

Universities Federation for Animal Welfare Annual Report 2020-2021

Science in the Service of Animal Welfare









www.ufaw.org.uk

UFAW – the International Animal Welfare Science Society

The Universities Federation for Animal Welfare, founded in 1926, is an independent charity promoting animal welfare science worldwide, together with high standards of welfare for farm, companion, laboratory and captive wild animals and for those animals with which we interact in the wild.

This report highlights the work undertaken by the charity during the past year which has been possible due to the continued commitment of its members and donors who have supported the charity through subscriptions, donations and legacies. This support is the very heart and life-blood of the charity and enables us to continue to strive for improvements in animal welfare – for which we thank you.

UFAW's vision is simple – to improve animals' lives through research, education, information and advice. It does this by:

- Promoting, funding and supporting animal welfare science and technology that underpins advances in animal welfare
- Promoting and supporting education in animal care and welfare
- Providing information, organising meetings and publishing books, articles, technical reports, information on its website and the journal Animal Welfare
- Providing expert advice to government departments and other bodies and helping to draft and amend laws and guidelines

Cover photo: Puffin – Pexel; Rat – Understanding Animal Research; Cows – Pixabay; Cat - Pixabay

Welcome to the 2020-21 Annual Report for UFAW

What a year this has been in terms of developing our reach around the globe and advancing our knowledge of what really matters to animals. A year which has seen the world still grappling with the effects of COVID-19, but which has highlighted the importance and value of science, and the answers it can provide.

For UFAW, it has been a year where we have held many of our meetings and symposia on-line, thereby enabling us to reach out to fellow animal welfare scientists and share knowledge and information across the world. This has been truly exciting in terms of the potential to improve animal welfare in areas previously beyond our reach.

We have continued to fund priority areas of research around eliminating or alleviating significant welfare problems in farmed animals, the development of methods for humane "pest" control and advancing our understanding of what matters to animals, and you can read about some of these projects on page 5.

Key to underpinning this work is ensuring that the next generation of animal welfare scientists and advocates are encouraged and supported and you can learn more about the support given to our university LINKS and mentoring scheme which was piloted this year, in this report.

All of this crucial work is only possible thanks to your continued support and generosity with donations and legacies. This enables us to not only carry on with our work but also to make animal welfare science accessible to as wide an audience as possible. We could not do this without you – thank you.



Alick Simmons BVMS MSc MRCVS Chairman of Trustees



"Key to underpinning this work is ensuring that the next generation of animal welfare scientists and advocates are encouraged and supported"

CHIEF EXECUTIVE'S REPORT FOR THE YEAR



"We have funded a number of projects which we think offer really exciting opportunities to improve our understanding of the welfare of a range of species, and most crucially of all how to improve it"

Welcome to UFAW's 2020-21 Annual Report. To say it's been an unusual year would be an understatement, as we all know. For many, the last 18 months have been deeply traumatic and I very much hope that our members and supporters around the world are safe and well.

For UFAW's activities the pandemic has had a variety of effects, some of the research we fund has, understandably, been subject to delays as a result of restrictions and we have had to cancel or postpone some planned events. However, there have also been positives, not least our very successful transition to holding online events. This has allowed us to vastly increase our ability to spread the message about animal welfare science. The conference we held in June this year had over 1300 registrants, around 1000 more than we would expect at a face-to-face meeting. Many of those new attendees would not be able to travel to in-person meetings in normal times. One reason for the large audiences is because we have chosen, unlike many other organisations, to make our online meetings free to ensure access for all. However, running online meetings is costly and requires a great deal of effort from our staff. Thank you to the many of you who attended our meetings and especially to those who kindly donated.

Most of the meetings we organise online are recorded and available to watch without charge after the event; please do take a look if you would like to hear about some of the very latest advances in animal welfare science.

Supporting animal welfare science around the world and building the capacity to undertake such work is an increasing focus of our activities. We are a UK based charity but we seek to improve animal welfare globally. We are particularly keen to ensure that animal welfare science is not confined to the Global North and one way we hope to do this is to encourage early-career animal welfare scientists around the world. This year we ran a pilot mentoring scheme where we offered undergraduate students in Uganda and Nigeria the chance to benefit from the guidance and support of more experienced researchers from Canada and the Netherlands to help them prepare applications for research scholarships. We are very pleased with the success of this pilot scheme and will be scaling it up to help more students in the coming year.

In this report you can also read about some of the innovative research we support. We have funded a number of projects which offer really exciting opportunities to improve our understanding of the welfare of a range of species and, most crucially of all, how to improve it. This too is work we can only do with your generous support.

Thank you all for your interest in UFAW's work and for supporting us to continue to promote animal welfare science around the world.

Huw Golledge BSc PhD

Chief Executive & Scientific Director

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GRANT FUNDING

Every year UFAW funds a diverse range of projects through our grants scheme (www.ufaw. org.uk/grants). These awards can be used to support scientific research projects and other activities. Here are just three examples of successful UFAW grant applications from 2020-21:

REFINING THE HOUSING AND HUSBANDRY OF LABORATORY RATS: A SYSTEMATIC REVIEW

This year we funded a systematic review by Dr Vikki Neville at the University of Bristol of the evidence for various ways of improving the care of rats housed in laboratories for research purposes. Worldwide, millions of rats are used in scientific research every year. Many ways of refining the way we keep and handle rats in the laboratory have been developed and tested over the years and Dr Neville will examine over a thousand scientific articles and review the evidence that they present for which refinements are the most beneficial to lab rodent welfare.

