

**HAWAI'I UNDERSEA RESEARCH LABORATORY
QUICK LOOK REPORT
DIVE: P5-649**

MISSION STATUS

Location: Fagatele Bay and Canyon, Tutuila, American Samoa

On Bottom: **Latitude:** 14°22.560'S **Longitude:** 170°46.411'W

Mission Date: July 10, 2005 **Duration:** 7 hours 26 mins (bottom time)

Maximum Depth (m): 463.9 m

Project Title: Benthic Habitats of American Samoa

Principal Investigator: Dawn Wright

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| Observer 1 (port): Emily Lundblad | Observer 2 (stbd): Leslie Whaylen |
| Address: NOAA Coral Reef Ecosystem Division, Kewalo Research Facility, 1125 Ala Moana Blvd., Honolulu, HI 96822 | Address: Dept. of Marine & Wildlife Resources (DMWR), P.O. Box 3730, Pago Pago, AS 96799 |

Pilot 1: Terry Kerby

Scientific Data Acquired:

Objectives:

- (1) Video and photographic survey counterclockwise along edge of Fagatele Bay and Canyon, starting from SW corner and reaching, if possible, the far SE portion of the sanctuary, making observations of biota and physical structure
- (2) Species identification of as many coral and fish as possible
- (3) Provide ground-truthing for benthic terrain classifications from prior high-resolution bathymetric data collected by the NOAA Coral Reef Ecosystem Division, as well as OSU and Univ. of South Florida.

Observations, findings, etc:

Landed at 222 m depth (19°C) on carbonate shelf with sediment cover. From the west side of the canyon, proceeded due east over the edge of a sheer vertical wall that dropped about 200 meters. Headed back up the wall for a closer, more direct look. Then, upon reaching the edge of SCUBA divable limits, went back down to follow the 100 meter

contour toward the mouth of the bay. Ship communicated that they were about to lose tracking range. Maneuvered straight down the cliff with plans to cross the bay's floor to the eastern wall and begin to survey up the eastern wall. Going down the western cliffs, an interesting transition from old carbonate reef transitioned to a basalt layer from about 185 m to 209 m where it turned into another carbonate layer before transitioning to sediment around 235 m. On the way up the eastern wall, approaching 80 m, chose to go back to the 100 meter contour to, again, follow the contour toward the mouth of the bay. With communications fading, but still getting some tracking points, we went as far as we could until feeling the need to turn around to get better tracking and to avoid possible entanglement hazards (encountered 2 large fishing lines hanging about 10-15 m down, then another line hanging down from bottom of first two). Returned along the 70 m contour. The eastern wall is also a sheer cliff face. In addition to the dramatic drop, this side had several small box canyons cut into the side of it, making more complex topography. Back further outside the bay, we headed down the wall to observe the sediment bottom with a few large carbonate outcrops. Again, observing the wall on the way down, the same carbonate to basalt to carbonate to sediment pattern was observed. Continued S-SW down eastern wall of canyon from approximately 79 m down to 442 m. Sampled (well outside of sanctuary boundary) large tritan shell at 316 m and large nautilus shell near SE corner of canyon in midst of carbonate outcrops. The eastern cliffs seemed to have more intermediate shelves between cliff faces finally reaching a sediment slope to the bottom depth of 464 meters. Within view of the final depth for this dive, was the start of another vertical wall dropping from about 420 m toward the southwest. Left bottom at maximum dive depth of 463.9 m (7.5°C).

Fish Species (highlighted ones are new records for American Samoa according to Wass list):

anthias? – pink anthias with extremely forked, yellow tail at 90m

Batfish (Ogcocephalidae) at 247m, pink with pink spots and white fringe

Batfish (Ogcocephalidae) at 325m. Pink with bumps. (1hr, 10min on 4th tape)

