HAWAII UNDERSEA RESEARCH LABORATORY

QUICK LOOK REPORT MISSION NO. RCV- 040, 041, 042

MISSION STATUS

Location: All dives at Penguin Bank; SW tip of Penguin Bank

Mission Date: Sept. 11-18, 99

Maximum Depth: 040: 311m; 041: 215m; 042: 374m.

Project Title: Evaluation of Non Lethal Methods for Assessment of Overfished Deep Water Snapper Resources.

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

A major objective was to scout these 3 areas for general physical geological characteristics and common, conspicuous flora and fauna, and characterize the properties of habitat for fishes where the fishes occur. Particular emphasis was placed on finding sites where taape (Lutjanus kasmira) and eteline native snappers occur, separately of together. For all commercial species of interest, we wanted to obtain some sense of their general density and distribution. All these results will contribute to assessment of potential interactions between taape and the etelines. A less critical objective is to identify other large, numerous of ecologically important animals that occupy the same of nearby habitats.

Techniques: The RCV was deployed by the Ka'imikai-o-Kanaloa in areas that would permit it to move along pre-plotted tracts of interest:

RCV-040 dive began at 1929 at a point on the SW corner of the southernmost tip of P.B. at a depth of ~ 309m. The RCV then traveled ~ due N for ~ 4.3 km at depth sloping ~ continuously upward, ending the track at 42m depth. Most of this track showed

extensive coarse sandy bottom. Much of the sand seems rather well compacted; some has reddish color; some supports a substantial cover of algae; but such cover is mostly not very dense or tall. Large areas contain a close, dense substrate cover of live and dead corals, growing algae and detached algae finds, benthic sessile animals, and (no doubt) many cryptic active invertebrates. A good many of the corals and coral remaining provide good shelter for small fishes in these basal crevices and in other hollows with the reef colony.

Fish seen more than once or twice or in some numbers included S. maunaloae (abundant), scorpaenids, morids, the long slender eel (Netastomatidae ?), Beryx sp., Polymixia berndti, Chaetodon spp. (probably including miliaris, kleini, multicinctus. Four specimens of taape were seen. No eteline snappers were observed. The transect did not seem to contain much good habitat for elelines. A good deal of the habitat with hard bottom seems suitable for a variety of smaller species.

RCV-041 began at 2252 at point near the SE corner of the same southernmost tip of P.B. at a depth of 102m. The RCV then traveled north and a little east ~ 2.1 km, following ~ the ledge, first at the top of it, then at the bottom, then at the top again, ending at 54 m depth. On top, substrate mostly sandy, with some exposed rock and a few small boulders and associated macro-algae for much of the track. Fishes seen included 1 taape (~ 8-9"), Canthigaster coronata, Arothron meleagris, school of menpachi in rock shelter (small) and Myripristis chryseres, 3-4 taape, and 2 Holocanthus arcuatus close together. Also several Pentaceraster cumingi (?) sea stars also hermit crab and holothurian (Stichopus). Ledge steep rocky wall down to ~ 200 m, at bottom, substrate smooth sand with occasional rock outcrop. Several medium – large Seriola dumerili arrived and stayed near ROV for most of rest of dive (number was ~ 6-10).

Fish seen included: 2 Etelis coruscans (1 large) at ~ 210 m, Chrionema or Chlorophthalmus, Sargocentron spiniferum, small school of large fish just at limit of visibility could have been etelines, morids, scorpaenid. Ascended to ~ 100 m and continued slow rise to and following slope. At depth of ~ 100 m and less saw: 3 M. chryseres under carbonate ledge, ≥ 3 taape in carbonate ledges, 1 taape in small carbonate outcrop, scorpaenids (include some with white dorsal blotches), Canthigaster coronata, 2 Arothron sp., 1 taape in small rubble patch (alone) (maybe ~ 6" long, near shelter). Also invertebrates (large): several P. cumingi, sea stars, Cassis cornutus, (helmet gastropod).

RCV-042 began at 0122 (Sept. 18, 99) at a point on the southernmost tip of P.B. ~ midway between –040 and –041 at a depth of ~ 374 m. The RCV then traveled roughly north for ~ 1.2 km at depths sloping continuously upward, ending the track at ~ 40 m depth, below the ledge, bottom was ~ a continuous sandy slope, with occasional large rock outcrops and coarse rubble, observed flatfish and a few morids, 1 probable onaga on a very steep rock slope. Above the steep slope the bottom leveled out at ~ 100 m and then sloped up gradually with some rubble and macro-algae habitat. Fishes observed included: S. maunaloae (?), Arothron spp. (apparently ≥ 1 hispidus), Diodon sp. (?), Canthigaster coronata, Centropyge fisheri, Ariosoma burying in sand, 2 Acanthurus dussumieri, 2 Dascyllus albisella. Also many P. cumingi, sea stars, Dromia crab, Cassis cornuta.

A good deal of scattered ~ good habitat for small fish, some good rock walls, cover, boulder piles etc. for some large spp.

MISSION EVALUATION:

Limitations, failures, or operational problems noted:

None.

Recommendations for corrective action or improvement:

N/A

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

Yes

List specimens or samples collected on the mission.

None

Dive RCV-040, 041, 042

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 ..... (project title)

held on Sept. 17-18, 1999 (date) in the following way:

a. CTD data by Sept. 18, 2001 (date)

b. voice transcripts, video, and still camera film by Sept. 18, 2001 (date)

c. other Sept. 18, 2001 (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