HAWAI'I UNDERSEA RESEARCH LABORATORY

QUICK LOOK REPORT (QLR) for *Pisces* and *RCV-150*

DIVE: _R-409_____

(*Extend length of sections as needed/appropriate*)

MISSION STATUS

Location: Northeastern end of the Auau Channel, 3.5 mi. northeast of the island of Lanai.

Latitude: 20° 55' **Longitude:** 156° 48'

Mission Date: 12/9/2007 **Duration:** 2 hours 55 mins

Maximum Depth: 102 meters

Project Title: Comparing Hawaii's Deep Reef Coral Communities

Principal Investigator: Montgomery/Rooney/Pyle/Boland/Parrish

Address: 1151 Punchbowl Street Rm 330

Honolulu, HI 96813

Phone: 587-0365

Observer 1: John Rooney **Observer 2:** Heather Spaulding

Address: _NOAA Pacific Islands Fisheries Science Center
2570 Dole St.___
Honolulu, HI 96822

Address: Botany Department
University of Hawaii at Manoa
3190 Maile Way
Honolulu, Hawaii 96822
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Pilot 1: Dan Greeson **Pilot 2:** Pete Townsend

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

Objectives:

The main objective of this dive, and other ROV dives in the Auau Channel on this cruise, was to collect video data of the seafloor to enable the quantitative characterization of benthic communities and substrates from the deep reef zone (50-100m) for different regions within the Auau Channel. These data will be used to map the distribution of deep coral reefs and may provide insights regarding the environmental characteristics that facilitate their development.

QLR continued
Observations, findings, etc:

This dive, along the northeastern corner of the Auau Channel northwest of Lanai featured a series of sediment filled shallow basins colonized by Halimeda species. Occasional rocky ridges or other outcrops were dominated by coral communities. The dive crossed a large sediment filled basin which contained a surprising number of mostly dead branches of black coral. An unexpected and extensive series of coral reefs was found at the northern end of the dive. These are predominantly colonized by what is tentatively identified as a branching morphology of *Montiporat capitata,* and usually also contained a high percentage of algal species and a few corals such as Pocillapora meandrina and Porites lobata. These mixed species branching coral reefs are commonly limited to depths greater than approximately 60 m, although they were found here at depths below about 40 m.

Observed Species list:

Antipathes grandis, Leptoseris hawaiiensis, Monitpora capitata, Halimeda opuntia/discoidea, Halimeda kanaloana, Pocillapora meandrina, Porites lobata

MISSION EVALUATION:

Limitations, failures, or operational problems noted: Horizontal positional accuracy of the imagery produced by the ROV has apparently not been established, and positioning of the ROV is limited to fixes from the ship's GPS every 10 minutes or so, leading to much higher than necessary positional uncertainties.

Recommendations for corrective action or improvement:
A more thorough discussion of the ROV dive ops procedures and needs of the science party would improve the efficiency and productivity of ROV operations. Also, installing a Tracklink USBL transponder on the ROV would enable the ROV to be accurately tracked throughout the dive using the ship's existing USBL navigation system, significantly enhancing the utility of the imagery.

In your opinion, did the mission essentially achieve its purpose? Compare actual work accomplished with the work that was expected to be accomplished:
The dive was successful and accomplished all the main goals expected. I was impressed with the quality of the imagery and usefulness of the ROV's maneuverability for better characterizing benthic communities.

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

Comparing Hawaii's Deep Reef Coral Communities

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_____

Held on 12/9/2007 (date) in the following way:

a. CTD data by 12/10/2009 (date)

b. Video and images by 12/10/2009 (date)

c. Other 12/10/2009 (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).

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Principal Investigator

ANNUAL/FINAL REPORT

NOAA's Office of Undersea Research
Submersible Science Program

Report Status: _____ Final or Continuing _____

Date of Report: _____ Dive Numbers: _____

Inclusive Dates of Mission: _____

Project Title: _____

_____

Principal Investigator: _____ Signature: _____

Names of Co-Investigators: _____

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I. Abstract of Mission Results: Please include diagrams or figures as appropriate.

II. Please discuss the following:

A. Significance of the mission in relation to your research goals.
B. Scientific contributions of the mission in terms of species, patterns, and processes observed or measured. Were the initial hypotheses addressed; were any new ones posed as a result of the mission? Was the methodology and/or technology utilized successful and repeatable by others?
C. For continuing status reports, indicate the extent of data analysis or manuscript preparation completed to date.
D. Advantages of NOAA's Undersea Research Program to your research investigations.
E. Plans for use of the data gathered on this mission and the applications, products and/or benefits to NOAA.

III. Please include any comments on the following operational details, where applicable:

A. Weather and water conditions affecting operations
B. Safety problems and/or concerns
C. Dive management and personnel cooperation
D. Logistics and support activities