HAWAI'I UNDERSEA RESEARCH LABORATORY

QUICK LOOK REPORT
DIVE: P5-810

MISSION STATUS

Location: Makapuu Coral Bed, Oahu

Latitude: 21 19.442 **Longitude:** -157 33.959

Mission Date: 7/22/2013 **Duration:** 6 hours 30 mins

Maximum Depth: 495 m

Project Title: First Exploration of the Hāna Pinnacle Field off the Island of Maui

Principal Investigator: Dr. Christopher Kelley, HURL

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Pilot 1: Terry Kerby

Pilot 2:

Scientific Data Acquired: Prepare an abstract outlining your objectives, techniques, findings, etc.

Objectives:

The original objectives of this project were to explore the pinnacle field off Hana, Maui, documenting the presence of bottomfish and precious corals to provide habitat information ~~support~~ for refining~~for~~ the existing Essential Fish Habitat (EFH) designations including possibly designating a new~~e~~ Habitat Areas of Particular Concern (HAPC)~~ designation~~. However, due to a lower than expected budget for FY 2013 and difficulties in identifying an appropriate charter boat for interisland work, all interisland projects, this being one, were "re-sited" off the island of Oahu. The project focus continued to be HAPC designations however, the new site was the Makapuu precious coral bed and the objectives were to identify more accurate north and south boundaries for this existing HAPC. Neither the northern nor southern extents of the bed have been identified from previous submersible surveys at this site. It has recently been determined that the east-west extents

of the bed are determined by depth. However, the north-south extents could be determined by either current velocity or substrate.

This first dive focused on the northern boundary, with the landing position being just north of the high backscatter (i.e., hard substrate) area where the bed is located.

Observations, findings, etc:

The submersible landed at 403m on sediment, as expected from the multibeam data. The current was negligible. The sub then traversed south and upslope to the hard substrate boundary at the base of a modest ledge, located at 318m. The face of the ledge was barren until the top at 288m where a bed of wire corals, Stichopathes sp white, was encountered. The sub then turned northeast and headed downslope to survey the hard substrate boundary in deeper precious coral depths. The boundary was encountered at 369m where gold coral, Savalia sp, black corals, Bathypathes conferta, and bamboo corals, Acanella dispar, were encountered. More precious corals and non-precious corals were encountered along the boundary as the sub continued southeast. It therefore appears that the Makapuu bed is substrate-limited and that the hard substrate boundary could be used to define the HAPC boundary at least at the northern end.

As the sub continued to the southeast, the current velocity increased reaching an estimated 2 nm/hr. This continued as the survey moved through the main area of the bed and only diminished toward the end of the dive further south. The current direction did not change throughout the dive and was primary south-southeast (i.e., 160 degrees), which is contrary to the projections generated by the PACIOOS Voyager models.

Species list:

Fishes

Coelorinchus spilonotus
Malacocephalus boretzi
Ophichthid eels (Myrophinae)
Gymnothorax nuttingi
Meadia abyssalis
Plesiobatus daviesi
Echinorhinus cookie
Squalus mitsukurii
Chaunax umbrinus
Lophiodes miacanthus
Chlorophthalmus proridens
Synagrops argyreus
Synagrops sp
Bembrops filifera
Chrionema chryseres
Pontinus macrocephalus
Seriola dumerili
Glossanodon struhsakeri
Ariomma lurida
Beryx sp
Grammatonotus laysanus
Antigonia eos

Rexia nakamurai
Grammicolepus brachiusculus
Etelis carbunculus
Etelis coruscans
Polymixia berndti
Plectranthias kelloggi
Symphysanodon maunaloae
Hollardia goslinei

Sponges

Regadrella sp1
Unidentified demospongiae (collected)
Poecillastra sp
Sericolophus hawaiicus

Cnidarians

Liponema sp
Stylobates aenaeus
Leiopathes sp
Stichopathes sp white
Stichopathes echinata
Aphanipathes sp1
Bathypathes conferta
Bathypathes patula
Bathypathes sp
Chrysopathes sp?
Stauropathes staurocrada?
Acanthogorgia sp1
Chrysogorgia stellata
Corallium secundum
Corallium laauense (regale)
Acanella dispar
Keratoisis flabellum
Lepidisis olapa
Paragorgia sp1
Paragorgia sp2
Astromuricea theophilasi? (collected)
Bebryce brunnea
Eunicella sp
Plexaurid gold
Narella gigas
Callogorgia gilberti
Fanellia euthyeia
Thouarella hilgendorfi
Calibelemnon symmetricum
Enallopsammia rostrata
Savalia sp
Parazoanthus sp2

Echinoderms

Sphaeriodiscus ammophilus
Plinthaster ceramoidea
Antedon sp yellow
Histocidaris variabilis

Crustaceans

Agononida sp1 (collected)
Sympagus dofleini
Unidentified pagurid
Heterocarpus ensifer

Mollusks

Nototodarus hawaiiensis

Other Invertebrates

Lyrocteis sp
Pyrosomatida
Salpida

MISSION EVALUATION:

Limitations, failures, or operational problems noted:

.None

Recommendations for corrective action or improvement:

None

In your opinion, did the mission essentially achieve its purpose? Compare actual work accomplished with the work that was expected to be accomplished.

Yes, we were able to survey the entire northern hard substrate boundary and determined that precious corals went right up to the edge. We were also able to collect and document some important specimens.

List specimens or samples collected on the mission.

Five specimens of a blue plexaurid
One specimen of a demospongiae
Two specimens of Agononida sp1 from the blue plexaurids
Parazoanthids growing on the blue plexaurids

DATA RELEASE

Data may be retained by the project leader for up to 2 years after the mission date with the following exception. NOAA may request to use photos for publication or publicity purposes at any time.

Fill in the appropriate statement below and sign this form.

I hereby release the data archived by HURL for public consumption following mission (project title)

held on 7/22/2013 (date) in the following way:

a. CTD data by na (date)

b. video and images by 7/22/2013 (date)

c. other 7/22/2013 (date)

d. I will give my written consent to individuals wishing to use these data prior to the above dates depending on the nature of the request(s).

Christopher Kelley Principal Investigator