Systematic reviews aim to find all the evidence concerning a particular issue and critically evaluate it. This approach allows more definitive conclusions to be reached, avoids bias, and takes into account not just how much evidence there is concerning a particular issue, but also the quality of that evidence.

At UFAW we are very keen to support the application of this rigorous approach to animal welfare issues and were therefore very pleased to be able to support this project. We are also keen to publish the results of such studies in our journal Animal Welfare.

USING CANINE OLFACTION TO DETECT BOVINE RESPIRATORY DISEASE

Systematic reviews are often used as the precursor to a research study; before embarking on an experiment, it is important to understand what is already known. This is the case with another study we recently funded. Many of us will have seen articles where dogs 'sniff out' various human diseases. Dr Courtney Daigle at Texas A&M

University will review the evidence on the ability and accuracy of dogs in detecting disease in cattle. Armed with this evidence, Dr Daigle plans a pilot study to see whether dogs can be trained to detect Bovine Respiratory Disease (BRD). BRD is a leading cause of morbidity and mortality in cattle worldwide and as such is a significant welfare problem which would benefit greatly from a sensitive and specific testing system to allow for early detection and treatment.

OPTIMISING HANDLING IN SALMON AQUACULTURE

We recently awarded Dr Adam Powell of Stirling University a follow-up grant to undertake further work to validate the use of new types of nets for handling salmon. In his initial study Dr Powell showed that use of a rubber mesh net caused reduced damage such as scale loss to netted fish. The subsequent study showed that rubber mesh nets also harbour fewer bacteria and reconfirmed that these new nets cause reduced damage to fish handled with them. Taken together, Adam's studies are an excellent demonstration of how simple refinements can be tested and implemented to make a significant difference to animal welfare



Case study

UFAW-FUNDED SCHOLARSHIP LEADS TO ADVANCES IN OUR UNDERSTANDING OF LONG-TERM WELFARE IN LAYING HENS AND THE AWARD OF A PHD

Dr Elena Armstrong recently completed her UFAW-funded Research Training Scholarship at Newcastle University under the supervision of Professor Tom Smulders. We congratulate Elena on the award of her doctorate. Elena spoke to UFAW about her research:

CAN YOU GIVE US A SUMMARY OF YOUR SCHOLARSHIP PROJECT?

The project aimed to identify conditions and experiences that are important enough to laying hens to produce sustained changes in their affective state (or mood), as indicated by opposing consequences of chronic stress and positive experiences for the structure of the brain. It was hoped that the findings would highlight areas wherein targeted interventions would most improve the lifetime welfare of commercial hens.

YOUR THESIS WAS CONCERNED WITH LONG-TERM, OR CUMULATIVE, INDICATORS OF WELFARE IN LAYING HENS. WHY WERE YOU INTERESTED IN LONG-TERM INDICATORS SPECIFICALLY?

Long-term indicators may provide substantial insight into whether an animal has a life worth living. In the case of laying hens, measures that allow us to ascertain which of various commercial housing systems and husbandry practices common within the EU are associated with the lowest degree of chronic stress for the hens could have a huge welfare impact.

WHAT KIND OF WELFARE CHALLENGES DO LAYING HENS FACE?

In terms of health, notable welfare challenges for laying hens include conditions of the skeleton (eg keel bone fractures, osteoporosis) and feet (eg bumble foot and toe pad hyperkeratosis), disease, and poor plumage condition. Behaviourally, concerns largely surround restricted expression of natural behaviours under certain housing conditions, and the occurrence of behaviours deleterious for the collective wellbeing of the flock (eg feather-pecking and cannibalism, aggressive behaviours, piling and smothering).

WHAT LONG-TERM INDICATORS DID YOU LOOK FOR? DID ANY OF THEM PROVE TO BE USEFUL INDICATORS OF WELFARE?

We focused mainly on the production of new neurons in a region of the brain known as the hippocampus, as this process correlates with long-term mood in humans and other species. Notably, it is suppressed by chronic stress or Major Depressive Disorder and restored by antidepressant treatment. In chickens, we found that this measure was associated negatively with the severity of keel bone fractures, and relatively suppressed in those birds exhibiting low body weight and poor feather coverage. It therefore seems to be a promising indicator of poultry welfare.

DO ANY OF THE INDICATORS YOU USED HELP US UNDERSTAND POSITIVE WELFARE, AS WELL AS SHOWING WHETHER OR NOT ANIMALS ARE SUFFERING?

The primary indicator we used is known to reflect positive experiences in humans, rats and mice, being stimulated by antidepressant treatment, environmental enrichment, and exercise. We found that expression of a related gene positively correlated with the time that individual hens spent on an outdoor range, which may point to an association with positive welfare. However, as we observed natural, voluntary ranging behaviour, this relationship in laying hens would need to be verified in a controlled experiment.

DO YOU THINK COMMERCIAL LAYING HENS HAVE A LIFE WORTH LIVING? OR IF NOT, THAT WE MIGHT ONE DAY BE ABLE TO GIVE THEM A LIFE WORTH LIVING?

