HAWAII UNDERSEA RESEARCH LABORATORY

QUICK LOOK REPORT MISSION NO. RCV-014A & B

MISSION STATUS

Location: Penguin Bank

Mission Date: 31 Aug - 1 Sep 98

Maximum Depth: 279m

Project Title: Evaluation of Non-Lethal Methods for Assessment of Overfished Deepwater Snapper Resources

Principal Investigator: Robert B. Moffitt

Address: National Marine Fisheries Service
2570 Dole St.
Honolulu, HI 96822-2396

Phone: (808) 983-5373

Observer 1: James D. Parrish

Address: Hawaii Cooperative Fishery Research Unit
2538 The Mall, Univ. Hawaii
Honolulu, HI 96822

Observer 2: Eric J. Conklin

Address: Same as Obs. 1

Chris Keller
HI Institute Marine Biology
P.O. Box 1346
Kaneohe, HI 96744

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

The objective was to make a continuous set of observations of benthic habitat and fish and invertebrate fauna on each of 2 rough transects along the axis of the "2nd Finger" of Penguin Bank for comparison with daytime observations made on submersible dives and camera tows on top of the "finger" (Dive RCV-14A), and over the edge on the south side at depths to 200m and deeper (Dive RCV-14B). The ship moved slowly into the wind and sea, towing the cage at an altitude of several meters above the bottom, and the ROV made excursions from the cage at altitudes from the bottom to a few meters and scanned the substrate and lower water column. Mesh bags of bait tied to the cage and the ROV before Dive 14B left scent plumes continuously on that dive. Lights on the cage and ROV were used continuously. After Dive 14A was completed, the ROV and cage were recovered aboard the ship, moved back to near the starting position, but slightly farther south and redeployed for Dive 14B. The ship track was adjusted to maintain the ROV on the southern slope of the "finger" for most of the dive.

Most of the area surveyed on both dives consisted primarily of hard rocky bottom with partial covering of shallow sand. The rock surface was usually rough at a scale up to several centimeters, and appeared much like clinkers of cobble to small boulder size, some attached and some loose. Rocky relief at a much larger scale was significant in many areas. A few types of algae were attached to the rocky bottom, especially in shallow areas.

(OVER)

Wire coral coverage varied from absent or sparse in some areas to dense thickets in a few areas. Cidarid urchins were usually present and locally common. Occasional patches of asteroids occurred. Shrimp in the water column were locally very abundant. On both dives, many areas provided apparently good habitat for small/medium size fish in holes and under overhangs. The bottom half of Dive 14B contained fairly deep south facing slopes. Fish were not very abundant on Dive 14A. Very few large fish and no commercially important species were seen. Chlorophthalmus proridens, morids, several eels, several Symphysanodon, small scorpaenids, and an unidentified dark pomacentrid with white saddle were noted. Fish of all sizes were much more abundant on Dive 14B, including at least 1 Seriola dumerili, 1 onaga, 1-3 ehu (?), 1 gindai. Other fishes noted included Roa excelsa, Sargocentron xantherythrum and Sargocentron sp., several morids, a synodontid, Symphysanodon spp., Antigonia sp., scorpaenids, several Erythrocles scintillans (?), Chlorophthalmus proridens. Bottom coverage and observations will provide useful comparisons with Pisces dives and camera tows.

Dive RCV-014 A&B

MISSION EVALUATION:

Limitations, failures, or operational problems noted:

The equipment and methodology worked generally well for the functions for which designed. Tracks that could be worked were again closely restricted by the ship's ability to hold course and manage the towed ROV cage. The new camera on the ROV gives much clearer images and good focus and zoom capabilities for some very good close-up pictures of individual fish. An important limitation continues to be the lack of any effective system for estimating distance to objects in view or their size.

Recommendations for corrective action or improvement:

An important improvement would be the addition of external lazer measuring devices, controllable from the console, that would permit measuring size of objects at a distance from the ROV and distance to such objects (including the ability to make a visible mark at a constant distance from the direction of movement of the ROV, e.g. to maintain a swath of constant width for belt transects).

In your opinion, did the mission essentially achieve its purpose? Compare actual work accomplished with the work that was expected to be accomplished.

The mission essentially achieved its purpose within the limitations of the equipment's basic capabilities (see above).

List specimens or samples collected on the mission.

None

Dive RCV-014 A&B

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

Evaluation of Non-Lethal Methods for Assessment of Overfished.... (project title)

held on 31 Aug - 1 Sept 1998 (date) in the following way:

a. CTD data by 1 Sept 2000 (date)

b. voice transcripts, video, and still camera film by 1 Sept 2000 (date)

c. other 1 Sept. 2000 (date)

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).

Robert B. Moffitt Principal Investigator