Big longnose butterflyfish – *Forcipiger longirostris*

Bigeye - *Heteropriacanthus cruentatus*

Bignose unicornfish – *Naso vlamingii*

Black snapper – *Macolor niger*

Black trevally – *Caranx lugubris*

Black-blotched stingray – *Taeniura meyen* at 238m

Blackfin hogfish – *Bodianus loxozonus*

Blacktail snapper – *Lutjanus fulvus*

Blue and yellow fusilier – *Caesio teres*

Bluefin trevally – *Caranx melampygus*

Blueline demoiselle – *Chrysiptera caeruleolineata*

Bluepatch parrotfish – *Scarus forsteni*

Bullethead parrotfish – *Chlorurus sordidus*

Checkerboard wrasse – *Halichoeres hortulanus*

Clown trigger – *Balistoides conspicillum*

Crinmiea criseris (check spelling) at 450m

deepwater angelfish? at 221m. Dark upper body, white lower body with white bar through eye. 4-5 inches
 Dogtooth tuna – *Gymnosarda unicolor*
 Emperor angel – *Pomacanthus imperator* at 111m
Epinephelus timorensis? – deepwater grouper at 200m
Etelis cortuscans at 260m (2 individuals, swam right up to sub)
 Fire dartfish – *Nemateleotris magnifica*
 Flatfish - *Chastin opceta* (check spelling) white dots around fringe
 Gold-lined (Moluccan) snapper – *Lutjanus rufolineatus*
 Half and half chromis – *Chromis iomelas*
 Harlequin grouper – *Cephalopholis polleni*
 lanceolate tail goby? at 253m (3hr and 30min into dive)
 Longnose butterflyfish – *Forcipiger flavissimus*
 Longnose hawkfish – *Oxycirrhites typus*
 Lori's anthias – *Pseudanthias lori*
 Magenta dottyback – *Pseudochromis porphyreus*
 Manybar goatfish – *Parupeneus multifasciatus*
 Masked grouper – *Gracila albomarginata*
 Merten's (Yellowback) butterflyfish – *Chaetodon mertensii*
 Midnight snapper – *Macolor macularis*
 Mimic surgeonfish – *Acanthurus pyroferus*
 Moorish idol – *Zanclus cornutus*
 Onespot snapper – *Lutjanus monostigma*
 Orangefin anemonefish – *Amphiprion chrysopterus*
 Orangelined trigger – *Balistapus undulatus*
 Orangespine unicornfish – *Naso lituratus*
 Orbicular platax – *Platax orbicularis*
 Ornate angelfish – *Genicanthus bellus*
 Pale-tail chromis – *Chromis xanthura*
 Pennant bannerfish – *Heniochus chrysostomus*
 Pinktail trigger – *Melichthys vidua*
Polymyxa (check spelling) – silver fish with barbels
 pufferfish? at 370m (43min left on 4th tape)
 purple wrasse? At 109m with white face, dark red/purple streak along back with white spots in streak. Tail was very lanceolate. (4hr and 30min)
 Pyramid butterflyfish – *Hemitaurichthys polylepis*
 Red snapper – *Lutjanus bohar*
 Redlip parrotfish – *Scarus rubroviolaceus*
 Regal angelfish – *Pygoplites diacanthus*
Rosio verdes – deepwater wrasse
 Smallscale fusilier (False fusilier) – *Paracaesio sordida*
 Snooty wrasse – *Cheilinus oxycephalus*
 Squarespot anthias – *Pseudanthias pleurotaenia*
 stingray? at 380m
 Swallowtail (Lyretail) hawkfish – *Cyprinocirrhites polyactis*
 tilefish? – white with dark lower lobe of caudal fin

Unknown fish inside nautilus shell (25min left on 4th tape). Also, a weird pink fish (1-2 inches long) with very, very long nose bumped into sub.

White-edge lyretail – *Variola albimarginata*

Whitetail (Thompson’s) surgeonfish – *Acanthurus thompsoni*

Whitetail soldierfish – *Myripristis vittata*

White spotted spikefish (possibly a species of the genus *Hollardia*)

Yellowbar parrotfish – *Scarus schlegeli*

Yellow-speckled chromis – *Chromis alpha*

From video:

Rainbow runner – *Elagatis bipinnulata*

MISSION EVALUATION:

A. Limitations, failures, or operational problems noted:

Sony camera experienced a little bit of interference while thrusters were on.

B. Recommendations for corrective action or improvement:

C. In your opinion, did the mission essentially achieve its purpose?

Yes, by all means.

D. Compare actual work accomplished with the work that was expected to be accomplished.

We did not expect to be able to traverse the entire circumference of Fagatele Canyon over to the east side within the time limit of the dive but were extremely pleased to be able to do so, and to identify so many species, several of which are new records for American Samoa.

E. List specimens or samples collected on the mission.

| Sample Number | Time (L) | Latitude | Longitude | Depth (m) | Comments |
|---------------|----------|--------------|----------------|-----------|---|
| None | 1455 | ~14°22.714'S | ~170°45.926' W | 316 | Tritan shell (may be used for public Display at DMWR) |
| None | 1546 | ~14°22.714'S | ~170°46.059' W | 442 | Nautilus shell (for Possible public display at Fagatele Bay National Marine |

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 the mission

Benthic Habitats of American Samoa (project title)

held on 9-11 July 2005 (date) in the following way:

- a. CTD data by any (date)
- b. voice transcripts, video, and still camera film by 11 July, 2007 (date)
- c. other N/A (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).

Dawn J. Wright Principal Investigator

