A photograph of a brown cow standing in a lush green field. The cow is the central focus, looking towards the camera. The background is filled with dense green foliage and trees, creating a natural, pastoral setting. The lighting is bright, suggesting a sunny day.

*Science in the Service
of Animal Welfare*

**Universities Federation
for Animal Welfare**

*The international animal
welfare science society*

Annual Report 2011-2012



Universities Federation for Animal Welfare

*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.

It works to improve animals' lives by:

- Promoting and supporting developments in the science and technology that underpin advances in animal welfare
- Promoting education in animal care and welfare
- Providing information, organising meetings, and publishing books, videos, articles, technical reports and the journal *Animal Welfare*
- Providing expert advice to government departments and other bodies and helping to draft and amend laws and guidelines
- Enlisting the energies of animal keepers, scientists, veterinarians, lawyers and others who care about animals

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Letter from the Chairman

A warm welcome to the Annual Report for 2011-2012, again a busy year for the charity and one that has been particularly notable for the Federation's growing international presence.

The number of overseas institutions represented in the UFAW University 'LINK' scheme has now grown to 17. We look forward to supporting Animal Welfare Student Scholarships at these institutions. This year has also seen the completion of the inaugural William Russell Memorial Fellowship with the work of Dr Joe Garner and his team initially at Purdue and then at Stanford University in the USA. Publication of this work and media interest has also helped to raise UFAW's profile in the USA, both with the public at large and with the animal welfare science community. A project, supported by the Persula Foundation, is now also underway to provide free subscriptions to *Animal Welfare* to a number of institutions in developing countries.

Work has also begun on next year's international symposium, and this is to be held in Barcelona in July. This will no doubt continue UFAW's tradition of highly successful meetings, as did the one-day conference on 'recent advances' held this year – the third in the series of these popular events.

It was again gratifying to see the spread of new and experienced scientists at this event, with the conference also being the occasion for the presentations to this year's two winners of UFAW Medals and to the UFAW Young Scientist of the Year. Many congratulations to them.

The UFAW web-based resource on genetic welfare problems of companion animals, a welfare issue world-wide, has grown very substantially this year and is being very well received. Much more still needs to be added and we are continuing to seek much needed financial support for this.

Once again, my sincere thanks to all who support UFAW's work.

Mike Radford



Chief Executive's Report

In his Appendix on 'The assessment of pain and distress in animals' in the 'Brambell' report on the welfare of intensively kept livestock published in 1965, WH Thorpe FRS pointed to a way to approach the subject of animal welfare that seems not to have been considered before. He described how some wild African buffalo, which objected at first to being caught, then settled in captivity and, on release, were reluctant to leave. Thorpe wrote: 'The buffalo could be 'asked'...' about their preferences '..because they had experienced both the wild and captive states'. This raised, for the first time, the idea of finding ways to ask the animals themselves (rather than humans) about how they should be kept.

The subsequent scientific literature and improvements in animal management have shown what a stimulating and productive idea this was. In giving animals their voice, well-designed preference tests have the power to resolve controversies about important features of animal housing and management. As outlined in this Annual Report, this approach has been used to good effect by UFAW 'William Russell' Fellow, Joseph Garner, of Purdue University and his team. They asked mice about their thermal preferences - how warm they liked to be and whether they preferred to achieve comfortable temperatures by moving to where the air was warmer or by making nests (www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0032799). In many parts of the world the provision of nesting material is not routine but, through this study, mice have made it clear that they want 6 to 10g of it. This has already begun to change the way they are kept.

Likewise, both winners of this year's UFAW Medals for Outstanding Contributions to Animal Welfare Science, Professor Marian Stamp Dawkins of Oxford University and Professor Christine Nicol of Bristol University, have made great contributions to understanding animals and to improving their animal welfare through preference test methods.

We, 7 billion, are responsible for the quality of the lives of many animals. More studies of these kinds are needed. UFAW is very grateful to all who support it financially or in other ways in promoting real and lasting animal welfare advances through science and education.

James K Kirkwood

UFAW Medal for Outstanding Contributions to Animal Welfare Science

The UFAW Medal for Outstanding Contributions to Animal Welfare Science is open to individuals, anywhere in the world, whose research, teaching, service and advocacy has significantly benefited animals. It recognises the exceptional achievements of scientists who have made fundamental contributions to the advancement of animal welfare over a number of years.

On June 21st 2012, at the UFAW Conference in York, UFAW Medals were awarded to Professor Marian Stamp Dawkins and to Professor Christine Nicol.

Marian Dawkins is Professor of Animal Behaviour at Oxford and Fellow and Tutor in Biological Sciences at Somerville College. Marian was one of the small group of scientists who saw how the science of ethology could be used to inform decisions and legislation regarding how animals should be kept. She was particularly concerned about whether kept animals might suffer through being deprived of certain resources or the opportunity to perform natural behaviour. Marian pioneered the use of preference tests to seek the hens' own views about aspects of their environments (eg in 1977: Do hens suffer in battery cages? Environmental preferences and welfare. *Animal Behaviour* 25, 1034-1046) and has continued to pursue innovative, illuminating and important research in animal behaviour relevant to welfare and has published many seminal papers in the field. She is an excellent and successful popular science writer: explaining in the most clear and interesting way, the challenges and fascination of animal welfare. In both these aspects of her work she is a great and very influential leader in the field and champion of the importance of science.

Christine Nicol is Professor of Animal Welfare at the University of Bristol Veterinary School. She undertook her PhD research into behavioural needs of battery hens under the supervision of Marian Dawkins in Oxford and has continued to work on aspects of hen welfare, among other subjects, since. Her work formed an important part of the evidence that was used by EU veterinary and scientific committees to bring about a ban on conventional 'battery' cages for laying hens (from 2012), and to develop viable and humane alternative housing systems such as the furnished cage, which have been embraced by British industry. Whilst maintaining a prolific output of very high quality papers in animal behaviour and animal welfare science, she played a leading role in developing the world-renowned animal welfare science group at Bristol Vet School (currently 65-70 people) and has been tireless in encouraging and training young scientists in this field.

UFAW is very pleased to be able to recognise the remarkable achievements of Marian and Christine in advancing animal welfare through science.



The UFAW Medal is based on the official UFAW seal (at one time used to make an imprint in hot wax on official documents). The picture on this seal is, needless to say, a seal drawn for this purpose by 'Fougasse' in the charity's early days.