Generally, I think it's easier to assess the relative welfare associated with different conditions than to make an absolute judgement, as it's difficult to know where the threshold for a life worth living lies, or to find ideal-welfare conditions to compare with. We certainly know that there are stimuli and experiences chickens really value, such as access to foraging materials and dust baths, which can be provided on-farm, and there is much current research into methods of reducing the impact of factors negative for welfare, such as providing ramps in multi-tier systems to reduce the incidence of keel fractures. So, I think we are making progress all the time.

DO YOU THINK THE METHODS YOU DEVELOPED COULD BE APPLIED TO OTHER ANIMAL WELFARE QUESTIONS? WHERE WOULD YOU LIKE TO SEE THEM TESTED NEXT?

Our findings have really highlighted the importance of individual differences between hens for welfare, in areas such as personality/coping style, physical condition, and environmental preferences. I would be really interested to investigate whether selective breeding for stress resilience and increased immunity in hens is associated with these emotion-related changes in brain structure.

After completing her PhD, Elena took up a faculty position at Newcastle University. We wish her the very best for her future career.

This award illustrates how UFAW's support can not only advance our knowledge of animal welfare, but also develop the next generation of animal welfare researchers and advocates.



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SPRING APPEAL UPDATE - PROVIDING INFORMATION ON THE HUMANE CONTROL OF RODENTS

In Spring we appealed for your support to update our resources on the humane control of rodents. Many thanks to the many of you who supported this appeal, one of our most successful ever.

UFAW is often asked for advice about how to humanely control mouse or rat infestations. Choosing the most humane method is crucial to minimise pain, fear or distress, but it is often difficult to know which methods are the least damaging to the welfare of rodents. For example, glue traps and anti-coagulant rodenticides can be freely bought and used by the public and professionals. Both of these methods may cause severe pain or suffering. Another widely used control method is break-back traps — which are unregulated in the UK meaning that it is impossible for users to know if the trap they buy is fit for purpose. Even live-trapping animals and releasing them has potentially serious welfare consequences as the released animals may not survive. Given such difficult choices there is a need for clear, evidence-based, unbiased information to help people make the best choice in a difficult situation.

UFAW already has extensive information on the humane control of rodents (and moles) at www.ufaw.org.uk/rodent-welfare. Following this year's successful appeal, we will be starting work on a project to comprehensively update this resource to make it more accessible and update it with the latest information. One source of that new information will be a study that UFAW part-funded. This research, led by Dr Sandra Baker of Oxford University, looked at the relative impacts of the major rat control methods used in the UK. A group of experts including UFAW CEO Huw Golledge and Chair Alick Simmons, a former UK deputy Chief Vet, met to assess the evidence on the relative impacts of rat trapping and baiting methods. The results of the study have been submitted to a scientific journal and, once published, will form the basis of our evidence-based advice on the choice of methods to control rat infestations. Your generous support of our Spring Appeal will allow us to improve and update our resources and increase their accessibility and uptake.

UFAW MENTORING PARTNERSHIP

UFAW is committed to supporting the development of animal welfare science worldwide. We are especially keen to ensure that animal welfare science develops in parts of the world where it has yet to become firmly established. One way in which UFAW achieves this is through supporting the next generation of animal welfare scientists. However, not all students have ready access to the help and resources required to submit a scientifically rigorous research application when seeking funds for their work. In an effort to address this problem, UFAW is expanding a new mentoring scheme, piloted in 2020-21.

UFAW paired 'Mentors' (early career researchers with a strong background in animal welfare science) with students interested in carrying out animal welfare research. The more experienced mentor helped to guide the student in the early stages of project planning to ensure that their research had a solid scientific foundation. Throughout the process UFAW was very impressed with how the two pilot pairings worked together and, ultimately, that both partnerships were successful in submitting a research application worthy of funding.

Whilst the benefits to students are obvious, mentors also benefit from gaining experience of supervision of more junior researchers, a skill that is likely to prove invaluable later in their careers. Both students and mentors were extremely positive about the experience:

"When this mentoring programme came up, I saw a great opportunity of expanding my knowledge in animal welfare from different perspectives, and from someone experienced and not in my learning environment" (Student)

"This was a great way to expand my horizons and see what it is like to mentor people with a different background, slightly different research fields, and potentially different personality, goals, style of working, compared to other students I had supervised so far" (Mentor)

If you are interested in participating in the scheme please visit: ufaw.org.uk/mentor



RECOGNISING EXCELLENCE IN ANIMAL WELFARE RESEARCH

RECOGNISING ACHIEVEMENT: The UFAW Medal for Outstanding Contributions to Animal Welfare Science and the Early Career Animal Welfare Researcher of the Year 2021



The winner of the UFAW Medal, which recognises exceptional achievement and an individual who has made fundamental contributions to the advancement of animal welfare, was Professor Emeritus Joy Mench (University of California, Davis, USA).

