

**HAWAI'I UNDERSEA RESEARCH LABORATORY****QUICK LOOK REPORT  
DIVE: RCV-387****MISSION STATUS****Location:** West Twin Bank, NWHI**Latitude:** 23° 05.015**Longitude:** 163° 10.1166**Mission Date:** 11/1/07**Duration:** 1 hour 10 mins**Maximum Depth:** 824 m**Project Title:** Megafauna of Deep Seamounts and Ridges in the NWHI Monument**Principal Investigator:** Christopher Kelley**Address:** HURL**Phone:** 808-956-7437**Observer 1:** Christopher Kelley  
**Address:** HURL**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 conducted at 824 m on a flat bench located on the northern end of the ridge. This was near the oxygen minima of 1.0 ml/l measured on the ridge during the submersible dive earlier that day. Our expectations were that the fish and invertebrates at this depth would be fewer and different. During the dive, the number of animals was relatively few (23 distinct species) however the majority of these animals were also seen on the deeper submersible dives. The substrate was quite rocky with old manganese coated pillow lava at the beginning of the dive. This had changed to a flatter manganese coated bedrock with sediment pockets by the end of the dive.

Species list:

Fishes: ophidiid, *Synaphobranchus affinis*, *Aldrovandria* sp?, *Centrocyllium nigrum*, macrourid?, *Nettastoma parviceps*

Echinoderms: brisingid, holothurian, *Sperosoma* sp, *Aspidodiadema* sp

Arthropods:

Cnidarians: primnoid, *Calytrophora agassizii*, *Anthomastus steenstrupi*, *Metallogorgia melanotrichos*, gorgonian, *Enallopsammia rostrata*, *Narella nuttingi*?, *Corallium* sp, *Chrysogorgia geniculata*, hormathiid anemone

Sponges: *Dictyaulus* sp, *Regadrella* sp 1

**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-387 (Megafauna of Deep Seamounts and Ridges in the NWHI Monument)

held on 11/1/07 (date) in the following way:

- a. CTD data by 11/1/09 (date)
- b. video and images by 11/1/09 (date)
- c. other 11/1/09 (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