HAWAII UNDERSEA RESEARCH LABORATORY

QUICK LOOK REPORT MISSION NO. RCV-111

MISSION STATUS

Location: Kealaikahiki Channel

Mission Date: 10/31/01

Maximum Depth: 313 m

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

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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 291 m. It reached minimum and maximum depths of 221 m and 313 m, respectively, and was recovered at 226 m. The transect was conducted up and over the south end of Kahaoolawe Submarine Ridge what runs parallel to the west side of Kahaoolawe Island. The terrain on the top of the ridge consisted of fairly smooth limestone with several large areas of carbonate cobbles. Both slopes were of smooth, highly eroded limestone. The bottom on both sides of the ridge consisted of sand, then cobbles. Approximately 40 different animals were videotaped on this dive. Examples of fish species include; *Selar crumenopthalmus, Antigonia eos, Pontinus macrocephalus, Emmelichthys struhsakeri and E. karnellai, Etelis carbunculus and E. coruscans, Chrionema chryseres*, and *Poecilopsetta hawaiiensis.* Examples of invertebrate species include several species of dendrophyllids, 4 species of seastars, *Stylocidaris calacantha, Corallium secundum,* cerianthids, *Pennatula flava,* balanophyllid *corals, Antipathes sp. 1,* lace sponges, and 2 species of crabs. Nocturnal fishes not observed during the day included the myctophids, a trichiurid, Physiculus nigripinnis. A large group of juvenile and adult ehu (P. carbunculus) and juvenile onaga were seen on or near the substrate on the top of the ridge

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

Dive RCV-111

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-111: Characterization and Assessment of Critical Habitat for Eteline Snappers in the Main Hawaiian Islands

held on 10/31/01in 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)

_____Principal Investigator