Young Animal Welfare Scientist of the Year Award 2012

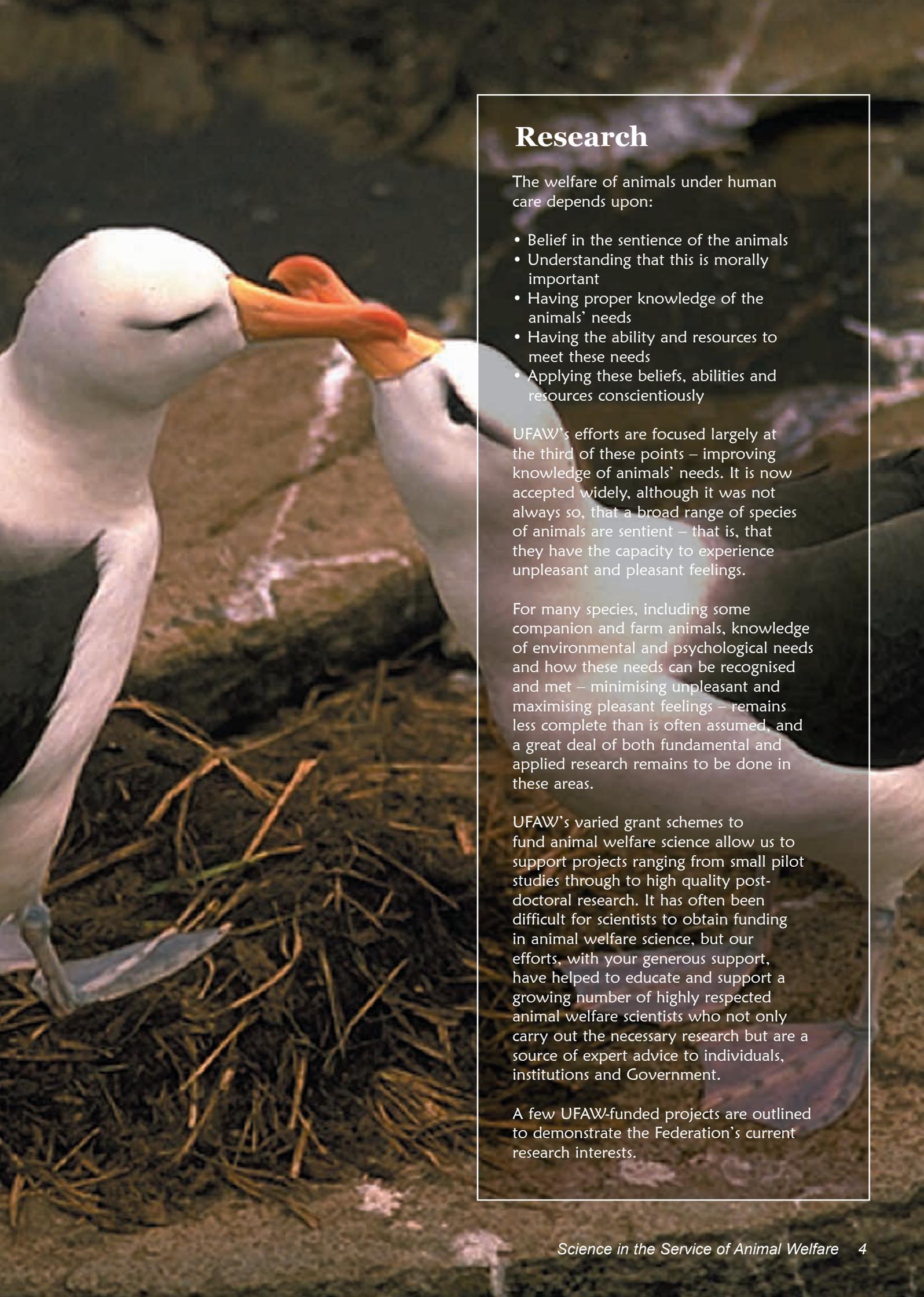
UFAW makes this award to recognise the achievements of young scientists who have made significant contributions to improving the welfare of animals. The award is open to postgraduate students, anywhere in the world, who are currently studying for a doctoral degree or who are in post-doctoral work within 6 years of their PhD.

The winner of the 2012 award is Dr Charlotte Burn, Lecturer in Animal Welfare at the Royal Veterinary College. She was presented with her award on 21st June at the UFAW Conference in York.

Charlotte's PhD research was into the effects of husbandry regimes on rat welfare, with an emphasis on rat sensory perception. This work, carried out at Oxford University under the supervision of Georgia Mason, has been influential in establishing management standards for the good husbandry of laboratory rats in various countries. Subsequently she was appointed to a post-doctoral position at Bristol University to identify risk factors for poor welfare in horses and donkeys in developing countries, and then became a Research Fellow at the Centre for Animal Welfare at the Royal Veterinary College. Charlotte's current research interests include investigating boredom in animals and how it might be assessed. She also uses advanced statistical techniques to help tackle practical welfare issues, such as the conformational disorders prevalent in certain dog breeds. She has a reputation for spotting innovative approaches to tackling scientific questions. A recent example of this is her study of tail-chasing behaviour in dogs and owners' reactions to it, based on clips on YouTube, which highlights the need to raise public awareness of the clinical implications of persistent tail-chasing. This has recently been published in the journal *PLoS One*, and adds to her already very impressive publication record in animal welfare science.

The awards were presented at this year's 'Recent Advances' conference in York: upper photo - James Kirkwood with UFAW Young Animal Welfare Scientist of the Year Dr Charlotte Burn; lower photo - UFAW Medal winners Professor Marian Stamp Dawkins (right) and Professor Christine Nicol with James Kirkwood.





Research

The welfare of animals under human care depends upon:

- Belief in the sentience of the animals
- Understanding that this is morally important
- Having proper knowledge of the animals' needs
- Having the ability and resources to meet these needs
- Applying these beliefs, abilities and resources conscientiously

UFAW's efforts are focused largely at the third of these points – improving knowledge of animals' needs. It is now accepted widely, although it was not always so, that a broad range of species of animals are sentient – that is, that they have the capacity to experience unpleasant and pleasant feelings.

For many species, including some companion and farm animals, knowledge of environmental and psychological needs and how these needs can be recognised and met – minimising unpleasant and maximising pleasant feelings – remains less complete than is often assumed, and a great deal of both fundamental and applied research remains to be done in these areas.

UFAW's varied grant schemes to fund animal welfare science allow us to support projects ranging from small pilot studies through to high quality post-doctoral research. It has often been difficult for scientists to obtain funding in animal welfare science, but our efforts, with your generous support, have helped to educate and support a growing number of highly respected animal welfare scientists who not only carry out the necessary research but are a source of expert advice to individuals, institutions and Government.

