

LMG
Science Equipment/Systems Allocation
UNDERWATER IMAGERY

Product	Quantity on Hand
<i>Seafloor Photography</i>	
Benthic Digital Still Camera: Ocean Imaging Systems DSC-10000 with OIS strobe Note: Images stored on camera for download at surface: <u>not real time</u>	1
"Yo-Yo" camera frame options:	
Bottom contact shutter trigger	1
10 cm scaling lasers	
WETLabs transmissometer	
Benthos Altimeter	
MacArtney NEXUS MK E Multiplexer: Live video, serial, remote pan/tilt and light control Fiber optic and/or copper coax telemetry system 6000 meter housing, fiber optic upgrade and 1GB Ethernet channel 48/24/15/12 VDC power available to remote instrumentation.	1
MacArtney NEXUS options:	
Deep Sea Power & Light Wide-I SeaCam or Multi-SeaCam (digital NTSC 768(horizontal) x 494 (vertical) 2000m depth rating	1
LED lights	2
10cm scaling lasers	1

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SCIENCE AND EQUIPMENT ALLOCATION	
WATER COLUMN PROFILING AND CTD	
Product	Quantity on Hand
<i>CTD Rosette and Bottles</i>	
Rosette Frame, 24 Position, Sea-Bird Electronics 32 (Primary and Preferred)	2
Bundle Component: Head Sheave, Appendix A compliant for CTD operations (Harken 500mm)	
Bundle Component: Winch DUSH-5 with .322 EM cable	
Bundle Component: Baltic Room Hydro-boom Operations	
Sample bottle, 12-L, Ocean Test	
Rosette Frame, 12 Position, Sea-Bird Electronics, Sea-Bird Electronics 32 (Backup)	1
Bundle Component: Head Sheave, Appendix A compliant for CTD operations (Harken 500mm)	
Bundle Component: Winch DUSH-5 with .322 EM cable	
Bundle Component: Baltic Room Hydro-boom Operations	
Rosette Frame, 12-position, Trace Metal Clean, Sea Bird Electronics, powder coated frame, Ti pylon, Grantees must supply Sample Bottles (up to 12 l) GO Flo or Niskin-X compatible	1
Bundle Component: Head sheave, Non-metallic, Trace Metal Clean, GO Sheave	
Bundle Component: Winch COM-10, Trace Metal Clean winch with slip ring and Trace Metal Clean conducting cable, 0.39" 4-conductor, winch located on helo deck facing STB	
Bundle Component: STB A-Frame Operations	
Sample bottle, 30-L, Niskin, General Oceanics	
<i>CTD Sensors</i>	
CTD Standard configuration	1
Bundle Component: Depth rating 6800-M	1
Fluorometer, depth rating 6000-M, WetLabs	1
PAR sensor (Photosynthetically Active Radiation, 400-700nm), depth rating 1000-M, Biospherical Instruments.	1
Bundle Component: QTY 1- Benthos 916A Altimeter	1
Bundle Component: QTY 1- SBE 9-11+ CTD	1
Bundle Component: QTY 1- SBE Bottom Contact Switch	1

Bundle Component: QTY 2- SBE 3+ Temperature sensors	1
Bundle Component: QTY 2- SBE 4 Conductivity sensors	1
Bundle Component: QTY 2- SBE 43 Dissolved Oxygen sensors	1
Bundle Component: QTY 2- Sea-Bird Electronics 5T pumps	1
Trace metal clean system	
Transmissometer, (25cm pathlength), depth rating 6000-M, WETLabs	1
CTD Standard Trace Metal Clean configuration	
Bundle Component: Depth rating 6800-M	1
Fluorometer, depth rating 6000-M, WETLabs	1
PAR sensor (Photosynthetically Active Radiation, 400-700nm), depth rating 1000-M, Biospherical Instruments.	1
Bundle Component: QTY 1- Benthos 916A Altimeter	1
Bundle Component: QTY 1- SBE 9-11+ CTD- Titanium	1
Bundle Component: QTY 1- SBE Bottom Contact Switch	1
Bundle Component: QTY 2- SBE 3+ Temperature sensors- Titanium	1
Bundle Component: QTY 2- SBE 4 Conductivity sensors- Titanium	1
Bundle Component: QTY 2- SBE 43 Dissolved Oxygen sensors- Titanium	1
Bundle Component: QTY 2- Sea-Bird Electronics 5T pumps	1
Transmissometer, (25cm pathlength), depth rating 6000-M, WETLabs	1
Expendable Probes	
XBT (Expendable Bathythermograph), Sippican Deep Blue, 760-M @20kts	
XBT (Expendable Bathythermograph), Sippican T-10, 200-M @ 10kts	
XBT (Expendable Bathythermograph), Sippican T-11, 460-M @ 6kts, high resolution (18cm)	
XBT (Expendable Bathythermograph), Sippican T-4, 460-M @ 30kts (hand launch)	
XBT (Expendable Bathythermograph), Sippican T-5, 1830-M @ 6kts	
XBT (Expendable Bathythermograph), Sippican T-6, 460-M @ 15kts	
XBT (Expendable Bathythermograph), Sippican T-7, 760-M @ 15kts	
XCTD (Expendable Conductivity, Temperature and Depth Profiler), Sippican, 1000-M @ 12 kts	
XCTD Deep (Expendable Conductivity, Temperature and Depth Profile), Sippican, 1850-M @ 3.5 kts	
XSV (Expendable Sound Velocimeter), Sippican XSV-01, 850-M @ 15kts	
XSV (Expendable Sound Velocimeter), Sippican XSV-02, 2000-M @ 8kts	
Radiometers	
PRR-800 (Profiling Reflectance Radiometer), Biospherical Instruments, water-column and ground profiling sets which include: PAR (400-700 nm), Natural Fluorescence (upwelling radiance only), 313, 320, 340, 380, 395, 412, 443, 490, 510, 555, 565, 625, 665 & 670 nm- upwelling radiance	1

and downwelling irradiance	
UV-Meter, Profiling (PUV), and Ground (GUV), 305, 313, 320, 340, 380, 395 nm, and PAR (400-700 nm), biospherical Instruments	1

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Science Equipment/Systems Allocation	
WINCHES AND WIRE	
Product	Quantity on Hand
<i>Hydrographic and Trawl Winches</i>	
Winch, deep-sea trawl, situated on 01 Deck Forward, DUSH-11, Max Drum Capacity 5,000m .680 EM cable or 7,300m 9/16 wire rope	1
Winch, hydrographic, situated in Baltic room, DUSH-5, Max Drum Capacity 10,000m .322 EM cable	1
Winch, hydrographic, situated on 01 Deck Aft, DUSH-4, Max Drum Capacity 6,000m .322 cable or 7,000m of 1/4" wire rope	1
Winch, Trace Metal Clean, COM-10, 3,000 meter capacity, totally non-metallic sheave train .390 Vectran cable	1
<i>Mooring Winches</i>	
Winch, TSE Mooring, for mooring deployment and recovery	1
<i>Pot Hauling Gear</i>	
Hydraulic Pot Hauler (suitable for pot fishing in 100-300m of water)	1
Bundle Component: Pot Warp, float and sink line appropriate for fishing depth	
Bundle Component: Hi-Flyer float, one per string	
Bundle Component: Head Gear, A-4 floats	
Bundle Component: USAP Pot Fishing Van, storage and spares	
Crab pot / fish trap 4 strings w/ 4 pots/string	16
<i>Utility Winches</i>	

Winch, Deck Utility	1
wire rope or dyneema for Utility Deck Winch	1
Winch, Tugger, for moving gear on deck and equipment recovery	2