[http://j6tf91d0ueo2tdwbl2hqjle.wpengine.netdna-cdn.com/wp-content/uploads/2016/11/FINAL-Guidelines-for-remote-monitoring-of-live-capture-traps-for-vertebrates\\_20161101.pdf](http://j6tf91d0ueo2tdwbl2hqjle.wpengine.netdna-cdn.com/wp-content/uploads/2016/11/FINAL-Guidelines-for-remote-monitoring-of-live-capture-traps-for-vertebrates_20161101.pdf)

**Bush (or black) rat (*Rattus rattus*) eating a fantail chick it has just taken from the nest. Rats are major predators of birds in New Zealand forests.**  
 Photo copyright Nga Manu Images.





# Good practice guidelines for the on-farm slaughter of sheep

**On some New Zealand sheep farms, animals are slaughtered for personal consumption and dog tucker. Sick or injured stock are also euthanised to prevent further suffering.**

It is important that sheep are treated humanely. In addition, consumers of New Zealand sheep products, the public and animal activists are demanding greater transparency and evidence of ethical production of meat and wool from sheep. Consumer perception guarantees our supply of sheep products to top end brands. For this reason, The New Zealand Merino Company in collaboration with Beef + Lamb New Zealand have developed good practice guidelines for sheep slaughtered on-farm.

Traditionally sheep slaughtered in the farm environment for any reason have had their throats cut with a knife. This incision severs major blood vessels, causing loss of sensibility and subsequent death. Research has found that insensibility in sheep takes approximately 2–8 seconds following a throat cut, but may be 8–20 seconds in duration indicating the

requirement for alternative, more humane practices to be used for on-farm slaughter.

The guidelines, which were reviewed by the Ministry for Primary Industries, Massey University, and NZ Young Farmers prior to publication, recommend that all animals are stunned prior to slaughter, as occurs for sheep and lambs slaughtered commercially in New Zealand. Methods used should result in immediate death or immediate loss of consciousness lasting until death, to minimise unnecessary pain and distress. For this reason, the preferred method of on-farm slaughter of sheep is stunning using a captive bolt, followed by immediate bleeding out. Use of a firearm also provides a method of (stunning and) killing that results in immediate insensibility and death.

**Monica Schwass**

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*Humane Slaughter: Good practice guidelines for the on-farm slaughter of sheep* can be downloaded or requested from [www.perfectsheep.co.nz](http://www.perfectsheep.co.nz).

## Codes of ethical conduct – approvals, notifications and terminations since issue 21

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.

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

- Boffa Miskell Ltd (to use University of Waikato's code)
- New Zealand Companion Animal Council (to use AgResearch Ltd's code)
- Practical CPD Ltd (to use The University of Auckland's code)
- Synthase Biotech Ltd (to use AgResearch Ltd's code)
- Te Whare Wānanga o Awanuiārangi (to use Toi Ohomai Institute of Technology's code)
- Waikato Regional Council (to use National Institute of Water and Atmospheric Research Ltd's code)

### Amendments to codes of ethical conduct approved by MPI

- Toi Ohomai Institute of Technology

### Minor amendments to codes of ethical conduct notified to MPI

- Massey University

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

- Boffa Miskell Ltd (using AgResearch Ltd's code)
- Connovation Ltd
- Duirs NZ Ltd
- GE Healthcare Tauranga Ltd
- New Zealand Institute for Plant and Food Research Ltd (Lincoln Branch)

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# Achieving thorough evaluation of research proposals: THE APPROACH OF ONE ANIMAL ETHICS COMMITTEE

**Animal ethics committees must implement society's utilitarian approach to animal use in research, testing and teaching by evaluating the impact of the use of animals in relation to the benefits that will accrue. The representation on an ethics committee is designed with this evaluation in mind and has a broad societal membership including laypersons.**

The committee structure itself, however, does not guarantee adequate assessment of a research proposal. As an example, the following operational procedures and considerations are in place at one ethics committee:

