HAWAII UNDERSEA RESEARCH LABORATORY

QUICK LOOK REPORT MISSION NO. RCV-104

MISSION STATUS

Location: West St. Rogatien, NWHI

Mission Date: 9/17/01

Maximum Depth: 164 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

The RCV-150 was deployed at a depth of 164 m and transected up to a minimum depth of 106 m. The substrate was similar throughout the dive and consisted of sediment with carbonate pebbles and rotoliths. The most abundant cnidarian observed was a brown unidentified ceriantharian. Other benthic invertebrates included wire coral, *Cirrhipathes spiralis*, two crabs, *Mursia hawaiiensis* and *Dardanus* sp (with anemones on it's shell), two species of shrimp (*Plesionika edwardsi* and *Plesionika* sp), the seastar, *Pentaceraster cummingi*, the urchin, *Acanthocidaris hastigera*. Fish species included the eels *Gnathophis nystromi* and *Ariosoma marginatum*, the kahala, *Seriola dumerili*, *Physiculus sterops*, *Chromis struhsakeri*, *Pseudanthias thompsoni*, *Ophidion muraenolepis*, myctophids, and scorpaenids. No bottomfishing debris of any kind was observed during the 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.

Yes. This dive was conducted on a fishing site surveyed by submersible. Therefore, only the area above the site was surveyed by ROV. 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 an upslope transect from 164 m to 106 m to obtain an estimate of the amount of bottomfishing debris present above the fishing site.
2) Identify the type of substrate above the break at the fishing site.
3) Identify the biological community above the break at the fishing site.

All 3 tasks were completed.

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