HAWAI'I UNDERSEA RESEARCH LABORATORY

QUICK LOOK REPORT (QLR) for *Pisces* and *RCV-150*

DIVE: RCV150-R355

MISSION STATUS

Location: Southwest Molokai

Latitude: 21° 0.9666 **Longitude:** 157 ° 06.8301

Mission Date: Oct. 26, 2006 **Duration:** 1 hour _ mins

Maximum Depth: 301 meters

Project Title: Boundaries and Bridges: Efficacy of marine protected areas for deep-slope snappers

Principal Investigator: Dr. Daniel Polhemus*/Walter Ikehara**

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Observer 1: Christopher Kelley **Observer 2:** Dan Polhemus

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Pilot 1: Dan Greeson **Pilot 2:** Pete Townsend

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

Objectives:
1) Characterize "habitat bridges" as a potential mechanism to facilitate movement of adult bottomfish species from bottomfish restricted fishing areas into adjacent exploitable areas.
2) With input from a companion tagging and tracking study, observe opakapaka and onaga associated with the areas where habitat bridges may link protected areas and adjacent exploited areas.
3) Develop methodologies for introducing acoustic tags to selected bottomfish at depth in situ using a manned submersible.

Observations, findings, etc:

Because of bad weather conditions, this dive was conducted on a bottomfish habitat site southwest of Molokai. The objective was to examine the substrate and biological community of a large ridge that was believed to be a drowned barrier reef formation extending from south Molokai to the Northwest corner of Lanai. The dive was conducted at a location along the ridge where onaga and ehu had been caught on previous fishing surveys. There is continuity between Penguin Bank and this ridge via the area surveyed yesterday evening, however it is unkown where bottomfish do in fact migrate between the two habitats. The ROV descended to a depth of 294 m and encountered hard, relatively sediment clear carbonate rock which continued through most of the dive. There were numerous cavities, small ledges, and rises which is preferred substrate by bottomfish. Most importantly, there were numerous colonies of the precious coral, Corallium secundum at depths as shallow as 250 m which is unusual and may be indicative of upwelling of colder water coming up from off the western edge of the ridge. These colonies are at risk of damage from bottomfishing gear. Several colonies did indeed have broken fans that could have been caused by fishing lines. At the highest point of the transect, a group of ehu, *Etelis carbunculus*, were observed. Additional ROV or submersible transects should be carried out along this ridge to determine the extent of the coral bed and whether this site should be considered for HAPC designation.

Observed Species list:

Fish: Epigonus sp, Polymixia japonica, Symphysanodon maunaloae, Antigonia eos, Laemonema rhodochir, scorpaenid, Pontinus macrocephalus, Etelis carbunculus, Plectranthias kelloggi, onaga juv?, Ariomma luridum, carapid

Echinoderms: Sphaeriodiscus ammophilis, Stylocidaris calacantha, Caliaster pedicellaris?, Stylocidaris rufa, Holothuria cinerescens?

Cnidarians: scleractinian solitary red, Javania lamprotichum?, Cirrhipathes spiralis, Antipathes sp 1, Nemanthus sp, Corallium niveum, Corallium secundum, Corallium regale?, Corallium lauensis, Anthomastus fisheri, Bathypathes sp?

Mollusks/bivalves: bivalves

Crustaceans: unidentified shrimp, Plesionika sp., Progeryon mus,

Other Invertebrates: ribbon sponges

Man-made Objects: fishing line

MISSION EVALUATION:

Limitations, failures, or operational problems noted:

Poor weather and sea conditions prevented the deployment of the ROV in the Kahoolawe Island Reserve. Several alternative sites were investigated and rejected. Finally an alternate potential bottomfish habitat site well north of the Kahoolawe Island Reserve was and the ROV was deployed to obtain data on habitat characteristics and community structure.

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:

Despite the fact that the dive could not be conducted in the reserve, excellent video and closeups were obtained in a bottomfish habitat site. The mission was therefore considered a success.

List specimens or samples collected on the mission:

None

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):

____ Boundaries and Bridges: Efficacy of marine protected areas for deep-slope snappers

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Held on Oct. 26, 2006 _____ (date) in the following way:

a. CTD data by Oct. 26, 2008 _____ (date)

b. Video and images by Oct. 26, 2008 _____ (date)

c. Other Oct. 26, 2008 _____(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).

_____

Principal Investigator