



**US Army Corps
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Corps Plays Vital Role in Protecting Pacific Reefs

By Sarah H. Cox, Honolulu District Public Affairs

(FORT SHAFTER, HI - NR-18-07) – Honolulu District held the seminar *Sediment Impacts to Coral Reefs* May 11 to help educate the District's employees, customers, contractors and sponsors about the plight of Pacific coral reefs.

Subject matter experts from the University of Hawaii and Hawaii Department of Land and Natural Resources (DLNR) discussed research findings of the potential impacts that upland and in-stream actions have on coral reefs and adaptive management techniques to minimize those impacts.

Protecting Pacific coral reefs is one of Honolulu District's main missions.

Honolulu Engineer District Biologist Cindy Barger said the government has instituted several programs to protect reefs.

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2-2-2 REEF SEMINAR

"The U.S. Army Corps of Engineers has three main roles in protecting the living coral reefs: its regulatory program, its proper planning and project management and its collaboration with partners such as local academia and private organizations as well as local, state and federal agencies," Barger said.

According to DLNR's Dr. Katherine Chaston, who heads the State of Hawaii *Local Action Strategy for Land Based Pollution Threats to Coral Reefs*, coral reefs are the "rainforests of the sea" and just like their land-based counterparts, coral reefs are in danger.

Coral reefs are fragile, living ecosystems, second only to the tropical rainforest in plant and animal diversity. Dr. Chaston told the audience that reefs are home to more than 4,000 species of marine life and "many of these are only available in Hawaii."

"Nearly 22% of the world's coral reefs are threatened," Chaston said.

Seminar guest speaker, Dr. Bob Richmond, University of Hawaii, Manoa, says mitigation is not enough.

"Mitigation is like going to Mariposa, California and chopping down the redwoods and then saying we can just plant more trees. Sure we can re-seed a reef, but a 400-year old reef just can't be replaced," Dr. Richmond said.

Reefs provide food and livelihood for millions of people around the world, protect the coast lines from dangerous waves and storms, plus contain an array of potential pharmaceuticals showing promise in the treatment of cancer, asthma and AIDS.

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3-3-3 REEF SEMINAR

The Nature Conservancy reports if reef destruction increases at the current rate, 70% of the world's coral reefs will disappear within 50 years. Natural and man-made conditions such as pollution, overfishing, construction, human activity, storms and global warming are harming the reefs' structure which is made from thousands of living animals called coral polyps.

The Corps' Regulatory program protects the coral reefs through the implementation of the Clean Water Act Section 404 program under the Department of the Army permit process. The Clean Water Act mandates the protection of coral reefs as "special aquatic sites." Also, the Executive Order 13089 – Coral Reef Protection, states all federal agencies need to utilize their programs to protect coral reef ecosystems and ensure that their actions don't degrade coral reef ecosystems.

"With everything we do, whether it's a civil works or a military construction project, we use a planning process to study and protect the coral reefs where practical," Barger said.

Construction, operational or design impacts can be greatly reduced through sustainable and low impact design techniques. In accordance with the Clean Water Act Section 404 (b)(1), unavoidable impacts need to be mitigated.

Regulatory policies and the Corps and EPA draft Mitigation Rule allow for the Corps and permittees to implement mitigation that makes sense for the system – focusing on the causes to coral decline rather than the symptoms.

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4-4-4 REEF SEMINAR

Specialists in Honolulu District's Environmental Technical Branch and Regulatory Branch are working to improve mitigation strategies to better address the causes of coral decline rather than the symptoms.

"There are examples in wetland mitigation to take a watershed approach and "pool" mitigation requirements for several projects to make one large mitigation area to get more "bang for your buck". We want to work towards this goal with coral reefs," Barger said.

Barger feels the state of knowledge on coral mitigation is very similar to the state of knowledge on wetland mitigation back in the late 1980s. There are a lot of questions and processes to figure out in order to develop a similar tool for coral reefs.

"There are plenty of actions that we can do to turn things around but it takes commitment from all levels," Barger said.

The Corps works closely with the Department of Lands and Natural Resources as well as local and federal agencies to identify sediment sources and help manage the amount of sediment which finds its way to the ocean.

"Sedimentation and land-based pollution are impacting our reefs during all their life stages--from spawning, to larvae attaching onto the sea floor," Barger said.

Sediment, which can come from a variety of sources including storm runoff or construction sites, smothers the coral, prevents vital photosynthesis and upsets the delicate balance the coral needs to survive.

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5-5-5 REEF SEMINAR

Every construction project has the potential to create sediment during the construction or by their existence, which creates more asphalt pavement and less green space.

"The challenge is how to build the infrastructure Hawaii needs in a manner that minimizes impact to our reefs," Barger said.

The Corps works closely with the State of Hawaii and the U.S. Coral Reef Task Force's "Local Action Strategies" or LAS to address impact to the reefs. These LASs are collaborative efforts between Federal, State, academia, non-governmental organizations and the private sector to address the major threats to our reefs through research, adaptive management and education.

The Corps and the Pacific Regional Interagency Mitigation Working Group (PRIWG) are working with the LASs to share information and pool resources to best help the reefs.

"Working with the PRIWG and the LASs are moving us towards that direction at record speed," Barger said.

Education plays a key role in reef protection efforts. Honolulu Engineer District strives to educate its customer and partners through a variety of outreach seminars, workshops and displays at Honolulu District's Pacific Regional Visitors Center in Waikiki, on the importance of and threat to coral reefs.

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