HAWAI'I UNDERSEA RESEARCH LABORATORY

QUICK LOOK REPORT
DIVE: RCV-389

MISSION STATUS

Location: West Twin Bank, NWHI

Latitude: 23° 04.909 **Longitude:** 163° 10.027

Mission Date: 11/2/07 **Duration:** **1** hour 38 mins

Maximum Depth: 869 m

Project Title: Megafauna of Deep Seamounts and Ridges in the NWHI Monument

Principal Investigator: Christopher Kelley

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Observer 1: Christopher Kelley
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Observer 2: Jane Culp
Address: HURL

Pilot 1: Dan Greeson **Pilot 2:** Peter Townsend

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

Objectives: The goal of this project is to census fish and invertebrate species in two under-surveyed but potentially high diversity habitat types: seamounts and submarine ridges, found inside the monument with the bathyal zone of 200-2000 m. The first study site is a submarine ridge extending south of West Twin Bank. The ridge is a suspected volcanic rift zone that was revealed by a single multibeam sonar swath acquired in 2003. The 800-1800 m portion of the feature was covered in the swath. Three submersible dives and up to six ROV dives will be conducted to census this site. Submersible dives will target the 1400-1800 m depth range while the ROV dives will target the 400-800 m range. During each submersible dive, a 200m wide by 3000 m long area will be surveyed at 1) the top of the ridge, 2) the west slope of the ridge, and 3) the east slope of the ridge. All fish and invertebrates observed will be identified and counted by the two observers. Two digital camera systems will record video as well as the audio records from each of the observers. A laser scale mounted on one of the cameras will provide the means by which to obtain size data. Specimens of unusual species that are potentially new to science will be collected for laboratory identification. Each day after the submersible is recovered the ROV will be used to conduct 1-2 video transects. Observers in the ROV control room will make initial identifications of fish and invertebrates during the dives. Following these dives, the seabeam multibeam sonar system will be used to complete as much of the mapping of the ridge and surrounding features as possible.

Observations, findings, etc:

The dive was initiated at 869 m downslope of RCV-387 and was as deep as the ROV and terrain would permit. Similar to the previous dive, the location was near the oxygen minima of 1.0 ml/l measured on the ridge during the earlier submersible dives. We expected to see similar animals as were observed during RCV-387. During the dive, approximately 30 distinct species were observed. With the noted exception of the scleractinian Enallopsammia rostrata, most of the others were also seen on the deeper submersible dives. The substrate was similar to RCV-387 and consisted of rugose formations of old manganese coated basalt outcrops at the beginning of the dive. By the end of the dive, it had transitioned into a less rugose manganese coated bedrock with sediment pockets.

Species list:

Fishes: eel-like, Sladenia reminger, ophidiid, eel, Synaphobranchus affinis?

Echinoderms: urchin, brissingid, holothurian, Sperosoma sp, Aspidodiadema sp, pink urchin, Asthenactis papyraceus, Aspidodiadema hawaiiensis

Arthropods: red shrimp, galatheid?

Cnidarians: Anthomastus steenstrupi, Calyptrophora sp, Chrysogorgia geniculata, Narella nuttingi?, anemone brown, Enallopsammia rostrata, Calytrophora clarki, corallimorpharian, Metallogorgia melanotrichos, anemone yellow, gorgonian, Narella sp?, primnoid

Sponges: Regadrella sp 1, chondrolasmetinid leaf?, hexactinellid massive stalked, Farrea sp, weird hexactinellid

MISSION EVALUATION:

Limitations, failures, or operational problems noted:

None. The ROV worked flawlessly.

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.

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 R-389 (Megafauna of Deep Seamounts and Ridges in the NWHI Monument)

held on 11/2/07 (date) in the following way:

a. CTD data by 11/2/09 (date)

b. video and images by 11/2/09 (date)

c. other 11/2/09 (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