

Forum

Bushmeat and the biology of conservation

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At the 16th Annual Meeting of the Society for Conservation Biology in Canterbury, UK, in July 2002, the symposia on hunting and the conservation of exploited species included an impressively broad array of talks on theoretical models, field research and practical conservation management programmes. The speakers emphasized the severity of the already well publicized threat to hunted animal populations throughout much of the tropics, and as a whole attempted to grapple with the search for effective solutions to the problem.

Broadly speaking there are two types of approach, involving either the effective management of protected areas or the wider management of hunting and meat consumption patterns, to bring rates of offtake under control. The protected area approach clearly has an important role to play, but the long-term implications of concentrating on this alone appear to be the preservation of a few precarious islands of habitat with intact animal communities, surrounded by a sea of land containing few if any species. To avoid this, solutions must be found that allow animal populations to persist outside reserves. However, to entirely prevent hunting is not feasible (capacity for enforcement is weak or non-existent in many areas), ethically acceptable (where people living in poverty currently rely on it for income or food), or in principle necessary (wild species are, after all, a renewable resource).

We are therefore left with an imperative to find solutions involving sustainable use. This is a highly complex issue, and the successful implementation of the approach requires us to get the biological, economic, social and political frameworks simultaneously right. This will not be an easy task. What is needed is a thoroughly interdisciplinary way of thinking, bringing the best possible understanding from each of these fields to bear on the issue. Judging from the symposia in Canterbury there is a growing recognition of this.

However, there were occasions during the symposia when the biological angle appeared to be in danger of becoming sidelined.

Biology needs to remain at the heart of work on the conservation of exploited species because without it we are acting blindly. From an economic point of view it is essential to understand how the availability of a resource will respond to exploitation, and when the resource is biological the response will usually be complex. Without biological understanding we cannot begin to tackle this issue. Of course there is a huge body of ecological research that sheds light on this, but there is still much to learn. Even some of the most apparently simple applications of ecological theory to exploitation issues remain controversial. For example, simple indices of sustainability are frequently used to define safe offtake levels and to assess whether over-exploitation is occurring on the ground. These are crucial tools for the effective management of harvesting, but there is some doubt over whether many of the most frequently used indices have a sound biological basis, and whether they are therefore appropriate. Furthermore, all of these indices are based on very simple models that ignore many potentially important aspects of biology, including interspecific interactions, social and spatial structure, and other issues.

It is often argued that we know enough biology to get on with the job of conserving species. This is undoubtedly true to the extent that our biological knowledge, or lack of it, is not the most important factor limiting our ability to do effective conservation, but this does not mean that the push for improved biological input to conservation can therefore be scaled down. The threats from hunting are clearly too great and too imminent to wait for research to provide definitive answers, but biological questions remain at the heart of the issue, and cannot be ignored. The interdisciplinary bushmeat programmes of the future therefore need to maintain strong links with the results of the best available biological research. Biologists, for their part, need to engage with the wider issues if they are to remain aware of what tools and knowledge are needed in practice, and thereby provide part of the solution.

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