

ReefBase Newsletter – April 2012



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Announcements

1. First fish App from the Smithsonian free on iTunes. "The Smithsonian Guide to the Shore Fishes of the Tropical Eastern Pacific"

Smithsonian Tropical Research Institute has released the first, completely portable, bilingual species identification guide for the Tropical Eastern Pacific as a free iPhone application. Unique fish-finding and list-making tools provide powerful resources for scientists, divers and tour guides. The Tropical Eastern Pacific, spanning Baja California to Ecuador and the Galapagos, is one of three great global centers of marine biodiversity. Until the 1990's there was no region-level guide to the fishes of that area. The iPhone application evolved from the book "Fishes of the Tropical Eastern Pacific," published in 1994 by Gerald R. Allen and Robertson. This App contains tools to identify and record information about virtually all species of shallow-living marine shore-fishes currently known from the Tropical Eastern Pacific. That region spans the Gulf of California to northern Peru, and includes 5 offshore islands and archipelagos, among them the Galapagos. This App, the world's first App to provide complete coverage of an entire regional shore-fish fauna, includes 1, 297 species from 149 families. To aid in the identification of those species it incorporates 3,674 images, the great majority of them color photographs of live or freshly collected fish.

Read more about the app at <http://smithsonian.org> or find the app in the iTunes store by searching "fishes east pacific".

2. Coral Bleaching Update

- Recent study on coral reef adaptation to thermal stress

Recent study has evidenced that some coral species may be able to adapt to warmer Ocean. This finding was from the study by international coral reef scientist published in PLOS One journal which reported that coral population which unexpectedly survives from a massive bleaching in 2010 was previously experienced severely bleaching in 1998 event. The study was conducted in three sites in Indonesia, Malaysia and Singapore. At one in Indonesia that had not bleached previously, corals responded typically to warmer water. There, fast-growing branching coral species—such as Acropora—suffered severe die-offs. But at two sites in Singapore and Malaysia that had bleached in 1998, this pattern was reversed, with normally susceptible Acropora colonies appearing healthy while massive slow-growing corals, such as Porites were heavily damaged.

To get more detail about this study, please read the report by:

James R. Guest, Andrew H. Baird, Jeffrey A. Maynard, Efin Muttaqin, Alasdair J. Edwards, Stuart J. Campbell, Katie Yewdall, Yang Amri Affendi, Loke Ming Chou. Contrasting Patterns of Coral Bleaching Susceptibility in 2010 Suggest an Adaptive Response to Thermal Stress. PLoS ONE, 2012; 7 (3): e33353 DOI: <http://dx.doi.org/10.1371/journal.pone.0033353>

- Andaman reef dive will remain close until the bleached coral recover

Seven popular dive sites in the Andaman Sea will be closed for at least six more months to allow coral damaged by bleaching to recover. The National Parks Wildlife and Plant Conservation Department ordered the temporary closure of 18 diving sites at seven marine national parks in the Andaman Sea in January last year because of the coral bleaching phenomenon.

Eleven of the sites were reopened to tourists in November after inspections found the coral had recovered to a satisfactory degree. However, the officials decided to extend the closure of seven sites at three marine national parks as the coral there remained in poor condition. The closed sites are Koh Hin Ngam, Hat Sai Khao, eastern Koh Dong, southern Koh Dong and Koh Ta Kieng at Tarutao Marine

National Park in Satun province; Koh Chuek at Hat Chao Mai National Park in Trang; and Hin Klang at Nopparat Tara-Mu Koh Phi Phi National Park in Krabi province.

