*Okeanos Explorer* ROV Dive Summary

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Dive Information | | | | | |
| Dive Map | |  | | | |
| Site Name | | Baker Island Shallow | | | |
| Expedition Coordinator(s) | | Brian RC Kennedy, Nick Pawlenko | | | |
| ROV Lead(s) | | Karl McLetchie | | | |
| Science Team Lead(s) | | Amanda Demopoulos and Steven Auscavitch | | | |
| General Area Descriptor | | Pacific Remote Islands Marine National Monument | | | |
| ROV Dive Name | | | | | |
| Cruise | | EX-17-03 | | | |
| Leg | | 0 | | | |
| Dive Number | | 08 | | | |
| Equipment Deployed | | | | | |
| ROV | | Deep Discoverer (D2) | | | |
| Camera Platform | | Seirios | | | |
| ROV Measurements | | CTD | | Depth | Altitude |
|  | | Scanning Sonar | | USBL Position | Heading |
|  | | Pitch | | Roll | HD Camera 1 |
|  | | HD Camera 2 | | Low Res Cam 1 | Low Res Cam 2 |
|  | | Low Res Cam 3 | | Low Res Cam 4 | Low Res Cam 5 |
| Equipment Malfunctions | |  | | | |
| ROV Dive Summary (from processed ROV data) | | Dive Summary: EX1703\_DIVE08  ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^  In Water: 2017-03-15T19:14:08.386000  00°, 12.783' N ; 176°, 29.094' W  Out Water: 2017-03-16T02:39:47.879000  00°, 12.689' N ; 176°, 29.201' W  Off Bottom: 2017-03-16T02:10:21.574000  00°, 12.713' N ; 176°, 29.075' W  On Bottom: 2017-03-15T20:02:57.797000  00°, 12.729' N ; 176°, 29.192' W  Dive duration: 7:25:39  Bottom Time: 6:7:23  Max. depth: 725.5 m | | | |
| Special Notes | |  | | | |
| Scientists Involved  (please provide name, location, affiliation, email) | | |  |  |  | | --- | --- | --- | | **Name** | **Affiliation** | **Email Address** | | Amanda Demopoulos | USGS | ademopoulos@usgs.gov | | Andrea Quattrini | Harvey Mudd College | aquattrini@g.hmc.edu | | Asako Matsumoto | Chiba Institute of Technology (Chitech), | amatsu@gorgonian.jp | | Bruce Mundy | NOAA NMFS Pacific Islands Fisheries Science Center | bruce.mundy@noaa.gov | | Christopher Kelley | University of Hawaii | ckelley@hawaii.edu | | Deborah Glickson | National Academies of Sciences, Engineering, and Medicine | dglickson@nas.edu | | Erik Cordes | Temple University | ecordes@temple.edu | | Michael Parke | NOAA PIFSC | michael.parke@noaa.gov | | Peter Auster | Mystic Aquarium & UConn | peter.auster@uconn.edu | | Shirley Pomponi | HBOI-FAU CIOERT | spomponi@fau.edu | | Sonia Rowley | University of Hawai'i at Manoa | srowley@hawaii.edu | | Steve Auscavitch | Temple University | steven.auscavitch@temple.edu | | Tara Harmer Luke | Stockton University | luket@stockton.edu | | Timothy Shank | Woods Hole Oceanographic Institution | tshank@whoi.edu | | Tina Molodtsova | P.P.Shirshov Institute of Oceanology RAS | tina.molodtsova@gmail.com | | Mike Ford | NOAA NMFS | michael.ford@noaa.gov | | Brendan Roak | Texas A&M University | broark@geos.tamu.edu | | | | |
| Purpose of the Dive | | The goal of this dive is to acquire baseline information on deep sea habitats, seafloor geology, and biological communities on Baker Island in the Howland & Baker Unit of the Pacific Remote Islands Marine National Monument. Deep-sea environments around Howland & Baker Islands are virtually unexplored leading to poor knowledge of biological resources protected by these reserves. | | | |