A few UFAW-funded projects are outlined to demonstrate the Federation's current research interests.

Mice need warm beds

The results of research funded by UFAW through the William Russell Memorial Fellowship have recently been published in the journal *PLOS One*, and could not only mean better welfare for many millions of mice used in laboratories around the world but also better science based on their use.



Dr Joe Garner (now Associate Professor of Comparative Medicine at Stanford University, formerly at Purdue University) led a team of researchers investigating the reduction of cold stress in laboratory mice through an examination of their temperature and nest building preferences. The *PLOS One* paper, of which Brianna Gaskill is the lead author, can be accessed at <http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0032799>.

Codes of practice and regulations used around the world specify temperature ranges in which to keep laboratory mice – by far the most used animal in research – but these temperatures result in thermal stress that may affect their welfare and the research data collected from them. “If you want to design a drug that will help a patient in the hospital, you cannot reasonably do that in animals that are cold stressed and are compensating with an elevated metabolic rate,” Dr Garner said. “This will change all aspects of their physiology – such as how fast the liver breaks down a drug – which can’t help but increase the chance that a drug will behave differently in mice and in humans.”

Rather than raising the temperatures in which the mice are kept (often not a feasible option), the study showed the importance of providing the mice with appropriate amounts and types of nesting materials with which the mice will themselves regulate their body temperatures to a comfortable level.

While many laboratories do provide mice with nesting materials, in many parts of the world this is not routine. By linking better science with better welfare, the work of Dr Garner and his team provides a major incentive to laboratory researchers to improve the conditions in which mice are housed. Better results of research could also lead to a reduction in the numbers of animals used.

UFAW’s William Russell Memorial Fellowship commemorates the work of Professor Russell and his colleague Rex Birch who, while working at UFAW, developed the principles of the 3Rs – Refinement, Reduction and Replacement – now adopted throughout the world as the guiding principles of humane use of animals in scientific research. Dr Garner was the first recipient of the Fellowship.

The UFAW SAWI Fund Animal Welfare Research Scholarship in Israel

The UFAW SAWI Fund is so called because it developed from the Society for Animal Welfare in Israel which was a separate charity. About 25 years ago UFAW's Council took on responsibility for managing SAWI at its founders request and, more recently, it became a special fund within UFAW. It is very pleasing that one, major, long-term aim, discussed several years ago with SAWI's founder, towards helping promote animal welfare science in Israel, was achieved during the year.

A series of very constructive meetings with staff at the Koret School of Veterinary Medicine of the Hebrew University of Jerusalem, led to the establishment of a UFAW SAWI funded PhD Research Studentship in animal welfare science at the Vet School at Rehovot. In September 2011 this was awarded to Roi Mandel for a research project on 'Determination of social behaviour patterns of dairy cows as early stage predictors of morbidity' under the supervision of Dr Eyal Klement.

We are very pleased also that, through this project, close links have been established with the Animal Welfare Research Group at the University of Bristol and that Dr Becky Whay, the Head of the Bristol Group is co-supervising the project. She visited Israel in March 2012 to discuss the project and the dairy industry and cattle management in Israel.

We understand that the project – which is about the early detection of disease in dairy cattle so that treatment can be rapidly put in place – is going well and we are very grateful to all who are involved in it and who helped put the arrangements in place, including Roi Mandel, Dr Eyal Klement, Dr Becky Whay, Professor Christine Nicol, Professor Hylton Bark and Professor Shimon Harrus.

New legislation for animals used in research

The new European Directive 2010/63/EU means that the replacement for the current UK Animals (Scientific Procedures) Act 1986 needs to be in place by the 10th November 2012, and must come into force in January 2013. The new Directive will probably have a larger effect in improving welfare standards in continental Europe than in the UK, but will also have implications for the UK. As a result, this year has been an extremely busy one with consultations and meetings with Home Office officials on the new legislation, guidance and codes of practice. Over many years (the process began in May 1997), UFAW has provided scientific evidence to inform the discussions, which ultimately led to improved European recommendations and the subsequent mandatory European Directive requirements.

More recently, UFAW has also provided evidence and advice to support the case to keep current higher UK welfare standards, where these exist and are reasonable, and it looks as if these will now be kept. The Local Ethical Review Process (ERP) has proved a useful tool for organizations to monitor and control research and housing standards, so UFAW is also pleased to learn that new guidance will encourage organizations to maintain the current ERP functions and structure.

Research and other projects supported by UFAW

A number of projects supported by UFAW have come to fruition in the past year:

Mr Paddy Brock was awarded a grant to support his field work investigating anthropogenic impacts on the health and welfare of Galapagos sea lions (*Zalophus wollebaeki*). Paddy used techniques from ecological immunology to investigate the immune activity of two sea lion colonies: one heavily influenced by humans and another on an uninhabited island. He found that "...immune activity was generally higher in the human-impacted colony. This suggests that sea lions in the human-impacted colony were under greater immunostimulatory pressure than those in the comparison colony, which could have implications for individual fitness, colony stability and the risk of disease emergence".



Galapagos sea lion mother and cub.

Additionally, Paddy's results showed that in sea lions exposed to intense and sustained human influence, during the first three months of life antibody production was negatively related to changes in three measures of body condition (mass per unit length, skinfold thickness and serum albumin concentration). The research was undertaken as part of Paddy's doctoral studies at the Institute of Zoology, London and the University of Leeds and his findings have recently been published in *Animal Conservation*.

Another PhD student supported by UFAW during the year was Miss Fay Clark of the Royal Veterinary College. Fay has been evaluating the enrichment effect of a novel cognitive challenge device for zoo-house chimpanzees (*Pan troglodytes*). She designed a cognitive challenge device that required chimpanzees to manoeuvre food items through a novel, grid-like maze using their fingers or tools. She found that the use of this device was cognitively enriching for chimpanzees and that the benefits were greater when the task was less complex, more predictable and more controllable.

A travel grant to Dr Lauren Harrington of the Wildlife Conservation Research Unit (WildCRU), University of Oxford enabled her to present her work on 'Welfare in animal reintroductions', at the International Congress for Conservation Biology held in New Zealand in 2011. In a systematic review of the welfare and ethical issues that arose during animal reintroduction projects, Lauren found that among the 199 reports she reviewed, welfare and ethics were seldom addressed explicitly and mortality rates were often high (greater than 50% in 23% of the studies reviewed).

