

HAWAII UNDERSEA RESEARCH LABORATORY

QUICK LOOK REPORT MISSION NO. RCV-095

MISSION STATUS

Location: Raita Bank, NWHI

Mission Date: 9/13/01

Maximum Depth: 460 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

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Observer 1: Christopher Kelley

Observer 2: Sean Corson

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Address: NOS

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 end 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 357 m and transected down to a maximum depth of 460 m, reversed direction and came back up the slope to a minimum depth of 73 m. The substrate during the lower part of the survey was primarily carbonate outcrops on sediment. At the steepest part of the slope, the substrate changed to sediment covered carbonate bedrock. Further up beyond the break (i.e. 120 m), the substrate changed again to primarily sediment with carbonate pebbles. Notable invertebrates observed included *Cirrihipathes spiralis* (dark), *Calyptrophora* sp?, a tun shell, an unidentified shrimp, *Neopilimnoplax major*, *Corallium tortuosum*?, and a brown ceriantharian. Notable fish observed included an unidentified carapid, *Physiculus sterops*, *Hoplostethus crassispinus*, an unidentified morid, *Bathyroconger vicinus*?, *Ventrofossa ctenomelas*?, *Setarches guentheri*, *Chrionema chryseres*, an unidentified nettastomatid, *Symphysanodon maunaloae*, *Polymixia berndti*, *Etelis carbunculus*, *Caprodon schlegeli*, *Priacanthus alalaua*, and *Emmelichthys karnellai*. 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 below an opakapaka fishing site not surveyed by submersible. Therefore, the complete slope from above to below the fishing 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 the start point (357 m) to obtain an estimate of the amount of bottomfishing debris present on the slope.
- 2) Identify the type of substrate below and at the fishing site.
- 3) Identify the biological community below and 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