- For work in new areas, with new methods or by new researchers, the applicant(s) is/are asked to speak in person at an ethics committee meeting. This direct dialogue helps cut down the time taken to understand the proposal and allows the committee to begin to evaluate the applicant(s).
- Proposals and particularly lay summaries are rejected if difficult to comprehend or highly technical (readability scores can be used to support this) and sent back for rewriting.
- The committee or representatives visit the facilities when researchers are new or new procedures are being carried out. Video or photographic records are used if the full committee is not present.
- All members are encouraged to speak up or ask questions about proposals. Each member brings a valuable and different viewpoint to the discussion. Appropriate expertise from either inside or outside of the committee (e.g. science, statistical ethics) is sought if and when needed. Applicants can be called into the meeting if required and if possible.
- This ethics committee employs an Animal Welfare Officer to take care of specific day-to-day operations. Animal Welfare



Officers have a critical role in this discussion and must be resourced accordingly. They are the committee's eyes and ears providing necessary veterinary knowledge and determinations of the expertise of the experimenters. They also assist in conveying committee requirements back to researchers.

- An Animal Welfare Officer report to the committee is an important part of each meeting, supporting the committee's confidence in the standard of research that is approved and increasing the understanding of procedures being used. This report is supported by videos/photos if possible.
- Committee member training is encouraged and supported where possible, and this might be at conferences, meetings or from provided material (e.g. recorded conference presentations).
- Any aspects of the proposal which are not clear are sent back to the applicant by requiring changes (resubmission) or requiring specific actions to be completed before the work commences (conditional approval). Importantly, no questions are off the table.

## Main activities of the Animal Welfare Officer

An example of the main activities of the Animal Welfare Officer during a typical week are as follows and highlight the mix of clinical work, monitoring and training:

- Day 1:** Phone call from small animal colony regarding a study rabbit with locomotor problems – visit, assess, euthanise and postmortem (interpret results and consider significance for rest of trial and rabbit population).
- Day 2:** Clinical examination of cows that received intra-ruminal devices (Agricultural Compounds and Veterinary Medicines registration requires veterinary examination before slaughter).
- Day 3:** Visit/monitor study involving calves and surgical procedure, provide training for surgical manipulation and assess technician's abilities.
- Day 4:** Blood sample sheep for pre-screen entry into study, assess suitability of facilities, carry out general health check.
- Day 5:** Participate as clinical veterinarian in calf study, revisit cows with permanent rumen fistulae, assess healing and performance of new cannulae. Euthanase group of chickens at end of study.

**The welfare of animals used in research, testing or teaching is regulated under Part 6 of the Animal Welfare Act 1999. For more information: <http://www.mpi.govt.nz/protection-and-response/animal-welfare/animals-in-research-testing-teaching/>**

- Quality secretarial support ensures that committee members receive all the necessary information in time to prepare for meetings and that meetings are resourced effectively (such as arranging applicants to speak). It is also important for support staff to be trained along with other committee members to be more effective at meetings.
- A critical piece of the approval process is that discussion proceeds until consensus decisions are reached. This can mean using any of the relevant options mentioned above or delaying work until everyone on the committee is satisfied. For this reason, applicants are encouraged to submit proposals well in advance of their desired start date.

The outcome from using these points is illustrated at a recent meeting with 8 proposals submitted for consideration. Six were sent back to the applicants for amendment and resubmission:

- one for more details of methodology, revised statistical analysis, addition of personnel and a change in the grading of the anticipated impact on animal welfare;
- one for addition of more personnel;
- one for more details on the justification and correction of animal numbers;
- one for more details on the justification and addition of personnel;
- one for a change of start dates, addition of personnel and drug approvals;
- one for a reduction in period of approval, change in animal numbers and additional information about the manipulations.

The remaining two proposals were given approval dependent on specific conditions being met, confirmation of an aspect of the design and clarification of an apparent typographical error which altered the animal manipulations as written.



Photo: Penny Timmer-Arends.

**To help make things easier we have developed a webpage [www.mpi.govt.nz/calves](http://www.mpi.govt.nz/calves) with the information on what you must do, as well as helpful links to information about how to comply with the regulations.**

## Caring for bobby calves

The welfare of calves is a priority and at the heart of good farming business. MPI recognises that calves are vulnerable and have set clear guidelines and expectations for their care. Seven regulations were issued in 2016 to strengthen the rules around calf welfare. These can be read in full on the [New Zealand legislation](#) website.

