

'routine' by trainers with more experience. And yet, as the report rightly identifies, such individuals can have a profound influence, good or bad, on the development or prevention of problem behaviours. Despite this, but perhaps as a consequence of the low status, it is this group in which the requirement for education and experience is perceived to be the least but which, it could well be argued, should set the benchmark from which all other standards in this area derive.

Thus, the CAWC report is to be commended for highlighting the problems and issues that exist in this field of 'behaviour modification' and for laying out the challenges that face those looking for better regulation of this area. If tangible progress is to be made however, it is up to all those with an interest or investment in this area, trainers, 'behaviourists', veterinary surgeons, pet owners, animal rehoming charities, educational providers and the media, to identify their role in their resolution and to act appropriately. Models of best practice exist and have been identified, they now need to be adopted.

The Regulation of Companion Animal Services in Relation to Training and Behaviour Modification of Dogs (July 2008). 50 pp. A4. Companion Animal Welfare Council. Available from The CAWC Secretariat, The Dene, Old North Road, Bourn, Cambridge CB23 2TZ, UK or as specified at www.cawc.org.uk

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Migratory birds in research: animal user training

Taking the form of a power-point presentation with accompanying notes, this training module produced by the Canadian Council on Animal Care (CCAC) seeks to provide an introduction to the legal, ethical and safety considerations of working with migratory birds in research and conservation and to give details of publications and other suitable reference material from which further guidance can be sought. Within the module, there is discussion of issues relating to the planning of a study, the capture, restraint, health evaluation, banding and marking of birds, medical and surgical procedures, and the short-term housing and transportation, release and euthanasia of birds, amongst other subjects. As such, the module is a good overview and guide to anyone who is considering undertaking such projects for the first time and a reminder of the principles that should underlie practice for those already undertaking such work or who are involved in evaluating whether a project in this area should be given ethical approval to proceed. The report notes, however, that for those wishing to get involved in the actual trapping of birds, the information it contains needs to be complemented by further specialised practical and technical training and a good knowledge of the biology of the bird to be studied.

At the heart of the recommendations within the module is adherence to the principles of the Three Rs, which it believes can usefully guide practice. Acknowledging that whilst replacement of a species is not often likely to be possible, where possible, it suggests that thought should be

given to replacing a rare species with a more common one, depending upon the question being asked.

The first section, which deals with the planning undertaken in advance of a research project that requires the use of wild birds, establishes the approach that is taken throughout the rest of the module. It puts forward the principle that the safety of the birds should be given a higher priority than research considerations and that researchers should be prepared to abandon the study if adverse conditions arise. Other key considerations highlighted, include an understanding of all factors which affect both the quality of the data collected and the study species; the development of a protocol for what to do if a trapped bird is found to not be healthy or injured and consideration of ways of minimising disturbance that may lead to nest desertion or abandonment of territories, etc. Thought also needs to be given as to whether the procedures used in the project will have lasting negative effects on the study population. For any new approach, it recommends that pilot studies are undertaken so as to better judge such effects.

These and similar common themes are then developed in each of the remaining sections. With respect to when to trap, for example, the module notes that thought needs to be given as to the time of day, as diurnal birds released after nightfall may have difficulty finding a suitable roost and be vulnerable to predation, and to the time of year, eg birds in moult may have problems flying and during the nesting season birds are likely to be incubating eggs. For endangered species, minimising disturbance that might lead to nest desertion or increase the chances of predation are especially critical. Before undertaking the study, staffing levels also need to be sufficient to ensure that birds being caught are dealt with swiftly and effectively.

When choosing which method of capture to use, the module suggests that the effectiveness and impact of the method should be continually assessed, and reassessed if the combined injury/mortality rate exceeds 0.5%. When undertaking this assessment, it notes that consideration should be given to the underlying health of the birds prior to trapping and whether this is contributing to this rate. To aid this, some key indicators of health are given. Specific considerations relating to the use of different capture methods, eg mist nets, dip nets, bal-chatri raptor traps, etc, including frequency of monitoring and species of birds best trapped, are then detailed.

General principles and more specific concerns are then listed for the restraint of birds and their marking. For example, when using radio transmitters, the module states these must not exceed 5% of the pre-feeding/fasted body mass of the animal. The legal position and training required to band birds in North America is also outlined.

