



*Science in the Service
of Animal Welfare*

**Universities Federation
for Animal Welfare
Annual Report 2008-2009**

The Universities Federation for Animal Welfare

The Universities Federation for Animal Welfare, founded in 1926, is an internationally recognised, independent, scientific and educational animal welfare charity concerned with promoting 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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Tel: +44 1582 831818 Fax: +44 1582 831414
Website: www.ufaw.org.uk Email: ufaw@ufaw.org.uk

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Letter from the Chairman

It gives me great pleasure to report another very successful year for the charity with many notable achievements, confirmation it would seem not only of the hard work and expertise of the staff and the vital support of members and others, but also of UFAW's effective approach in tackling often difficult issues with skill, knowledge and co-operation.

This year saw the first Companion Animal Welfare Award with such a high standard of entries that three awards were made to very worthy winners whose work will make a substantial difference to the welfare of a great many pets. Both a successful Conference and a major international Symposium were held, the latter featuring some very timely and interesting topics, including from Companion Animal Welfare Award winner Dr Paul McGreevy, presented to an audience from 18 countries. Important work by the inaugural Professor William Russell Fellow, Dr Joseph Garner, to investigate aspects of laboratory mouse husbandry began, and a 3Rs Studentship was awarded for an exciting project that could potentially contribute to the replacement of many animals used in research into the emetic effects of medicines.

Major new editions of the Laboratory Animal and Farm Animal Handbooks are nearing completion, the popularity of the *Animal Welfare* journal continues to grow and, importantly for the promotion of animal welfare science with young people, the University Links and Vacation Scholarship schemes continue to thrive.

All this amongst many other ongoing projects and activities!

None of this would be possible without the involvement of members and supporters – individuals, corporate organisations and institutions of many kinds both in the UK and around the world. I thank you all most warmly for your interest and support.

On a sad note we report the deaths of Professor J A Laing, who was a personal friend and colleague, and Dr Phyllis Croft OBE, both of whom gave many years of dedicated and expert service to UFAW and the welfare of animals.

John H Pratt



Chief Executive's Report

Fifty years ago William Russell and Rex Burch's *The Principles of Humane Experimental Technique* was published. The ideas in this remarkable book had a slow fuse but, in due course, came to have great welfare benefits for animals used in research around the world. It was also an excellent and powerful example of the gains that could be made through science in the service of animal welfare.

One might think that there would have been some trumpeting in the Annual Report of 1959 about this momentous event, the culmination of many years of effort, but UFAW has always had something of an instinct for understatement (and there's much to be said for that) and ventured only: 'This year progress has been steady, though not spectacular'.

It seems to me that two factors have been key to UFAW's remarkable influence: one is its promotion of what is a winning idea – science in the service of animal welfare – and the other is not so much about what it has done but the way it has done it. UFAW, with Charles Hume at the helm, evolved a particular philosophy (of which the instinct mentioned above is a part). This is hard to summarise in a few words, but perhaps it is characterised by adopting an approach, in what is typically a controversial field, of a rolling up of the sleeves to work side-by-side with those involved to help find a way forward rather than by criticising or blaming.

UFAW's projects and programmes, like Russell and Burch's, often have long time courses. Not only this, but they have often focused on problems which, although crucial for animal welfare, are often not the stuff of which marketing moguls and fund-raisers dream. However, UFAW has been extremely fortunate in having very loyal supporters who understand that the problems are often complex, that difficult issues have to be faced, that short-term bodes are not the best way forward in the long run, and that lasting solutions take time to research and develop.

We are most grateful to all of the individuals and organisations that help the charity financially or in other ways in its work. Our sincere thanks to all those in the UK and internationally who have enabled UFAW to achieve all it has.

James K Kirkwood



Companion Animal Welfare Award

Following its launch in September last year, the winners of the 2009 UFAW Companion Animal Welfare Award have now been announced.

Congratulations go to: the Pain and Welfare Research Group, University of Glasgow, for their innovation: '*Instruments to measure canine pain and health-related quality of life*'; Oliver Forman of the Animal Health Trust (AHT) UK, for '*The development of a genetic test for spinocerebellar ataxia in the Italian spinone*'; and Dr Paul McGreevy of the University of Sydney, Australia, for '*Online mendelian inheritance in Animals*'.

James Kirkwood, Chief Executive and Scientific Director of UFAW, said "We chose three winners for the 2009 Awards for the high quality of their work and because their projects will be of great benefit to very large numbers of companion animals, not only in this country but around the world".

To mark the occasion of the first UFAW Companion Animal Welfare Award the winners were presented with their prize, a £1000 cheque and a commemorative certificate, by Dr John Bradshaw, Reader in Companion Animal Welfare and Waltham Director of the Anthrozoology Institute at the University of Bristol, during an evening reception at the latest UFAW International Symposium in June.

UFAW hopes that the new scheme will raise awareness and promote the welfare of pets through recognising and rewarding significant innovations within the companion animal welfare field.



Dr Cathryn Mellersh, Canine Genetics Research Group Leader, Animal Health Trust, takes a cheek swab for DNA extraction.

