

Representing
Animals®



Representing Animals

Annual Report 2023



Representing Animals

Representing Animals Foundation is a UK-based non-profit organisation established to support the work of Prof. Andrew Knight and others. It works toward a reduction in the production, consumption, and other uses, of non-human animals globally. Those animals still used for human purposes should experience better welfare. We do this through:

- Education about non-human animals and their interests
- Research and advocacy to increase the development and consumption of plant-based and alternative protein products, and to encourage flexitarian diets and vegan lifestyles
- Research and advocacy into sustainable companion animal diets
- Research and advocacy into other animal welfare issues
- Research and advocacy into conservation issues including the reduction and mitigation of climate change effects, the promotion of biodiversity, appropriate transformation of our agricultural sector, and nature restoration

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2 Executive Summary

The year 2023 was exceedingly productive for Prof. Andrew Knight and his collaborators. A series of significant successes were achieved in the animal and vegan advocacy sectors. Endorsement of (nutritionally-sound) vegan pet food was achieved from UK Pet Food (the UK petfood manufacturers' association), with the British Veterinary Association moving in a similar direction. Other major successes involved the US Supreme Court upholding Proposition 12, which requires more humane living conditions for pigs and other farmed animals, a UK High Court win confirming that the welfare of tigers is indeed compromised in circuses, a New Zealand government committee recommending reforms to NZ's animal welfare legislation, and an Israeli court decision to uphold a national ban on the use of colony cages for meat chickens.

The *Routledge Handbook of Animal Welfare* edited by Andrew and colleagues covers nearly all animal welfare issues, as well as animal law in major world regions and key related topics such as animal ethics, education, communication and human behavioural change. It was published open access in 2023 to enable its use by animal advocates, organisations, policy-makers, students, and others worldwide. Andrew designed this strongly science-based textbook partly to increase the knowledge and effectiveness of the animal advocacy movement globally. By the beginning of 2024, 140,000+ chapter downloads had occurred, which is extremely unusual for any textbook.

Six scientific articles and technical letters in veterinary journals were also published by Andrew and his collaborators in 2023. These primarily focused on vegan pet food. The most significant was a study which calculated the very substantial sustainability benefits if global populations of dogs, cats and people were transitioned onto (nutritionally-sound) vegan diets (Fig. 1). Another key study systematically reviewed all strategies for combatting climate change published within the last two decades, and concluded that transition away from

livestock production, towards plant-based diets, is essential. A third major study quantified health benefits when cats are transitioned onto (nutritionally-sound) vegan diets. Including over 1,300 cats, it was the largest of three such studies published to date. Other important studies highlighted the influenza pandemic risks posed by pig and poultry farms, and studied consumer attitudes toward cell-based seafood in Japan (a major seafood-consuming nation).

Andrew also provided 27 presentations in 2023. These were mostly on vegan pet food, but also covered several other animal advocacy topics. They were provided to scientific conferences and universities, including veterinary schools, and occasionally to non-governmental or governmental bodies. Many hundreds of people were reached directly, with podcasts and Andrew's social media videos reaching thousands more.

All of this work, and especially the key new studies described above, collectively attracted very substantial media attention. This was assisted by commercial press release distribution, and by the press offices of the universities Andrew is affiliated with. Hundreds of news stories resulted, with a combined news website potential reach in the billions (see following). Three of the studies above received an Altmetric attention score in the top 1% of all research outputs. Altmetrics metrics track engagement with scientific research.