UFAW's Chief Executive Dr Huw Golledge said: "I'm delighted that this years' UFAW medal recognises the work of Professor Mench who exemplifies UFAW's mission to promote Science in the Service of Animal Welfare. Professor Mench has not only

done fundamental research to better understand animal welfare issues, she has used her expertise to ensure that her research and that of others actually benefits animals. I cannot think of a more worthy winner." Full details of Joy's contribution to animal welfare science can be found at ufaw.org.uk/medal21

The Early Career Animal Welfare Researcher of the Year award was jointly awarded to two people who have both made outstanding contributions to animal welfare. Dr Jamie Ahloy Dallaire (Université Laval, Canada) and Dr Jen-Yun Chou (University of Pennsylvania, USA) impressed the panel with their commitment, dedication and innovation as well as the contributions both have already made to benefit animals.

While only five years post PhD, Jamie already has 24 papers published in peer-reviewed journals and a faculty position. He has conducted practical work on enrichment for farmed mink and serves on the National Farm Animal Care Council's (NFACC) Mink Code of Practice Amendment Committee. His most important work to date is on the welfare of laboratory mice and how this can be assessed in and affected by their home environment, and on the causes, functions, and welfare significance of play. Dr Joseph Garner, who supported Jamie's nomination said: "Jamie's intellect and work ethic are remarkable. He brings a deep and considered intellectual perspective to issues in

animal behaviour and welfare and has an incredibly rich technical skillset, including an outstanding level of statistical expertise. He has worked with swine, lab, fur, and zoo species, being concept-driven rather than species-focused: a huge strength and one shared with the top names in the field. All this makes him a uniquely valuable talent in the field of animal welfare."

Since she completed her PhD, Jen has played a significant role in enabling communication and networking within the animal welfare research community. She spent five months working as a Global Animal Welfare Advisor at World Animal Protection, spending a lot of that time involved in co-ordinating the 3T's Alliance (a voluntary group of experts and stakeholders working collaboratively to explore issues surrounding ending tail docking, teeth reduction and physical/surgical castration in pigs).

Her thesis includes five experimental chapters, all published in peer-reviewed journals, and she has published four other papers, with a further four and more in preparation. Jen has also contributed an incredible 19 conference presentations from her PhD, 13 as first author. Dr Keelin O'Driscoll, Research Officer at Teagasc (Agriculture and Food Development Authority, Ireland) who nominated Jen for the award said: "The quality of Jen's work and enthusiasm have made her a pleasure to work with, and her positive attitude and willingness to help others is much missed since she has left. The past year has demonstrated that Jen is not only a great scientist, but a fantastic science communicator and influencer."

Further information on Dr Ahloy Dallaire and Dr Chou's contribution can be found at ufaw.org.uk/ecr21. All the awards were presented virtually at UFAW's two-day conference *Recent* advances in animal welfare science VIII (held on 29-30th June 2021). where Joy, Jamie and Jen-Yun gave presentations on their research.



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EDUCATION IN ANIMAL CARE AND WELFARE

ANIMAL WELFARE STUDENT SCHOLARS 2021

The UFAW Animal Welfare Student Scholarship awards are a long-standing initiative to encourage students to engage in a short research project and are an important part of UFAW's aim to develop interest in animal welfare science and build capacity. Started in 1983, the scholarships have given 450 scholars a first taste of what animal welfare science research entails and led to multiple publications that have advanced our understanding of the welfare and needs of animals. A substantial number have used the scholarship as a stepping stone to further pursue their passion for animal welfare, and have gone on to become influential animal welfare scientists, and to supervise student scholars themselves.

Congratulations to the following students, who have been awarded a scholarship for 2021. We wish them luck with their research and look forward to hearing the results of their studies in due course.

Alice Armstrong (University of Leeds, UK) More than just a 'Hayday'. Supervised by Professor Lisa Collins, University of Leeds

Erin Burnett (University of Nottingham, UK) Characterising the acquisition of designer crossbreed puppies in the UK. Supervised by Dr Rowena Packer, Royal Veterinary College

Emily Dempster (University of Sussex, UK) Is plastic a welfare issue for Britain's small mammals? Supervised by Professor Fiona Matthews, University of Sussex

Ambre Jacquart (The Royal Veterinary College, UK) Development of mare-foal attachment index and its predictive value for subsequent mare response to artificial weaning. Supervised by Dr Maria Diez-León, Royal Veterinary College

Giuliano De Barros (Universidade Federal de Santa Catarina, Brazil) Does sheep tail docking decrease myiasis occurrence on sheep? A retrospective study. Supervised by Dr Patrizia Ana Bricarello, Universidade Federal de Santa Catarina

Meridyth Hardy (Dalhousie University, Canada) Enrichment use by mink kits over the growing period. Supervised by Dr Rebecca Meagher, Dalhousie University

Isa Lutebemberwa (Makerere University, Uganda) The status of animal welfare practice among poultry farmers in Uganda. Supervised by Dr Tayebwa Dickson, Makerere University

Johanna Newhauser (University of Veterinary Medicine, Vienna, Austria) Could training affect testing? Investigating the impact of training for the judgment bias test on chicken welfare. Supervised by Dr Sarah Hintze, University of Natural Resources and Life Sciences (BOKU)

Izabella Norris (Massey University, New Zealand) Identification of potential welfare indicators for commercially farmed King salmon *(Oncorhynchus tshawyscha)* in New Zealand: A scoping review to inform the development of a National Code of Welfare. Supervised by Dr Nikki Kells, Massey University

Victor Oyeniran (Federal University of Agriculture Abeokuta, Nigeria) Does maternal care differ between ecotypes of Nigeria indigenous chickens. Supervised by Dr Oluwaseun Iyasere, Federal University of Agriculture Abeokuta