The winners of the UFAW Companion Animal Welfare Award 2009: (front row eftl to right) Dr Paul McGreevy, University of Sydney, Professor Marian Scott representing the Pain and Welfare Research Group, University of Glasgow, Oliver Forman, AHT. Behind are Dr James Kirkwood (l) and Dr John Bradshaw who presented the awards.

Welfare aspects of rodent control

In 2006, UFAW established a working group to look into how it might be possible to make welfare improvements in methods of rodent control. This is a major animal welfare issue because very large numbers are killed each year using methods that fall short of the humane ideal.

We can now report on one of the outputs of the group. Earlier in the year UFAW published a document produced by this working group: 'Guiding principles in the humane control of rats and mice'. This document can be downloaded from the UFAW website. It outlines, for householders and others, the various methods that are available for control of rats and mice and provides information on their welfare impacts to help in the selection of the most humane (or least inhumane) methods under various circumstances.

It is never easy to stimulate interest in this subject (rodents are unpopular) and the current economic climate further complicates the challenge of encouraging research expenditure in this field. But the fact is that many of the commonly used methods can have serious adverse welfare consequences and research is urgently needed into improved or better approaches. We are most grateful to all who participated in the production of the 'Guiding principles..' and will continue to look for ways and opportunities to take this important subject forward.

Genetic welfare problems in companion animals

During the year, work started on a project to try to develop a web-based resource to provide information on genetic welfare problems in companion animals. It seems likely that making information on the welfare consequences of hereditary diseases and poor welfare traits widely available will be key to tackling this problem. Informed pet buyers can avoid strains and breeds at high risk, resulting in selection of fitter strains with better welfare.

Collecting and collating the necessary information is a very large task and we are very grateful to all those who have volunteered to help with this. We are seeking sponsorship to enable us to employ someone full-time for three years to collect and analyse data and to develop a user-friendly website.

The importance of such a web-based information resource has been recognised by others also and UFAW has participated in discussions organised by the British Veterinary Association with a number of other bodies interested in finding ways to tackle this problem. (see also p11)

Dr Paul McGreevy, University of Sydney, presenting at the UFAW Symposium



UFAW Symposium 2009: Darwinian selection, selective breeding and the welfare of animals

The University of Bristol provided the venue for the latest in UFAW's series of international symposia in June.

This symposia considered the impacts of natural selection and of our selective breeding of animals on their welfare, a theme that was chosen in recognition of the 150th anniversary of the publication of Darwin's 'On The Origin of Species' and informed by UFAW's recent activities in the area of genetic welfare problems in companion animals.

The meeting considered how the finely-engineered 'carrots and sticks' of Darwinian selection promote evolutionary fitness, and discussed what happens when, in pursuit of ideal companion or laboratory animals, or of greater farm animal production, humans take control of selection and, where genetic welfare problems have arisen as a consequence of such selection, how these can be tackled.

Delegates from 18 countries around the world heard presentations that considered these issues in farm, laboratory, companion, zoo and free-living animals.

Amongst those contributing were Professor Per Jensen (University of Linköping) who spoke about genetic mechanisms for rapid response and discussed how stress and the physiological response to this in the parent or grandparent of an animal can result in continuing detectable changes in gene expression in the offspring, a finding that surprisingly accords with the view espoused by the scientist Lamarck, a proponent of an alternative view of evolution to Darwin's. The issue of unwittingly selecting for animals that are un-reactive or resilient, that whilst suffering do not show behavioural signs of low welfare, was a topic that several speakers touched on,

including Dr Rick D'Eath of the Scottish Agricultural College.

Professor Donald Broom (University of Cambridge) discussed how selection for high milk yield in dairy cows had at the same time decreased fertility and health – with between 25-59% of cows per annum being reported as showing leg and foot problems – and how adopting a Nordic style multi-trait selection process would help to address this. In addition there were a number of talks reporting on the latest findings regarding inherited defects in pedigree dogs, both highlighting the extent of the problem and approaches to reduce their prevalence, for example from Dr Lisa Collins (Royal Veterinary College), Dr Tom Lewis (Animal Health Trust) and Dr Nicola Rooney (University of Bristol).

Symposium delegates also had a unique opportunity for a private viewing of the 'Banksy versus Bristol Museum' exhibition at the Bristol City Museum and Art Gallery, where a drinks reception was hosted, to the evident delight of many. During this reception Dr John Bradshaw presented the winners of the inaugural Companion Animal Welfare Awards with their prizes.

UFAW would like to thank all those who contributed to the symposium, as speakers, session chairs or poster presenters, and the staff at the University of Bristol and the City Museum and Art Gallery who ensured the smooth running of the event.

Symposium proceedings will be published as a supplement to *Animal Welfare* in due course.

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 here to demonstrate the Federation's current research interests.

UFAW 3Rs Liaison Group

The UFAW 3Rs Liaison Group is a UFAW initiative that enables and encourages the pharmaceutical industry to support studentships relating to the welfare of animals used in research. Six studentships have now been awarded, the latest in April 2009 to Steven Robery. Steven will take up his award later this year at Royal Holloway, University of London, to carry out a project entitled 'Employing the social amoeba, *Dictyostelium*, as a first pass screen in drug development'.