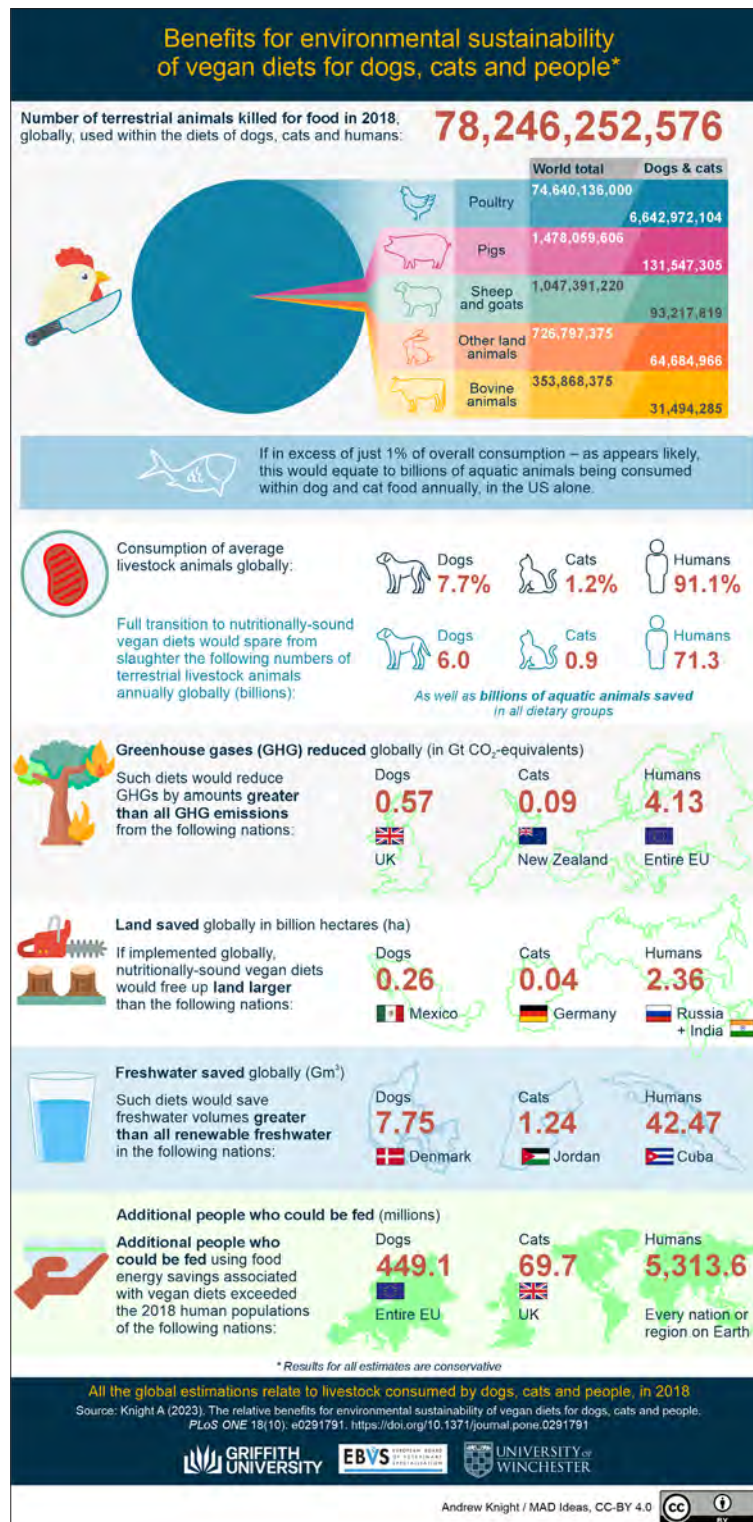
Some of this work contributed to Andrew being awarded a Distinguished Alumnus Award from Western Australia's Murdoch University, from whose veterinary school Andrew graduated in 2002. The trip to Perth, Western Australia, provided several additional speaking and interview opportunities. Finally, several of the studies described herein contributed towards another PhD for Andrew on vegan pet food (health, behavioural and sustainability implications). His first PhD was awarded in 2010 for studies critiquing scientific and educational

animal use, and describing alternatives. These various awards all increase scientific credibility and ability to achieve impact.

In achieving these outputs, Andrew worked with numerous organisations and individuals. Key collaborators are listed in the following.

Andrew is grateful to all of them, and especially to the donors whose financial support enabled Andrew to resign his fulltime post as a university professor, and to focus on this work fulltime from mid 2023. Without that support, much of this work would not have been possible.

Figure 1. Benefits for environmental sustainability of vegan diets for dogs, cats and people. Source.



4 Advocacy Successes

Following the rapid development of the scientific evidence base supportive of (nutritionally-sound) vegan pet food by Andrew and fellow researchers, in January UK Pet Food (the UK petfood manufacturers' association) published an updated Vegetarian and Vegan Diets Factsheet. They took a cautious approach but nevertheless condoned the use of nutritionally-sound vegan pet foods, stating, "Manufactured vegetarian and vegan (entirely plant-based) diets are now available for both cats and dogs. With advancing technology and research, nutrients that were previously only available from animal-based ingredients can now be made synthetically or be sourced from novel ingredients ... there is little evidence of adverse effects arising in dogs and cats on vegan diets". They cited a 2023 systematic review which reviewed 16 prior studies and also concluded that "there is some evidence of [health] benefits" associated with vegan pet food. This may be the first time that a national pet food manufacturers' association has officially condoned vegan pet food, and is very significant.

The British Veterinary Association (BVA) likewise responded to the rapid increase of the scientific evidence base supporting vegan pet food by convening a working group to review its position on vegan pet food and other alternative diets. Andrew presented to them in September. Their report is expected in 2024, and is also expected to cautiously support the use of (nutritionally-sound) vegan pet diets. This would be very significant, as the BVA has consistently opposed vegan pet foods previously, and this would make it the first national veterinary association to endorse their use.

