HAWAI'I UNDERSEA RESEARCH LABORATORY

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

DIVE: P4-176

MISSION STATUS

Location: West Molokai

Latitude: 21° 02.271'N **Longitude:** 157° 10.795'W

Mission Date: Oct. 26, 2006 **Duration:** 7 hours 51 mins

Maximum Depth: 394 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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Phone: 808-587-0110

Observer 1: Robert Moffitt **Observer 2:**

Address: National Marine Fisheries Service **Address:**

PIFSC

2570 Dole St.

Honolulu, HI, 96822

Pilot 1: Steve Price **Pilot 2:** Terry Kirby

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:

The Pisces IV left the surface at 0810 h and dropped on the southeast side of an isolated pinnacle. We touched bottom on a steeply sloping, heavy silt/mud bottom at 394 m. We traveled upslope to 300 m encountering some exposed carbonate features including vertical faces of 1-3 m. All vertical faces were covered with dead bivalve halves. We collected one Corallium sp. at 320 m. At 300 m we started a counter clockwise circumnavigation of the pinnacle divided into three 30 min transects. At the end of the first transect we collected a Flabellum pavoninum and a Polymyces wellsi. The bottom on these transects alternated between exposed limestone, often with vertical faces, and sediment covered pavement with little to no relief. The most common fish on these transects were Epigonus sp. (some of which were likely E. fragilis). Several ehu of all sizes 6-18" were seen as well as about half a dozen onaga form ~10-24". Antipathes sp. 1 was very common as were various Corallium sp. (C. laauensis and C. secundum?). Poecillastra schultzii were the most common sponge. We encountered one lost bottomfishing anchor and one moderately long piece of monofilament fishing line. After circling the pinnacle we drove up on the top on the eastern side ending at 232 m. The top was silt covered limestone. Very little life was observed, mostly a sparse sprinkling of Virgularia abies. From this site we made a midwater transit over the connecting saddle to the island slope touching bottom ther at 271 m. We headed up slope on a gently sloping silt covered limestone with small holes scattered throughout but little other relief. Stylocidaris calacantha was relatively common on the deeper portions of this transit. At the 200 m level very little was encountered. Most abundant was an anemone with an orange warty stalk and long pink tenticles attached to short dead coral stalks. We transited east along the 200 m contour until the end of the dive at 1531 h.

Observed Species list:

Fish: Conger oligoporus, Etelis carbunculus, Pontinus macrocephalus, Scorpaenid, Carcharhinus sp, Dasyatis lata, Conger oligoporus, Gymnothorax berndti, Gymnothorax muttingi ?, Synagrops argyrea, Chlorophthalmus proridens, Chrionema squamiceps (called Bembrops on transect), Parapercis roseoviridis, Poecilopsetta hawaiiensis, bothid with 2 spots on midline near tail, Malthopsis sp, Iracundus signifier, Ariomma luridum, Antigonia sp, Seriola dumerili, Epigonus sp (some likely E. fragilis), Etelis coruscans, Myctophid, Priacanthus meeki ?, Holanthias elizabethae, Plectranthias kelloggi, Symphysanodon maunaloae, Synphysanodon typus, Hollardia goslinei

Echinoderms: Anseropoda insignis, Henricia robusta, Tamaria scleroderma, Astroceramus sp 1 ?, Sphaeriodiscus ammophilus, unidentified stars (several species), Stylocidaris calacantha, Micropyga tuberculata ?

Cnidarians: Antipathes sp 1, Cirrhipathes spiralis, cerianthid brown, hormathiid sp ?, actinostolid orange, Nidalia sp, Bathypathes conferta, Bathypathes patula, unidentified anemone, cerianthid brown, Corallium niveum, Corallium secundum, Corallium laauense, Lepidisis olapa, Callogorgia formosa ?, Virgularia abies, Eguchipsammia fistula, Flabellum pavoninum, Javonia lamprotichum, Polymyces wellsi,

Mollusks: none

Other Invertebrates: Lyrocteis sp, several sponges including Poecillastra schultzii and several white ball sponges (some quite large)

Crustaceans: Neopilumnoplax major, Paromola alcocki, unidentified hermit crab, Stomatopod (Odontodactylus hawaiiensis?)

Man-made Objects: fishing line, bottomfish anchor, broken soup bowl

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:

The mission was successful. Ehu and onaga were found on the pinnacle feature at the beginning of the dive. Low relief on the hard bottom of the saddle and the slope on the island side suggest that this is not a very good corridor for bridging the pinnacle to other bottomfish habitats on the island slope.

List specimens or samples collected on the mission:

Corallium sp, Polymyces wellsi, Flabellum pavoninum, Anseropoda insignus, small yellow sponge

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

_____

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

ANNUAL/FINAL REPORT

NOAA's Office of Undersea Research
Submersible Science Program

Report Status: _____ Final or Continuing _____

Date of Report: _____ Dive Numbers: _____

Inclusive Dates of Mission: _____

Project Title: _____

_____

Principal Investigator: _____ Signature: _____

Names of Co-Investigators: _____

_____

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I. Abstract of Mission Results: Please include diagrams or figures as appropriate.

II. Please discuss the following:

A. Significance of the mission in relation to your research goals.
B. Scientific contributions of the mission in terms of species, patterns, and processes observed or measured. Were the initial hypotheses addressed; were any new ones posed as a result of the mission? Was the methodology and/or technology utilized successful and repeatable by others?
C. For continuing status reports, indicate the extent of data analysis or manuscript preparation completed to date.
D. Advantages of NOAA's Undersea Research Program to your research investigations.
E. Plans for use of the data gathered on this mission and the applications, products and/or benefits to NOAA.

III. Please include any comments on the following operational details, where applicable:

A. Weather and water conditions affecting operations
B. Safety problems and/or concerns
C. Dive management and personnel cooperation
D. Logistics and support activities