

Pines, Palms and Pandas

IN this issue, I have taken the somewhat unusual step of publishing a research proposal as a Forum Essay. This has been done for four reasons. First, the research proposed takes advantage of a unique and important opportunity to learn more about the genetics of isolated populations of Australian marsupials. An opportunity which was created by the destruction of a large area of native *Eucalyptus* forest during an era when forest authorities in Australia were pre-occupied with making Australia independent of foreign wood imports. It was also a time when Australian foresters were unsure of their ability to manage native forests sustainably. Thus, secondly, the study proposed provides an unanticipated benefit from an otherwise environmentally destructive and ill-conceived practice. Third, apart from attending conferences, there are few opportunities for researchers to present their research to a wide audience for comment before it is commenced or as progress reports. Finally, the publication of research results rarely allows authors the opportunity to fully disclose the intellectual (as opposed to the experimental) design of their research. It has been my long-standing opinion that these are serious omissions in the communication of ecological research, much of which is necessarily long term and final results slow in coming. I hope readers will take advantage of this opportunity and, as requested by the authors, either provide comment for publication or extend their views to the authors so that maximum benefit is gained from the research proposed.

On a different, but related, topic, one forest biologist from New South Wales took exception to some of my comments in the last editorial (*The enigma of biodiversity*), but has been reluctant to author a rebuttal. My interpretation of his concerns is that I was too critical of progress being made in forest management to protect forest biota from the effects of logging and other management practices and that I was wrong in stating that Australia's conservation reserve system is a failure. His view is that "it is probably the best in world! (certainly for forest ecosystems)". Even if it was true that Australia's conservation reserve system is the best, it does not mean it is comprehensive, adequate or representative or that it is not a failure.

The world's conservation reserve system leaves a great deal to be desired with very few nations (mainly European) meeting international targets of reserving 10% of their land area for conservation. Given that the 10% target is arbitrary, emphasizes area reserved and does not consider

representation or design, and has no theoretical or empirical validity (except being better than the old target of 5%), saying that Australia is the best in world leaves a great deal unanswered. At that, Australia falls short of the 10% target by a considerable margin and the system of forest reserves is widely accepted as unrepresentative of the forest estate. The design of the forest reserve system is also poor with too many small reserves, irregular and ecologically unsound boundaries, poor connectivity, and it fails to embrace privately owned forest. Admittedly, the situation is far worse for woodlands in agricultural areas and in the pastoral zone where farming practices, continued land clearing and grazing are greater threats to continental biodiversity than logging. Marine, estuarine and fresh water ecosystems are even more poorly protected and managed. Foresters can take solace in the fact that they are doing a better job than most land managers in Australia, but that does not mean logging, plantation establishment, and hazard reduction burning do not threaten forest biota or that these activities do not threaten the extinction of significant components of forest biodiversity.

As argued by Calver and his colleagues in this issue, there are ample reasons to take a more precautionary approach to the management of natural resources, including forests, than is presently the case. As the paper on New Caledonian palms makes clear, the threats to global biodiversity are widespread and embrace all human activities. With the continued growth of the world's human population, the increasing demands on all the world's resources to just provide the essentials of life threatens all living organisms. It is not enough to say that there are large areas of conservation reserves, or that no species has gone to extinction as a result of logging forests in Australia (a favourite claim of the timber products industry). It is necessary to demonstrate that there is no risk of extinction from human activities and that species retain their evolutionary potential. To me personally, this is the essence of precaution and I do not imply, as the forest biologist from New South Wales stated in his email, that the entire Australian continent needs to be declared a national park to conserve all species. We just need to be doing a better job at ecosystem management and we need to accept that sharing Australia and planet Earth with other species does mean forgoing the use and exploitation of significant amounts of the continent's and the world's resources. Otherwise, all we will have is Pandas.

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