Lauren said "... in general, there is little communication between animal welfarists and conservationists. The travel grant from UFAW (together with additional funding from the RSPCA) allowed me to present this work at the largest, and probably the best known, international conservation meeting, run annually by the Society for Conservation Biology... We hope that publication and presentation of this work in an extensive, and specifically conservation-focused, arena will instigate the beginnings of an increased consideration of animal welfare in conservation practice".

To help promote animal welfare in Ukraine and its neighbouring countries, UFAW provided funds for the publication of Dr Vasyl Koziy's book 'Animal welfare: historical, scientific and legislative issues'. Dr Koziy is a veterinarian at the National Agrarian University of Ukraine. 700 copies of the book were sent to over 50 institutions throughout Ukraine, Russia, Belarus and Georgia.



Preparing copies of Dr Vasyl Koziy's book for distribution.

Another UFAW supported project in Ukraine was undertaken by Dr Andrey Atemasov who investigated goose mortality. Wild geese over-wintering in Ukraine, or passing through during spring migration, can cause damage to agricultural land leading to conflict with local farmers. In some areas there has been poisoning of the geese and mass mortality. Dr Atemasov reviewed the problem, taking account of the distribution of major spring staging sites for the species of geese in Kharkov, the numbers of birds and the risks of crop damage, and his publication 'Geese migration in North-Eastern Ukraine and management of geese-human conflicts' has been circulated to local farmers, government officials and others. He presented his work at a recent international conference on waterfowl in Russia.

Investigating geese mortality in Ukraine.



UFAW 3Rs Liaison Group

The UFAW 3Rs Liaison Group, formerly the Pharmaceutical Housing and Husbandry Steering Group (founded by UFAW in 1998), is a collaboration between pharmaceutical companies, contract research organisations, animal breeders, and animal welfare organizations. The group funds studentships to research ways of improving the welfare of animals used in research in ways that are relevant to the pharmaceutical industry, and has raised over £420,000 since its inception to fund 7 research scholarships.

Working towards a replacement for animal use in TB Vaccine development

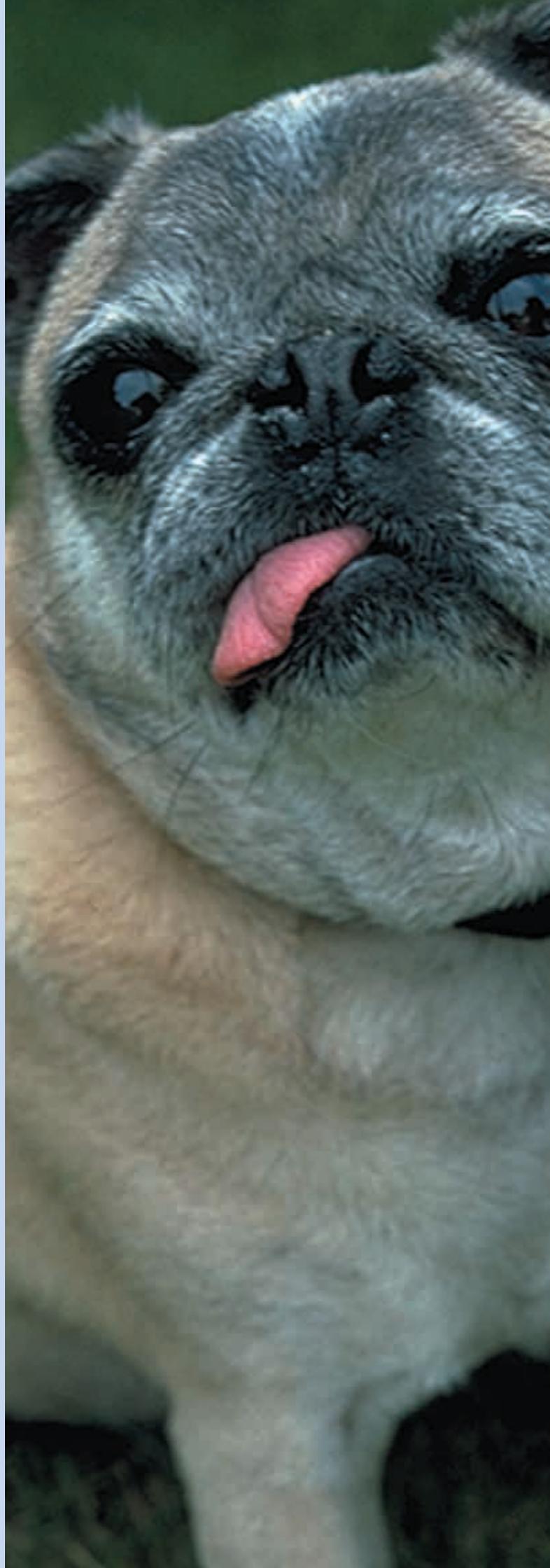
The UFAW 3Rs Liaison Group is pleased to announce that the winner of the 2012 award is Rachel Tanner at Oxford University, who, under the supervision of Professor Helen McShane, will study the use of in vitro assays for early screening of novel TB vaccine candidates. The efficacy of candidate vaccines in inhibiting growth of TB cultured in vitro will be used to screen out candidate vaccines that are likely to fail. TB is a disease that is showing worrying signs of resurgence and drug resistance, and research groups are working hard to develop a vaccine against it. Globally, 14 candidate vaccines have been put through clinical trials in the last 10 years, but many more candidates are identified than ever get this far. One report states that animals were used to evaluate more than 2000 candidate vaccines over a few years prior to 2007, and in 2011 alone there were approximately 34 next generation candidate drugs. All this means that substantial numbers of animals (mice, guinea-pigs and some primates) are used to test candidate vaccines. Rachel's work, if successful, could substantially reduce the numbers of animals used.

Assessing mouse welfare, replacing animals in emetic research and positive reinforcement training for primates

Two other 3Rs students are completing their research projects. Claire Richardson, who has been working on methods of assessing the welfare of laboratory mice used in cancer studies, submitted her thesis in July 2012. She has been awarded an NC3Rs David Sainsbury Fellowship, conditional on successful completion of her PhD. We congratulate her on her NC3Rs Fellowship, and wish her good luck with her viva.

Stephen Robery's work on the use of *Dictyostelium discoideum*, a soil-living amoeba, as a preliminary screen for emetic liability in drug development, is proceeding well. The project has already resulted in a publication and the group now has a potential medium/high throughput screen for early indicators of emetic drug action using a non-animal model. This could have a large impact on reducing adverse welfare animal experimentation in this area.