The project could potentially lead to a replacement in the use of animals in emetic research. Nausea and vomiting are reported as side effects in over 33% of medicines in current use. Identification of these effects currently relies on the use of rodents to examine effects such as conditioned taste aversion, and ferrets, dogs, house musk shrews and non-human primates to study vomiting effects. The Royal Holloway group has already demonstrated that *Dictyostelium* could contribute to a reduction in rodent use. Robery's project could lead to further reduction and potentially replacement of ferrets, dogs and non-human primates in procedures classified as of moderate severity under the Animals (Scientific Procedures) Act 1986. The study could also contribute to reduction and replacement of fish and amphibians in ecotoxicology research. This research builds on pilot data collected by Ms Janina Mukanowa during a UFAW Vacation Scholarship.

Other students who continue to be funded on this scheme include Claire Richardson of Newcastle University, who is developing methods to objectively assess distress in laboratory rodents, and Anjanette Harris from Edinburgh University, who in January successfully completed her PhD on the effect of housing conditions on stress and spatial cognition in laboratory rats. Anjanette's studies showed no significant effects of isolation housing on behaviour in the home cage or on cognitive performance. However she was able to show gender differences in cognitive performance that appeared to be related to stress and which were related to thigmotaxis (a tendency to stay close to walls). On the basis of her findings she was able to recommend a refinement in the use of the Morris water maze in cognitive studies. She went on to state that "contrary to current opinion, I propose that environmental enrichment (social and physical) enhances cognitive performance in the MWM (Morris water maze) because it reduces thigmotaxis during testing. However, it is currently unclear which component of enrichment (physical or social) has the greatest beneficial impact on welfare or if the effects are the same for different strains, ages and sex of rat. These questions need answering".

UFAW is very grateful for the continuing and generous support of the 3Rs Liaison Group members, in funding these studentships.

Cognitive bias as a method of assessing welfare

A recent review paper by Dr Mike Mendl (Mendl M, Burman OHP, Parker RMA, Paul ES 'Cognitive bias as an indicator of animal emotion and welfare: Emerging evidence and underlying mechanisms' *Applied Animal Behaviour Science* 118 (2009) 161-181) explores the interesting and novel approach of cognitive bias as a method of assessing welfare – the subject of a spate of studies stimulated by the work of Emma Harding. Emma, as UFAW's first Research Training Scholar in 1999, undertook groundbreaking work in cognitive bias, under the supervision of Dr Mendl and Dr Liz Paul at the University of Bristol, leading to a publication in *Nature*.

The Garden Bird Health Initiative

Coincidentally, very soon after establishing the Garden Bird Health initiative (GBHi) surveillance and research project in 2005, an outbreak of trichomoniasis began in finches and other garden birds. This disease, caused by the unicellular parasite *Trichomonas*, is well-recognised in pigeons and some other birds but had not previously been recorded in finches. Because of the surveillance arrangements that had been put in place, it was possible to chart the spread of this outbreak over the following seasons, to monitor which species were affected, and to estimate its impact on the national population of greenfinches. Wildlife vet, Becki Lawson, who worked on this project at the Institute of Zoology is now writing up her findings for publication and for her PhD and is continuing studies aimed at elucidating why the outbreak occurred and spread so widely. Although garden birds are wild animals, the quality of their lives and their fates are increasingly influenced by human activities and anthropogenic changes to their habitats. Investigation of novel disease outbreaks is therefore very important.



We are most grateful to, among others: CJ WildBird Foods, Gardman Ltd, Cranswick Pet Products, the Birdcare Standards Association, Tom Chambers Ltd, the Institute of Zoology, RSPB, the British Veterinary Association Animal Welfare Foundation, and Defra for their support of this work, and to all the scientists, veterinarians, and many volunteers involved in this remarkable, large-scale, citizen science project. The aim is to provide information about how best to care for or manage garden birds.



Humane Killing of Fish used in Research

As a member of the Animal Procedures Committee, UFAW Deputy Director Robert Hubrecht has chaired a housing and husbandry report on appropriate methods of humane killing for fish.

This report reviews existing Schedule 1 methods as well as reviewing some additional methods. The report notes that, even for commonly used euthanasia techniques in fish, much of the recent research relating to humane killing has been carried out with respect to fish farming and there is only very limited evidence of humaneness within the laboratory setting. Indeed some fish may show aversive responses to commonly used anaesthetic agents used for euthanasia such as MS222. These responses may be related to practical issues such as technique, appropriate buffering of solutions, etc, but the committee felt that welfare research could usefully be targeted at clarifying whether these substances were aversive, whether some substances were more aversive than others, and how chemical euthanasia techniques could be improved.

Another area where further research was felt to be justified was electrical stunning and killing of fish in the research context. Studies of electrical stunning and killing of fish in farming have produced encouraging results, and the committee felt that electrical methods of killing fish might have a place in the laboratory. However, the species killed in fish farming are usually cold-water species whilst fish used in research include tropical species. Moreover, there are different restrictions relating to issues such as tissue damage and experimental outcomes. Therefore, the committee felt that further research would be advisable on electrical techniques that might be used to stun/euthanase fish species used in research. Amongst other recommendations, the committee suggested that the current Schedule 1 could provide specific guidance on humane techniques and best practice in euthanasia.