Five of the regulations are already in force:

- requiring that young calves must be at least 4 full days of age and physically fit before they're transported off-farm for sale or slaughter or as a result of sale;
- setting a maximum of 12 hours' journey time for young calves;
- prohibiting the transport of young calves by sea across Cook Strait;
- prohibiting the killing of any calves by use of blunt force to the head, except in an emergency situation; and
- requiring that young calves must be slaughtered as soon as possible after arrival at the slaughter premises, and within 24 hours of the last feed on-farm.

Two regulations were given a delayed implementation date of 1 August 2017 to allow owners and persons in charge of bobby calves time to make infrastructure changes. These will:

- require that suitable shelter be provided for young calves before and during transportation, and at points of sale or slaughter; and
- require that loading and unloading facilities be provided and used when young calves are transported for sale or slaughter or as a result of sale.

MPI is working with industry organisations to communicate these regulations to everyone across the supply chain – farmers, transporters, saleyard operators and processors. If you have an event you want MPI to attend, feel free to contact us: [animalwelfare@mpi.govt.nz](mailto:animalwelfare@mpi.govt.nz).

# Zoo research case study:

## EARLY DIAGNOSIS AND TREATMENT OF OSTEOARTHRITIS

**With the consistently high standards of husbandry and veterinary care provided in good modern zoos, many captive wild animals outlive their free-living counterparts. One of the results is that older animals are subject to many of the same degenerative conditions as elderly people and domestic animals.**

The research reported here involved a collaboration between Auckland Zoo and the University of Sydney. Existing medical records from resident big cats were subjected to intensive specialist review in tandem with close monitoring of a cheetah with early signs of degenerative spinal disease. Sophisticated technology was used to assess the extent of clinical signs and the effectiveness of anti-inflammatory treatment.

### Welfare benefits of zoo research

Research can make an important contribution to the health and welfare of captive wildlife. Relative to our knowledge of domestic animals, there are huge gaps in our knowledge about the disease susceptibilities and the range and effectiveness of treatments for wild animals. Zoo veterinarians frequently extrapolate from knowledge gained in the study of the closest domestic animal counterparts. However, even closely related species can vary in their response to diseases and the available treatments. Consequently zoos welcome the interest of university researchers able to assist them.

### Osteoarthritis in non-domestic felids

One such opportunity arose when, in 2015, Lucinda Barton, a PhD student based at the University of Sydney, approached Auckland Zoo (and other zoos) with a proposal to participate in her study of degenerative joint disease and

its management in captive big cats. She was supported by a team of supervisors who brought specialist expertise in wildlife medicine, feline orthopaedics, veterinary anatomy and pharmacology.

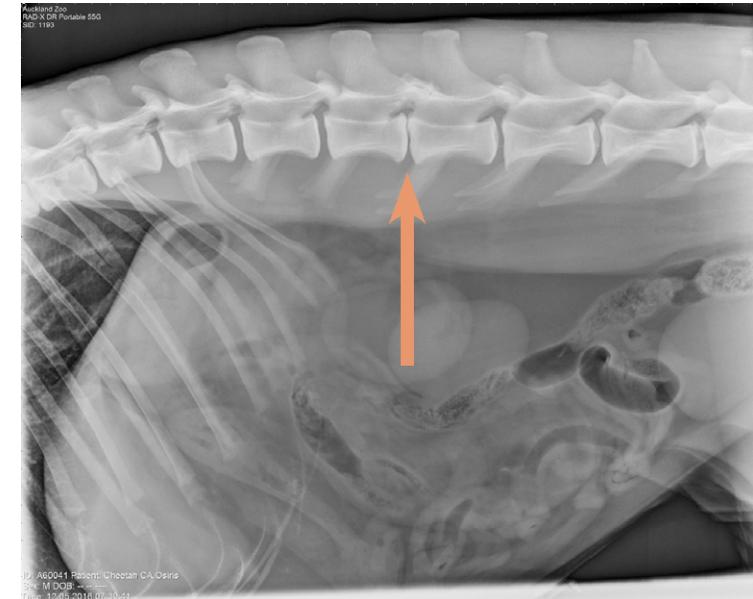
This research, reviewed and approved by the Zoo's Animal Ethics Committee, involved minimal manipulations of the animals as we were able to provide most of the information needed from our comprehensive veterinary records. This included x-ray images taken previously as part of the cats' normal health monitoring and veterinary care.