Although primarily focused on vegan pet food, Andrew also supported a broad range of other animal and vegan advocacy campaigns. In May the US Supreme Court upheld Proposition 12, which requires more humane living conditions for pigs and other farm animals. This occurred despite challenges from the National Pork Producers Council and other agribusiness interests. According to the Humane Society Veterinary Medical Association,



"The engagement of veterinary professionals along with animal welfare scientists, public health experts and many other animal advocates, was critical in persuading the Court to reject the challenge and allow the strongest farm animal protection law in the country to stand." Andrew was among nearly 400 veterinarians and animal scientists who signed onto a legal briefing demonstrating that confining mother pigs in gestation crates causes immense suffering. Those arguments were referenced by the Supreme Court Justices within their decision.

In May the UK animal advocacy movement also had a major legal success. Celebrity naturalist, animal advocate and TV presenter Chris Packham won his High Court libel claim against the Country Squire Magazine website, which represents pro-hunting and similar viewpoints. The site had accused him of lying about the welfare of tigers in circuses, including several tigers rehomed from a Spanish circus into a wildlife sanctuary. Courtroom documents indicated an intention to have Chris fired from his TV presenter job, and to change the tone of media coverage of animal issues within the UK.

A core part of this case was an expert report prepared by Emily Davies and Andrew, concerning the welfare of circus tigers. After systematically reviewing relevant scientific evidence, they concluded that tiger welfare is significantly compromised by circus environments. Andrew defended this under cross-examination in the High Court on the 5th of May, for two hours. That went extremely well, partly because the report was so scientifically strong. Chris Packham was awarded £90,000 in damages and another interim payment of £400,000 towards legal costs. This was a major success for the UK animal advocacy movement, and a very damaging outcome for those who seek to silence its animal welfare champions. It was prominently reported in *The Guardian*.

In July the New Zealand Regulations Review Committee responded to a 2022 report *Farmed Animal Welfare in New Zealand* authored by Andrew and animal advocacy legal colleagues, which recommended substantial reforms of NZ law. The Committee recommended to the government a full albeit brief review of secondary legislation under NZ's Animal Welfare Act.

In October an Israeli court denied an industry petition to overturn a national ban on the use of colony cages for meat chickens. This followed a 2022 study by Jenny Mace and Andrew on the welfare problems associated with colony cages, which had previously been used to support a successful Israeli campaign for this ban. The court stated that the government decision to discontinue these colony cages due to animal welfare concerns was a reasonable decision that it upheld.

Andrew also provided expert statements or signed on to campaigns to support numerous other animal and vegan advocacy concerns, including the CO₂ gas chamber killing of slaughtered pigs in the US, octopus farming, the caging of laying hens and farmed ducks, and the welfare of farmed fish.

Research summaries of the health, behavioural and sustainability implications of vegan pet foods were also provided to numerous companies seeking to develop such products, and occasionally also to nongovernmental organisations (NGOs).



Media Coverage

As in previous years, Andrew continued to be interviewed on a weekly basis by media outlets on a wide range of vegan and animal advocacy issues (Fig. 2). Andrew's work or quotes again appeared in hundreds of media stories, with vegan pet diets remaining the most common topic. Other topics included animal experiments, educational animal use, intensive farming of laying hens, meat ('broiler') chickens, pigs, dairy cows, animal slaughtering, greyhound racing and octopus farming.

The leading stories in 2023 were coverage of the following three new studies. In each case such widespread coverage was assisted by Newswire press releases and the press offices of Andrew's affiliated universities. Newswire and Altmetrics statistics are provided for each.

- 1 The relative benefits for environmental sustainability of vegan diets for dogs, cats and people. The Newswire press release was published on 629 downstream websites with a combined potential reach¹ of 3.82 billion. Altmetric statistics: 258 news stories by Jan. 2024, attention score in the top 0.1% of all research outputs.
- 2 Vegan versus meat-based cat food: Guardian-reported health outcomes in 1,369 cats, after controlling for feline demographic factors. The Newswire press release was published on 647 downstream websites with a combined potential reach of 4.05 billion. Altmetric statistics: 160 news stories by Jan. 2024, attention score in the top 0.1% of all research outputs.
- 3 Proposed solutions to anthropogenic climate change: A systematic literature review and a new way forward. The Newswire press release was published on 785 downstream websites with a combined potential reach of 7.45 billion. Altmetric statistics: 39 news stories by Jan. 2024, attention score in the top 1% of all research outputs.

