

The use of cattle in this way is a type of reintroduction. The difficulties and dilemmas are basically the same as those arising when zoo animals are reintroduced, or when wild animals are translocated from one part of their range to restock areas from which they have been lost. However, the longer an animal has been in captivity/domesticated (a very long time in the case of cattle even of primitive breeds) the greater the level of responsibility for them is felt to be. The Dutch Society for the Protection of Animals (Nederlandse Vereniging tot Bescherming van Dieren) has been pondering these issues recently following cases in which cattle have been reintroduced to live wild in nature reserves in the Netherlands and recent reintroductions of otter and beaver in that country. The Society outlined its views in a recently published position statement. This states that, in general, it considers 'the introduction of animals into the wild, or initiatives to that end, ethically impure and ill-considered insofar as animal care is concerned'. Introductions, it maintains, focus 'on the instrumental value of the animal or a return to times past and...In many cases the interests of the animals themselves are ignored'. In the opinion of the Dutch Society for the Protection of Animals, reintroduction should not take place unless the procedure has important 'surplus value to the animal or to the ecosystem', and the care for the animals involved must be optimal.

The document discusses these ethical issues and also looks at the legal position regarding responsibilities to reintroduced animals as defined under the Dutch *Animal Health and Welfare Act*. It indicates different levels of responsibility for wild animal casualties: those occurring naturally, those caused by humans, and those in wild animals which are under human control.

Reintroductions are increasingly included as components of species conservation programmes around the world. The conflicts between conservation and individual animal welfare interests in these programmes have not received as much attention as the subject deserves, and this position statement from the Dutch Society for the Protection of Animals is a useful contribution to the debate.

Large Ungulates in Self-regulating Natural Sites: The Dutch Society for the Protection of Animals' Views. (Position statement of the Dutch Society for the Protection of Animals). Diederik van Liere (1999). Nederlandse Vereniging tot Bescherming van Dieren: The Hague. 6pp. Loose-leaf. Available from the publishers, Floris Grijpstraat 2, 2596 Den Haag, The Netherlands. Free.

Guidelines for environmental enrichment

In his introductory chapter in the newly published Association of British Wild Animal Keepers' (ABWAK) compilation of environmental enrichment techniques and devices, Dr Rob Young identifies the American primatologist Robert Yerkes as the first person to suggest the use of such devices. He cites Yerkes' 1925 quote: 'The greatest possibility for improvement in our provision for captive primates lies in the invention and installation of apparatus that can be used for play or work.' However, it is really only in the last couple of decades that the concept of environmental enrichment has been taken up widely and has come to be seen as a routine component of the husbandry of some laboratory, zoo, farm and other animals. There has been great interest in the subject in zoos, with a profusion of publications on ideas, techniques and devices aimed at enriching zoo animals' lives in recent years. The aim of this substantial ring-binder file is to provide a database of these resources that can be updated by addition of further pages which will be published as the subject evolves.

This is a substantial piece of work and its editor is to be congratulated on drawing it all together. The 18 chapters have been contributed by scientists and curatorial staff from a number of (mainly UK-based) zoos and other institutions. The introductory chapter provides an excellent historical perspective, review of the principles, and discussion of environmental enrichment in

relation to animal welfare and conservation. Chapters 2 to 15 cover environmental enrichment, animal group by animal group, including: fish, reptiles, birds, small carnivores, canids, bears, felids, hoofstock, elephants, marine mammals, marmosets and tamarins, New and Old World monkeys, and great apes. The final chapters are on measuring animal behaviour, the design and assessment of environmental enrichment studies, and further sources of information (including a variety of useful websites). The chapters on environmental enrichment techniques for each taxa are presented in a standard format including sections on enrichment through food and its presentation, enrichment through enclosure design, and social enrichment. Many include photographs and diagrams and each is fully referenced. Specific techniques are highlighted in text boxes and strategies applicable across the taxonomic group are identified in bold italics.

This is a most useful publication. It is very reasonably priced and deserves to be taken up widely by the zoo community on a global basis. To facilitate this, ABWAK has generously pledged to send one free copy to a zoo in a developing country for each one that is sold. It will help to advance animal welfare not only through providing a valuable source of ideas for enrichment methods that have already been evaluated, but also through encouraging and clearly explaining the importance and methodology of assessing the welfare impact of new techniques. Although its prime focus is on zoo animals, there is much here of relevance to the husbandry of species kept in laboratories and as pets.

Guidelines for Environmental Enrichment. Edited by David A Field (1998). The Association of British Wild Animal Keepers: Chester. 275pp. Loose-leaf file. Available from Mr Andrew Bagnall, ABWAK, c/o North of England Zoological Society, Upton, Chester CH2 1LH, UK; or e-mail: julie@chesterzoo.co.uk (ISBN 0952530740). Price £14.00 for the text and dividers or £15.00 for the guidelines assembled in a ring-binder.