Both cheetahs, Anubis and Osiris, were hand-raised in South Africa and are used to wearing collars to be leash-led around the zoo by their keepers (Figure 2). Consequently the application of a Heyrex® collar-mounted activity monitor for approximately five weeks caused no distress. Data on the movement of the animals was recorded by cameras mounted within their enclosure. The images were used to compare their movement with the movement data recorded via satellite and beamed via Wellington to Sydney from their collars. The aim was to help assess the effectiveness of the treatment given for the early spinal degenerative disease.

### Conclusion

While full results of this study are still pending, the data collected from the cats at Auckland Zoo, combined with that from other captive felids, will provide very useful baseline information to guide the future non-invasive diagnosis and treatment of degenerative joint disease in captive wild cats.

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**Figure 1: X-ray of Osiris' lumbar spine showing narrowing of L2-L3 disc space (arrow).**



**Figure 2: Osiris and Anubis wearing Hyrex activity collars stop for a break with their keepers Helen Wilson (L) and Lauren Booth. Photos: Auckland Zoo.**

# The animal welfare system – where do roles and responsibilities begin and end?

**Dorothy was in her late 40s, which is well into retirement age for a chimp, when she succumbed to heart failure. As caregivers at the Sanaga-Yong Chimpanzee Rescue Center bore her by wheelbarrow for burial, the typically boisterous apes rushed to the edge of their wired enclosure and fell silent... The chimps already knew the meaning of deep personal loss... their mothers were killed by hunters.**

The chimps are prime targets in the illegal but widespread trade of providing African “bushmeat”... Dorothy was rescued from a hotel in Cameroon, where she was kept for 25 years on a chain. Tourists threw cigarettes, alcohol, and scraps of food to her.

This powerful image invoking feelings of sadness, sympathy, indignity, cruelty, respect, and reverence, reminds us that we do not live without having an impact on animals. We not only interact directly by keeping and killing them, but also through disturbing their habitats, behaviour and ecological systems. We cannot live without animals: they provide us with food, companionship, protection, entertainment, learning opportunities, etc – humans and animals are socially and ecologically interdependent.

In considering the welfare of animals, then, it is necessary to think about the wider system, and our roles and responsibilities within it. The system can be visualised as one of animals in the centre surrounded by a multitude of people, both individuals and groups, with varying interests and responsibilities. They range from persons in charge (e.g. farmers, pet owners), those with oversight of the persons in charge (e.g. animal welfare inspectors), those with an interest in animals (e.g. processors and consumers of food, animal activists), and finally citizens, who, while not necessarily



**Dorothy's funeral, Cameroon.** Photo: Monica Szczupider (<http://ngm.nationalgeographic.com/>; <http://www.monicaszczupider.com/>)

having direct vested interests in animals, have a special role in the democratic process. Each has a role, and thus a responsibility for animal welfare.

Considering animal welfare in this way, as a system, provides an opportunity to see, understand and question, some of

the features of the system. For example, costs and benefits tend to be borne differently. The benefits from animal use extend from the animals to people of all walks of life (farm workers and jockeys, animal shelter staff and animal activists, consumers and politicians) while expectations for the care

of animals tend to be directed, by people increasingly more removed from animals, towards persons in charge of animals. Does this mean that persons in charge of animals have a role as scapegoats, having to justify what many others benefit from? Have not all, and not just persons in charge, some sort of responsibility, for the way animals are treated?

A second feature of the system is that, like tourists, individuals and groups see the world from their own perspective in a varied but often limited way. Our responses, for example to Dorothy's funeral, reflect that perspective.

It is suggested that we all have roles and responsibilities, share expectations, costs and benefits, and can disagree. How good is society at acknowledging those different roles and responsibilities? And does society provide the confidence, resources and opportunities to enable those varied roles and responsibilities to be best performed?

Animal welfare is about what the animal experiences: fear, hunger, joy, and satisfaction for example, states increasingly dependent on mankind.

This is especially so for many modern farm and companion animals: the bulldog that cannot run for more than a few minutes without suffering respiratory distress because of its short snout and compromised air passages, the high-producing dairy cow feeling simultaneously hungry, tired, full-up and nauseous.

