Editorial

Marine Conservation

THIS issue of *Pacific Conservation Biology* is devoted to marine conservation. There are several reasons for this.

First, and probably most important, the area of estuaries, coastal waters and open ocean in the Pacific Region vastly exceeds the area of land, yet we hear very little about the conservation and management of marine resources. Almost all the papers submitted to *Pacific Conservation Biology*, for example, are concerned with the terrestrial environment. I hope that by devoting an issue to conservation biology others will be encouraged to comment on or submit papers concerning marine conservation biology.

Second, 1998 was the "Year of the Ocean" and Pat Hutching's Edith Cowan University Research Lecture offered an overview of marine conservation issues that will hopefully extend the "year" to a "century". For people living alongside and frequently surrounded by the Pacific Ocean nothing could be more appropriate or timely. We enter the new century confronted by the reality of global warming, rising sea levels and plunging stocks of marine fisheries.

Third, and not least, the 1998 Symposium of the Society of Conservation Biology at Macquarie University in Sydney, Australia hosted a very good symposium on marine seagrass conservation. The papers in this symposium go beyond the normal boundaries of the Pacific Region, but one could argue that Planet Earth is one ocean and bunch of islands. Seagrass conservation and management is especially important to people living in the Pacific and it seemed especially relevant to me to publish a symposium on seagrass conservation biology in *Pacific Conservation Biology*.

Paul Lavery, a noted seagrass ecologist, has written the first guest editorial for *Pacific Conservation Biology*. I plan to include such editorials as regular features and invite readers to indicate an interest in being a guest editorial writer.

HARRY F. RECHER

Guest Editorial

Marine Management: Marine Conservation

THE research papers in this volume highlight some of the major issues in marine conservation and offer some exciting insights into future directions for research and management. It is particularly pleasing that the issue focuses on seagrasses, a component of marine biodiversity that is well recognized and with profound ecological significance, but has suffered widespread decline in its distribution over the past half century. The absence of any accurate inventory of seagrass resources makes it difficult to accurately assess the cumulative impact of human activity on them. However, the need to conserve seagrasses is well recognized and it is exciting to see the significant advances being made in bringing conservation biology techniques to seagrass research. The work of Waycott and Kenworthy (this issue) is clearly showing dramatic differences in the life-history strategies, genetic diversity and population structure of different seagrasses. It suggests that seagrasses are far from the homogenous organism that they seem to have been viewed as up until now. This also supports findings elsewhere which suggest that many of the classic paradigms regarding seagrass biology and ecology are based on inappropriate generalizations from a few species. For example, the work of Paling and others (in this issue) challenges the generally held view that we are unlikely to be able to transplant temperate species of seagrass back into disturbed areas.

Marine managers, particularly in Australia, have been well aware of the benefits of pursuing habitat-based conservation for some time. However, with the current push to establish a comprehensive and representative marine reserves system, we are forced to question whether the presence of a habitat type in a marine reserve is an adequate strategy. As Waycott shows in her paper, simply ensuring that a seagrass habitat is included in a marine reserve does not ensure that the genetic or population diversity is captured. This may seem a well-trodden path in terrestrial conservation, but marine managers have been able to largely ignore the issue on the basis of an almost complete dearth of information on life-history strategies and population structure of marine plants. The work on seagrasses in this volume

shows that this need not be the case. The application to marine systems of conservation biology techniques common in terrestrial management is an exciting, emerging area of research and needs to be strongly encouraged.

However, the benefits that might be gained from focusing our efforts at the population level must be balanced against the inadequacy of our baseline inventory of marine habitats. Almost every government marine policy initiative in recent years has stressed the need for broad-scale inventory, yet we remain largely ignorant of our marine biodiversity as noted by Pat Hutchings in her essay. Even in Queensland, Australia where a specific mapping and inventory programme has been conducted, large areas of marine ecosystems remain unassessed. We are probably all aware of regional government efforts to produce inventories of marine habitats. However, marine conservation will be hampered by a poor sense of regional and inter-regional significance of marine biodiversity so long as we lack co-ordinated national inventories.

The recently published Strategic Research and Development Programme for seagrasses in Australia was a welcome initiative by the fishing industry to improve our understanding of habitats which support fisheries rather than on the fish stocks themselves. Since the publication of the strategy, there has been a conspicuous absence of action. Once again, it appears that this information need will be slowly filled by uncoordinated, small-scale projects, while the fishing industry and other users of marine biological diversity focus their attention elsewhere. This point is strongly supported by Pat Hutchings.

Perhaps this is partly due to the failure of scientists to embrace the full arsenal of approaches needed to gain community support for conservation. Wyllie-Echeverria and others (in this issue) provide a refreshing alternative to the legislative model commonly used to garner community support. Their account of the human use of seagrasses, even as late as the 1950s, is fascinating and lends weight to their argument that awareness of the past ethnobotanical significance of seagrass can alter community perception of its worth, even though it may no longer have direct economic value. In this particular case, it is the utilitarian and historical values of the seagrass that appeal to the community and have fuelled the desire for conservation. Espousing only the ecological values of biological resources may do little more than preach to the converted. But, as Wyllie-Echeverria, Arzel and Cox suggest, eulogising the former use of our biota may be appealing to those in the community who remain unconvinced. Their paper should encourage those ecologists and biologists who sense the value in reaching out to other disciplines.

PAUL LAVERY

Center for Ecosystem Management
Edith Cowan University, Joondalup
Western Australia