Welfare of broiler 'breeders'

Chickens used to breed broiler chicks are typically fed restricted quantity diets to counter fast growth. Louise Buckley, current UFAW Research Training Scholar, has been investigating whether feed restricted broiler breeders prefer a small quantity of high quality feed or the same quantity of feed with added non-nutritive bulk or appetite suppressants. It was thought that the birds would prefer the latter if it made them feel less hungry.

After a period of training in which birds were exposed to each dietary option independently to learn about the satiating properties of each, birds were exposed to both diets in a closed economy y-maze task. Birds had previously shown that they could learn a food/no food discrimination task but they failed to show a preference for either of these diets under these conditions.

Unsure of whether the birds were indifferent to the diets or had just failed to learn, Louise increased one option to make it 50% energetically bigger and better. However, most birds still failed to show a preference suggesting that they were failing to learn the task. Feed restriction at 12 weeks (the age of the birds at this stage of testing) is particularly severe so one possibility for this failure is that chronic hunger affects learning ability.

Louise is currently looking at whether hunger affects the ability of the broiler breeder to learn a food quantity discrimination task. She hypothesises that the less hungry birds will be more discriminative and thus will find the task easier to learn. The experiment is still in progress but so far it does appear that only the less hungry birds can learn the task.

LASA/UFAW meeting 'Enrichment and Experimental Outcomes'

Although enrichment of the housing of animals used in research is becoming increasingly normal, there are still concerns amongst researchers as to how enrichment might interfere with experimental outcomes. With his co chair Miles Maxwell of the LASA Alternatives section, Robert Hubrecht organised a meeting in February entitled *Enrichment, Animals and Experimental Outcomes* that was held at GSK Medicines Research Centre. The meeting brought together over 60 people either involved in research, its regulation or animal care. Presentations were given by ethologists from the UK and abroad, some of whom were previous winners of UFAW research awards. The presentations reminded attendees that animals evolve to be adapted to particular environments and that enrichment is a means of providing captive environments that keep animals in a state of good welfare. This also has the benefit that abnormal responses can be reduced and the science can be of higher quality.

The Professor William Russell Fellowship

Dr Joseph Garner, Purdue University, winner of the inaugural Professor William Russell Fellowship, began his work this year investigating refinement of the husbandry of laboratory mice.



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 Animals, and the UFAW/Wiley-Blackwell Animal Welfare Series)
- Running workshops and symposia
- Lecturing at universities and colleges
- Running the Vacation 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.



Animal Welfare, the Journal

Animal Welfare, now in its 18th year, continues to be a key element of UFAW's activities aimed at promoting science-based animal welfare around the world. It is taken up by university and college libraries, and individual and corporate subscribers, in many countries. Since 2006 it has been available on-line via Ingenta which has greatly increased its availability internationally – it has been accessed by readers in more than 60 countries – and this has led to increasing numbers of manuscript submissions.

We are most grateful to all those who contribute to the production of the journal: our Section Editors, Editorial Board members, referees, book reviewers and those who contribute to the 'Reports and Comments' section.

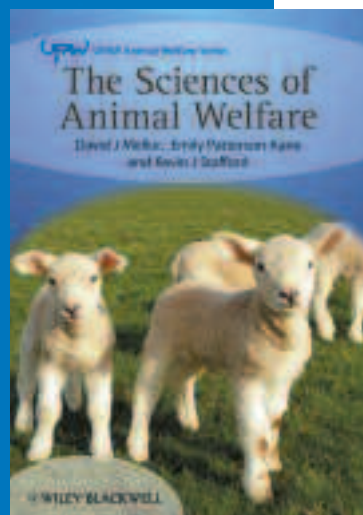
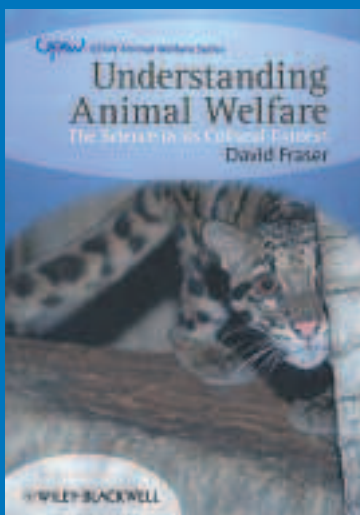
UFAW / Wiley-Blackwell Animal Welfare Book Series

During the year two further additions to the UFAW / Wiley-Blackwell series on animal welfare were published. David Fraser's excellent '*Understanding Animal Welfare: the Science in its Cultural Context*' came out in September 2008. In this book David Fraser places modern-day welfare issues within their historical framework by tracing the evolving ideas that led to current thinking. He also highlights some intriguing issues relating to the contradiction inherent in the term 'animal welfare science' and the practical problem of how to assess emotional states in animals.