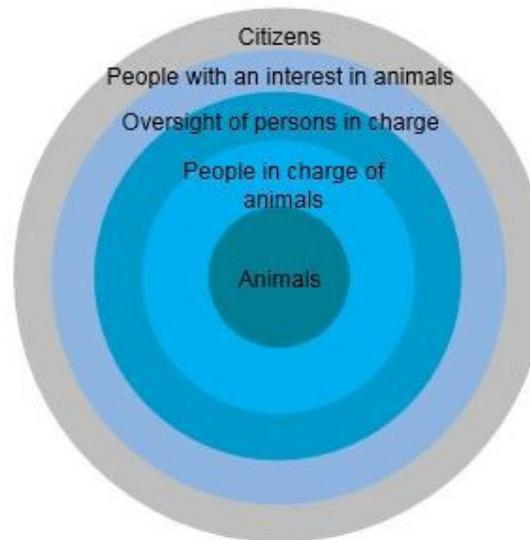
Perhaps, in order to manage these sorts of compromises to animals, we need to think more widely than the animal and the person in charge of it.

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**Animals and people make up the animal welfare system.**

Photos: European Commission and Scarlett Fraser.



**The animal welfare system portrayed as a series of concentric bands of actors, each group having a role and thus a responsibility for animal welfare.**

## Animal Ethics Committee Service Award

Animal ethics committee (AEC) service awards are given by the National Animal Ethics Advisory Committee (NAEAC) in recognition of **“meritorious service for at least five years on the basis of outstanding contributions to the AEC on which the nominee has served”**.

NAEAC made an award in late 2016 to David Shepherd, who served on AgResearch's Invermay Animal Ethics Committee for eight and a half years. He was the Otago Regional Council's nominee on the committee.

AgResearch regarded David as an effective independent representative of the wider community and a constructive advocate for the best possible animal welfare outcomes. The award was presented by NAEAC Chairman Grant Shackell.

### Nominations

AECs or their institutions are welcome to submit nominations to NAEAC at any time for AEC Service Awards for members who have made an outstanding contribution. Names of those receiving awards are only published with their agreement.



**David Shepherd (right) receiving his award from NAEAC Chairman Grant Shackell.**

# Animal welfare and Predator Free New Zealand

**In 2015 New Zealand animal welfare experts were among a group of international researchers, wildlife managers and welfare advocates from seven countries attending a 2-day forum on wildlife control in Vancouver.**

A journal paper summarising the forum discussion, whose authors included New Zealanders Kate Littin (Ministry for Primary Industries), Ngaio Beausoleil and David Mellor (Massey University), was recently published online in *Conservation Biology*<sup>1</sup>. The paper, *International consensus principles for ethical wildlife control*, presents a global perspective, including animal welfare aspects of pest control, and provides seven interrelated principles as an ethical framework for managing wild animals.

The forum highlighted the need for case-by-case consideration of factors underlying human–wildlife conflict (which are many and varied), rather than simply considering the wildlife in question as a “pest”.

This approach is especially relevant to New Zealand, given the ambitious aims of the recent initiatives Predator Free NZ (<http://predatorfreenz.org>) and Predator Free 2050 (<http://www.doc.govt.nz/predator-free-2050>). The overall intention to dramatically reduce, and eventually remove, populations of rats, possums and stoats from mainland New Zealand represents a significant wildlife control decision in terms of spatial scale, duration and the number of animals affected. In these early stages of “Predator Free” initiatives it’s useful to examine the concept against the international consensus on ethical wildlife control. Converting some of the principles established by the forum into questions, here’s my interpretation.

<sup>1</sup> Dubois S, Fenwick N, et al. (2017) International consensus principles for ethical wildlife control. *Conservation Biology*, DOI 10.1111/cobi.12896

## Can the problem be mitigated by changing human behaviour?

No. Implicit in the Predator Free approach is an acceptance that rats, possums and stoats represent a significant, unacceptable threat to native New Zealand wildlife species and ecosystems. For some highly endangered, declining native species this is so urgent that no immediate changes in human behaviour will sufficiently reduce the threat. However, this should not preclude consideration of how the problem might be influenced by future changes in human behaviour (i.e. attitudes towards native versus introduced wildlife in New Zealand).

## Are the harms serious enough to warrant wildlife control?

Yes. There is strong scientific evidence that rats, possums and stoats have a significant negative impact on native biodiversity. This underpins a New Zealand government commitment to retaining threatened native species for social and cultural links with the environment, for tourism, and in some cases for regional economies through primary industries.

