Pacific Seamounts 2018 Expedition Report (Pac2018-103 & NA097)

Heidi Gartner, Tammy Norgard, Jaasaljuus Yakgujanaas, Robert Rangeley, Mandy Leith, Hugh MacIntosh and Cherisse Du Preez

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Pacific Seamounts 2018 Expedition Report (Pac2018-103 & NA097)

By

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From July 5-21, 2018, the Council of the Haida Nation, Fisheries and Oceans Canada, Oceana Canada, and Ocean Networks Canada embarked on an expedition to explore seamounts in the northeast Pacific Ocean off the coast of British Columbia (PAC 2018-103; NA097). The expedition was conducted aboard the Ocean Exploration Trust's vessel *Nautilus* where the scientists used state-of-the-art technology to map the seafloor, conduct oceanographic studies, and collect imagery of the life found on and around seamounts. During the expedition, 2,500 km of seafloor was mapped. Oceanographic samples collected included temperature, depth, conductivity, and dissolved oxygen for all scientific dives, bongo net casts to examine water column communities, discrete water samples for eDNA analysis, plus an autonomous mooring for one year. Ten scientific dives were conducted on six seamounts (Pierce/Davidson, Hodgkins, SGaan Kinghlas-Bowie, Dellwood, Dellwood South, and Explorer) using the remotely operated vehicles *Hercules* and *Argus.* The dives captured images of never-before-seen habitats, species, and behaviours for seamounts. The science team used the submersibles to collect 570 specimen vouchers and tissue samples, 48 Niskin water samples for eDNA, and 15 push cores for sediment analysis. During the dives 29 physical markers were deployed to establish long-term monitoring sites. In addition, science communication was a priority for the expedition partners, and all dives were live-streamed online, with multiple media and outreach sessions, to engage the general public. Over 3.7 million people were reached on social media, 130 countries watched the dives online, and over 180 media stories were generated across radio, television, and print.

Résumé

Gartner, H., Norgard, T., Yakgujanaas, J., Rangeley, R., Leith, M., MacIntosh, H., Du Preez, C. 2022. Pacific Seamounts 2018 Expedition Report (Pac2018-103 & NA097). Can. Tech. Rep. Fish. Aquat. Sci. 3460: ix + 147 p.

Du 5 au 21 juillet 2018, le Conseil de la Nation haïda, Pêches et Océans Canada, Oceana Canada et Ocean Networks Canada ont pris part à une expédition d'exploration des monts sous-marins dans l'océan Pacifique Nord-Est, au large de la Colombie-Britannique (PAC 2018-103; NA097). Dans le cadre de cette expédition menée à bord du *Nautilus*, un navire appartenant à l'Ocean Exploration Trust, les scientifiques ont utilisé une technologie de pointe pour cartographier le plancher océanique, mener des études océanographiques et recueillir des images de la vie présente sur les monts sous-marins et à proximité. Pendant le voyage l'équipe d'expédition a cartographié 2 500 km de fonds marins. Les échantillons océanographiques prélevés lors de toutes les plongées scientifiques ont permis de recueillir des informations sur la température, la profondeur, la conductivité et l'oxygène dissous. Des filets Bongo ont été utilisés pour examiner les communautés de la colonne d'eau, et des échantillons d'eau distincts ont été prélevés pour l'analyse de l'ADNe. En outre, un dispositif d'amarrage autonome a été déployé sur une période d'un an. Dix plongées scientifiques ont été effectuées sur six monts sous-marins (Pierce/Davidson, Hodgkins, SGaan Kinghlas-Bowie, Dellwood, Dellwood Sud et Explorer) à l'aide de deux véhicules téléguidés, *Hercules* et *Argus*. Les plongées ont permis de capturer des images d'habitats, d'espèces et de comportements jamais observés auparavant sur les monts sous-marins. L'équipe scientifique a utilisé les véhicules sous-marins pour prélever 570 spécimens et échantillons de tissus, 48 échantillons d'eau à l'aide de bouteilles Niskin pour l'ADNe, ainsi que 15 carottes pour l'analyse des sédiments. Lors des plongées, 29 marqueurs physiques ont été déployés, et des sites de surveillance à long terme ont été établis. Les communications scientifiques étaient également une priorité pour les partenaires de l'expédition : toutes les plongées ont été diffusées en direct sur Internet, et de nombreuses séances médiatiques et de sensibilisation ont été organisées afin de mobiliser le grand public. Les médias sociaux ont permis de rejoindre plus de 3,7 millions de personnes, les plongées ont été visionnées en ligne par des gens de plus de 130 pays, et plus de 180 reportages ont été diffusés à la radio, à la télévision et dans la presse écrite.

