HAWAII UNDERSEA RESEARCH LABORATORY

QUICK LOOK REPORT MISSION NO. RCV-169

MISSION STATUS

Mission Date: 09-11-02

Location (island, bank, seamount, etc): Brooks Bank
Specific Site (NE side, summit, etc): Southeast side
Position (start latitude & longitude): 23°57.3270'N, 166°41.5430'W
Depth range: 103-153 m

Project Title: Impact of Bottomfishing in the NWHI Coral Reef Ecosystem Reserve

Principal Investigator: Christopher Kelley

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Observer 2: Bruce Mundy
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Scientific Data Acquired : Prepare an abstract outlining your objectives, techniques, findings, etc.

Materials & Methods:

The overall goal of this project is to obtain data on bottomfish populations and their habitat for use in evaluating the impacts of commercial fishing in the NWHI Coral Reef Ecosystem Reserve. This particular dive was conducted on Brooks Bank, one of two Reserve Preservation Areas (i.e., RPAs) completely closed to bottomfishing. Specific dive objectives were to survey the fish and invertebrate community at a known fishing site. Particular attention was paid to corals and other attached invertebrates that would be vulnerable to damage from anchors and fishing weights. To accomplish this objective, the ROV was deployed along a track running through the coordinates provided for the site. Observers noted all fish, invertebrates, and fishing debris encountered.

Scientific data acquired:

Habitat characteristics and biota were observed and recorded at the bank top and lip of the platform break of Brooks Bank, Northwestern Hawaiian Islands. The RCV surveyed the platform break from 125 m to 153 m, and came up to the bank top at 129-103 m. Observations began at 21:00 at 125m. One bottomfish management species, likely a *Pristipomoides* species, was observed five minutes into the tow at a high relief rocky ledge. Unfortunately, the RCV was still being stabilized as it went over the ledge and it

was not possible to film this fish closely because of the high relief of the rock at which it sheltered, and a specific identification was not possible. Numerous myctophids were present near the bottom at the beginning of the tow. By 21:04, the RCV was over gently sloping hardpan substrate with light sediment patches, rhodoliths, and isolated rocks. Numerous antipatharians (*Antipathes grandis, A. intermedia,* and perhaps *A. ulex*) were seen scattered on the slope. Many of these seemed in poor condition and were overgrown with commensal or parasitic anemones, sponges, and bivalves. The larger trees provided shelter for fish such as *Chaetodon miliaris, Heniochus diphreutes, Neoniphon aurolineatus*, *Myripristis chryseres,*and *Oxycirrhites typus*. At 21:22 local time, about halfway through the hour-long tow, large *Seriola dumerili* began to circle the RCV and devour eels and other organisms that came within the RCV's lights. This reduced the number of organisms observable during the tow. By 21:47 there were 10-12 *Seriola* around the RCV. By this time (ca. 21:26) the terrain had changed slightly to a gently rolling carbonate slope with rhodoliths. The last 30 minutes of the tow were at the bank top, where the biota was characteristic of the "deep-reef" (green algae, *Diaseris distorta*, *Desmoholacanthus arcuatus, Chromis verater, Parupeneus chrysonemus*). The bottom changed from undulating slope at 21:40, to flat carbonate with a dusting of sediment at 21:47, to a downward slope (113-136 m) at 21:48), and small undercut ledges at 22:01. Green algae resembling *Ulva* was seen at 106 m on the bank top near the end of the dive at 22:02.

Table 1: Biological organisms observed during the dive.

FISHES	ECHINODERMS, CRUSTACEANS, & MOLLUSKS	CORALS, SPONGES, & OTHER INVERTS
Unidentified Myctophidae	Unidentified crab	*Cirrhipathes anguina*
Pristipomoides species?	Unidentified pandalid shrimp	*Cirrhipathes spiralis*
Seriola dumerilii	*Stichopus* cf. *horrens*	*Antipathes ulex*
Neoniphon aurolineatus		*Antipathes intermedia*
Myripristis chryseres		*Antipathes grandis*
Gnathophis cf. *nystromi*?		Anemone, red-brown
Oxycirrhites typus		*Antipathes subpinnata*?
Physiculus sterops		*Diaseris distorta*
Priacanthus alalaua		Unidentified sponge growing on *Antipathes*
Heniochus diphreutes		Green algae (*Ulva*-like)
Chaetodon miliaris		
Scorpaena colorata		
Carcharhinus species		
Parupeneus chrysonemus		
Desmoholacanthus arcuatus		
Chromis verater		
Naso maculates		

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. All work expected was accomplished.

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

RCV-169 held on 09-11-02.

a. CTD data by 09-11-04

b. video data by 09-11-04

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