## Is the desired outcome clear and achievable, and will it be monitored?

Good question! The critical difference between the outcomes of “dramatically reducing” and “completely removing (eradicating)” populations of rats, possums and stoats on a national scale needs to be clarified and agreed to. Failure to achieve a defined objective is likely to result in many animals being killed for little biodiversity benefit.

Currently, complete removal is not feasible (at least economically) using the available lethal control methods (trapping, poison baiting or shooting). Achieving complete removal will rely on new technological breakthrough



**Possum scavenges in an abandoned woodpigeon nest, Horowhenua.** Photo copyright Nga Manu Images.

control methods, possibly through reducing reproduction or species-specific lethal techniques. Monitoring will be integral to ongoing Predator Free programmes, so what is monitored and how it’s reported will be important for gauging progress and success.

## Does the proposed method carry the least animal welfare cost to the fewest animals?

Yes and no. Predator Free NZ provides information on selecting and using traps that have passed a welfare-based guideline, but other lethal control methods have welfare impacts ranging from mild to severe.

In some situations the method with the least animal welfare cost may also be more expensive. While economic cost was not considered in the ethical principles, people will likely need to be willing to pay more to minimise the

animal welfare impacts of Predator Free approaches. Newly developed control methods should have lower animal welfare costs than current ones, and reproductive control has particular promise here.

The goal of “completely removing” populations should result in fewer animals killed compared to long-term maintenance control. Provided immigration can be prevented, once a population is gone there is no further need for control.

In contrast, “dramatically reducing” populations but needing to maintain them at low levels will require repeat control over time, affecting ever-increasing numbers of animals. The extent to which the number of animals killed will be minimised will depend on how quickly control programmes shift from initial reduction and maintenance to eradication.

#### **Have community values been considered alongside scientific, technical and practical information?**

Partly. Although the Predator Free concepts have significant government, philanthropic and community backing, the legitimacy of a wider range of concerns from people (especially about the current methods used and new methods that might be used to control rats, possums and stoats) requires consideration. Ongoing definition and evaluation of a social licence to operate in this context will be an important factor in achieving objectives. It is positive that this is being considered as part of New Zealand’s National Science Challenge on Biological Heritage.

#### **Is the control action part of a systematic, long-term management programme?**

Not in any clear way. Differences between the objectives of Predator Free NZ and Predator Free 2050 highlight that there is currently no national-scale, single strategic plan. Neither initiative currently provides clear objectives or implementation steps.



**Rats feeding on eggs in a song thrush nest, Horowhenua, New Zealand.** Photo copyright Nga Manu Images.

#### **Are the decisions warranted by the specifics of the situation rather than negative labels applied to the animals?**

Yes, although rats, possums and stoats have been selectively nominated as “predators” (rather than “pests”!). Other invasive predator species present in New Zealand, such as feral cats, feral pigs, ferrets and weasels, are not currently included in the scope of Predator Free 2050. This could have significant implications in terms of ecological shifts for prey species, if these excluded predators species replace those removed.

**Penny Fisher**  
**Research Capability Leader**  
**Wildlife Ecology and Management Team, Landcare Research**

## **National Animal Ethics Advisory Committee (NAEAC) appointments**



ROB HAZELWOOD has replaced veterinarian Karen Booth as the Agcarm nominee on NAEAC. Rob manages all aspects of animal research and testing at MSD Animal Health New Zealand, which manufactures and distributes animal remedies. He is a member of the MSD animal ethics committee, and is responsible for the implementation of welfare legislation and ethical principles at the company.



Royal New Zealand SPCA nominee, DR ARNJA DALE 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. She replaced Mr Graeme Nind MNZM.

Reappointed for a further three years are MALCOLM TINGLE, Associate Professor of Pharmacology and Clinical Pharmacology in the Department of Medical and Health Sciences at the University of Auckland, as the nominee of the Health Research Council; and CRAIG JOHNSON, Professor of Neurophysiology at Massey University, as the New Zealand Veterinary Association nominee.