Detail information can be found by clicking

<http://www.bangkokpost.com/news/local/279408/dive-sites-to-remain-closed-so-bleached-coral-may-recover>

ReefBase Publication Database

1. Biophysical principles for designing resilient networks of marine protected areas to integrate fisheries, biodiversity and climate change objectives in the Coral Triangle

- The Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF) and its six member countries (CT6) have committed to establishing a Coral Triangle Marine Protected Area System, applying an ecosystem approach to fisheries management, and applying climate change adaptation measures. Developing a robust and practical set of principles to underpin establishment of marine protected area networks that contribute meaningfully to food security, biodiversity conservation and climate change resilience is an important part of contributing to that challenge. Fisheries are one of the most important ecosystem services benefiting the communities of the Coral Triangle (CT). Overfishing and loss of key habitats is severely undermining the long term sustainability and food security of the region. This trend, if allowed to continue unabated, will result in escalating hardship and economic instability. It will also impact the globally significant marine biodiversity of the region and reduce resilience to climate change and other external impacts. Developing improved methods for applying marine protected areas to contribute to food security and livelihoods is a key challenge for all concerned with managing the fisheries and biodiversity of the CT. The USAID funded Coral Triangle Support Partnership (CTSP) is a five-year project to provide technical support to the CT6 in achieving their goals. The CTSP is the part of USAID's support to the CTI, along with the US National Oceanic and Atmospheric Administration (NOAA), the US Department of State, and additional contract support through a Program Integrator. One of the primary objectives of the Regional CTI Plan of Action (RPOA) is the establishment of a regional Coral Triangle Marine Protected Area System (CTMPAS) that protects "each major near-shore habitat type within the Coral Triangle Region (e.g. coral reefs, seagrass beds, mangroves, beaches, coastal forests, wetland areas and marine/offshore habitat)". This objective is mirrored in each CT country's National Plan of Action (NPOA). In line with the RPOA and NPOA, CTSP's support for the CTMPAS focuses upon the nearshore habitats of the CT.

Fernandes, L, Green, A., Tanzer, J., White, A., Alino,P.M., Jompa, J., Lokani, P., Soemodinoto,A., Knight, M., Pomeroy, B., Possingham, H., Pressey, B. 2012. Biophysical principles for designing resilient networks of marine protected areas to integrate fisheries, biodiversity and climate change objectives in the Coral Triangle. Report prepared by The Nature Conservancy for the Coral Triangle Support Partnership, 152 pp.

http://www.reefbase.org/resource_center/publication/main.aspx?refid=77491&linksource=n1

2. Integrating Fisheries, Biodiversity, and Climate Change Objectives into Marine Protected Area Network Design in the Coral Triangle

- USAID's Coral Triangle Support Partnership completed a scoping study on March 15, 2012 that identified major scientific gaps that need to be addressed to establish and manage an effective marine protected area (MPA) system in the Coral Triangle. These include the need for scientific data to understand key biological and physical factors necessary for MPA network design such as ocean currents, habitat types, spawning and nesting areas, among others. It also noted the need for scientific assessments to understand social factors such as attitudes and beliefs on the marine environment, traditional knowledge, and customary marine tenure systems. The study interviewed 150 representatives from government, non-government organizations and scientific institutions working in the Coral Triangle. It will guide decision makers and development partners in providing targeted

technical assistance to ensure that the scientific needs are addressed at the community, national and regional level. The study has a list of scientists who are willing to provide technical assistance as the need arises.

Green, A., White, A., Tanzer, J. 2012 Integrating fisheries, biodiversity, and climate change objectives into marine protected area network design in the Coral Triangle. Report prepared by The Nature Conservancy for the Coral Triangle Support Partnership, 105 pp.

http://www.reefbase.org/resource_center/publication/main.aspx?refid=77502&linksource=n

3. Marine Turtle Status in Northeast Semporna Priority Conservation Area

- Semporna Priority Conservation Area (PCA) of the Sulu-Sulawesi Marine Ecoregion (SSME) is known for its extremely high coral and fish richness, productive marine habitats, intact ecosystem of Sipadan Island Park and frequently used migratory pathway of many charismatic species including marine turtles. Despite their abundance, the status of marine turtles in Semporna is largely unknown and is limited to several studies on populations and human-turtle interactions. Hence, between November 2009 and April 2010, an assessment was carried out by WWF-Malaysia with island communities and resort operators to address the gaps in information. WWF-Malaysia surveyed six islands located in the northeast of the Semporna PCA. The number of species, distribution, nesting abundance, nesting season, and threats of marine turtles in the area were qualitatively investigated through stakeholder interviews and rapid surveys. The results of this assessment will be used as a baseline for monitoring as well as conservation planning and management of marine turtles in the Semporna PCA. Recommendations and next steps suggested include habitat protection, nest protection (eggs and hatchlings), education and awareness, and long-term monitoring programme, as well as collaborative and responsible eco-tourism.

