

Coral Reef Conservation and the Department of Defense



Accomplishments in 2004

March, 2005
Coral Reef Task Force Meeting

Coral Reef Surveys



New Surveys Completed

- Okinawa – detailed survey used to update the Integrated Natural Resource Management Plan (INRMP)
- Diego Garcia – detailed survey will be used for INRMP, and for British Government conservation decisions



- Kilo Wharf, Apra Harbor, Guam – detailed survey will be used for planning wharf expansion, very high quality reef with large and old corals in good health

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Coral Reef Monitoring



Monitoring Continuing Activities

- Routinely monitor coral during on-going activities



For example:

- Marine Corps Base Hawaii – monitoring impacts associated with demonstration buoy generating electricity from wave energy
- Inner Apra Harbor Entrance Channel, Guam – Rapid Ecological Assessment applied to evaluate pre- and post-maintenance dredging coral reef habitat

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Modeling



Saipan Anchorage and Apra Harbor, Guam

- Collecting current, sediment and wave data in both locations
- DoD will use data to plan improvements to minimize impacts on existing habitat
- Also collaborating with NMFS to collect and process high-resolution bathymetry for 3D images of Saipan Anchorage

Survey Highlights



Results from Diego Garcia Survey

- Flourishing coral reef ecosystem
- Finfish populations are large, diverse and mature



Bluefin Trevally

Diver

- Threatened species, such as Napoleon Wrasse, have a strong presence

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Survey Highlights



Results from Okinawa Survey

- Areas around military piers at White Beach (in Katsuren Wan) and Tengan Pier (in Kin Wan) studied
- Found healthy and diverse ecosystems around military piers
- Military piers are acting as *de facto* mini sanctuaries



DoD Reef Protection



Restricted Access = Sanctuary Effect

- Studies reported last year showed evidence of “sanctuary effect” at Vieques and Culebra Islands, Johnston and Wake Atolls
- Additional surveys show similar results at Okinawa, Diego Garcia, and Pearl Harbor Entrance Channel
- DoD will continue to restrict recreational and commercial fishing, diving, and collecting



Data Management



Environmental Information Management System (EIMS)

- EIMS provides capabilities to “mine” data for download or for use on-line
- Utilizes commercial off the shelf (COTS) software including ArcMap, ArcCatalog, and ArcToolbox
- Facilitates identification of environmental issues requiring regulatory consultation and/or mitigations



Technology Development



Developing Reef Monitoring Technology

- Determine the biochemical changes associated with thermal bleaching
- Design new remote sensing technology to measure the biochemical changes
- Provide a rapid, sensitive tool to diagnose the susceptibility of corals to thermally-induced bleaching

Technology Development

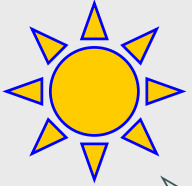


Developing Reef Monitoring Technology




- Test Remotely Operated Vehicles (ROVs) with advanced digital video to map and inventory reefs
- Create an index of reef health based on color proteins in corals
- Use hi-tech spectroscopy to monitor reef health without invasive techniques

Future



DoD in 2005

- Develop a Strategic Plan
 - Build from data gathered to date
 - Identify priorities for survey and management
- Support Executive Order 13352, “Facilitation of Cooperative Conservation”
- Continue to conduct surveys and assessments

A vibrant underwater scene featuring a large school of colorful fish, including blue tangs and yellow tangs, swimming over a diverse coral reef. The water is clear and blue, with sunlight filtering through from above.

Presented by
Mr. Don Schregardus,
Deputy Assistant Secretary of the Navy,
Installations and Environment

Photographs from U.S. Navy field studies and news photo files.

For more details about the work reported here, please contact:

Lorri Schwartz at lorri.schwartz@navy.mil

or Susan Levitt at susan.levitt@ps.net