

## HAWAII UNDERSEA RESEARCH LABORATORY

### QUICK LOOK REPORT MISSION NO. RCV-110

#### MISSION STATUS

**Location:** Kealaikahiki Channel

**Mission Date:** 10/31/01

**Maximum Depth:** 325 m

**Project Title:** Characterization and Assessment of Critical Habitat for Eteline Snappers in the Main Hawaiian Islands

**Principal Investigator:** E. Gordon Grau and Christopher Kelley\*

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

#### Objectives

This study was awarded a total of 12 submersible dives, six of which were conducted in 1998 (i.e. P5-360-P5-366). The original objectives of the study were to 1) to characterize and compare the biological and physical aspects of pinnacle and wall habitats for onaga and ehu, and 2) to assess the numbers and sizes of onaga, ehu, and other important species of bottom fish in these habitats. The first objective was associated with the following 2 hypotheses:

Hypothesis 1) tops and bases of vertically oriented habitats, such as walls and pinnacles, have different physical and biological characteristics.

Hypothesis 2) the locations on the walls and pinnacles where onaga and ehu are found will have similar biological and physical characteristics.

The RCV-150 ROV was originally going to be used to examine a nocturnal shift in the species composition on habitats surveyed by submersible during the day. However, the high relief on a number

of these sites precluded that plan. Instead, the ROV was used on this and other dives to conduct nocturnal surveys on the nearest suitable locations to the bottom fish habitat site.

### Techniques

Prior to this and other ROV dives, the ship arrived on the survey site and we determined the optimal direction for the transect. Based on this heading, two 2-mile or 3 one-mile lines was then selected, which depending on the speed of the ship, would allow for 2-4 hour surveys. In most cases, the dive site and subsequent transect line were set up in a manner to allow for an oblique up or down slope transect. After the ROV was deployed, an effort was made to identify and count all fish and invertebrates observed.

### Findings

The ROV was deployed at night to a depth of 289 m. It reached a minimum and maximum depth of 273 m and 325 m, respectively, and was recovered at 306 m. The transect was conducted up and over the middle of Kahaoolawe Submarine Ridge that runs parallel to the west side of Kahaoolawe Island. The terrain on the top of the ridge consisted of smooth to rugose limestone with some sand patches and areas of carbonate cobbles. Both slopes were of smooth, highly eroded, smooth limestone pockmarked with large and small caves. Approximately 45 different animals were videotaped on this dive. Examples of fish species include: myctophids, *Symphysanodon maunaloae*, *Chrionema chryseres*, *Antigonia eos*, *Pontinus macrocephalus*, *Laemonema rhodochir*, *Epigonus devaneyi*, *Meadia abyssalis*, *Setarches guentheri*, and *Physiculus rhodopinnis*. Examples of invertebrate species include several species of dendrophyllids, 7 species of seastars, *Stylocidaris calacantha*, *Corallium secundum*, *cerianthids*, *Pennatulula flava*, *balanophyllid corals*, 4 species of crabs, 2 species of crinoids, swiss cheese sponges, and knob sponges. Nocturnal fishes not observed during the day included the myctophids and *Xylacyba myersi* (a rare cusk eel) and an unusually bathyurocongrid eel.

**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 dive was conducted on its intended site.

**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 No. RCV-110: Characterization and Assessment of Critical Habitat for Eteline Snappers in the Main Hawaiian Islands

held on 10/31/01 in the following way:

- a. CTD data by 10/31/03
- b. voice transcripts, video, and still camera film by 10/31/03
- c. other 10/31/03
- 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)

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Principal Investigator