Leading news outlets and media websites reporting Andrew's work included *National Geographic* (Germany), *Newsweek*, *The Guardian*, *The Sun*, *Daily Mail*, *The Independent*, *Sydney Morning Herald*, Bloomberg Markets Insider, Yahoo Singapore and Associated Press. There was also occasional TV coverage in the UK (e.g., ITV, GB News), and much radio coverage, mostly within the UK, US and Australia. Veterinary journal coverage included *Veterinary Times* (UK) and *The Veterinarian* (Australia).

Another study documenting the influenza pandemic risks associated with intensive pig and poultry farms also attracted noteworthy coverage in agricultural industry journals and elsewhere, with headlines such as UK Government urged not to approve new intensive animal farms over disease risks.

Andrew was also interviewed within numerous podcasts, with the most popular reaching over 700 social media views by the end of 2023. These can be viewed along with short summary videos of key research and animal welfare issues, at Andrew's YouTube channel and social media channels. Collectively these amassed many thousands of views in 2023.

Figure 2. Andrew Knight being interviewed for a documentary critiquing animal research, in Southampton.



¹Potential reach is an estimation of the number of worldwide unique visitors on desktop and mobile devices provided by Similarweb.

Awards

Andrew graduated from Murdoch University's veterinary school in Western Australia in 2002. In November he received the Murdoch University Distinguished Alumnus Award 2023, with five other recipients (Fig. 3). In total Murdoch had over 100,000 alumni by 2023, and there had been 38 previous award recipients. Andrew was the fourth veterinary graduate to receive this award. This award was particularly unexpected as Andrew was nearly expelled as a student, for a hard-fought and ultimately successful campaign to replace harmful animal use within the veterinary curriculum with humane alternatives – an amusing point he emphasized during his acceptance speech, which can be viewed with event photographs and further information [here](#).

The trip to Western Australia also provided opportunities to give two other talks (on vegan pet food at the University of Western Australia, and on animal advocacy careers at Murdoch University) and two interviews, including ABC radio – one of Australia's leading radio stations (on greyhound racing) (Figs. 4-5).



Figure 3. Andrew receives the Murdoch University Distinguished Alumnus Award 2023 from Murdoch University Vice-Chancellor Prof. Andrew Deeks.



Figure 4. Andrew being interviewed about his animal advocacy career by Prof. Henry Annandale, Dean of the veterinary school, at Murdoch University.



Figure 5. Andrew being interviewed on ABC Radio in Perth, Western Australia.

Andrew also completed work toward his 2nd PhD in 2023. This was entitled *Vegan Versus Meat-Based Pet Food: Health, Behavioural and Environmental Implications*. The PhD was awarded the following year. As well as directly providing speaking opportunities, these awards increase credibility and potential to achieve impact.

Publications

One textbook and seven articles and technical letters in veterinary journals were published by Andrew and his collaborators in 2023. The *Routledge Handbook of Animal Welfare* has been described as a new bible for the animal advocacy movement (Fig. 6). This collaboration of three editors and 50 authors – many who are world leaders in their fields, within 36 chapters, covered most animal welfare issues, as well as animal law in major world regions, and key related topics such as animal ethics, education, communication and human behavioural change. With the generous financial support of Compassion in World Farming International, the Royal Society for the Prevention of Cruelty to Animals and the Albert Schweitzer Foundation, the entire textbook was published open access, making it freely available to animal advocates, organisations, policy-makers, students, and others globally. Accordingly, by the start of 2024, 140,000+ chapter downloads had occurred, and the entire book had been downloaded 11,000+ times, which is extremely unusual.

This publication was designed by Andrew partly to increase the knowledge and effectiveness of the animal advocacy movement globally. It is contributing toward this objective by increasing the accessibility, understanding and utilisation of the supportive scientific evidence base.



Figure 6. The Routledge Handbook of Animal Welfare was published in 2023.

Seven articles and technical letters were also published in 2023. These primarily focused on vegan pet food. One *PLOS ONE* study quantified the benefits for sustainability ('food' animal lives spared, savings of greenhouse gases, land, water, and additional people who could be fed with food energy savings), if global populations of dogs, cats and people all respectively transitioned onto (nutritionally-sound) vegan diets. These benefits are illustrated in Figure 1. This study is game-changing for the plant-based and sustainability movements, as it shows that pet food is responsible for a significant proportion of global livestock consumption (and hence, the environmental impacts of the livestock sector), and that conversely, very substantial benefits are achievable via (nutritionally-sound) vegan pet food. It shows that societal diet change needs to include pet diets.

Another *PLOS ONE* study reported health outcomes when 1,369 cats were fed vegan or meat-based pet food, for at least one year. This was the third and largest such study published by 2023. Cats fed vegan diets had better health outcomes for each of seven general health indicators studied. After controlling for differences between in age, sex, neutering (desexing) status and primary location (outdoor vs. indoor), risk reductions were calculated for average cats (average age, sex, etc.). For average cats fed vegan diets, risk reductions were as indicated in Fig. 7.

