ReefBase Newsletter – October 2009

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In this issue

ReefBase Publication Database

1. The impact of artisanal fishing on coral reef fish health in Hat Thai Mueang, Phang-nga Province, Southern Thailand

- This study investigates whether there has been a decline in fish stocks of a coral reef in Thailand, and if so, whether that decline is due to small-scale fishing. The research methods used included fish sampling by UVC, interviews and questionnaires with key informants and artisanal fishers. The results confirmed that there has been a decline in piscivores and carnivores (though not herbivores), and the main perceived threat came not from artisanal but from commercial fishing. Recommendations are to replace the largely unrestricted fishery with a more regulated regime backed by effective enforcement.

Jonesa, E., T. Gray and C. Umponstirad. 2009. The impact of artisanal fishing on coral reef fish health in Hat Thai Mueang, Phang-nga Province, Southern Thailand. Marine Policy, Volume 33, Issue 4, 544-552 pp.
http://www.reefbase.org/resource_center/publication/main.aspx?refid=27460&linksource=nl

2. Addressing the coral reef crisis in developing countries

- Coral reefs, the storehouses of much of the world's marine biodiversity, and the source of many socio-economic benefits, are in decline worldwide. The causes of the 'coral reef crisis' are complex but there is general agreement that two broad categories of stress are involved: global-scale climatic changes induced by production of greenhouse gases, and local-scale impacts. The major feature of climate change affecting coral reefs is rising sea temperature, which has caused widespread coral bleaching and is implicated in increased occurrence of coral diseases and reduced rates of calcification. Local impacts on coral reefs stem from natural phenomena, such as storms, and from human populations in coastal areas, which are large and growing.

  The local human impacts include increased nutrient and sediment loads, habitat modification, destructive fishing and chronic overfishing. The losses of biodiversity, and lost opportunities for coastal communities to earn sustainable incomes from coral reefs, that can result from local human impacts are illustrated by blast, cyanide and muro-ami fishing. These destructive methods reduce the physical complexity and live coral cover of reefs and, because degraded reefs support fewer fish, ultimately remove the basis for long-term fish productivity. In Indonesia alone, blast fishing is estimated to have resulted in a loss of US$3.8 billion over 25 years.

Bell, J.D., B.D. Ratner, I. Stobutzki, J. Oliver. 2006. Addressing the coral reef crisis in developing countries. Ocean & Coastal Management 49 (2006) 976–985pp.
http://www.reefbase.org/resource_center/publication/main.aspx?refid=26495&linksource=nl

3. Migration and coastal resource use in Papua New Guinea

- Human migration is a considerable issue for many coastal societies, affecting the ways that people use and manage natural resources. This paper examines reasons for migration in 14 coastal communities in Papua New Guinea (PNG) and compares coastal resource use and socioeconomic conditions between migrants and non-migrants to test the hypothesis that migrants have different levels of coastal resource use than non-migrants. Migrants had lower participation in the fishery, ranked fishing as a less important livelihood strategy, and had lower involvement in village decision-making, but had higher levels of human development. Common property systems such as tenure rights may prevent migrants from accessing marine resources. However, migrants' marginalization in decision-making processes may become increasingly contested where resources are scarce and migrants desire an increasing say in how they are allocated. The current limited use of coastal resources by migrants may be a latent problem that needs to be considered by resource managers, particularly in areas where rapid socioeconomic change is occurring and tenure institutions are fragile.

Cinner,J.E. 2009. Migration and coastal resource use in Papua New Guinea. Ocean & Coastal Management, Volume 52 (8): 411-416 pp.
http://www.reefbase.org/resource_center/publication/main.aspx?refid=27728&linksource=nl

4. Planning a marine protected area at Chinwan, Penghu, Taiwan

- Historically, martial law in Taiwan severely restricted access to and use of coastal areas. Since the martial law was lifted in 1987, the government has permitted more than 80 development projects in coastal areas throughout Taiwan. However, rapid growth and overexploitation have led to significant degradation of oceanic and coastal environments. To protect and sustain marine ecosystem functions, species, and habitats, proactive conservation measures are needed. One of the most effective measures is the establishment of marine protected areas (MPAs). In this paper, we introduce the current situation of protected areas in Taiwan. We then discuss the general concepts of MPAs, describe the characteristics of Chinwan in the Penghu archipelago, and conclude with lessons learned from the attempt to establish an MPA at Chinwan.

Yi-Che S., and C. Wen-Yau. 2009. Planning a marine protected area at Chinwan, Penghu, Taiwan. Ocean & Coastal Management Volume 52 (8): 433-438pp.
http://www.reefbase.org/resource_center/publication/main.aspx?refid=27729&linksource=nl

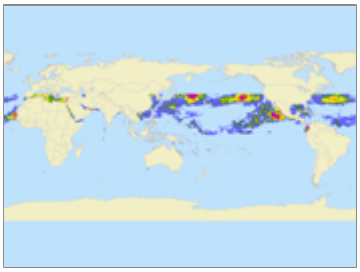
5. A process to design a network of marine no-take areas: Lessons from the Great Barrier Reef

- In the absence of consensus on the quantity and level of zoning protection required for coral reef and lagoon ecosystems, which process can guide decision makers? The Great Barrier Reef Marine Park Authority (GBRMPA) worked with experts in a collaborative process to develop a set of Biophysical Operational Principles to guide the design of a network of no-take areas. First, 82 expert scientists were asked to provide data and advice on the physical, biological and ecological dimensions of the Great Barrier Reef ecosystem. They recommended that an independent Scientific Steering Committee (the Committee) was set up. How this Committee worked successfully with the GBRMPA staff is detailed here in a manner to enable other resource managers to adopt the process if they are working in data-limited marine environments.

Fernandesa, L., J. Daya, B. Kerrigana, D. Breena, G. De'athb, B. Mapstonec, R. Colesd, T. Doneb, H. Marsh, I. Poiner, T. Ward, D. Williams and R. Kenchington. 2009. A process to design a network of marine no-take areas: Lessons from the Great Barrier Reef. Ocean & Coastal Management, Volume 52 (8): 439-447pp.
http://www.reefbase.org/resource_center/publication/main.aspx?refid=27730&linksource=nl

Online GIS

1. September 2009 NOAA Coral Reef Watch's Satellite Monitoring Products



This map shows the global observations of coral bleaching occurrences combined with NOAA Coral Reef Watch's satellite monitoring products including Sea Surface Temperature, Sea Surface Temperature Anomaly, Bleaching HotSpot and Degree Heating Weeks. These datasets are added into ReefBase Online GIS each month.
To view the latest September 2009 maps, click here.
http://reefgis.reefbase.org/redirect.aspx?urlid=46802&linksource=nl