

PUBLIC COMMENT: USGS ACTIVITIES ON CORAL REEFS IN THE PACIFIC REALM

Statement to the U.S. Commission on Ocean Policy

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William Mokahi Steiner, Director
US Geological Survey, Biological Resources Discipline (USGS-BRD)
Pacific Island Ecosystems Research Center
3190 Maile Way, St. John Hall 408
Honolulu, Hawaii 96822 (email = bill_Steiner@usgs.gov, ph. = 808-9856-5691)

MANDATE: The USGS mission in the Pacific is to provide unbiased information to Department of Interior Land and Marine Managers enabling their long-term management of the natural resource base of the United States. As such, the USGS-BRD acts as the research arm for the U.S. Fish and Wildlife Service and the U.S. National Park System, the two primary DOI resource managers for terrestrial and marine parks and refuges in the Pacific Basin.

ISSUES: Dr. Charles Birkeland is presenting by invitation a *status and issues statement* concerning coral reefs to the COP earlier today. In summary, issues on coral reefs in the Pacific are similar as those in the Caribbean. They include: anthropogenic impacts such as over-harvest, sedimentation, agricultural runoff, fouling, poor management of tourist activities, etc. Natural disasters also strike Pacific Reefs, including outbreaks of damaging species like Crown of Thorns starfish, disease occurrences such as seen in the Caribbean, and invasion by foreign species that in Hawaii takes the form of several species of algae that over run healthy reefs. Long-term changes are also underway or predicted related to global climate change and ocean rise. These changes can be found affecting the DOI parks and refuges in the Pacific and impact in-shore management approaches as a result. These affects cost minimally about \$2.5 million/year to manage across agencies that currently do not provide for large research support into cause and relationship issues.

ACTIVITIES: USGS currently is conducting studies on Pagan Island for the Government of the Commonwealth of the Northern Mariana Islands (CNMI) preliminary to reoccupation of this volcanic outlier by interested CNMI components. Deserted for 20+ years, the island has an active volcano on-site. Integrated studies here of hydrology, geology and biology call on many unique aspects of USGS science. In the ocean realm, USGS is studying how volcanic extrusion has affected in-shore coral reef structure and life. Off Molokai, USGS geology experts are leading an integrated effort between state and Federal agencies to study sedimentation impact on a local reef flat. USGS is involved in supporting information assessments and compilation through its Pacific Basin Information Node, part of the National Biological Informatics Infrastructure, which is working to link distributed databases in Australia, New Zealand, the former Trust Territories, Japan and Hawaii to allow faster, direct transfer of information, building of metadata support of participants, and modeling of data as it comes on line. Geo-referencing and GIS models are also supported. USGS marine researchers have a long term history of study of North West Hawaiian Island (NWHI) Refuge fisheries, local fisheries around the major Hawaiian islands, and research through out the Pacific on Coral Reef issues, most recently in American Samoa National Park. The distribution, occurrences, and causes of papiloma virus in turtles and coral reef diseases area also under study by USGS researchers.

NEEDS: The scope of COP recommendations include those regarding facility needs and Federal activities. In this regard, the following needs as viewed from this office would go far to facilitate Federal research on marine stewardship issues in the Pacific:

1. Immediate funding for creation of a USGS facilities infrastructure program to build a set of marine research laboratories associated with DOI Parks and Refuges in American Samoa, Palau (former Trust Territories), Midway (NWHI FWS Refuge), Palmyra Atoll (developing USFWS Refuge), and Hilo Bay (Pacific Aquaculture and Coastal Resources Center, University of Hawaii-Hilo). These labs in the Pacific would not only serve the local refuges and marine parks, they could also serve as key centers to conduct deeper ocean surveys by NOAA and others and would serve as “Centers of Opportunity” and as a part of the NOAA ocean observing system designed to observe change in the marine world linked to U.S. interests.

2. Immediate creation of a \$10 million/year program within USGS aimed at biological support in the marine realm for DOI managers of marine resources. These funds should be split between the Caribbean and the Pacific and should be aimed at research to support biological resource management especially in U.S. National Parks and Marine Refuges.

3. Federal Law should be modified to the extent not done so already to make it easier for Universities, NGOs, business interests and Federal Agencies to interact by passing through of funds, student and faculty support, and long-time joint funding through leveraging or direct funding of long-term research projects aimed at studying change over decadal time periods. This might include creation of a grant fund source similar to NSF but ocean oriented which could be available only to *joint projects* undertaken by Universities, private organizations and Federal Agencies.