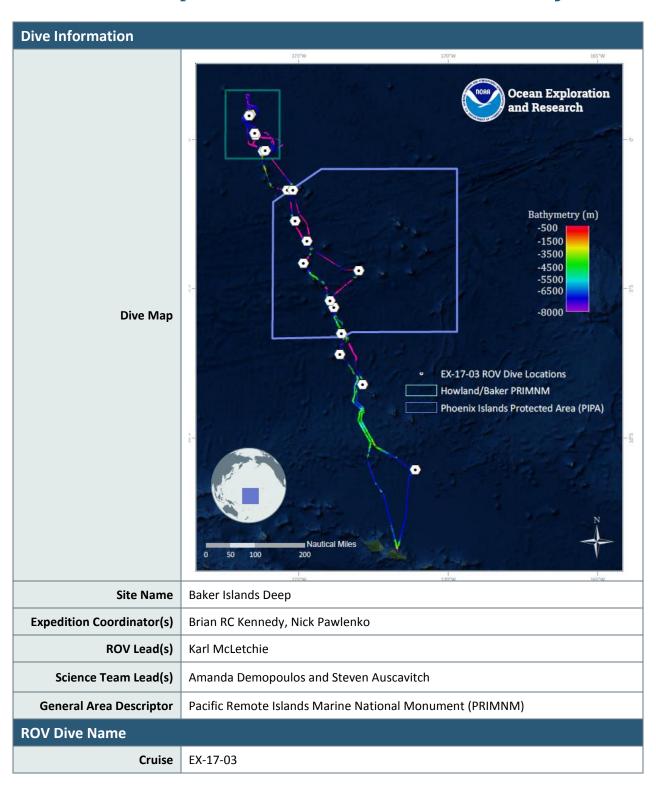


# Okeanos Explorer ROV Dive Summary



Leg	0		
Dive Number	12		
Equipment Deployed			
ROV	Deep Discoverer (D2)		
Camera Platform	Seirios		
ROV Measurements	⊠ CTD	□ Depth	⊠ Altitude
	Scanning Sonar	□ USBL Position	
		⊠ 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			
<b>ROV Dive Summary</b> (from processed ROV data)	In Water:  Out Water:  Off Bottom:  On Bottom:  Dive duration:  Bottom Time:	7: EX1703_DIVE12 1000,000,000,000,000,000,000,000,000,00	
Special Notes	Max. depth:	1858.7 m	



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Purpose of the Dive	The general 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. The		



previous Dive08 (this cruise) explored shallow and carbonate karstic terrain as well as upper bathyal fish communities <600m depth. This dive will provide some perspective on biological resources as well as geological foundations of the island. Understanding deep-sea coral distribution as well as bathyal fish communities is of great importance to inform management in the area. Additionally, the age of Baker Island is not known, nor has any record of rock dredging in the area been reported.

EX1703 dive # 12 was along a steep slope on a south ridge of Baker Island. The dive started at 1858m and the seafloor was composed of large boulders with exposed rock surfaces interspersed with sandy sediments. Several large boulders appeared as if they had been transported downslope via mass wasting events. There were columnar basalts observed along the slope, covered with thick manganese iron-oxide crust, some of which had a botryoidal texture (i.e., globular appearance).

As we transited up a steep slope, we encountered several fish species, including multiple cusk eels (Ophidiidae: *Bassozetus*,

unknown Ophidiidae), batfish (Ogcocephalidae: cf. *Halicmetus niger*), rattails (Macrouridae: *Coryphaenoides* cf. *armatus*), brotula (Bythitidae: *Diplacanthopoma*), cutthroat eel (Synaphobranchidae), hake (Moridae: *Lepidion*), and several deep-sea spiny eels (Halosauridae: *Halosaurus*). Corals observed included black corals (*Stichopathes* and an unknown whip), chrysogorgiids (*Iridogorgia* cf. *magnispiralis*, *Metallogorgia*), *Anthomastus tahinodus*, bamboos (whips, cf. *Eknomisis*, cf. *Jasonisis*), cup corals, *Victorgorgia*, primnoid, paragorgiid, and yellow plexaurids. We also saw the colonial hydroid, *Solanderia*, with a possible egg case, a large polychaete, and isopod. Seastars (*Pteraster*, juvenile pterasterid, unknown goniasterid), urchins (aspidodiadematid, echinothuriids, cidarid), and holothurians (elpidiid, unknown purple specimen) were observed on rocks or the sediment surface. Other taxa observed

included a few different types of sponges including Cladorhizidae, Euplectellidae, encrusting sponges, and a field of unknown dead hexactinellids, anemones (Hormathiidae), pectinid bivalves, stalked crinoids (*Paratelecrinus* sp.), and xenophyophores on the sediment and rock surfaces. Associates included ophiocanthids, polynoid and sabellid polychaetes, crinoids, and mysid shrimp. We saw a sea spider (cf. *Colossendeis*) eating a cup coral, which had not been observed by the scientists before. The dive ended on a short

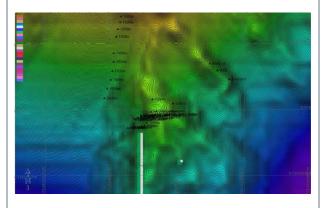
**Description of the Dive** 

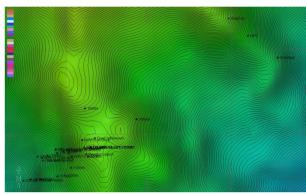


pinnacle composed of a basalt pavement seafloor. We observed and collected small snips of an unknown bifurcated bamboo near the peak of this feature.

#### Overall Map of the ROV Dive Area

#### **Close-up Map of Main Dive Site**





#### **Representative Photos of the Dive**





Mn crusted rock with patches of sediment was common throughout the dive

a sea spider (cf. *Colossendeis*) eats a cup coral

## **Samples Collected**

## Sample

Sample ID

EX1703\_20170319T214245\_D2\_ DIVE12\_SPEC01GEO





Date (UTC)	20170319		
Time (UTC)	21:42:45		
Depth (m)	1760.22		
Temperature (°C)	2.57		
Field ID(s)	Mn-crusted basalt		
Comments			
Sample			
Sample ID	EX1703_20170320T012841_D2_ DIVE12_SPEC02BIO		
Date (UTC)	20170320	) {	
Time (UTC)	01:28:41		
Depth (m)	1495.54		
Temperature (°C)	3.01		
Field ID(s)	Isididae		
Comments			
Sample			
Sample ID	EX1703_20170320T013344_D2_ DIVE12_SPEC03BIO		
Date (UTC)	20170320		
Time (UTC)	01:28:41		
Depth (m)	1495.68		
Temperature (°C)	2.99		
Field ID(s)	Isididae		
Comments			

## Please direct inquiries to:

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