| Description of the Dive | | EX1703 dive # 8 was along the NW ridge of Baker Island. The ROV descended to 725m and the seafloor was characterized by a steep rock wall with a sedimented slope at the base. Specific fishes observed on the dive included midwater myctophids and gonostomatids, plus oreo fish (*Neocyttus* sp.), beard fish (*Polymixia* sp.), conger eels (*Bathycongrus*?), alfonsinos (*Beryx splendens*), cusk eels (*Pycnocraspedum* spp., *Neobythites*, *Benthocometes*?), roughy (*Hoplostethus* spp.), goosefish (*Lophiomus* or *Lophioides* sp.), lanternfish (*Neoscopelus*), tonguefish (*Symphurus* spp.), rattails (*Nezumia*, *Coelorinchus*, *Diplacanthopoma*), deep-sea cardinalfish (*Epigonus*), green-spotted duckbill fish (*Chrionema chryseres*), snake eels (*Ophichthus*?), Randall’s snapper (*Randallichthys filamentosus*?), distant relative to the dory (*Cyttomimus* sp.), lanternbelly (*Synagrops* sp.), greeneye (*Chlorophthalmus* sp.), dogtooth tuna (*Gymnosarda unicolor*), spikefish (Triacanthodidae), sea toad (*Chaunax* sp.) and amberjack (S*eriola* sp.). While we have infrequently observed ectoparasites on very few fishes thus far, on this dive there were several fishes (*Pycnocraspedum* sp., other cusk eel, lophiids) that had ectoparasites (e.g., gnathiid isopods) attached to the skin, including different fins, mouth, and behind the eye.  As the ROV progressed up a very steep slope, several coral taxa were observed isidids (whips and *Keratoisis*), cup corals (multiple species), mushroom coral (*Anthomastus*), black corals (*Bathypathes*, *Lillipathes*?, *Umbellapathes*), unknown plexaurids (*Acanthogorgia*?), unknown primnoids, *Victorgorgia*?, *Swiftia*?, *Chrysogorgia*, and colonial scleractinians (*Enallopsammia*?, *Madrepora*).  Other invertebrates observed included 2 homolids, one holding onto a dead colonial scleractinian skeleton and one with a sponge, encrusting sponges with zoanthids, barrel sponges, an unusual branched sponge (*Walteria*-like), demosponges, corallimorpharian with pink tips on the tentacles, large *Heterocarpus* shrimps, red crabs (*Chaceon* sp.), seastars (*Circeaster pullus*?, *Ceremaster*, *Cheiraster*, *Henricia*, *Tremaster mirabilis*), sea urchins (echinothuriids), majid crabs with white and orange banded legs (*Cyrtomaia*?), hermit crabs with anemone houses, and comatulid feather stars.  Along the steep karst-like rock wall, there were several eroded channels and caverns, some of which hid limid bivalves (*Acesta*?) with tiny cup corals attached to the shells, an octopus, spiny sea urchins, and squat lobsters. These dramatic, cathedral-like rock features, continued up the slope to about 423m, where the seafloor leveled out to a sedimented plain. We will have a dive at a similar depth range on Howland Island coming up soon, so it will be interesting to see if we observe similar patterns in the geology, the biology and ecology. | | | |
| Overall Map of the ROV Dive Area | | | **Close-up Map of Main Dive Site** | | |
| /Volumes/PublicData/cruises/EX1703/DiveSummaries/HypackScreengrabs/Dive08_Hypack_wide.JPG | | | /Volumes/PublicData/cruises/EX1703/DiveSummaries/HypackScreengrabs/Dive08_Hypack_zoom.JPG | | |
|  | | |  | | |
| Representative Photos of the Dive | | | | | |
| /Volumes/CruiseData/EX1703/Imagery/EX1703_DIVE08_20170315/EX1703_IMG_20170316T013743Z_ROVHD.jpg | | | /Volumes/CruiseData/EX1703/Imagery/EX1703_DIVE08_20170315/EX1703_IMG_20170315T224901Z_ROVHD.jpg | | |
| A pelagic holothurian | | | A roughy get up close and personal | | |
| Samples Collected | | | | | |
| Sample | | | | | |
| Sample ID | EX1703\_20170316T015221\_D2\_DIVE08\_SPEC01BIO | |  | | |
| Date (UTC) | 20170316 | |  | | |
| Time (UTC) | 01:52:21 | |  | | |
| Depth (m) | 436.54 | |  | | |
| Temperature (°C) | 8.45 | |  | | |
| Field ID(s) | Primnoidae | |  | | |
| Comments |  | | | | |

**Please direct inquiries to:**

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