Reviews have been very complementary. For example: 'A truly seminal text for laypersons and professionals to aid them in "understanding animal welfare" ...the author does an outstanding job' says David Moore in the Journal of the American Veterinary Medical Association (JAVMA, June 15 2009), and, in the Journal of the American Association for Laboratory Animal Science, David Lee-Parritz, writes: 'This remarkable book demonstrates how to ask the proper questions and proposes several answers' and recommends the book as 'a crucial guide to the discussion'. Sandra L Jex comments in ALN Magazine 'This is an excellent introductory text for virtually anyone in an animal care profession or layperson with an interest in the multifaceted nature of animal welfare and animal welfare science' (ALN Europe, 2009 2:34).

The latest book in the series '*The Sciences of Animal Welfare*' by David Mellor, Emily Patterson-Kane and John Stafford, was published in August 2009. This book examines the diversity of subjects that constitute the field of animal welfare, whilst also considering the importance of novel and multidisciplinary approaches to making new advances. We are grateful to the authors for providing a useful and fascinating account which includes topical issues such as consciousness of neonates, as well as broader accounts such as the contribution of the veterinary profession to animal welfare.

Other books are 'in the pipeline'. If you have an idea for a book in this prestigious series, please let us know.





Animal care handbooks

UFAW has long been at the forefront of providing high quality technical advice to professionals charged with the care of animals. Two flagship volumes are currently being updated: the *UFAW Handbook on the Care and Management of Laboratory Animals*, now in its eighth edition, which was first published in 1947; and the *UFAW Farm Animal Handbook*.

The Laboratory Animal Handbook is being edited in-house, whilst Professor John Webster is taking care of the Farm Animal Handbook. These have been big projects, but both are nearing the end stages of writing and editing and will be with the publishers shortly. We would like to thank the many experts who have authored chapters for these volumes.

UFAW SAWI Fund

The development of centres of animal welfare science expertise at various universities around the world in recent years has begun to contribute greatly to tackling long-standing animal welfare problems and to promoting general awareness of the subject. One of UFAW's objectives for the 09/10 year is to seek an opportunity to help contribute to the development of animal welfare science in Israel by part-funding the establishment of a university lectureship or research post.

In pursuit of this, James Kirkwood visited Israel in May for meetings at the School of Veterinary Medicine and at Tel Aviv University, to explore possibilities. It is clear that there is considerable interest in this opportunity and enthusiasm to try to find a way forward. Various options are now being considered.

Group behaviour of marmosets

As part of its ongoing work to promote animal welfare science in education, UFAW makes grants and small project awards to aid a wide range of studies into aspects of animal welfare.

One such recent project, undertaken by Claire Watson as part of her PhD work at the University of Stirling, involved investigation of the effect of captive marmoset calls on the behaviour of neighbouring groups. Marmosets are much used in medical research and groups of captive marmosets tend to be housed close together. It was found that social behaviour – both aggressive and amicable behaviour, was indeed affected by the calls made by neighbours and likely to be more pronounced in the captive situation due to proximity of groups and lack of option to move apart. The study noted that this effect on welfare should be taken into account in the husbandry of captive marmosets. Claire was to present her work at the International Ethological Conference in Rennes, France, on 24th August.



UFAW 'recent advances' conference

Following the success of the inaugural UFAW conference on '*Recent advances in animal welfare science*' in 2008, UFAW is pleased to announce a second meeting, which will be held in York on the 30th June 2010 in the city's medieval Merchant Adventurers' Hall.

For details on how to make submissions or if you have any other questions about the conference see www.ufaw.org.uk or contact: Stephen Wickens, Development Officer, UFAW, The Old School, Brewhouse Hill, Wheathampstead, Hertfordshire, AL4 8AN, UK. Tel: +44 (0) 1582 831818; Fax: +44 (0) 1582 31414; Email: wickens@ufaw.org.uk

Dr Chris Sherwin's talk at the 2008 Conference reviewed the welfare of elephants in UK zoos.

UFAW Vacation Scholarships

Since their launch in 1983, the UFAW vacation scholarships have provided an introduction for UK and, from last year, overseas students to the science of animal welfare by providing funds for them to undertake an eight week project in a subject of their choice.

Over the years, hundreds of students have explored a wide variety of welfare issues concerning our use of animals, such as the use of self-feeding silage systems by dairy cows (N Waran 1987), the effect of releasing captive hedgehogs into the wild (S Munn 1990), the usefulness of salivary cortisol measurements for assessment of stress in dogs (K Park 1997) and investigating the possibility of using the social amoeba *Dictyostelium discoideum* to identify emetic liability of new chemical entities (J Mukanowa 2008).

Whilst it is unrealistic to expect every vacation scholar to go on to pursue a career in the field of animal welfare science, UFAW is gratified by the large number that have, and by the contributions they continue to make to increasing our understanding of the needs of animals and how to improve their welfare.

12th Annual Vacation Scholarship Meeting University of Nottingham, 9th December 2009

This year the annual vacation scholarship meeting will be held at the University of Nottingham's School of Veterinary Medicine and Science (Sutton Bonnington campus). At a time when interest in animal welfare and its science is high, these free meetings feature presentations that address welfare issues across the range of animals used by humans from some of the best students in the UK. We would like to thank Dr Jon Huxley, Nottingham's UFAW link, for facilitating this meeting and hope that UFAW members and supporters and interested institutions will join us for what is always an enjoyable and informative day.

