HAWAII UNDERSEA RESEARCH LABORATORY

QUICK LOOK REPORT MISSION NO. P4-026

MISSION STATUS

Location: Kahaoolawe Ridge

Mission Date: 10/31/01

Maximum Depth: 289 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.

Techniques

On all six dives, two basic techniques were used to accomplish the objectives: a set of four 30 minute contour transects (objective 1) and a set of two 30 minute bait stations (objective 2). During transects, an effort was made to identify and count all fish and invertebrates within the visual range of the observers while the digital video camera was used to record good images of both animals and substrate. For each bait stations, a 12 inch diameter reference sphere was deployed in front of the sub. Two 5 lb bait bags were then opened with the manipulators and the bait was distributed at the base of the sphere. The submersible then backed away from the sphere to a distance of approximately 5-10 meters. The lights were then turned off and a ROS wide angle CCD camera was used to record the numbers and species of bottom fish attracted to the bait. The standard protocol on this and other dives was to initially drop to the base of the habitat site, then conduct an upslope survey to the top of the site. The depths and locations of the subsequent transects and bait stations were based on the observations made during this survey.

Findings

Four transects and 3 bait stations were run on the south tip of a north-south ridge. This ridge is located northwest of Kahaoolawe. The sub landed near the southern base of the ridge at 289 m. On transect 1 (30 min.), the sub proceeded north along the flank of the ridge at 266 m depth. Transect 2 (30 min.) continued north along the same flank. The first bait station was conducted near the top of the ridge at about 245 m. No fishes were seen.

The sub then moved over the top of the ridge and down to 265 where we began the third 30 minute transect to the north. After the third transect, a second bait station was conducted at 269 m. *Etelis carbunculus, Squalus mitsukurii, and Gymnothorax nuttingi* were attracted.

Moving north, a fourth 30 min. transect was conducted at 253 m. The sub then moved back up to the top of the ridge where the third bait station was deployed at 248 m in a white *Corallium secundum* zone. No large fishes were observed. We then collected a *Corallium* specimen and left the bottom at that depth.

Etelis carbunculus was the only snapper seen. Other fishes included *Pontinus macrocephalus*, *Plectranthias kelloggi*, *Chrionema chryseres, Gymnothorax nuttingi*, *Symphysanodon maunaloae*, *Grammatonotus sp. 1* (diamond-tail), and *Antigonia eos* . Except for the top of the ridge, invertebrates were sparse. They included *Corallium secundum, Stylocidaris calacantha* and several species of sponges.

Several fishing lines were observed on this dive.

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.
None

List specimens or samples collected on the mission.

Corallium sp.

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. P4-026: 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