

contamination in poultry production systems in Sweden and the Netherlands, and economic and legal aspects of marketing alternative poultry products. Many of these papers concentrate on experiences in central European poultry systems. The third section, Welfare of Turkeys, Waterfowl and Other Species, contains papers on the welfare of turkeys; the welfare of waterfowl; the welfare of Guinea fowl and game birds, and the welfare of domestic quail.

The section entitled Welfare of Broiler Stock contains papers on housing systems for broilers; stocking density, lighting programmes and food intake for broilers; problems associated with broiler breeder management; health problems in broiler production; catching and transport of broiler chickens and, finally, stunning procedures. The Free Papers chapter includes papers on such topics as modified cages, the behavioural effects of group size, effects of restricted feeding, dustbathing and feather pecking. The subjects of the posters are wide ranging.

The collection of papers is well presented, clear and concise. The editors have carried out a laudable task in structuring a wide range of topics. The diversity of the papers reflects the interest within the scientific community of the very important subject of poultry welfare. The content of many papers indicates that welfare problems associated with caged systems for laying hens are often replaced by other welfare problems in alternative systems, and that good design and management have significant roles to play in both systems. A move towards better understanding of the physical and behavioural needs of poultry is essential and the need to be able to translate the findings to commercial systems for improved human and bird welfare is paramount.

This symposium brought together scientists from wide-ranging backgrounds to provide an up-to-date presentation of their work. We must welcome symposia of this type where welfare problems can be discussed, preferably when possible solutions can be proposed. The resulting text is clear and the book is as well structured as could be expected given the diversity of the accepted papers. The presentation of the poster material is also well executed. This book is essential reading for those involved in poultry welfare and should be recommended reading in all colleges teaching poultry science and poultry welfare.

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Otters

Paul Chanin (1993). Whittet Books Ltd: London. 128pp. Hardback. Obtainable from the publishers, 18 Anley Road, London W14 0BY, UK (ISBN 0 905483 90 1) Price £7.99.

I was not familiar with this series of books on British Natural History, so my first reaction to *Otters* was one of surprise. The author is a serious scientist and wildlife researcher and yet here was a glossy volume with a pop-style format, cartoon-type drawings (black and white) and a chatty, sometimes jokey text. Enquiry revealed, however, that the series is aimed at 'the general interested layperson rather than the professional or academic', so Chanin must be congratulated on his adaptability. The result is easy to read and comprehensive, but perhaps I should point out that the style may not be appreciated by all readers of scientific journals such as this.

The factual content is excellent; an accumulation of just about everything that has been learnt about the British - or Eurasian - otter (*Lutra lutra*) up to the present time, with occasional diversions to other species of otter found elsewhere. Its solitary lifestyle and elusiveness make the British otter particularly difficult to study in the field, even in areas of comparative abundance.

The author concentrates mainly on the findings of field studies in the period since the late fifties and early sixties, when the decline in numbers of otters started to cause concern and a great public interest in this little-known mammal began. Incidentally, the latter also coincided with the publication of the best-selling book '*Ring of Bright Water*'.

The book is divided into 25 short sections with headings such as 'What are Otters?', 'How Long do Otters Live?' and 'Are Otters Pests?' and relies heavily on observations made largely in South-West England and coastal parts of Scotland. There is a massive accumulation of facts and theories and with such wide variation in terrain and in the individuality of both otters and observers, it is not surprising that repetitions and contradictions occur. Wisely, therefore, the author makes few hard and fast conclusions and the otter and its lifestyle remain almost as enigmatic as ever.

I was particularly interested in the section 'What do Otters Eat?' The answer, of course, depends upon location and what is most easily available. The commonest way of studying feeding habits is by analysis of the spraints, or droppings. These consist mainly of the partly-digested remains of prey, such as bones, scales, fur and feathers.

We are told that the Mammal Society has published comprehensive identification keys for use in spraint analysis, which must be a great boon to present-day naturalists. In the pioneering days of UFAW's work on the otter (1952-4), spraint analysis meant long hours of poring over skeletons in the Natural History Museum! We must remember, however, that even with keys, this method will not necessarily reveal a complete list of foods taken.

Most of us like to believe that the otter is not guilty of widespread damage to fishing, and several justifications for this theory are put forward. I would suggest that another should also have been included: for every pike or eel taken by an otter on game rivers, probably hundreds of immature salmon and trout are saved for another day. So could the otter be a benefactor after all?

The book takes us systematically through the stages and possible reasons for the otters' decline in population, but ends on a reservedly hopefully note. Dangerous insecticides have been withdrawn from use, hunting banned and consistent efforts by conservation groups have been made to re-establish favourable habitats, which had literally been destroyed in the name of progress. As a result, otter numbers have increased encouragingly in some areas, although sadly not yet in all. So perhaps, with continued care and common sense, there is reason for cautious optimism about the future of this lovable and elusive inhabitant of our waterways.

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