Anyone wishing to attend or for further details contact Stephen Wickens, Development Officer (wickens@ufaw.org.uk).

Rabbit Welfare

As noted in our Spring Newsletter, UFAW has collaborated with the RSPCA on a guidance document on the housing and husbandry of rabbits used in research. This publication is available at <http://www.rspca.org.uk/researchrabbits> and has already proven very useful and popular.

The UFAW University Links Scheme

To encourage interest in the science of animal welfare at academic institutions, UFAW set up the UFAW University Link scheme in 2003. This scheme seeks to support diverse animal welfare focused activities that engage numerous staff and students at the link institutions. Currently 24 UK and 10 overseas universities are part of the scheme.

UFAW is always interested in hearing from those interested in establishing such a link with UFAW and encourage them to contact us (wickens@ufaw.org.uk).

A list of link institutions and further information about the scheme can be found on the UFAW website.

Congratulations to the 2009 Vacation Scholars:

Anna Calderon, University of Edinburgh, '*Analysis of malignant catarrhal fever viruses in zoological collections*' supervised by Dr George Russell.

Frances Dyson-Sutton, Bangor University, '*The breeding viability and conservation status of inland nesting northern Fulmar (*Fulmarus glacialis*), Foula, Shetland*' supervised by Dr Rachel Taylor.

Rachel Edwards, University of Cambridge, '*The effect of infectious bovine keratoconjunctivitis on behaviour*' supervised by Dr David Williams.

K Aisa Irvine, University of Bristol, '*Reducing risks of lungworm infection in red pandas*' supervised by Dr Eric Morgan.

Richard Jackson, University of Glasgow, '*Prevalence and risk factors for *Chlamydothra carriage* by wild garden birds*' supervised by Professor David Logue and Mr Tom Pennycott.

Ian Laycock, University of Newcastle, '*Individual variation in nutritional targets: potential implications for laboratory animal welfare and scientific research*' supervised by Dr Candy Rowe.

Katrina Martin, Anglia Ruskin University, '*How far have the 3Rs been applied to field research involving wild animals?*' supervised by Dr Charlotte Nevison.

Carys Pugh, University of Bristol, '*Comb temperature changes in hens: an indicator of stress?*' supervised by Dr Elizabeth Paul.

Sarah Robertson, University of Newcastle, '*The effect of thyme and pennyroyal essential oils, with potential as acaricides for poultry pests, on the behaviour of laying hens*' supervised by Dr David George and Dr Jonathan Guy.

Amy Taylor, University of Edinburgh, '*The effect of tongue tie use on racehorse behaviour in the parade ring*' supervised by Miss Sarah Barakzai.

Clare Walsh, University of Newcastle, '*Cognitive bias as an alternative measure of subjective mental experience in pigs - can affective state be used to reflect quality of environment on farm*' supervised by Dr Catherine Douglas and Professor Sandra Edwards.



ZOO Outreach

The past year has continued to be a productive time for the Zoo Outreach Organisation (ZOO), based in India. UFAW supports ZOO in their efforts to both raise awareness of

animal welfare issues and to improve the welfare of captive and wild animals throughout South Asia.

One ZOO project aims to tackle human-animal conflict. In particular, conflict which may arise between people and monkeys, or people and elephants is addressed and ZOO has produced two educational packets which are distributed during instructive workshops: 'Monkey Manners' (now in its third reprint and published in three languages due to its popularity) and 'Human Elephant Coexistence'.

UFAW provides information and advice on aspects of the biology, management, health, welfare and ethics of use of domestic and wild animals to government departments, non-governmental organisations, universities and others.

The Federation is consulted on draft legislation, guidelines and codes of conduct relating to animal welfare, and staff serve on several national and international advisory committees and working groups including the Animal Procedures Committee, the Zoos Forum, the Bovine TB Advisory Group, the European Primate Centres Animal Welfare Committee, the Companion Animal Welfare Council and the Boyd Group.

Staff also make visits to animal facilities to advise on best practice in animal care and welfare.

EUPRIM-net

UFAW Deputy Director Dr Robert Hubrecht is chair of the Animal Welfare Committee of the European Primate Centres network (EUPRIM-net). This committee monitors the activities of a consortium of European Primate Breeders that have received European funding to promote activities that broadly advance the 3Rs with respect to primate use.

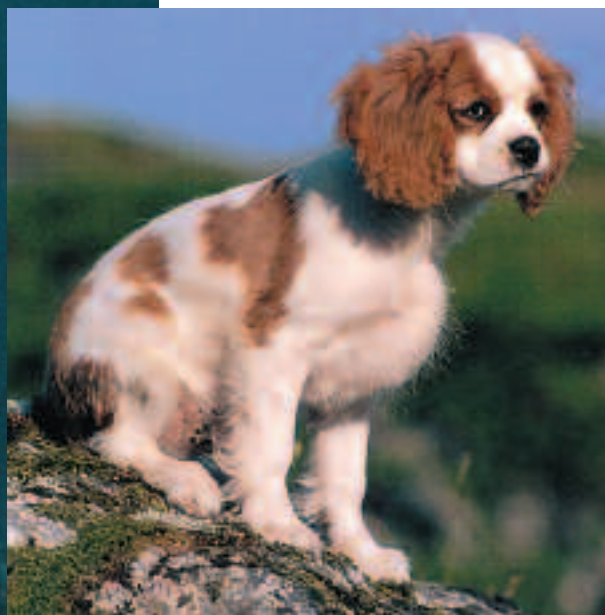
Considerable progress has been made by the consortium in developing positive reinforcement techniques to refine primate handling, the development of courses on primate care and welfare and in initiatives to improve health and refine primate use at the centres.