Verity Bowell (Stirling University), who has been working on improving the welfare of laboratory-housed primates through the use of positive reinforcement training, has now completed her PhD, and graduated on the 9th November 2011. Her work showed the benefits of training to reduce stress, differences in trainability between macaques and marmosets, and suggested that more early socialization might ease the training of the primates. We congratulate her on her achievement.



Education

Lack of information about, and poor understanding of animals' needs, and the inability to detect and evaluate both negative and positive aspects of welfare – pain and pleasure – are at the root of many animal welfare problems.

UFAW promotes education in animal welfare science, largely at university and college level, to help address these difficulties – helping to teach those who will become the teachers in the future. Ways that UFAW does this include:

- Publication of the journal *Animal Welfare*
- Publication of key texts on animal welfare (eg The UFAW Handbook on the Care and Management of Laboratory and Other Research Animals, and the UFAW/Wiley-Blackwell Animal Welfare Series)
- Running workshops and symposia
- Lecturing at universities and colleges
- Running the Animal Welfare Student Scholarship scheme to enable students to develop their interest in animal welfare science
- Running the Research Training Scholarship scheme to provide training in animal welfare research
- Providing financial support for other educational initiatives

Some examples of the educational work undertaken or supported by UFAW are outlined here.

Genetic welfare problems in companion animals

Since the publication of the Companion Animal Welfare Council's 2006 Report on Breeding and Welfare in Companion Animals and the subsequent BBC television programme 'Pedigree dogs exposed', there have been several initiatives aimed at helping to address genetic welfare problems in these animals. UFAW's role has been to promote understanding about the welfare effects.

The chronic perpetuation or worsening of these problems is partly a reflection of a perception that genetic diseases (including abnormal conformation) are of little welfare significance. However, from consideration of their clinical effects and pathology, it is reasonable to conclude that some seriously affect quality of life. The purpose of the UFAW website (www.ufaw.org.uk/geneticwelfareproblems.php) is to describe these conditions and their effects and to discuss their welfare consequences and to make these clear to breeders and prospective pet owners.

The website (www.ufaw.org.uk/geneticwelfareproblems.php) was first opened in April 2011 and, during the year, case descriptions were completed and posted at a rate of 2 or 3 a week. Interest in the website has grown steadily and we hope that it will prove in time to be a major factor in tackling genetic welfare problems.

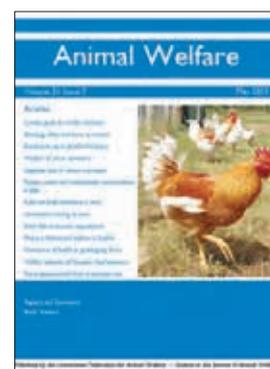
Animal Welfare, the Journal

Animal Welfare was first published in 1992 when it was perceived that there was a need for an international academic journal focusing on scientific and related aspects of the subject. The journal is published as hard copy and is also available to subscribers on-line. It is taken up by individuals and libraries in many countries around the world. Individual papers can be accessed on a pay per view basis at (<http://www.ingentaconnect.com/content/ufaw/aw>).

It has been a very busy year for the journal. In addition to dealing with the increasing number of submissions for the usual issues, two supplements have been published in 2012. These were the proceedings of the UFAW Symposium held in 2011 on 'Making animal welfare improvements: economic and other incentives and constraints' and the proceedings of the Humane Slaughter Association's Symposium in 2011, to mark its Centenary, on 'Recent advances in the welfare of livestock at slaughter'. Starting in 2012, all papers published in the journal have DOI (digital object identifier) numbers allocated to them.

A project is now underway to provide free subscriptions to the journal to universities and veterinary schools in a number of developing countries. We are very grateful to the Persula Foundation which is supporting this project.

Production and publication of the journal depends on the efforts of many, to all of whom, and especially the Section Editors (Jann Hau, Denmark; Dennis Turner, Switzerland; Peter Sandøe, Denmark; David Mellor, New Zealand; Katherine Houpt, USA; Christine Nicol, UK; Don Lay, USA; Dan Weary, Canada; Kate Littin, New Zealand; Victoria Braithwaite, USA; Christoph Schwitzer, UK), and the referees, we are very grateful.



UFAW Animal Welfare Student Scholarships

Since 1983, UFAW has been offering students at universities or colleges in the British Isles the opportunity to undertake research projects on topics relating to the better understanding of animals and their needs. Recently these scholarships have been open also to those at overseas institutions at which there is a UFAW University 'LINK' representative (see <http://www.ufaw.org.uk/links-news-events.php>). Congratulations to this year's winners. They and the titles of their projects are listed below:

In the UK:

Laura Arrandale: 'Is providing a screen as effective as providing a hide at reducing acute stress in the newly hospitalised domestic cat?', under the supervision of Dr Louise Buckley at Harper Adams University College.

Sophie Baker: 'Investigation into the prevalence and potential risk factors of flank biting in growing pigs in an intensive indoor unit', under the supervision of Dr Jennifer Duncan and Dr Philip James at the University of Liverpool.

Stephanie Claire Bullough: 'Assessing and reducing transport induced stress in horses', under the supervision of Dr Iain Young at the University of Liverpool.

Alice Louise Fodder: 'Conditioned aversion to euthanasia agents in rodents', under the supervision of Dr Huw Golledge at Newcastle University.

Roxanne Hawkins: 'The effects of being raised as a pet capuchin (*Cebus apella*): An investigation into the psychological, physiological and behavioural effects of the primate pet trade', under the supervision of Professor Ann MacLarnon at the University of Roehampton.

Jennifer Morgan: 'Retrospective analysis of bovine caesarian section clinical outcome data', under the supervision the Dr Kathryn Ellis at the University of Glasgow.

Beatrice Murfin: 'Rapid and robust detection of an emerging ferret enteric coronavirus (FRECv)', under the supervision of Dr Elizabeth Graham at University of Glasgow.

Rachel Orritt: 'Rearing laying hens: development of optimal methods that safeguard welfare and productivity', under the supervision of Dr Andrew Janczak, The Norwegian School of Veterinary Science and Professor Christine Nicol University at the University of Bristol.

Renata Snow: 'Welfare issues in transgenic mice', under the supervision of Dr David Williams at the University of Cambridge.

Gail Todd: 'To die or not to die - the fine line', under the supervision of Dr Carlos De Luna at Writtle College.

Overseas:

Kaitlin Bahlman: 'Investigating the nature of chuckle vocalizations in semi-domesticated carnivores and their potential as a practical way to increase play and welfare', under the supervision of Dr Georgia Mason at the University of Guelph, Canada.

