

REPORTS AND COMMENTS

Welfare aspects of hunting red deer with hounds

Following long-running disputes between those in favour and those against the hunting of red deer with hounds on the lands it owns, the National Trust (a charity that owns and manages large amounts of land in the UK) commissioned Professor Patrick Bateson, Professor of Ethology and Provost of King's College, Cambridge, to study the welfare aspects of this form of deer hunting. The conclusion of the two-year study, which was scrutinized prior to publication by an independent panel of 14 eminent zoologists and veterinarians (including members nominated by bodies for and against deer hunting), was unambiguous: '...The study produced clear-cut scientific results. These show that lengthy hunts with hounds impose extreme stress on red deer and are likely to cause them great suffering. The hunts force them to experience conditions far outside the normal limits for their species....'. In the light of this report, the Council of the National Trust promptly and unanimously agreed on 11th April 1997 to end deer hunting with hounds on the lands it owns.

The report is informative, thorough and interesting. Professor Bateson's Research Assistant, Dr Elizabeth Bradshaw, lived and worked on Exmoor and the Quantock Hills for 18 months whilst collecting information about all aspects of red deer management and hunting. The study involved several approaches towards the assessment of welfare, including analysis of the hunts (their duration and distance, and pattern of kills); analysis of bullet-wounding rates by stalkers (for comparison); examination of physiological profiles of deer killed by hunting, shooting, and accidents (profiles of farmed deer were also collected for comparative reasons); and modelling of the welfare costs and benefits of different culling methods.

It was estimated that about 130 deer were killed each year by the hunts and that a further 100 animals escaped but endured unacceptable levels of suffering. The average distances and durations of observed hunts that resulted in kills were 16.5km and 3.1 hours for autumn stags, and 23km and 3.6 hours for spring stags respectively. Muscle samples taken at the time of death indicated that hunting often leads to complete depletion of glycogen. The behaviour of the animals also suggested complete exhaustion. Blood samples showed high levels of cortisol, β endorphin, and indicators of muscle damage, eg creatine kinase. It was also noted that there was a surprising degree of haemolysis. The strongest evidence for suffering came from new discoveries about the physiological state of the deer at the time of kill, and Professor Bateson noted that 'The scientific panel were unanimous in their view that hunting a deer makes demands upon the muscles to the limits of cellular capacity and approaching pathological levels.' Being a woodland species whose main predator used to be the wolf, that mainly hunts by ambushes and short chases, red deer have not evolved to cope with prolonged chases, therefore, hunting with hounds was considered, in the report, to be outside anything that might happen 'naturally in the course of their lives'. The consequences to welfare of a hunting ban are also considered in the report. Since typical wounding rates which occur when deer are culled by rifle are relatively low (only 5 per cent of shot deer are likely to escape wounded), it is argued that the scale of suffering resulting from this method of culling is likely to be much less when compared to the suffering caused by hunting.

As Professor Bateson noted in his foreword to the report, studying animal welfare scientifically is still in its early stages. This publication and the National Trust's immediate decisive action, represent significant landmarks in the application of this type of approach. The point is made in the report that the results, which are based on species-specific considerations of behaviour, ecology, physiology and reactions to stress, cannot be generally

applied to other species. It seems likely that there will be pressure for further research of this sort to investigate welfare aspects of other human-wild animal interactions.

The Behavioural and Physiological Effects of Culling Red Deer. Report to the Council of the National Trust. Bateson P (1997). The National Trust: London. 77pp. A4 softback. Obtainable from the Research Office, The National Trust, 36 Queen Anne's Gate, London SW1H 9AS, UK. Price £10 (including postage and packing).

Primate directory

This is a very useful information resource for primatologists. Its production represents a notable international effort. The directory is divided into five main sections and has four indexes. The main sections provide data on organizations, field studies, population-management groups, primate societies, and information resources. There are indexes for organizations, species, subjects, and names of individuals. Three hundred and seven organizations are listed and, for each, data are provided on contact addresses and telecommunication numbers, the mission, research programmes, species supported, key personnel, training opportunities provided, and other aspects. The section on population-management groups lists all the studbook and species programmes and includes a recent ISIS abstract containing data (numbers, sexes, locations) on all the primates kept in ISIS registered zoos and primate centres throughout the world. If you want to know, for example, where and how many *Callithrix geoffroyi* are maintained in captivity, this is a good place to start. The primate societies section contains the names and addresses of all the members of the International Primate Society and data on 27 other primate societies, including contact names and addresses, and details of their missions and activities. The final main section provides data on various primate information resources: information centres, resources for animal exchange and animal care supplies, details of internet-based information sources (Primate-talk, AskPrimate, and others), primatology web sites, journals and newsletters. The indexes make the directory very easy to use. Although there is much here of relevance to the subject, welfare is, regrettably, not listed as a subject heading in the index. This will be a valuable tool for many primatologists and would-be primatologists, and the price is very reasonable.

International Directory of Primatology, 3rd edition. Jacobsen L and Hamel R (eds) (1996). Wisconsin Regional Primate Research Center: Madison. 400pp. Softback. Obtainable from Larry Jacobsen, IDP Coordinator, Wisconsin Regional Primate Research Center, 1220 Capitol Court, Madison, WI 53715-1299, USA. Price \$25.00 (in USA), \$35.00 (surface mail outside USA), \$50.00 (air mail, outside North America).

Emergency killing of livestock

This is the nineteenth in a series of guidelines, produced by the New Zealand Ministry of Agriculture, on animal welfare issues. It is well laid out, easy to understand and follows a logical progression from a general introduction, through the principles and methods of killing, to special requirements for emergency slaughter.

The text on stunning, shooting and bleeding is summarized in two small tables, highlighting the various advantages and disadvantages of each method, according to different situations. These tables may have been more useful had they contained preferred methods of killing for each species, according to size, age, situation etc. The appendix consists of a series of line drawings (which will be familiar to readers of some UK publications), together with text, which shows the correct positions for shooting the various species with captive-bolt