Bianca Vandresen (Universidade Federal de Santa Catarina, Brazil) Influence of humananimal interactions and cognitive bias on dairy helfers' fear of humans. Supervised by Professor Maria José Hötzel, Universidade Federal de Santa Catarina – UFSC

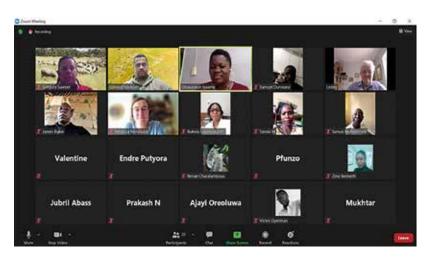
As reported in the 2021 Spring Newsletter, our 2020 Animal Welfare Student Scholars met virtually in February 2021 and each of the nine scholars who were able to complete their studies talked for 20 minutes about their work and answered questions from the online audience. Rosa Schimmel of Utrecht University was awarded the Farm Animal Care Trust's UFAW FACT Scholarship for her project *Early-life interventions to improve laying hens welfare: impact of light during incubation and genetic background on stress responsivity of laying hens.* Given in memory of Ruth Harrison, the author of Animal Machines, this Scholarship is awarded to the student scholar application dealing with farm animals that most impressed the judging panel.

Further information on the Animal Welfare Student Scholarships can be found at ufaw.org.uk/awss

UFAW LINK SCHEME

The LINK scheme is UFAW's outreach initiative that encourages interest in animal welfare science amongst staff and students at a network of participating universities and institutions, through the funding of novel activities and events. Unsurprisingly, with the advent of recurring outbreaks of COVID-19 across the globe, the closure of campuses and the switch to online learning for many students, UFAW has been asked to support fewer LINK activities than expected.

One bright light, however, has been our support of the activities of the animal welfare student club at the Federal University of Agriculture, Abeokuta, Nigeria (FUNAAB), most notably their purchase of a Zoom license. Led by LINK Dr Oluwaseun (Seun) Iyasere, the Animal Welfare Group Nigeria (AWGN) has put together an online programme of talks



from animal welfare scientists around the world, that has attracted a lot of interest in Nigeria and other African countries. To date, six speakers have given talks to AWGN, with 13 more planned. The group were also very active in encouraging submission of abstracts for the recent UFAW conference, with one accepted for a talk and nine others for poster presentations (the highest representation from Nigeria at one of our meetings). Another testament to the groups' success in encouraging interest in animal welfare was the large number of Nigerian delegates who attended the UFAW conference. Well done to Seun and the others involved in AWGN.

Irrespective of COVID-19, we continue to expand the LINK network; recent additions include: Aarhus University, Denmark; University of São Paulo, Brazil; and Nakhon Ratchasima Rajabhat University, Thailand. If you are interested in your university joining the LINK scheme, please contact Dr Stephen Wickens wickens@ufaw.org.uk

THE UFAW JOURNAL ANIMAL WELFARE IS NOW PCI FRIENDLY

PCI stands for Peer Community In and is a grassroot initiative to peer-review scientific articles that have been deposited on a public server, often referred to as pre-prints. If an article is scientifically sound and has been revised to the satisfaction of the PCI reviewers, a recommendation is written and published with its own DOI (Digital Object Identifier) on the relevant PCI website. Some authors would still like to publish their article in a scientific journal, and the editorial board of *Animal Welfare* have agreed that they will take the existing peer-reviews into account if an article recommended by *PCI Animal Science* is submitted to our journal. The responsible editor still has the right to send the manuscript out for further peer review if necessary, and we would always ask for a section on animal welfare implications to be included as this is the standard format for our journal.

EDUCATION IN ANIMAL CARE AND WELFARE

MEETINGS

We continue to strive to spread the message about the latest developments in animal welfare through our programme of meetings. Many of those were switched to online events in 2020-21 and as a result we reached a much larger audience than we have ever reached. A few highlights of our meetings are summarised below. You can also watch recordings of many of our meetings at ufaw.org.uk/recordings

RSPCA/UFAW RODENT WELFARE MEETING

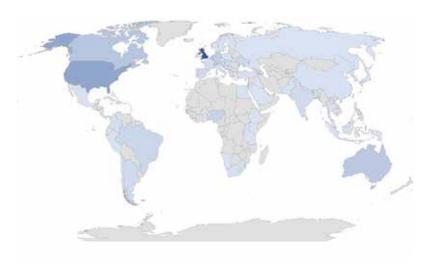
This long-standing collaboration between UFAW and the RSPCA Animals in Science Department brings together researchers and animal care staff from around the world to discuss some of the latest developments in the care of rodents used in research. This year's meeting was held online and attracted over 400 participants, a record number. The meeting focussed on the lifetime experience of lab rodents, looking at various approaches to understand and improve the whole-life welfare of rodents used in research. A report on the meeting (and previous years) is available at science.rspca.org.uk/-/rspca-welfare-meeting-reports. This year's meeting will take place online on 13 October see ufaw.org.uk/rwm for details.