No reductions were statistically significant, but collectively they revealed a strong trend. Additionally, the prevalence of 22 of the most common feline health disorders was studied. Forty two percent of cats fed meat, and 37% of those fed vegan diets suffered from at least one health disorder. Fifteen disorders were most common in cats fed meat, and seven most common in cats fed vegan diets.

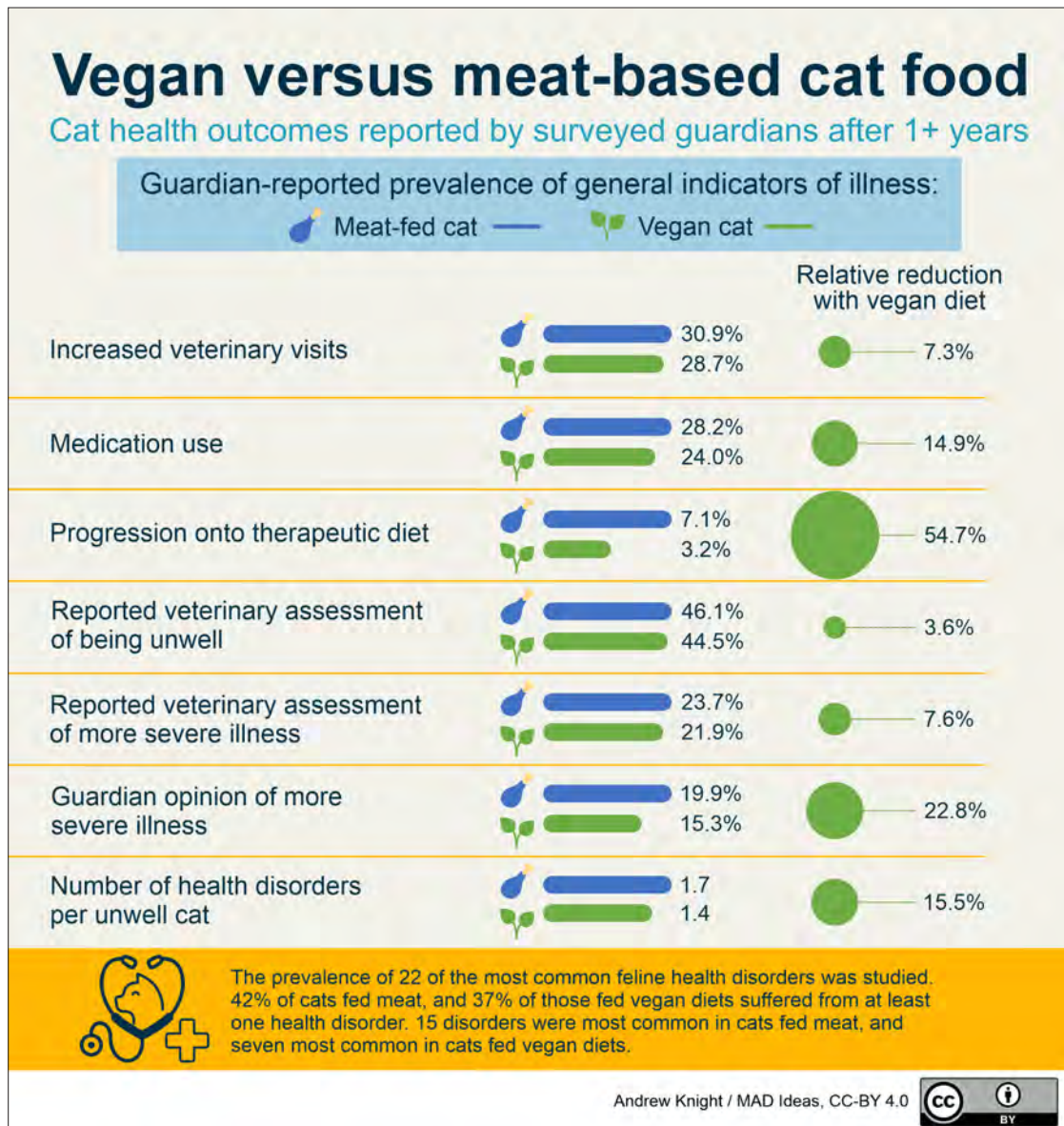


Figure 7. Vegan versus meat-based cat food: cat health outcomes reported by surveyed guardians after 1+ years. [Source](#).

A technical letter published in the main UK veterinary news journal summarised all three existing studies to date, and concluded that cats fed nutritionally-sound vegan diets have health equivalent or superior to those fed meat.

