Editorial

The Future of Conservation in Polynesia

POLYNESIA is a part of the world where tourism, especially focused on rich coral reefs, is an important part of the economy. But from the viewpoint of both tourism and conservation biology, it is one of the most threatened areas of the world. Here the ethical issues are somewhat different. How long can this dependence continue and at what cost? What is the ethical planning course for the Region's national governments, not just in Polynesia, but throughout the Pacific? Like the general activities on the islands, tourism is heavily dependent on petroleum, both for bringing tourists and supplies and for maintaining them. Thus, the very industry that contributes so importantly to Polynesia's economic viability also contributes significantly to human-induced global warming. As a region, Polynesia is particularly threatened by the accelerating impacts of global warming. Virtually all the islands are threatened by sea level rise, the atolls by inundation, and the high islands by flooding of infrastructure that is concentrated in low coastal areas. There are also the risks of increased and more intense tropical storms, as well as the risks to ocean ecosystems from rising temperatures and the increased acidification of ocean waters.

Furthermore, much of the activity in the area is subsidized by New Zealand (Polynesian itself) and France, both of which are feeling economic pressures to lessen their support. Many of the biological attractions of the islands are themselves likely to disappear. Coral reefs throughout Polynesia are in great danger from ocean warming and acidification, not to mention overfishing, pollution and siltation from land development on the islands and accelerated sea level rise[1]. Many endemic birds, beloved of twitchers who are attracted to Polynesia to expand their life lists, face likely extinction from inundation and shrinkage of island area, and from warming that allows avian disease-carrying mosquitoes to extend their ranges.

Colonization of these Pacific islands by the Polynesians themselves, followed by people from Europe and Asia, and their commensal plants and animals have already seen a massive loss of avian biodiversity.[2] A concerted international effort will be needed to avoid further losses. Unfortunately there is little evidence that the Pacific's larger economies, such as Australia, Korea, Taiwan, Japan and the United States, are much interested in biodiversity conservation outside their own national boundaries. Australia's record of biodiversity conservation is among the world's worst, with a succession of governments preferring to grandstand on emotional and media driven issues, such as whaling, while doing far too little to protect Australia's own indigenous biota or take a lead in addressing the underlying causes of global warming and sea level rise. The other regional powerhouses are little better, with national emphasis on growth and profits and little concern for any impacts on the small nations of Polynesia, much less the Polynesian biota.

There seems to be a limited number of actions that could ameliorate the situation. One obviously would be to take advantage of Polynesian's classic seafaring abilities to expand the ability to move people around the archipelagoes on redesigned modern sailing vessels with only auxiliary power (perhaps solar). Polynesia would also be a fine area to start to put into service large tourist ships powered largely by computer-controlled sails. Any steps to lessen dependence on fossil fuels, which will become more expensive in any case, should lessen the impacts of a likely withdrawal of New Zealand and French subsidies as other nations realize the gigantic rises in their own costs already entrained in climate disruption and threatened by other aspects of global change.[3]

It goes without saying that all islands should make plans for moving infrastructure to higher areas, and begin the process as soon as possible. Fortunately, on the most low-lying islands planning for evacuation is already under way, but where these environmental refugees will be settled is far from clear. No effect of warming the planet is more certain than sea-level rise, with not just people, but entire cultures threatened. Moreover, there are signs that it will occur more rapidly than previously predicted, and the amount of rise will vary from place to place with factors such as ocean floor configuration. The next century or so will be a sad time for Polynesia and the rest of the world, but sensible planning would help ameliorate the impacts of global change.

[1]For an example of possible effects of sea level rise on island biodiversity, see Legra, L., Li, X and Peterson, A. T. 2008. Biodiversity consequences of sea level rise in New Guinea. *Pacific Conservation Biology* 14: 191–199.

[2]For details, see Steadman, D. W. 2006. Extinction & Biogeography of Tropical Pacific Birds. Chicago Univ. Press, Chicago.

[3]For an overview of these issues see P. R. Ehrlich and A. H. Ehrlich, The Dominant Animal: Human Evolution and the Environment (Island Press, 2008).

Leadership from the Pacific's most developed nations is needed. These wealthy nations have a long history of profiting from Polynesia's resources and have not always behaved in socially and environmentally responsible ways. The over-exploitation of resources, such as of phosphate deposits on Nauru[4] and the region's forests and fisheries, have left Polynesia poorer and less able to respond to changing environmental, social and economic conditions. This needs to be acknowledged and the resources, money, technology, as well as a place to live if needed, must be made available in a coordinated programme of international assistance. It should not be given as "aid" or even "help", but as a recognition of mutual responsibility and care for other places, their people, and other species. It can be done. Less money spent on military adventures and corporate bonuses would easily provide the finances and technology, while the sense of mutual care and responsibility will need to be addressed through changes in social and economic paradigms. It will take time to make the changes, but the sooner we begin, the more likely we will be able to make a difference.

Perhaps Polynesia provides an opportunity to take advantage of the world's current economic malaise. Use Polynesia to change how the world measures success and progress. Instead of measuring everything in monetary terms and expecting endless (mindless really) economic growth, we should measure world and national success by how well we have helped the less fortunate and given other species an opportunity to exist. The current economic downturn is not a threat; it is an opportunity.

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[4]See, Feary, S. 2008. Nauru — opportunity in loss. *Pacific Conservation Biology* 14: 238–9, for an example of both the misuse of resources in Polynesia by developed nations and an interesting opportunity to make amends.