VIRTUAL UFAW ANIMAL WELFARE CONFERENCE 29-30TH JUNE 2021

We have all had to get used to the changes that the COVID-19 pandemic has brought to our lives, adopting different ways of working and doing things. This has meant that, for a second year, our large summer meeting was held online with delegates and speakers attending virtually.

The conference - Recent advances in animal welfare science VIII - proved even more popular than last year's, with over 1300 people registering to watch talks from 46 speakers and to view the 119 posters that comprised the scientific programme. Because we had delegates from a record 75 different countries – including Iraq, Peru, Thailand, Nepal, Bolivia, Tanzania, Sri Lanka and Uruguay (see map below), recordings of the talks were made available to watch on demand after the conference (they – and videos of other UFAW meetings – can be viewed at ufaw.org.uk/recordings).



Map showing the number of attendees from the record 75 countries represented in the audience for UFAW's annual symposium

Subjects addressed in a diverse range of talks included the validation of a novel judgement bias task for mice (the first for this species), an evaluation of non-target interactions and humaneness of a captive-bolt trap in rodent control, that "willingness to participate" in positive reinforcement training predicts early changes in health status in dolphins, and the question as to whether flat-faced dogs are really unhealthier than other dogs? (Answer: they are).

2021 UFAW medal winner Professor Joy Mench and joint winners of the 2021 UFAW Early Career Animal Welfare Researcher of the Year Dr Jamie Ahloy Dallaire and Dr Jen-Yun Chou also all gave talks, which touched on some of their recent research and highlighted why they had received their awards.

A particularly popular element of the conference this year were the poster presentations, with over 17,000 views of the 119 posters and 520 comments on them. Congratulations to Cristina Ramos (University of Saskatchewan, Canada) and her co-authors whose poster *Survey of Canadian producers on factors related to sow mortality and culling* was the most liked by the end of the conference, winning the poster competition. Congratulations also to runners up Samuel Durosaro and his colleagues for their poster *Plumage colour genes and sexual dimorphism: Effects on welfare of Nigerian indigenous turkeys* (Meleagris gallopavo) and Oluwaseun Iyasere and her co-authors for *Provision of artificial light at night for a short period affects the welfare of Nigerian indigenous chickens*; both of whom are from the Federal University of Agriculture, Abeokuta, Nigeria. Cristina, Samuel and Oluwaseun all win book tokens, kindly gifted by Wiley-Blackwell, publishers of the UFAW animal welfare book series.

The scientific programme for both the talks and posters, with links to access the posters, can be downloaded from the conference website - ufaw.org.uk/conf2021

Finally, a big thank you to all who made a donation when they registered to attend the conference.

UFAW LENDS SUPPORT TO THE WILD ANIMAL WELFARE COMMITTEE'S VIRTUAL CONFERENCE

In April 2021 UFAW hosted the Wild Animal Welfare Committee's (WAWC) one-day conference on the GoToWebinar platform to enable hundreds of delegates from around the world to attend.

The conference addressed three key questions relating to wild animal welfare, namely *Does it matter? Can it be assessed?* and *How can it be optimised?*

A range of expert speakers addressed these questions. The meeting also looked to build a consensus on how wild animal welfare could be better considered and improved in our interactions with them and their environment.

UFAW'S JOURNAL ANIMAL WELFARE

Animal Welfare continues to hold a mirror up to the world of welfare, reflecting its subtle and ever-changing nuances. The rich variety of papers that the Journal has become synonymous with have continued to find their home in the pages of Animal Welfare and this year subscribers have been regaled by everything from stereotyping snakes to voluntary weighing macaques.

The long shadow cast by the global COVID-19 pandemic permeates every facet of society and animal welfare is no exception. A chilling paper published in the May issue (DW Goldberg, et al 2021 Unforeseen consequences of the COVID-19 pandemic: Increased frequency of kitestring injuries in magnificent frigate birds (*Fregata magnificens*) in Rio de Janeiro state, Brazil *Animal Welfare 30:109-116*; doi 10.7120/09627286.30.2.109) described a 2,100% increase in kite-string injuries in magnificent frigatebirds in Brazil. The strings are coated in abrasive materials, such as broken glass, and the objective of the game is to cut the opponents kites-string. The increase coincided with the suspension of school activities and commerce in response to the pandemic. The study is a stark illustration of how pandemic events may aggravate pre-existing human-wildlife conflicts with far-reaching consequences.

There have also been a few changes in the journal's section editors, who play the important role of overseeing the rigorous peer-review process which ensures Animal Welfare continues to publish only high-quality animal welfare research. With the departure of Peter Sandøe and increasing numbers of social science papers, the decision was taken to appoint two new section editors in his place. Herwig Grimm from the University of Vienna will oversee Ethics and Philosophy and Mara Miele (Cardiff University) Social science. Dalhousie University's Rebecca Meagher will take over Mara's former section – General animal welfare. Thanks to all for giving up their time to perform these roles, which are crucial to the scientific integrity and success of the journal.



Photo credit: Alick Simm



PROVIDING EXPERT ADVICE

UFAW is often asked for its expert advice on legislation and guidelines. Below we provide an example of the pragmatic, evidence-based way in which UFAW advocates for consideration of animal welfare in such consultations.

