HAWAII UNDERSEA RESEARCH LABORATORY

QUICK LOOK REPORT MISSION NO. P4-030

MISSION STATUS

Location: Kaho'olawe

Mission Date: 11/04/01

Maximum Depth: 266 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

Two transects and 2 bait stations were run at Pinnacles 97 and 98 South. Both pinnacles had steep carbonate slopes pitted with small holes. Both had several large caves and overhangs. The substrate between the pinnacles was sandy with cobbles and some bedrock. The tops of the pinnacles were smooth.

The sub landed at 249 m., traveled SW to Pinnacle 97 to the top at 188 m depth. On top was a forest of Cirrhipathes spiralis. The first 30 minute transect was conducted along the slope below the top at 210 m depth. Many small fishes, and *Pristipomoides sieboldii, Etelis carbunculus* and *Seriola dumerili* were counted.

After the transect we moved to the top of the pinnacle and set out a bait station at 192 m. *Bodianus vulpinus, Seriola dumerili, Gymnothorax berndti, a large group of Pristipomoides sieboldii,* and *Decapterus macarellus* were attracted to the bait.

The second bait station was conducted at 210 m. *Etelis coruscans, Epinephelus quernus, Seriola dumerili, and Gymnothorax berndti,* and *Pristipomoides sieboldii* were attracted.

The sub then moved to Pinnacle 98 South. The top of the Pinnacle was at 174 m and sandy so we conducted a transect along the slope at 205 m. Many small fishes plus, *Etelis coruscans, Etelis carbunculus. Seriola dumerili, Bodianus vulpinus,* and *Epinephelus quernus* were seen. The sub left the bottom from 205 m.

There were large aggregations of small fishes around both pinnacles. Most of these were *Symphysanodon maunaloae*, *Symphysanodon typus,* and *Grammatonotus sp. 1, Grammatonotus laysanus, Pseudanthias fucinus.* Other fish species included *Antigonia eos, Pontinus macrocephalus, Roa excelsa, Suezichthys notatus and juvenile Etelis carbunculus*. Large numbers of *Cirrhipathes spiralis* and several species of sponges were on the top of Pinnacle 97.

On the sides of the pinnacles the most abundant invertebrates were *Munida brucei, knob sponges, Cirrhipathes spiralis, and Stylocidaris calacantha.*

Several fishing lines and a large heavy anchor? line were avoided 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.

Red "echinothurid", *Stylocidaris calacantha*, small cnidarian.

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. P4-030: Characterization and Assessment of Critical Habitat for Eteline Snappers in the Main Hawaiian Islands

held on 11/04/01in the following way:

a. CTD data by 11/02/03

b. voice transcripts, video, and still camera film by 11/02/03

c. other 11/02/03

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