



John Reed, LA, HBOI, [jreed12@fau.edu](mailto:jreed12@fau.edu)  
Joshua Voss, FL, FAU, [jvoss2@fau.edu](mailto:jvoss2@fau.edu)  
Larry Mayer, NH, UNH, [lmayer@ccom.unh.edu](mailto:lmayer@ccom.unh.edu)  
Michael Vecchione, Washington, DC, NOAA NMFS, [VecchioneM@si.edu](mailto:VecchioneM@si.edu)  
Robert Carney, LA, LSU, [rcarne1@lsu.edu](mailto:rcarne1@lsu.edu)

#### Purpose of the Dive

This Keathley Canyon dive site was ~20 km south of dive 4 in the same drainage system. This dive was nominated by Brian Kinlan/Bill Keine. The distribution and abundance of black and bamboo corals was the stated biological priority.

#### Description of the Dive:

##### Geological Summary

The dive began at a water depth of ~2,130 m; the dive started on undulatory bottom, climbing a gentle slope at the end. Final water depth was ~2,000 m. The initial view of the seafloor showed unconsolidated sediment, with pronounced oscillatory ripples. A check of current at the landing confirmed a current of 0.1-0.2 kt.

As the dive progressed, there was an increase in hummocky seafloor with associated (carbonate?) hardground and layered outcrops of more consolidated material. Individual hummocks were often a meter or more in height. Burrows in these outcrops were common. Outcrops were often partially or almost completely covered in soft sediment. The terrain looked like a partially sedimented landslide debris field, but the role of upwardly mobile salt in the subsurface as a destabilizing force on the upper slope is also suspected. The declivity of the slope in question was 7-8 degrees; the dive ended on this slope.

##### Biological Summary

The distribution and abundance of black and bamboo corals was the stated biological priority, but only one morphotype of bamboo coral was observed, many living and some dead. The stalks of dead ones were generally intact and undisturbed - the incidence of dead individuals decreased generally with decreasing water depth.

Holothurian – *Enypniastes* (seen swimming and feeding on the bottom throughout the entire dive over soft bottom), some royal red-type shrimp, as well as a few unidentified shrimp, were observed. The deep-sea lizardfish, *Bathysaurus*, was viewed in close up, and spoon worm (echiura?) trace marks (none live were observed) were common.

Heading to WP 2, amazing footage of cerianthid anemones and thread leg shrimp was collected. A few swimming polychaetes were sighted, a few Liparid fish (possibly - *Scopelogadus* sp.), cutthroat eels, and tripod fish (likely Bathypterois?) were common. Sediment cover featured mostly pteropod shells with little to no ripples; on hard bottom, there were a few small white sponges, fly-trap anemones were rare.

As the dive progressed, the substrate transitioned to rippled soft bottom again, with more *Bathypterois?* sp. becoming common, along with cerianthids, and echiura? trace marks. Cutthroat eels, rattail fish, *Pseudostichopus* (Holothurian), and some single-stalked dead bamboo coral started to appear, associated with *Mysis* shrimp. Liparid fish (*Scopelogadus?*), and Hexactinellida – wedding sponge (*Euplectella* type) were rare but present.

The benthos began to change in the transition from rippled, ~flat seafloor to hummocky mounds. Cutthroat eels become common. Bamboo corals became more common, too, with both dead stalks and living specimens. Royal red shrimp-type were seen swimming, and Hexactinellida –*Euplectella?* were observed but rare.

Near the end of the dive on the hummocky slope, single stalked bamboo coral were common, with less dead stalks and more living specimens. There were two comatulid crinoids (as well as some fishing line), and a possible mangrove propagule.

Paleodictyon holes were seen at one location on a hard bottom face, which was a major highlight of this dive (~1950 UTC).

Overall Map of ROV Dive Area

Close-up Map of Main Dive Site