Throughout the remaining sections, the module continues to highlight areas that the researchers should be considering in advance of their study and monitor during its course and what should be considered good practice. For example, when taking blood samples, the module considers that for

most birds, up to 1% of bodyweight (eg, 1.0 ml per 100 g bird) can be collected with few negative effects, but no more than 2% over a two-week period. The jugular vein is highlighted as one of the most useful sites for venipuncture, as it is often in a relatively featherless area of skin and easily seen, but the collection of blood by nail-clipping is discouraged as it is painful and can be associated with significant haemorrhages. Also discouraged are the use of neck ligatures and emetics for collecting food samples and laparotomies, because of their negative impact on the animal. Release criteria in the form of a number of questions that should be considered are detailed. These include: Is this an appropriate bird for release or should it be rehabilitated or euthanised? Do the birds require a period of acclimation or reconditioning to prepare them for release? Because euthanasia may be the appropriate option, the module also reminds researchers that the appropriate method for the species being captured should be known and that necessary material and equipment should be readily at hand. In the case of animals whose carcass may contain residues of toxic chemicals, appropriate methods of disposal should be known, to ensure that environmental contamination and impact is minimised.

It is not only the health of the birds that the module considers but the precautions necessary to maintain that of those researchers. In addition to physical injury, from the stabbing beaks of loons and grebes to the talons of raptors, and chemical risks from any drugs or marking agents being used, the risk of zoonoses such as chlamydiosis, salmonellosis and tuberculosis, are highlighted.

Finally, a list of agencies and organisations that can provide suitable training within the US are listed, along with 5 pages of references.

Migratory Birds in Research: Animal User Training, Companion notes (April 2008). 45 pp. Canadian Council on Animal Care, Ottawa, Ontario, Canada. Available at: http://www.ccac.ca/en/CCAC_Programs/ETCC/PDFs/Bird_Module_handouts-EN.pdf.

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Australian National Health and Medical Research Council's guidelines on care of animals used in scientific research and teaching

In June 2008, the National Health and Medical Research Council (NHMRC) of Australia published new guidelines aimed at promoting the well-being of animals used for scientific purposes and at minimising experiences of pain and distress. These guidelines adhere to the principles of Replacement, Reduction and Refinement and emphasise the responsibility of those who use animals for scientific activities. In his letter announcing the publication of these guidelines, NHMRC Chief Executive, Warwick Anderson, noted that an expert committee carried out much of the development work and that the process included targeted and public consultations. The Guidelines are divided into three parts. Part 1 entitled 'Animal well-being and scientific outcomes' deals with

general principles and definitions, and outlines well-being, distress and pain and the effects of animal well-being on scientific outcomes. Part 2 is on 'Planning, conducting and reviewing research protocols to maximise well-being and minimise pain and distress in animals' and includes a checklist of 18 points (eg 'Determine whether alternative, non-animal techniques could be used', 'Provide animals with adequate pain management...', 'Learn the normal behaviour of the species and the signs of pain and distress') for promoting animal well-being.

Part 3 includes 14 'factsheets' on a range of specific topics from 'Administration of substances and behaviour modification' to 'Environmental enrichment strategies', 'Tumour induction' and 'Wildlife research'. The term 'factsheet' is a bit of a misnomer here as some of these run to many pages. There are sections on food and water intake modification, humane killing and euthanasia, and on pain management (anaesthesia, analgesia and anxiolytics) and all of these 'factsheets' provide valuable outlines of the topics and include references.

These guidelines provide a great deal of valuable information covering general principles and technical details. They are well-written, clearly-presented and easy to navigate. They are designed to be read by all those responsible for animals used in scientific procedures in Australia, in conjunction with the Australian code of conduct for the care and use of animals for scientific purposes, 2004. However, it seems likely that they will also be found to be a valuable source of information, more widely.

Guidelines to Promote the Well-being of Animals Used for Scientific Purposes: The Assessment and Alleviation of Pain and Distress in Research Animals (2008). c200 pp. A4. Australian Government, National Health and Medical Research Council. Copies available from the NHMRC, GPO Box 1421, Canberra ACT 2601, Australia, by email from nhmrc.publications@nhmrc.gov.au and available online at: <http://www.nhmrc.gov.au>.

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The implications of castration and tail docking for the welfare of lambs

Castration and tail docking have been routinely used in the farming and production of sheep for many years and in many parts of the world. The FAWC report does not go into the history of these practices but notes that tail docking is a traditional procedure on many farms. Several million lambs are castrated and many more are tail-docked each year in Britain.

In its 1994 report on the welfare of sheep, FAWC stated that "it is difficult to give general approval to any system of husbandry that relies on painful mutilations to sustain the system but we see no alternative until the results of research provide further guidance". Since then, there has been considerable research in the UK and New Zealand into the physical effects of castration and tail docking and into the pain and distress caused by these procedures. However, FAWC notes that although clear recommendations have been made (eg in the Code of Recommendations for the