Verena Größbacher: 'On-farm assessment of non-nutritive sucking, health and welfare situation of group housed calves', under the supervision of Professor Christoph Winckler at the University of Natural Resources and Life Sciences, Austria.

Bernhard Kreiner: 'How the time of the day influences Qualitative Behavioural Assessment in dairy cattle', under the supervision of Professor Christoph Winckler at the University of Natural Resources and Life Sciences, Austria.

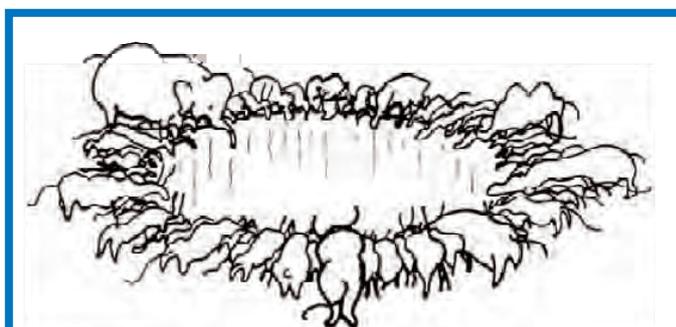
We hope that many of these students will be able to attend the 2012 Student Scholars meeting (see top of next column) to meet one another and to present their work.

14th Annual Animal Welfare Student Scholars Meeting – Harper Adams University College

The 2012 meeting for the UFAW Animal Welfare Student Scholars (see column on left) is to be held at Harper Adams University College on Wednesday 5th December. Dr Louise Buckley, a past scholar herself and now a lecturer at Harper Adams, has kindly offered to host the meeting. UFAW's sister charity, the Humane Slaughter Association, runs a similar student scholarship scheme and we hope that the four HSA 'Dorothy Sidley' Scholars will also present their findings at this meeting.

The programme is an interesting one and UFAW members, supporters, and others are welcome to attend.

For further information contact Dr Stephen Wickens (wickens@ufaw.org.uk).



Science in the Service of Animal Welfare: Priorities from around the world

**UFAW International Animal Welfare Symposium
Universitat Autònoma de Barcelona
Barcelona, Spain 4-5th July 2013**

Around the world the importance of science in elucidating and tackling animal welfare problems is increasingly recognised, but priorities, concerns and approaches vary between nations and cultures.

The aim of this symposium is to provide a forum for all those active or interested in animal welfare science and its application around the world, to meet and discuss current topics in this field and international variation in priorities, concerns and approaches to animal welfare science.

The symposium will be open to papers on recent studies or reviews in any aspects of animal welfare science (and we will welcome papers on topics of major animal welfare importance in fields that have tended to receive little attention, eg humane slaughter of fish caught at sea, welfare aspects of vertebrate pest control, tackling anthropogenic threats to the welfare of free-living wildlife eg through environmental toxins, introduced infectious diseases, environmental degradation or global warming).

For further details of the meeting, including information on how to contribute, see www.ufaw.org.uk.

**Recent advances in animal welfare science III
UFAW Animal Welfare Conference
York Merchant Adventurers' Hall, 21st June 2012**

The UFAW 'Recent advances in animal welfare science' conferences provide an inexpensive forum for all those with an interest in animal welfare to share findings and discuss methodology.

The third of these one-day conferences was held at the York Merchant Adventurers' Hall on the 21st June. 170 delegates from 13 countries, including Australia, Hong Kong, Nigeria, Finland and France, attended the conference. Presentations included the welfare of laying and broiler chickens, the assessment of the relative humaneness of different vertebrate pest control methods in the UK and assessing pain in mice using facial cues.

Papers and posters covered a diverse range of subjects. To give just one example: Rowena Packer (RVC) presented the findings of her investigation into the impact of exaggerated back length on the welfare of dog breeds. This showed that breeds with the most extreme ratios of leg to back length, such as Dachshund, had a significantly higher risk than dogs with normal conformation of suffering disc herniation leading to pain and weakness or paralysis of the hind limbs. The abstracts are at <http://www.ufaw.org.uk/conference2012.php>

We are grateful to all who contributed and participated in the conference.

The LASA / UFAW 3Rs Meeting 'Refinement of husbandry and procedures - looking to the future' 8th June 2011

The LASA/UFAW 3Rs meeting in 2011 combined science, animal welfare and innovative presentations. The theme was the refinement of experimental procedures and animal husbandry, although other aspects of the 3Rs were discussed. One of the presentations showed how judgments of the likely harms of scientific procedures on animals made by veterinary care staff and other professionals were influenced by the explicit listing of additional stressors, as will be required under the new European Directive. Another presentation addressed the refinement of husbandry, capture, handling and restraint for both marmosets and macaques, and emphasised the value of positive reinforcement training to reduce stress. Other speakers showed how non-invasive telemetry techniques had removed the requirement to restrain dogs to obtain ECG measurements, and drew attention to some of the consequences of commonly used marking techniques. UFAW is currently working with LASA on plans for a meeting on Humane Endpoints, to be held in September 2012.

**The UFAW / Wiley-Blackwell
Animal Welfare book series**

Since its launch in 2003, six books have been published in this series. Details of these are at <http://www.ufaw.org.uk/public-list.php>. Two more are currently 'in press'. These are 'Animal welfare and veterinary practice' by James Yeates and 'Veterinary and Animal Ethics: the Proceedings of the First International Conference on Veterinary and Animal Ethics' edited by Christopher Wathes, Stephen May, Sandra Corr, Stephen McCulloch and Martin Whiting. Four further books are in preparation. If you wish to contribute a book for this series please contact James Kirkwood or Robert Hubrecht at UFAW.



The UFAW University 'LINK' Scheme

UFAW arose as a federation of university animal welfare groups. The charity is keen to continue this tradition through the University 'LINK' scheme (see <http://www.ufaw.org.uk/links-news-events.php>). We are very grateful to those who serve as 'LINK' persons at the 27 UK and 17 overseas university and colleges presently involved. This network encourages interest and engagement in animal welfare science and helps distribute information about UFAW activities, awards and meetings to staff and students.

Support via the UFAW 'LINK' scheme is used in various ways. For example, at the Royal Veterinary College (RVC) and at Harper Adams University College, UFAW funds have been used to help set up student animal welfare societies.

Siobhan Abeyesinghe, 'LINK' person at the RVC, writes:

"Recent animal welfare debates within the RVC at student events have prompted the undergraduates to form an Animal Welfare Society. This society proposes to invite external and internal expert speakers on a range of animal welfare topics to inspire discussion and promote the general increased awareness of animal welfare...so far 170 students have expressed interest in attending."

