HAWAII UNDERSEA RESEARCH LABORATORY

QUICK LOOK REPORT MISSION NO. RCV-101

MISSION STATUS

Location: West St. Rogatien, NWHI

Mission Date: 9/17/01

Maximum Depth: 328 meters

Project Title: The Impact of Bottomfishing on the Raita and West St. Rogatien RPAs in the NWHI Coral Reef Ecosystem Reserve: Initial Survey and Identification of Study Sites

Principal Investigator: Alex Malahoff

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Observer 1: Christopher Kelley **Observer 2:**

Address: HURL **Address:**

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

Objectives

The primary objective of this and all ROV missions for this project was to assess the potential damage to the ecosystem of West St. Rogatien and Raita Banks from anchoring by commercial bottomfishing boats. The specific question we addressed was: if bottomfishing boats anchored at, above, or below the fishing sites, what type of substrate and animals could be subjected to anchor damage? On sites where both submersible and ROV dives were conducted, the ROV was only used to examine the area above the site where the submersible didn't survey. On sites where no submersible dives were conducted, the ROV was used to transect the entire slope from below to above the site. The secondary objectives were:

1) To obtain a baseline estimate of the number and types of fish and invertebrate species present in the area surveyed.

2) To obtain a baseline estimate of the amount of bottomfishing debris (i.e. fishing line, weights, anchors, anchor lines, miscellaneous trash, etc.) in the area surveyed.

Techniques

On sites surveyed by submersible, the intended track for each of the ROV dives was based on the shallowest depth obtained by the submersible, which in most cases, was near the break. Depending on current and wind conditions, this position was targeted as either the start or end point of the ROV transect. On sites not surveyed by submersible, the start and points were based on the most likely path the vehicle would take through the site between the depths of 100-400 m. Once the ROV was deployed, the pilot attempted to videotape the substrate and all of the fish, invertebrates, and fishing debris encountered by the vehicle. At the same time, the observer attempted to make an initial identification which would be confirmed later by more careful analysis of the videotape.

Findings

This particular dive was conducted on a site not surveyed by submersible, thereby requiring a complete slope transect. Due to adverse wind and sea conditions, this objective could not be accomplished on a single transect. The RCV-150 was deployed at a depth of 328 m and transected along the slope to a minimum depth of 276 m before being recovered. The substrate was smooth carbonate as well as sediment with occasional low relief carbonate outcrops. Notable invertebrates observed included unidentified sponges ("Waikiki shell sponges"), red anemones, the crab, *Munida hawaiiensis*, an unidentified crinoid, an unidentified pennatulacean, and the seastar, *Sphaeriodiscides ammophilis*. Notable fish species observed included *Xylobacter myersi*, *Gnathophis nystromi*, *Physiculus nigripinnis*, *Bembradeum roseum*, and *Antigonia* sp. No bottomfishing debris of any kind was observed during the dive.

MISSION EVALUATION:

Limitations, failures, or operational problems noted:
Wind and sea conditions prevented a complete slope transect.

Recommendations for corrective action or improvement:

HURL acquire a dynamic positioning system for the RCV-150.

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

No, it only completed part of its purpose. Two additional ROV dives were required to complete the survey of this site (i.e., dives 102 and 103). However, within the depth range transected by the vehicle, the primary purpose of identifying the substrate and animal community which could be impacted by anchoring was achieved. The expected work was the following:

1) Conduct a complete slope transect from 350 m to 100 m through the fishing site to obtain an estimate of the amount of bottomfishing debris present.
2) Identify the type of substrate present below, at, and above the site.
3) Identify the biological community below, at and above the break at the fishing site.

Because of the sea conditions, the actual work accomplished was only the below site transect between the depths of 276-328 m.

List specimens or samples collected on the mission.

None

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_____(project title)

held on_____(date) in the following way:

a. CTD data by _____(date)

b. voice transcripts, video, and still camera film by_____(date)

c. other_____(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)

_____Principal Investigator