Another key [study](#) published in *Heliyon* systematically reviewed all strategies for combatting climate change published within scientific literature in the last 20 years. It concluded that food system change must play a key role, away from livestock production and towards plant-based diets.

Another study [published](#) in *Frontiers in Veterinary Science* reviewed influenza pandemic risks arising from intensive pig and poultry farms. This is the pandemic giving rise to the greatest public health concerns. Previous influenza pandemics have killed many millions of people. Our study concluded that these farms pose unacceptably high influenza pandemic risks. We concluded that new farms should not be licenced (directly supporting a campaign to prevent new megafarms of this type being licensed in the UK), and that existing farms should be phased out.

Another **publication** focused on consumer attitudes toward cell-based seafood in Japan (a major seafood-consuming nation). The results could inform marketing of such alternative protein products as they're developed. And a final publication studied the welfare of otters housed within zoos. These latter publications were collaborations with former MSc students of Andrew's and were based on their MSc dissertations. Details of these publications follow.

- 1 Mace JL and Knight A (2023). Influenza risks arising from mixed intensive pig and poultry farms, with a spotlight on the United Kingdom. *Front. Vet. Sci.* 10, 1310303. doi.org/10.3389/fvets.2023.1310303
- 2 Feigin SV, ... Knight A, et al. (2023). Proposed solutions to anthropogenic climate change: A systematic literature review and a new way forward. *Heliyon* 9(10), e20544. doi.org/10.1016/j.heliyon.2023.e20544
- 3 Knight A (2023). Vegan diets for cats – a review of the evidence. *Vet. Times* 53(41), 31.
- 4 Knight A (2023). The relative benefits for environmental sustainability of vegan diets for dogs, cats and people. *PLOS ONE* 18(10), e0291791. doi.org/10.1371/journal.pone.0291791
- 5 Braun PD and Knight A (2023). Appetite or distaste for cell-based seafood? An examination of Japanese consumer attitudes. *Commodities* 2(4), 329-354. doi.org/10.3390/commodities2040019
- 6 Knight A, Bauer A and Brown H (2023). Vegan versus meat-based cat food: Guardian-reported health outcomes in 1,369 cats, after controlling for feline demographic factors. *PLOS ONE* 18(9), e0284132. doi.org/10.1371/journal.pone.0284132
- 7 Knight A, Phillips C and Sparks P (Eds) (2023). *Routledge Handbook of Animal Welfare*. Abingdon, UK: Routledge.
- 8 Bandoli F, Mace J and Knight A (2023). The integrated effect of environmental conditions and human presence on the behaviour of a pair of zoo-housed Asian small-clawed otters. *Animals*, 13(13), 2228. doi.org/10.3390/ani13132228



"You were superb, Andrew!! I think you just probably saved thousands... maybe millions of animals with your presentation. ... you gave these folks, who are active advocates and leaders in their communities, knowledge that they can pass along to many others."

Kimberly Carroll, Animal Justice Academy, Canada, 2023.

Twenty-seven presentations were delivered by Andrew in 2023. The main subject was vegan pet food (Fig. 8). Also covered were scientific and educational animal use and alternatives, laying hen welfare, greyhound racing injuries and welfare problems, tips and strategies for winning animal advocacy legal cases with science, animal advocacy career pathways, and career advice for animal advocates.

Primary audiences included scientific conferences, universities and veterinary schools. The largest audiences numbered nearly 200. In total many hundreds of people were

reached directly, with many others viewing recordings later. Occasionally presentations were provided to NGOs or panels, such as those formulating new policies on vegan pet food (British Veterinary Association), or greyhound racing (RSPCA with various UK parliamentarians). Audiences were based in the UK, US, Canada, Europe (Italy, Denmark, Turkey, Bulgaria, the Czech Republic), Dubai, Australia and Indonesia. To minimise CO₂ emissions, time and costs, many presentations were provided virtually. Virtual audiences often included attendees from multiple, additional nations. Details follow (with the presenting author underlined):

Vegan pet food

Knight A. Can cats and dogs eat plant-based? Animal Justice Academy, Canada. 09 Feb. [invited oral, virtual].

Knight A. Should cats and dogs go vegan? New Food Forum, Prague. 26 Apr. [invited oral].

Knight A. Should cats and dogs go vegan? Postgraduate Research Students' Symposium, University of Winchester. 02 Jun. [oral, virtual].

Knight A. Should cats and dogs go vegan? Animal Advocacy Conference, University of Kent. 22 Jun. [oral].

Knight A. Should cats and dogs go vegan? ANZCVS Science Week, Gold Coast. 27 Jul. [oral, virtual].

Knight A. Should cats and dogs go vegan? Animals Australia. 06 Sep. [invited oral, virtual].