The Society was launched on the 30th April 2012 and at the behest of the undergraduates the first meeting was dedicated to Professor Neville Gregory, both to acknowledge, on the eve of his retirement, his substantial contribution to animal welfare and animal welfare education, and for his encouragement that led the students to form the society in the first instance. Professor Gregory is a long-time friend of UFAW and current Council Member.

From Harper Adams, 'LINK' Louise Buckley writes:

"What we are trying to do... is set up a student - led Harper Adams Behaviour & Welfare group. We already have a Facebook group with that name that is popular with the students but we want to take it further. The idea is that students ...organise multiple events at Harper ...to suit their interests in behaviour and welfare. As their confidence grows I am hoping that we might then be able to run public engagement workshops on animal welfare for schools, the public, etc and ...support other initiatives."

We wish both groups every success and look forward to hearing further about their activities.

At Hartpury, Moulton and Writtle Colleges ('LINKs' Dr Mary Farrell, Dr Wanda McCormick and Dr Jonathan Amory respectively) UFAW 'LINK' funding is used to support a joint Students' Animal Welfare Conference. The seventh in this series was held this year.

Prizes were awarded on the day. Congratulations to Kimberley Harris (Writtle, 'Evaluation of the genetic diversity of a captive population of Moloch gibbons (*Hylobates moloch*)') who won the prize for best talk and Megan Walker (Writtle, 'Investigation of the behavioural responses of a male and female spotted hyaena (*Crocuta crocuta*) in a new captive environment at Colchester Zoo') who won the prize for best poster presentation.

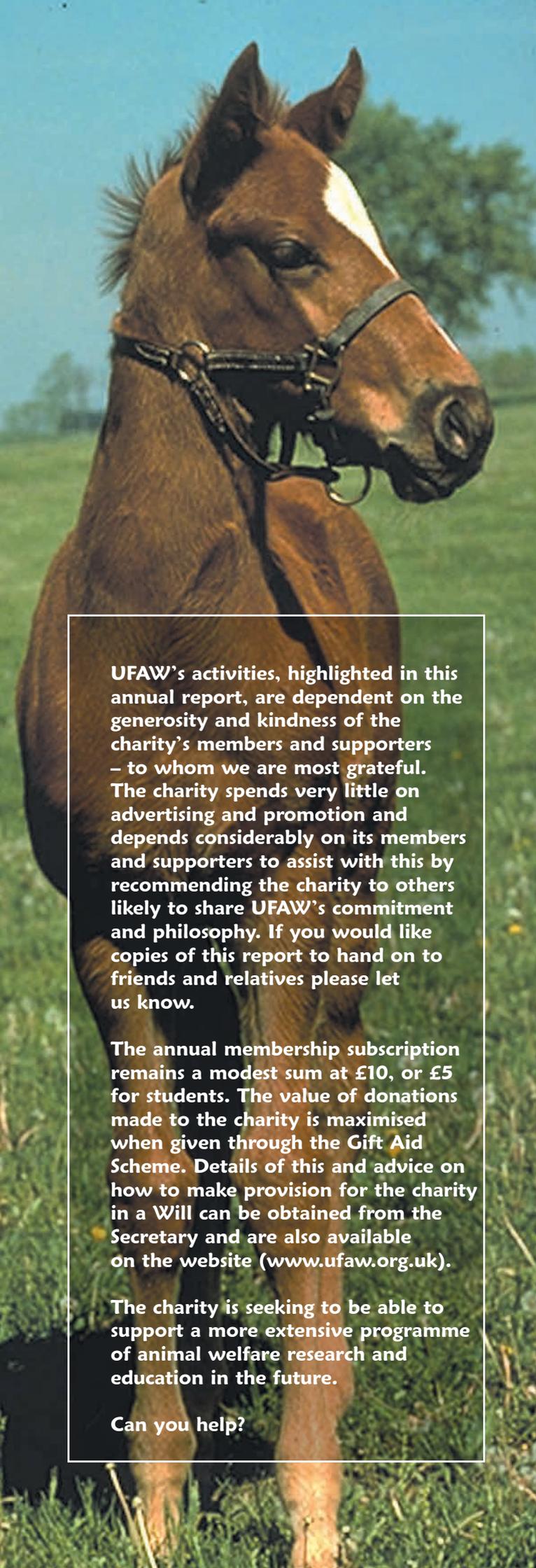


Delegates attending the meeting at Moulton. Elizabeth Carter, UFAW Scientific Officer, is pictured far right.

At the University of Guelph, Canada ('LINK' Dr Georgia Mason) UFAW 'LINK' funds were used to support the Campbell Centre Research Symposium on animal welfare, animal ethics and the role of animals in society. The Symposium provides "a forum for faculty and graduate students to share research results, techniques and ideas (even problems and sticking points); and to foster discussion and collaboration among the many interested individuals and research groups across campus." Dr Andrew Luescher (Purdue University) gave the keynote speech at this meeting entitled 'For the Love of Dog: The Welfare of animals we profess to love'. Further details about this meeting, including a programme and abstracts can be found at: http://www.uoguelph.ca/csaw/doc/2012CCSAWResearchSymposium_Schedule_abstracts.pdf



Anni Nool presented a talk on 'Animal Welfare and Protection and Understanding the Behaviour of Cats' to students at her old school, Põlva Ühisgümnaasium, in Estonia. This was an initiative of 'LINK' university, Estonian University of Life Sciences, which she attends as an undergraduate student, aimed at increasing awareness of animal welfare in schools.



Administration & Finance

Annual General Meeting 2011

The AGM was held at the Old School, Brewhouse Hill, Wheathampstead. As in previous years this was held in conjunction with the General Meeting of the Humane Slaughter Association and Council of Justice to Animals (HSA & CJA). 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 subscribers and was taken as read. The meeting agreed the Minutes of the AGM of 2010 and resolved to receive the Accounts and Auditor's Report for the year ended 31st March 2011. There were no questions on the Report of the year's work and the meeting resolved that the Report and Accounts be received.

It was resolved that Anthony Joseph & Co, Registered Auditors, be appointed as auditors to UFAW and its associated Trusts and their remuneration should be fixed by Council.

Dr J Anderson and Mr A Sains were standing down from Council. There was one new candidate for election, and in accordance with UFAW's Articles of Association Ms Corrie McCann was elected and Professor A Nolan was re-elected.

