HAWAII UNDERSEA RESEARCH LABORATORY

QUICK LOOK REPORT MISSION NO. RCV-106

MISSION STATUS

Location: South Kahoolawe

Mission Date: 10/28/01

Maximum Depth: 334 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 bottomfish 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 the use of the vehicle to address this third objective. Instead, the ROV was used on this and other dives to conduct noctural surveys on the nearest suitable locations to the bottomfish habitat site.

Techniques

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

Findings

The primary dive site, the southwest boundary of the Kahoolawe Island Reserve, was abandoned due to inclement weather. The actual dive site was selected on the basis of slope direction and proximity to the habitat site. The ROV was deployed at a depth of 160 m, and reached a maximum depth of 340 m. The substrate was initially sand with carbonate rubble, which changed to carbonate sheets and ledges. Below 300m, the substrate again changed back to sand. Approximately 58 different animals were videotaped on this dive. Examples of fish species included myctophids, *Etelis carbunculus*, *Physiculus sterops, Pristipomoides sieboldii*, *Pristipomoides zonatus, Ophidion muraenolepis, Cookeolus japonicus, Seriola dumerili, Pyramodon ventralis, Canthagaster inframacula, Saurenchelys stylurus, Apogon sp, and Bembrops sp 1.* Examples of invertebrate species included *Plesionika martia, Stylocidaris rufa, Acanthocidaris hastigera, Madracis hawaiiensis, Candidella sp, Anthomastus fisheri, Heterocarpus ensifer, Lyrocteis sp, Cirrhipathes spiralis, Munida brucei*. Of these animals, noctural species that are not observed during the day include the myctophids, *O. muraenolepis, P. ventralis*, and *S. stylurus*.

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. This alternate site was a known bottomfish habitat which we were able to substitute for the primary site. We were able to conduct a 2 hour transect as planned.

List specimens or samples collected on the mission.

None

Dive RCV-106

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

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held on 10/28/01in the following way:

a. CTD data by 10/28/03

b. voice transcripts, video, and still camera film by 10/28/03

c. other 10/28/03

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