Knight A. Should cats and dogs go vegan? International Conference on Animal Science and Veterinary Medicine. 11 Sep. [invited keynote, virtual].

Knight A. Should cats and dogs go vegan? British Veterinary Association Companion Animal Feeding Working Group. 13 Sep. [invited oral, virtual].

Knight A. Should cats and dogs go vegan? Greenpeace Office, Sofia, Bulgaria. 18 Oct. [oral].

Knight A. Should cats and dogs go vegan? Istanbul Vegfest '23. 28 Oct. [invited oral, virtual].

Knight A. Should cats and dogs go vegan? University of Western Australia, Perth. 16 Nov. [oral].

Knight A. Should cats and dogs go vegan? The Vegetarian Society of Denmark Annual Networking Evening, Copenhagen, Denmark. 29 Nov. [invited keynote].



Figure 8. Andrew speaking on vegan pet food at the New Food Forum, Prague, in April.

Knight A. From people to pets: Are the climate and environmental impacts of diets underestimated? Copenhagen, Denmark. 28 Nov. [invited oral].

Knight A. Should cats and dogs go vegan? Our Honor vet CE series. 07 Dec. [invited oral, virtual].

Knight A. Should cats and dogs go vegan? International Webinar on Veterinary Science Medicine and Research, Dubai. 11 Dec. [invited oral, virtual].

Knight A. Should cats and dogs go vegan? Royal Veterinary College, London. 13 Dec. [invited oral].

Scientific and educational animal use

Knight A. Critically evaluating the use of animal models within research. IBP University, Bogor, Indonesia. 18 Feb. [invited oral, virtual].

Knight A. Invasive chimpanzee research: are the benefits worth the harms? University of Winchester. 21 Feb. [invited oral].

Knight A. Educational animal use and alternatives. Conference on Animal-Free Methods in Education, Sofia, Bulgaria. 20 Oct. [invited keynote].

Knight A. Educational animal use and alternatives. Animal Science Conference 2023, University of Newcastle, 06 Dec. 2023. [invited keynote].

Knight A. The 3Rs – an Overview. University of Padua, Italy. 19 Dec. [invited oral, virtual].

Chicken welfare

Mace JL and Knight A. 'Modern colony cages': a new threat for farmed meat chickens? Fauna Connections: Using Data to Help Animals. 14 Aug. [virtual, poster].

Mace JL and Knight A. The impacts of so-called colony cages on the welfare of chickens farmed for meat. Fauna Connections: Using Data to Help Animals. 14 Sep. [virtual, poster].

Animal advocacy careers

Knight A. In Conversation with Professor Andrew Knight. Murdoch University, Western Australia. 21 Nov. [invited keynote].

Knight A. (2022). Hammerhead sharks and sea turtles: globetrotting adventures in animal welfare. Animal Science Conference 2023, University of Newcastle, 06 Dec. 2023. [invited keynote].

Other

Knight A. Winning animal welfare legal cases with science. UFAW/A-Law Animal Law and Policy: Annual Update 2023. 16 Oct. [invited oral, virtual].

Knight A. Injuries in racing greyhounds. RSPCA Wales. 14 Dec. [invited oral, virtual].



About

Representing Animals Foundation is a non-profit organisation established to support the work of Prof. Andrew Knight and others and is co-directed by Jasmijn de Boo. Andrew is a veterinary Professor of Animal Welfare, affiliated with the School of Environment and Science at Griffith University, Queensland, where he is an Adjunct Professor. He's also affiliated with the University of Winchester, UK, where he established and directed its Centre for Animal Welfare from 2015 – 2023. This became one of Winchester's largest and most active research and knowledge exchange centres.

Andrew is also a veterinary specialist in animal welfare accredited in the US, UK and EU, a Fellow of the Royal College of Veterinary Surgeons, and Principal Fellow of Advance HE.

He produces a large amount of research and outreach which helps to advance understanding of animals and their welfare. These have included two books, numerous academic and popular articles and external presentations, social media videos and websites. Andrew regularly collaborates with animal welfare charities to advocate for animals and is frequently interviewed by the media. He has received over 20 awards and research grants for this work.



Key Collaborators

Andrew regularly collaborates with animal and vegan advocacy organisations and colleagues, supporting a wide range of projects within the animal and vegan advocacy sectors. Key collaborating colleagues in 2023 included those below. Daniel Braune and Sebastian Joy also provided invaluable assistance and support.