Notice of Annual General Meeting 2012

The Annual General Meeting of the Universities Federation for Animal Welfare will be held at 12.30pm on Tuesday 2nd October 2012 at The Old School, Brewhouse Hill, Wheathampstead. The formal notice and agenda have been sent to all members and are available from the Secretary at the registered office.

Finance and Accounts

The summarised accounts set out overleaf 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 16th July 2012.

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 2nd October 2012.

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

UFAW's activities, highlighted in this annual report, are dependent on the generosity and kindness of the charity's members and supporters – to whom we are most grateful. The charity spends very little on advertising and promotion and depends considerably on its members and supporters to assist with this by recommending the charity to others likely to share UFAW's commitment and philosophy. If you would like copies of this report to hand on to friends and relatives please let us know.

The annual membership subscription remains a modest sum at £10, or £5 for students. The value of donations made to the charity is maximised when given through the Gift Aid Scheme. Details of this and advice on how to make provision for the charity in a Will can be obtained from the Secretary and are also available on the website (www.ufaw.org.uk).

The charity is seeking to be able to support a more extensive programme of animal welfare research and education in the future.

Can you help?

J P Volrath

The death of John Peter Volrath MRCVS was announced in December 2011. John was initially a student governor of UFAW and served on the board of directors from 1953 to 1965. In 1954, following his suggestion at a UFAW symposium on the keeping of animals in schools, he wrote 'Animals in Schools: the UFAW guide to their care and management', a further enlarged edition being published by UFAW the following year when John was a fourth-year veterinary student. His life-long interest in animal welfare and long-time support of UFAW will be greatly missed.

Finance and Accounts

Summary of Financial Activity year ended 31st March 2012

	2011/12 £	2010/11 £
Incoming resources:		
Voluntary income		
Subscriptions & donations	25,749	32,022
Appeals	2,265	2,633
Legacies	101,054	249,478
Garden bird project	—	32,124
	<u>129,068</u>	<u>316,287</u>
Charitable activities		
Publications	70,517	62,735
Royalties & lecture fees	9,081	14,203
Symposium	47,770	6,570
	<u>127,368</u>	<u>83,508</u>
Investment income		
Interest bearing deposits	2,174	1,966
Securities	133,500	124,371
	<u>135,674</u>	<u>126,337</u>
Total incoming resources	<u>392,110</u>	<u>526,132</u>
Resources expended:		
Costs of generating funds	67,543	71,778
Charitable activities	505,178	377,380
Governance costs	3,000	3,000
Other resources expended	166,128	166,242
	<u>741,849</u>	<u>618,400</u>
Total resources expended	<u>741,849</u>	<u>618,400</u>
Net (outgoing)/incoming resources for the year	<u>(349,739)</u>	<u>(92,268)</u>
Other recognised gains and losses:		
Net realised gain on investments	221,861	231,935
Net income/expenditure for the year	<u>(127,878)</u>	<u>139,667</u>
Net unrealised (losses)/gains on investments	<u>(180,003)</u>	<u>192,367</u>
Net movement in funds	<u>(307,881)</u>	<u>332,034</u>
Balance brought forward	6,800,891	6,468,857
Balance carried forward	<u>6,493,010</u>	<u>6,800,891</u>

BALANCE SHEET as at 31st March 2012

	2011/12 £	2010/11 £
Fixed assets:		
Tangible fixed assets	571,569	584,254
Investments	5,854,465	5,505,991
	<u>6,426,034</u>	<u>6,090,245</u>
Current assets:		
Debtors	19,835	130,101
Term deposits at bank	289,323	770,587
Cash at bank & in hand	30,447	25,465
	<u>339,605</u>	<u>926,153</u>
Creditors:		
Amounts falling due within 1 year	(98,957)	(143,255)
Net current assets	<u>240,648</u>	<u>782,898</u>
Total assets less current liabilities	6,666,682	6,873,143
Creditors:		
Amounts falling due after more than 1 year	(173,672)	(72,252)
Net assets	<u>6,493,010</u>	<u>6,800,891</u>
Funds:		
Unrestricted	6,003,166	6,213,087
Restricted	489,844	587,804
	<u>6,493,010</u>	<u>6,800,891</u>

The summarised accounts were approved by Council and signed on their behalf on 16th July 2012



Mike Radford OBE LLB
Chairman



Michael T Bird FCA
Hon Treasurer

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 16th July 2012.

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 2012.



S Francis-Joseph FCCA, Senior Statutory Auditor, Anthony Joseph & Co, Registered Auditors, Stevenage, 16th July 2012.

Universities Federation for Animal Welfare

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Registered in England Charity No. 207996

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I J Lean BSc PhD MSB
J H Pratt BVM&S DVSM FRCVS
G D Sales BSc PhD AKC MSB DipTCDHE
Professor R S Anderson BVMS PhD MRCVS
Professor P M Biggs CBE DSc DVM FRCPath
FSB FRS FRCVS
B R Howard BVMS PhD MRCVS

Council (who are the Directors of the Limited Company)

Chairman: M Radford OBE LLB*[^]
Vice-Chairman: L A Brown MBE BVSc BA PhD MBA FRCVS[^]
Honorary Treasurer: M T Bird FCA*[^]
Members Professor R M Bennett BSc MSc PhD
J Bradshaw BA PhD *
B Cooper VN Cert DTM
Professor N Gregory BSc PhD
Professor A Lawrence BSc DipRurSci PhD
C L McCann BSc ACA (from Oct 2011)[^]
Professor A Nolan MVB DipECVA DipECVPT DVA
MRCVS*
D Pritchard BSc BVetMed MPH MRCVS
*Member of the Grant Panel [^]Member of the Finance Panel

Staff

Chief Executive
& **Scientific Director:** James K Kirkwood OBE BVSc PhD FSB HonFRCVS
Deputy Scientific
Director: Robert C Hubrecht BSc PhD FSB
Scientific Officer: Elizabeth Carter BSc MSc
Development Officer: Stephen M Wickens BSc PhD
Editorial Assistant: Steven Weddell BSc BVSc MRCVS HND
Public Relations
& **Fundraising Officer:** Brian D Pemberton BA MA
Secretary: Donald C Davidson
Office Staff: Samantha Griffin
Wendy L Goodwin

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EN6 1BU, UK
Barclays Bank plc, 33 Darkes Lane, Potters Bar, Herts
EN6 1BA, UK

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Bank of America, Westwood Village Branch, PO Box
37176, San Francisco, CA 94137-0001, USA

Solicitors: Withers LLP, 16 Old Bailey, London, EC4M 7EG, UK

Investment Advisers: Smith & Williamson Investment Managers,
25 Moorgate, London EC2V 5NS, UK





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