Legislation

European legislation relating to the use of animals in research is currently being updated. UFAW staff have long been active in developing better standards of animal care within European legislation, and over the last year have been providing advice through a variety of routes on the issues that are raised by the European Commission proposals.

Genetic welfare problems in companion animals

The public profile of genetic welfare problems in companion animals has increased greatly during the last year (and it was the subject of a number of papers at the UFAW Symposium in June 2009). Currently the situation as regards dogs is the subject of two enquiries, one being conducted by the All Party Parliamentary Group for Animal Welfare (APGAW), the other by Professor Sir Patrick Bateson FRS. As a member of the Companion Animal Welfare Council, James Kirkwood organised a series of workshops to discuss measures needed, and to explore how an independent group to provide advice on breeding strategy, on a breed by breed basis, might be established.



The Cavalier King Charles Spaniel, one of the many breeds of dogs that can suffer from genetic problems including, in this breed's case, Syringomyelia. This can be a very painful condition associated with the formation of fluid-filled cavities in the spinal cord.

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?

Professor JA Laing Dr Phyllis Croft

Just before going to press we were saddened to hear of the deaths of Professor Archie Laing and Dr Phyllis Croft OBE.

Professor Laing gave many years of dedicated and valuable service to UFAW both as a Council member from 1963 to 1984 and as Chairman of the Council from 1975 to 1977. He was also a Vice-President of UFAW's sister charity, the Humane Slaughter Association (HSA) from 1980 to 1988.

Dr Phyllis Croft was a UFAW Research Fellow from 1950 to 1967. Her groundbreaking work on electrocution, electrical stunning and electroencephalography laid the foundation for future developments in humane slaughter and killing and in other fields, including the cessation of inhumane methods of electrocution previously widely used. In 1957 she was awarded the Livesey Medal of the Royal College of Veterinary Surgeons, followed in 1966 by the Blaine Award from the British Small Animal Veterinary Association. In 1999 Dr Croft was awarded the OBE.

Annual General Meeting 2008

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 2007 and resolved to receive the Accounts and Auditor's Report for the year ended 31st March 2008. 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 Yianni, Neil & Co Ltd, Registered Auditors, be appointed as auditors to UFAW and its associated Trusts and their remuneration should be fixed by Council.

There were no new candidates for election and in accordance with Clause 45 of the Articles of Association Professor A Nolan, Dr J C Anderson and Mr A G Sains were re-elected.

Notice of Annual General Meeting 2009

The Annual General Meeting of the Universities Federation for Animal Welfare will be held at 2.00pm on Wednesday 14th October 2009 at The Old School, Brewhouse Hill, Wheathampstead, Hertfordshire (UFAW's office premises). The formal notice and agenda have been sent to all members and are available from the Secretary at the registered office.

Summarised Accounts

The summarised accounts set out overleaf have been extracted from the full accounts and have been prepared in accordance with the 2005 Statement of Recommended Practice - Accounting by Charities (SORP) and applicable UK Accounting Standards, which were approved by the Directors/Council and signed on its behalf on 9th July 2009.

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 14th October 2009.

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

Finance and Accounts.

The total annual income at £1,038,168 was up by 97% on the 2007/08 year (£527,293). This increase of £510,875 was attributable largely to legacy income of £693,110 up by £500,614 on 2007/08. Legacy income varies unpredictably from year to year.

Income from subscriptions, appeals and donations was £53,869. This was up by £4,573 on the previous year's total of £49,296. Investment income (securities) at £112,778 in 2008/09 was down from £121,775 in 2007/08 by £8,997.

Despite the collapse of the global financial systems the increase in the legacy income has shielded us somewhat from the devastating effects of the 'credit crunch'. The overall expenditure during the 2008/09 year at £659,609 was up by £38,442 on the previous year (£621,167).