Alexander Bauer PhD

Alexander Bauer works at the Institute for Prevention and Cancer Epidemiology at the University of Freiburg, Germany. He received his doctorate in

Statistics from the LMU Munich, Germany, with a focus on the analysis of spatio-temporal data. With broad research interests and as a former Fellow of the LMU Munich Statistical Consulting Unit StaBLab, he is actively involved in applied research projects in various fields. His progressive research includes topics such as the treatment of rehomed laboratory dogs and the health of pets fed vegan diets. He led the statistical analysis for the vegan cat health study previously described, and has assisted with a similar study in dogs.



Emily Davies MSc AWSEL

Emily sometimes serves as a Visiting Lecturer in Animal Welfare at the University of Winchester. She completed its

MSc Animal Welfare Science, Ethics and Law Masters degree in the first year, 2016-2017, receiving a distinction. Her Masters dissertation research was used as a case study to update Best Practice Guidelines for the European Endangered Species Programme, with regards to captive Jaguars. She since went on to pursue a career in academic publishing, where she oversees a portfolio of journals for John Wiley & Sons LTD. In 2023 she worked with Prof. Knight to provide the evidence base used in the High Court case demonstrating cruel treatment of tigers in a circus (see previous).



Svetlana V. Feigin BA, MA, PhD

Dr. Svetlana V. Feigin completed her PhD in Psychology at the University of Auckland. Her work related to the study of altruistic behavior and has helped define several aspects of that area of human psychology. Her research and publications focus on human empathy and altruism, social psychology, and solutions to climate change. She is passionate and devoted to the issues of animal and environmental protection. In 2023, she along with Prof. Knight, published a systematic literature review which synthesized and critically discussed all proposed scientific solutions to climate change over the past 20 years.



Jenny L. Mace MSc AWSEL, BSc, FHEA

Jenny is a remote Associate Lecturer on the MSc in Animal Welfare, Behaviour, Ethics, and Law at the University of Winchester. Alongside this, she works as an independent researcher (via [Mace Animal Welfare](#)). Jenny led the influenza study and assisted with the otters study described previously. Jenny is also the Editing Co-ordinator/Co-owner of the international academic editing company [Cammad Ltd](#). She cares for two rescue cats, one Romanian-rescue dog, and five ex-commercial hens. She is based in Fife, Scotland.



Clive Phillips BSc, MA, PhD

Clive Phillips was Australia's first Professor of Animal Welfare, at the University of Queensland, and foundation director of its Centre for Animal Welfare and Ethics. His PhD focused on dairy cow nutrition and behaviour. He was previously a lecturer at the Universities of Cambridge and Wales. He has authored over 400 scientific journal articles on the

welfare of farm, zoo and companion animals, animal nutrition, transport and production. His books include *Principles of Cattle Production*, *The Animal Trade* and *The Welfare of Animals - the Silent Majority*. He recently co-edited the *Routledge Handbook of Animal Welfare*. Clive chairs the Queensland and Western Australian Governments' Animal Welfare Boards, is editor-in-chief of the journal *Animals* and Springer's *Animal Welfare* book series. His interview series, 'Conversations with Clive' can be found at tinybeamfund.org/Conversations-With-Clive



Paula Sparks LLB (Hons), BL

Paula sometimes serves as a Visiting Professor at the University of Winchester, UK, where she teaches animal law.

She practiced as a barrister at Doughty Street Chambers in London before leaving the bar in 2018 to pursue a full time (voluntary) role with the UK Centre of Animal Law (A-LAW), a charity whose vision is a world where animals are fully protected by law. Paula frequently lectures and writes about animal related law and policy. She co-edited the *Routledge Handbook of Animal Welfare* (2023).



Mad Ideas

Mad Ideas is an independent, creative graphic design agency supportive of pro-vegan/animal causes, who are "delighted to be among Professor Andrew Knight's key collaborators." Their goal "has been and always will be to make a positive difference." As an award-winning agency, they recognise the power of images and words; successfully harnessing both. Their specialisms include internal and external communications, campaign and event materials, eco-friendly and vegan packaging design, infographics, and branding with personality. Mad Ideas prepared the infographics provided in this report and frequently provides graphics to help outreach Prof. Knight's work via social media. Further information: MADideas.com."



A wide-angle photograph of a vast, cracked, and parched landscape, likely a dry lake bed or salt flat. The ground is covered in a dense network of irregular, polygonal cracks, creating a mosaic-like pattern. The cracks are deep and dark, contrasting with the lighter, dry earth. In the background, a range of low, rolling hills or mountains is visible under a sky filled with soft, wispy clouds. The lighting suggests a sunset or sunrise, with a warm, golden glow across the scene. The overall mood is one of desolation and environmental hardship.

Climate change and environmental degradation are the leading threats to life on Earth. Livestock production is a major cause.



Representing Animals works to support the growth of vegan lifestyles, including nutritionally-sound vegan diets for pets.