# Anti-bark collars – do they affect your dog’s welfare?

**Many people see anti-bark collars, in particular those delivering an electric shock, as inhumane and their use as unethical. Others will regard them as highly effective in controlling problem barking. Certainly, these collars can work in changing a dog’s behaviour, but there are potential issues associated with the use of anti-bark collars.**

Anti-bark collars work on the learning theory of “punishment” (operant conditioning). The animal receives an unpleasant stimulus in response to an unwanted behaviour (barking) to reduce the behaviour’s occurrence. For the punishment to be effective, it must be aversive or “punishing” enough to the dog. The aversive stimuli delivered by anti-bark collars can include electric shocks, citronella spray, ultrasonic sound, vibration, water vapour or air pressure. Newer models are activated by vibration of the voice box and sound when the dog is barking, while some models are still activated by sound only. Collars can be

purchased or hired from various sources within New Zealand, but are also available from overseas, with some costing less than NZ\$10.

The use of electronic training devices, including anti-bark collars, is prohibited in some countries (Sweden, Denmark and Germany) and in some states of Australia. While these devices are not prohibited in New Zealand, there are requirements around their use that must be met under the Code of Welfare for Dogs (2010). The code, which was developed by the National Animal Welfare Advisory Committee (NAWAC), acknowledges that electronic collars can be effective against unwanted behaviours if used carefully. However, it requires that “training techniques must be appropriate for the individual dog” and that “training aids, including electronic training devices, must not be used in a way that causes unreasonable or unnecessary pain or distress”. The code also contains a number of recommended

best practices to ensure that collar use does not cause unnecessary harm to dogs.

While there have been a number of studies demonstrating that electric training collars that are activated by a person via a handheld remote can cause significant welfare compromise, only a few studies have assessed the effectiveness of anti-bark collars and their impact on dog welfare. Although any negative welfare impact has therefore neither been proven or disproven, there are a range of potential problems associated with the use of anti-bark collars.

- Importantly, the use of anti-bark collars does not address the underlying causes of problem barking, such as loneliness, boredom, fear, anxiety or illness, attention seeking, warning or alerting owners or simply being cold, hungry or thirsty. Their use is particularly problematic where dogs suffer from anxiety, fear or aggression, as the use of anti-bark collars on such dogs may worsen the problem.
- Considerable skill is required to find a setting that achieves a stimulus with appropriate intensity to suppress barking. As individual characteristics and behaviour vary between dogs, and physical (e.g. hair cover, skin thickness) and behavioural features vary between different dog breeds, there is no objective way of knowing how intense punishment should be for each individual dog. The variation of stimulus intensities in available collars complicates this further. Inappropriate levels of shock may result in the collar being ineffective if levels are too low (dogs will adapt to the stimulus), or in fear and distress if electric shock levels are too high.
- In some instances, collars may also be placed too tightly around the dog’s neck, which can lead to friction sores





and pressure necrosis or ulceration. It has been suggested that debris between the skin and the device may also cause irritation. This may be particularly problematic if collars are left on for too long or if dogs are predisposed to skin conditions.

- Malfunction is also a potential risk, especially when buying cheap collars. Models without a safety cut-off may stimulate a dog continuously until the malfunction is noticed or batteries are empty. Indeed, explosions of a brand of citronella collars have been reported.
- Collars may be left on for too long, punishing normal behaviour as well as problem barking.
- Collars activated by sound only could be activated by non-barking vocalisations of the dog wearing the collar, such as yelping in response to a previous activation, but also by surrounding noises, such as neighbouring dogs barking. They could even be set off intentionally using adequate noise.
- In some instances dogs may come to associate the person placing the collar with being exposed to the stimulus, becoming aggressive towards this person, or dogs may become aggressive when the collar is activated.

In light of the potential problems and requirements under the Code of Welfare for Dogs, the use of anti-bark collars should be considered only as a very last resort after all other avenues have been exhausted, including working with a

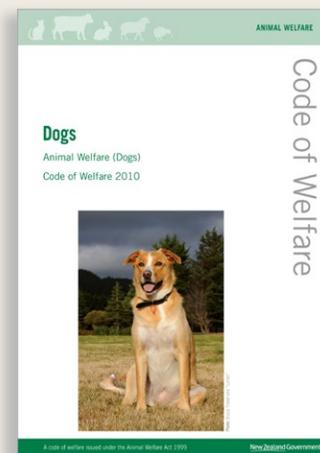
veterinary behaviourist, animal behaviourist, or certified dog trainer. Addressing underlying problems is crucial in having a long lasting method that will be effective in controlling problem barking and should be employed before any collars are used.

