HAWAI'I UNDERSEA RESEARCH LABORATORY

QUICK LOOK REPORT
DIVE: RCV-283

MISSION STATUS

Location: Alalakeiki Channel, SE Kahoolawe

Latitude: 20 ° 32.441 **Longitude:** 156 ° 29.201

Mission Date: 9/9/04 **Duration:** 8 hours mins

Maximum Depth: 270 m

Project Title:

Principal Investigator: Whitlow Au

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Kaneohe, HI

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Observer 1: Marc Lammers **Observer 2:** Christopher Kelley
Address: Hawaii Institute of Marine Bio **Address:** HURL

Pilot 1: Terry Kerby **Pilot 2:**

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

Objectives:

1) Obtain *in situ* acoustic reflections from commercially valuable deepwater snappers (family Lutjanidae) for use in developing non-lethal assessment techniques for the Hawaii bottomfish fishery.

2) Survey the tip of a "habitat finger" extending out from the Kahoolawe Island Reserve for inclusion in existing and future work on characterizing bottomfish habitat.

Observations, findings, etc:

These objectives were met. A custom built computer and transducer were installed on the Pisces V prior to the dive. Acoustic measurements were obtained by deploying approximately 10 lbs of chopped squid and fish near the submersible while it remained stationary with its lights out. Fish attracted to the bait were recorded in ambient light using the Pisces V's ROS Navigator 20/20 CCD camera. The transducer was installed just below this camera. When a target fish swam into the camera field at the desired angle, a series of broadband acoustic pings resembling dolphin clicks were triggered for a duration of approximately 40 seconds. The target fish was simultaneously videotaped and ensonified while the observers recorded the ping series # and videotape counter.

This technique was used during three 1-hour bait stations conducted at different locations on the dive site. Fish species for which data were obtained included opakapaka (*Pristipomoides filamentosus*), onaga (*Etelis coruscans*), hapupu grouper (*Epinephelus quernus*), kahala (*Seriola dumerili*), and a shark (*Carcharhinus galapagensis*). Eighty pings series were obtained, each of which consisting of 60 pings. These data will be analyzed to continue work on identifying unique acoustic signatures for the various species in the bottomfish fishery.

The habitat on the tip of the finger was surveyed while traversing between bait stations. Accurate counts of different organisms were not obtained however, the types of different invertebrates and fish were noted along with remarks on substrate features. Fish species observed were typical of bottomfish habitats sites surveyed during previous dives. With only a couple of exceptions, invertebrates were also typical of these types of habitats. Of note, however, was the high abundance of several species of cnidarians including the gorgonians: *Corallium niveum, Corallium laauenses*, and *Corallium tortuosum*. A relatively large amount of old fishing gear (anchors, anchor lines, and fishing lines) were also observed indicating that this site has been fished for many years and is probably well-known by many fishers in the Maui County area.

Species list:

Fish

Pristipomoides filamentosus, Etelis coruscans, Epinephelus quernus, Seriola dumerili, Carcharhinus galapagensis, Holanthias elisabethae, Plectranthias kelloggi, Symphysanodon maunaloae, Symphysanodon typus, Grammatonotus sp 1, Chromis struhsakeri, Etelis carbunculus, Bodianus vulpinus, bothid, Parapercis roseoviridus, Gymnothorax berndti, Gymnothorax ypsilon, Pristipomoides sieboldii, Suezichthys notatus, Antigonia eos, Roa excelsa, Cookeolus japonicus, and others.

Invertebrates

Corallium niveum, Corallium laauenses, Corallium tortuosum, yellow dendrophyllid, Cirrhipathes spiralis, Antipathes sp, unidentified blue gorgonian, Munida brucei, Calliaster pedicellaris, Tamaria triseriata, Spheriodiscus ammophilis, Stylocidaris rufa, Stylocidaris calacantha, Acanthocidaris hastigera, crinoid brown, unidentified anemone (Telmatactis sp?), cerianthid brown, sponges, Polymastia sp, pennatulid white, and others.

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, the mission achieved its objectives. All of the work expected to be accomplished was accomplished.

List specimens or samples collected on the mission.

The urchin: *Acanthocidaris hastigera*, 1 specimen

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 9/9/04 (date) in the following way:

a. CTD data by 9/9/06 (date)

b. video and images by 9/9/06 (date)

c. other 9/9/06 (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