Jolis, Gavin & Kassem, Ken. (2011). Marine Turtle Status in Northeast Semporna Priority Conservation Area. Kota Kinabalu, Malaysia: WWF-Malaysia.

http://www.reefbase.org/resource_center/publication/main.aspx?refid=77503&linksource=n

4. Science-based Guidelines for MPAs and MPA Networks in Canada

- The purpose of this document is to provide guidelines for effective networks of MPAs throughout Canada's three oceans. The approach is based on scientific understanding of marine ecosystems and of human interactions with them, integrating knowledge from the biophysical and social sciences. The guidelines also reflect the prominent place of Canada's Aboriginal peoples in the stewardship of our oceans. The guidelines are organized into four thematic categories: ecological criteria; social, cultural and economic considerations; MPAs in context; and governance. Within each category several guidelines are presented, typically with a definition, rationale, and references. Our intended audiences for this document are MPA practitioners, managers, policy- and decision-makers, Aboriginal leaders and organizations, marine conservationists, fishermen, and other stakeholders.

Jessen, S., K. Chan, I. Côté, P. Dearden, E. De Santo, M.J. Fortin, F. Guichard, W. Haider, G. Jamieson, D.L. Kramer, A. McCrea-Strub, M. Mulrennan, W.A. Montevecchi, J. Roff, A. Salomon, J. Gardner, L. Honka, R. Menafra and A. Woodley. 2011. Science-based Guidelines for MPAs and MPA Networks in Canada. Vancouver: Canadian Parks and Wilderness Society. 58 pp.

http://www.reefbase.org/resource_center/publication/main.aspx?refid=77504&linksource=n

5. Total Economic Value for Protecting and Restoring Hawaiian Coral Reef Ecosystems

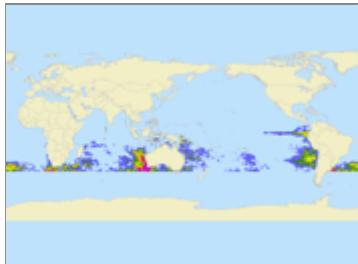
- This report documents results of a study commissioned by the National Oceanic and Atmospheric Administration (NOAA) to improve methods for measuring the economic values that the U.S. public places on the protection and restoration of coral reef ecosystems. The work focused on the coral reefs of Hawaii. These reefs are obviously of economic importance to both the state and the nation, yet there has been less economic research focused on the reefs of Hawaii compared to other parts of the United States, particularly Florida, in the past. Several human activities impinge on Hawaii's coral reefs. In order to gain insights into the public's values for coral reef protection and restoration, the study focused on impacts from fishing and damage to reefs from ship accidents.

Richard C. Bishop, David J. Chapman, Barbara J. Kanninen, Jon A. Krosnick, Bob Leeworthy, and Norman F. Meade. 2011. Total Economic Value for Protecting and Restoring Hawaiian Coral Reef Ecosystems: Final Report. Silver Spring, MD: NOAA Office of National Marine Sanctuaries, Office of Response and Restoration, and Coral Reef Conservation Program. NOAA Technical Memorandum CRCP 16. 406 pp

http://www.reefbase.org/resource_center/publication/main.aspx?refid=77506&linksource=n

Online GIS

1. March 2012 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 March 2012 maps, click [here](#).

<http://reefgis.reefbase.org/redirect.aspx?urlid=51075&linksource=n>

ReefBase::A Global Information System For Coral Reefs

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