Other possibilities that may help with problem barking include obedience training, giving the dog more attention, providing some novel enrichment such as toys, increasing exercise, blocking the dog's view of movement outside the property or allowing the dog into the house. It is also important to refer a dog with an excessive barking issue to a veterinary behaviourist. This should ensure that there is no underlying medical condition and that the reasons for the barking are addressed with long-term solutions.

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Code of Welfare  
for Dogs available  
at: <http://www.mpi.govt.nz/document-vault/1428>



## Codes of welfare – update on consultation, development and review since issue 21

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.

### Reissued codes of welfare

- Commercial slaughter
- Transport within New Zealand
- Dairy cattle
- Sheep and beef cattle

### Recommended to Minister

- Temporary housing of companion animals

### In post-consultation process

- Dairy housing amendment

For a complete list of the codes of welfare visit <https://www.mpi.govt.nz/protection-and-response/animal-welfare/codes-of-welfare/>

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# Across our desks

## Lambs show changes in ear posture when experiencing pain

Animals of various species hold their ears in a backward position when in pain. This study investigated whether ear postures change when lambs experience pain. Lambs were tail docked using rubber rings, and their behaviour was recorded 30 minutes before and after docking. There was an increase in the proportion of time spent with ears backwards, less time spent in the mid and forward postures and a significant increase in the number of ear posture changes in response to docking. The authors conclude that ear posture in lambs is associated with the experience of pain and that the use of ear posture as a non-invasive welfare indicator warrants further investigation.

Guesgen MJ et al (2016). *Animal Welfare* 25: 171-177

## Public concern for farm animal welfare in developed countries: what do we know?

The paper reviews the links between public concern and various demographic and personal factors including knowledge of animal welfare issues in food production, age, gender, religion, experiences with animals, rural versus urban living and meat eating. The authors conclude that knowledge has a stronger influence on concern for animal welfare than the other factors. Because modern food consumers are removed from food production, resulting in poor knowledge and understanding of animal welfare issues, there is a greater need for public education. Consciousness raising could encourage the public to translate their concerns into market drivers to improve animal welfare.

Cornish A et al (2016). *Animals* 6: 74

## Neural histomorphology of pig tail tips docked using clippers or cautery iron

Tail docking remains a preventive strategy for tail biting in pigs, but neuromas may develop at the docking site. The presence of neuromas has the potential to cause neuropathic pain and hence may affect the long-term welfare of the pig. This study investigated whether method of tail docking influences the extent of neuroma formation. Tail tips

from pigs docked using clippers (blunt force trauma) or cautery iron were compared. Evidence of neuroma formation was observed in almost all tail tips for both docking methods. The authors suggest that tail docking by either method has the potential to induce long-term alterations in pain processing.

Kells NJ et al (2016). *Animal* 11, 1222–1227

## Animal welfare and efficient farming: is conflict inevitable?

Livestock farmers are increasingly under pressure to become more sustainable and efficient. At the same time there is increasing public concern for animal welfare. The review highlights that potential conflicts between animal welfare and efficient farming could be resolved, or at least reduced, by showing the financial benefits of improving animal welfare. Profits through reduced mortality, improved health, improved product quality, improved disease resistance and others are addressed. The author argues that such financial benefits reinforce, rather than replace, ethical arguments for good animal welfare.

Dawkins M (2017). *Animal Production Science* 57: 201-208

## Rearing environment and environmental enrichment impact on fearfulness in adult laying hens

The study investigated whether hens reared with early access to pecking substrate would be less fearful as adults. Chicks were reared on paper substrate or wire mesh, and at around 30 weeks of age hens were subjected to a stationary person test and a novel object test to assess fearfulness. Access to litter during rearing did not influence the number of birds that approached the stationary person. However, there was an interaction with environmental enrichment. If adult birds did not have access to enrichment, more birds reared on paper approached the novel object compared to those reared without paper. The authors conclude that rearing with paper reduced fear of a novel object, but only where adult birds had no access to environmental enrichment.

Brantsaeter M et al (2017). *Applied Animal Behaviour Science*, 189, 49–56

# Your feedback

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