Finance and Accounts

Summary of Financial Activity year ended 31st March 2009

	2008/09 £	2007/08 £
Incoming resources:		
Voluntary income		
Subscriptions & donations	50,094	46,026
Appeals	3,775	3,270
Legacies	693,110	192,496
Garden bird project	48,312	33,065
	<u>795,291</u>	<u>274,857</u>
Charitable activities		
Publications	66,301	63,143
Royalties & lecture fees	4,998	8,387
Symposium	4,280	–
	<u>75,579</u>	<u>71,530</u>
Investment income		
Interest bearing deposits	54,520	59,131
Securities	112,778	121,775
	<u>167,298</u>	<u>180,906</u>
Total incoming resources	1,038,168	527,293
Resources expended:		
Costs of generating funds	38,077	39,603
Charitable activities	452,054	426,201
Governance costs	2,946	3,388
Other resources expended	166,532	151,975
	<u>659,609</u>	<u>621,167</u>
Total resources expended	659,609	621,167
Net (outgoing)/incoming resources for the year	378,559	(93,874)
Other recognised gains and losses:		
Net realised (loss)/gain on investments	(117,540)	207,459
Gain/(loss) on disposal of assets	1,285	(54)
Net income/expenditure for the year	262,304	113,531
Net unrealised (loss) on investments	(502,262)	(291,731)
Gain on revaluation of tangible fixed assets	–	240,000
Net movement in funds	(239,958)	61,800
Balance brought forward	5,452,315	5,390,515
Balance carried forward	5,212,357	5,452,315

BALANCE SHEET as at 31st March 2009

	2008/09 £	2007/08 £
Fixed assets:		
Tangible fixed assets	607,878	620,382
Investments	4,315,269	4,410,869
	<u>4,923,147</u>	<u>5,031,251</u>
Current assets:		
Debtors	55,011	84,381
Deposits at bank	522,477	633,343
Cash at bank & in hand	31,463	34,388
	<u>608,951</u>	<u>752,112</u>
Creditors:		
Amounts falling due within 1 year	(174,600)	(195,607)
Net current assets	434,351	556,505
Total assets less current liabilities	5,357,498	5,587,756
Creditors:		
Amounts falling due after more than 1 year	(145,141)	(135,441)
Net assets	5,212,357	5,452,315
Funds:		
Unrestricted	4,647,129	4,749,933
Designated	6,565	122,952
Restricted	558,663	579,430
	<u>5,212,357</u>	<u>5,452,315</u>

The summarised accounts were approved by Council and signed on their behalf on 9th July 2009



John H Pratt BVM&S DVSM FRCVS
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 9th July 2009.

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 2009.



Gianni, Neil & Co Ltd, Registered Auditors, London, 9th July 2009

Universities Federation for Animal Welfare

The Old School, Brewhouse Hill, Wheathampstead,
Hertfordshire AL4 8AN, UK

Tel: +44 (0)1582 831818; Fax: +44 (0)1582 831414;
website: www.ufaw.org.uk; Email: ufaw@ufaw.org.uk
Company Limited by Guarantee No. 579991
Registered in England Charity No. 207996

Vice-Presidents: Professor P H Holmes BVMS PhD MRCVS OBE
W M Brancker CBE DUniv FRCVS
I J Lean BSc PhD CBiol MIBiol
G D Sales BSc PhD AKC MIBiol DipTCDHE
Professor R S Anderson BVMS PhD MRCVS
J Sanford BVSc PhD FRCVS (deceased February 2009)

Council (who are the Directors of the Limited Company)

Chairman: J H Pratt BVM&S DVSM FRCVS*[^]
Vice-Chairman: M Radford OBE LLB[^]
Honorary Treasurer: M T Bird FCA*[^]
Members J C Anderson BVMS PhD DVM FRCPath FIBiol MRCVS
Professor R M Bennett BSc MSc PhD
Professor P M Biggs CBE DSc DVM FRCPath CBiol
FIBiol FRS FRCVS[^]
L A Brown BVSc BA PhD MBA FRCVS
B R Howard BVMS PhD MRCVS[^]
Professor K Kendrick BA PhD FIBiol
Professor V Molony BVSc MSc PhD MRCVS*
Professor A Nolan MVB DipECVA DipECVPT DVA
MRCVS*

A G Sains NDA CDA

*Member of the Grant Panel

[^]Member of the Finance Panel

Staff

Chief Executive
& **Scientific Director:** James K Kirkwood OBE BVSc PhD CBiol FIBiol MRCVS
Deputy Scientific
Director: Robert C Hubrecht BSc PhD CBiol FIBiol
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

Registered Auditors: Yianni, Neil & Co Ltd, Everlast House, 1 Cranbrook Lane, New Southgate, London N11 1PF, UK

Bankers: HSBC Bank plc, 171 Darkes Lane, Potters Bar, Herts EN6 1BU, UK
Barclays Bank plc, 33 Darkes Lane, Potters Bar, Herts EN6 1BA, UK
Alliance & Leicester Girobank, Bridle Road, Bootle G1R 0AA, UK
Bank of America, Westwood Village Branch, PO Box 37176, San Francisco, CA 94137-0001, USA

Solicitors: Bignalls Balderston Warren & Co, 11 Whitehorse Street, Baldock, Herts SG7 6PZ, UK
Hempsons, Hempson House, 40 Villiers Street, London WC2N 6NJ, UK
RadcliffesLeBrasseur, 5 Great College Street, London SW1P 3SJ, UK

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





The Universities Federation for Animal Welfare
The Old School, Brewhouse Hill, Wheathampstead, Herts. AL4 8AN, United Kingdom
Tel: +44(0)1582 831818, Fax: +44(0)1582 831414
Email: ufaw@ufaw.org.uk www.ufaw.org.uk
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