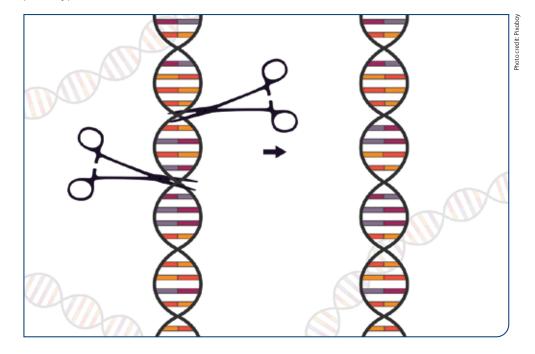
At UFAW we respond to consultations from governments and other bodies when they call for evidence on matters which affect animal welfare. Responding to these consultations is some of the most important work undertaken by UFAW, albeit low-profile compared to other efforts. It gives the charity the opportunity to reach, inform and influence decision-makers which, in turn, may result in real improvements to animal welfare. Over the past year we have responded to several consultations on animal welfare issues including:

- The keeping of primates as pets in the UK
- The transport of livestock animals, including live export
- Compulsory microchipping of cats in the UK
- Gene editing of animals
- The Animal Welfare (Sentience) Bill

UFAW RESPONSE TO CONSULTATION ON GENOME EDITING

In March 2021, a consultation from DEFRA on the regulation of genetic changes produced by genome editing (GE) or other genetic technologies, made a distinction between genetic changes that could have been developed using traditional breeding methods and those that could not. In UFAW's response to the consultation, we emphasised that traditional breeding methods are not equivalent to unassisted or natural breeding methods, as they comprise artificial insemination (AI), superovulation, in vitro fertilisation (IVF), and caesareans. Traditional breeding methods can therefore lead to genetic changes that would not have been possible unassisted, such as the disproportionate amount of breast muscle achieved using AI in modern turkey breeds, that means that they are unable to reproduce naturally. Even when entirely natural breeding methods are employed, artificial selection by

humans can produce animals with severely reduced welfare, such as brachycephalic (flat faced) companion animals. Finally, some genetic changes that are difficult to introduce with traditional breeding methods may benefit animal welfare. An example is the polled gene that leads to dehorned calves and goat kids, preventing the need for the painful procedure of disbudding. Although GE technologies are not without concerns, UFAW sees this as an opportunity for the UK to re-define the regulation of animal GE technology to live up to the notion that emphasis should be on the outcome (preventing welfare reducing traits and phenotypes) and not the method used.



www.ufaw.org.uk

ADMINISTRATION AND FINANCE

Finance and Accounts

The following summarised accounts have been extracted from the full accounts and have been prepared in accordance with the Companies Act 2006, which were approved by the Directors/Council and signed on its behalf on 21st July 2021.

The full accounts have been audited and the auditors' opinion was without qualification. The accounts will be filed with the Companies Registry and the Charity Commission after the Annual General Meeting on 13th October 2021.

Full accounts, and the audit report can be obtained from the Charity Secretary, The Old School, Brewhouse Hill, Wheathampstead, Herts AL4 8AN

Independent Auditors' Statement to the Council of the Universities Federation for Animal Welfare

We have examined the summarised financial statements that comprise the summary statement of financial activities and summary balance sheet.

Respective Responsibilities of the Council and Auditors: You are responsible as the Council for the preparation of the summarised financial statements. We have agreed to report to you our opinion on the summarised financial statements' consistency with the financial statements, on which we reported to you on 21st July 2021

Basis of Opinion: We have carried out the procedures we consider necessary to ascertain whether the summarised financial statements are consistent with the full financial statements from which they have been prepared.

Opinion: In our opinion the summarised financial statements are consistent with the full financial statements for the year ended 31st March 2021

21st July 2021

S Munday FCA (Senior Statutory Auditor)

for and on behalf of UHY Hacker Young (East) Limited is eligible for appointment as auditor by virtue of its eligibility for appointment as auditor of a company under section 1212 of the Companies Act 2006

Abbreviated accounts will be sent via email.

ADMINISTRATION AND FINANCE

UFAW Summary of Financial Activity Year Ended 31st March 2021

2020/21 2019/20 £ £ **Incoming Resources** 120,596 146,307 Voluntary Income Charitable Activities 121,465 142,973 Investment Income 184,924 217,189 **Total Incoming Resources** 426,985 506,469 **Resources Expended** Costs of Generating Funds 88,916 103,488 Charitable Activities 309,586 431,451 Other Resources Expended 167,806 199,393 **Total Resources Expended** 566,308 734,332 Operational (Outgoing)/Incoming Resources for the Year (139, 324)(227,863)Other Recognised Gains & Losses Net Gain on Property Revaluation 55.000 Net Realised Gain/(Losses) on Investments 98.588 198.628 Net Unrealised Gains/Losses on Market Value of Investments 1,427,666 (1,154,943)Net Movement of Funds 1,386,930 (1,129,178)7,338,118 8,467,296 Balance Brought Forward **Balances Carried Forward** 8,725,048 7,338,118

