

## Invasive species in the Pacific: looking under the water

Throughout the world, marine resource managers are in the process of setting up marine protected areas (MPAs), sanctuaries, estuarine reserves and fishing closures as a means to preserve our marine biodiversity and living resources. Given the high ecological value of these areas, the efforts undertaken and the funds disbursed to conserve it, biodiversity loss in such places is even more dramatic than in others. Invasive species do not recognise frontiers or MPA boundaries, yet very little is done to address the problem of alien invasive species in marine protected area planning and management. In the case of a marine protected area, invasions can pose serious threats and lead to dramatic impacts, particularly when management is unprepared for them.

Paradoxically, setting up a marine protected area may lead to an increase in risk of invasion. Indeed, setting an MPA generates a significant attraction to the area for marine tourism, including recreational boating, yachting, the diving and snorkelling industry, and where allowed, fishing. These activities are likely to lead to increased risks of introducing non-indigenous marine species associated with hull fouling, ballast water (of some cruising yachts), the accidental transfer of species via anchor wells and chains, on wetsuits as spores or microscopic phases, and as bait material from recreational fishing.

In pursuing our work on marine invasive species, the IUCN Global Marine Programme joined forces with our newly-established Oceania Regional Office to organise two workshops tackling different aspects of management of this threat in the Pacific region. From 23-27 July 2007, IUCN co-hosted a marine invasive species survey and training workshop with the Palau National Invasive Species Committee (NISC) and in collaboration with the Australian Maritime College. The project partners undertook a training survey exercise for key local agencies, both governmental and non-government. The training included theoretical and applied methods, and specifically covered the Hewitt and Martin protocols (Hewitt and Martin 1996, 2001), with further information provided during the workshop on alternative protocols such as the RAS surveys, the Bishop Museum protocols, the Chilean aquaculture survey protocols, and passive sampling. A component of the training included in-water training of methods and post-survey taxonomic sorting and species identification.

A baseline survey plan that identifies the priority areas to be sampled with the aim of detecting introduced species and providing spatial distribution data for the detected species was developed through discussion with workshop participants who provided the local and heuristic knowledge. Participants also developed recommendations for policies and procedures for the national government to enact to prevent the introduction of marine invasive species, and/or to control any such species which have been introduced into the Republic.

The Palau event follows on the heels of another capacity-building programme that IUCN hosted from 12 to 15 March 2007 in Apia, Western Samoa, in collaboration with the Pacific Invasives Learning Network (PILN) and the Samoan Ministry of Natural Resources and Environment. It aimed at raising awareness on marine invasive species (including their biology, their potential impacts and regulations developed to limit these impacts), and building capacity on survey methodology and options for the control and management of invasive species in the marine environment. It was particularly targeted to help empowering MPA managers to tackle invasive species in the Pacific region and was attended by some 20 participants from 9 countries in the region.

Control and prevention of invasive alien species have been identified as one of the major environmental issues facing Pacific Island Countries, with strong links to sustainable development in the region, as recognised in the Action Strategy for Nature Conservation in the Pacific Islands Region 2003 – 2007 and National Biodiversity Strategies and Action Plans throughout the Pacific region. However most of the action undertaken in the Pacific Islands relate to the terrestrial realm of invasive species.

The Pacific Islands and territories occupy more than 38 million square kilometres of the Pacific Ocean in their national waters and Exclusive Economic Zones. Less than 2% of the Pacific region is land and a significant part of the islands' economy relies on the use of the marine environment.

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