UFAW Balance Sheet Year Ended 31st March 2021

	2020/21	2019/20
	£	£
Fixed Assets		
Tangible Fixed Assets	406,850	414,760
Investments	8,042,533	6,737,357
	8,449,383	7,152,117
Current Assets		
Debtors	37,066	36,104
Money Market & Deposit Accounts	308,952	233,868
Cash at Bank and in Hand	22,277	42,772
	368,295	312,744
Current Liabilities		
Creditors: Amounts Falling Due within One Year	(87,630)	(126,743)
Net Current Assets	280,665	186,001
Total Assets less Current Liabilities	8,730,048	7,338,118
Creditors: Amounts Falling Due after More than One Year	(5,000)	-
Net Assets	8,725,048	7,338,118
Funds		
Unrestricted	8,128,837	6,842,762
Restricted	596,211	495,356
	8,725,048	7,338,118

The summarised accounts were approved by Council and signed on their behalf on 21st July 2021

A G Simmons BVMS MSc MRCVS

Chairman

Come L. M. Cann C L McCann BSc ACA

Hon Treasurer

The summarised accounts set out here have been extracted from the full accounts and have been prepared in accordance the with Charities Act 2011

ADMINISTRATION AND FINANCE

Annual General Meeting 2020

The AGM was held online on 21st September 2020. After careful consideration the council moved the AGM forward by 3 weeks to make use of the legal framework in place to allow such meetings to be held online, limiting exposure to COVID-19 risks. As in previous years this was held in conjunction with the Annual General Meeting of the Humane Slaughter Association (CIO). The members of UFAW Council also act as Trustees for the HSA. Joint meetings are held to save time and money.

The notice convening the meeting had been sent to all members and was taken as read. The meeting agreed the Minutes of the AGM of 2019 and resolved to receive the Accounts and Auditor's Report for the year ended 31st March 2020. Questions on the Report of the year's work were answered by the officials present and the meeting resolved that the Report and Accounts be received.

It was resolved that UHY Hacker Young, Registered Auditors, be appointed as auditors to UFAW and its associated Trusts and their remuneration should be fixed by Council.

Dr Jane Downes, Dr Anna Olsson and Dr David Sargan, stood down under the rules regarding rotation, and offered themselves for re-election, and were re-elected. Dr Ben North also resigned, and was thanked for his dedication to UFAW over the years. No new candidate was proposed for election.

Notice of Annual General Meeting 2021

The Annual General Meeting of the Universities Federation for Animal Welfare will be held at 12.30pm on 13th October 2021 at the Old School, Brewhouse Hill, Wheathampstead, AL4 8AN. The formal notice and agenda have been sent to all members and are available from the Secretary at the registered office.



LEGAL AND ADMINISTRATIVE INFORMATION

Vice-Presidents

Professor R S Anderson BVMS PhD MRCVS
Professor P M Biggs CBE DSc DVM FRCPath FRSB FRS FRCVS
L A Brown MBE BVSc BA PhD FRSB MBA FRCVS
Professor P H Holmes OBE BVMS PhD FRCVS FRSE
B Howard BVMS PhD FRCVS
J H Pratt BVM&S DVSM FRCVS
G D Sales BSc PhD AKC MRSB DipTCDHE

Council (who are the Directors of the Limited Company)

Chairman

A G Simmons BVMS MSc MRCVS 123

Vice Chairman

M Radford OBF LLB 1

Honorary Treasurer

C L McCann BSc ACA 13

Members

S Abeyesinghe BSc MSc PhD
Professor R M Bennett BSc MSc PhD ¹²
J Downes BVSC MRCVS
A Enticknap PhD²
Professor A Nolan OBE MVB DipECVA DipECVPT DVA MRCVS
B North MBA MSc PhD ¹ (to 21.09.2020)
A Olsson MSc PhD ³
D Pritchard BSc BVetMed MPH MRCVS ²
D R Sargan MA PhD ²³

Staff

Chief Executive/Scientific Director

Huw Golledge BSc PhD

Assistant Scientific Director

Birte Nielsen BSc MSc PhD (from 21.09.2020)

Secretary

Jane Moorman

Scientific Officer

Elizabeth Carter BSc MSc

Development Officer

Stephen M Wickens BSc PhD

Managing Editor

Steven Weddell BSc BVSc MRCVS HND

Sub Editor

Claire Richardson BSc(Hons), BVM&S, CertLAS, MA (ODE) (Open), PhD, FHEA, MRCVS

Fundraising/Communications Manager

Tracey Woods MCIPR

Office staff

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Wendy L Goodwin

Tina Langford

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Fax: 01582 831414

Website: www.ufaw.org.uk

E-mail: ufaw@ufaw.org.uk

Registered Auditors

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The Nexus Building, Broadway,

Letchworth Garden City,

Herts, SG6 9BL

Bankers

HSBC Bank plc, 31 Chequer Street,

St Albans, Herts, AL1 4YN

Barclays Bank plc, 33 Darkes Lane,

Potters Bar, Herts, EN6 1BA

Santander UK plc, Bridle Road, Bootle L30 4GB

Solicitors

Withers LLP, 16 Old Bailey, London, EC4M 7EG

Investment Advisers

Smith & Williamson,

25 Moorgate, London, EC2V 5NS

If you no longer wish to receive information about the charity's activities or support our work, then please contact the office. (Members should be aware that notification of future Annual General Meetings is provided in the Annual Report).

¹Member of the Finance Panel

²Member of the Fundraising Panel

³ Member of the Grant Panel



Universities Federation for Animal Welfare

The Old School, Brewhouse Hill, Wheathampstead, Herts. AL4 8AN, United Kingdom

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