Objective

From July 5-21, 2018, the Council of the Haida Nation (CHN), Fisheries and Oceans Canada (DFO), Oceana Canada (OC), and Ocean Networks Canada (ONC) (within document referred to as the Northeast Pacific Seamounts Expedition Partners - NPSEP) embarked on an expedition to explore seamounts in the northeast Pacific Ocean off the coast of British Columbia (BC) (DFO Pac2018-103 expedition; Nautilus NA097 expedition). This collaborative expedition was developed to collect baseline data that could be used to inform the management and monitoring of seamounts, which are little-understood ocean biodiversity hotspots.

Seamounts are underwater mountains that rise above 1,000 meters (3,280 feet) tall from the seafloor (Yesson et al. 2011). They are offshore biodiversity hotspots, providing a highly structured environment on which habitat-forming species such as corals and sponges can grow. The corals and sponges in turn, provide refuge, breeding, and foraging habitats for a diverse array of species from squat lobsters to rockfish. The cascading ecosystem effects around seamounts support transient species, such as tuna, marine mammals, sea birds, and sharks. Seamount oasis support crustaceans, fish, whales and other marine mammals - species that coastal communities depend on as a source of food and for their social, cultural, and economic value (Ban et al. 2016; DFO 2019). Despite their offshore location, seamounts are vulnerable to environmental changes and some current and emerging practices, such as bottom-contact fishing and deep-sea mining (summarized in Clark et al. 2012; Ross et al. 2020). Scientific surveys will further our understanding of these ecosystems, helping to put the right protection in place, ensuring healthy oceans for all who rely on them.

The seamounts in British Columbia waters have been identified as Ecological or Biologically Significant Areas (EBSA; Ban et al. 2016). Under the Oceans Act, DFO has the legislative framework to provide protection to EBSAs of the oceans and coasts through the establishment of Marine Protected Areas (MPAs), where the identification of an Area of Interest (AOI) is the first step in this process. DFO has established an AOI in the Offshore Pacific bioregion off Canada's West coast. This AOI spans approximately 139,700 km^2 in the southern half of Canada's Pacific Offshore Bioregion and joins the SGaan Kinghlas-Bowie Seamount MPA (established in 2007) in protecting unique seafloor features, including seamounts. To inform the protection and management processes of these EBSAs, DFO Oceans Management Branch had requested information on the biophysical and ecological overview of the Offshore Pacific AOI (DFO 2019) and an evaluation of the representative seamount areas in the AOI (DFO 2021). This expedition was planned to target seamounts that would help fill information gaps to better inform the protection and management of these EBSAs in Candian waters.

The expedition team spent 16 days on board Ocean Exploration Trust's state-of-the-art vessel, the Exploration Vessel (E/V) *Nautilus*, equipped with a multi-beam echosounder used for seafloor mapping, oceanographic sampling tools, and two remotely operated vehicles (ROVs) *Hercules* and *Argus*. These tools were used to provide baseline data for scientific monitoring and research. The ROVs installed long-term ocean monitoring instruments, collected scientific data and samples, and established monitoring sites. In addition, high-definition video was captured by the ROVs and streamed in real-time online to share with the world.

The NPSEP (Figure 1) believe that by working together to share resources, knowledge, and expertise, we can better understand and protect the ocean.

A summary of the expedition was published in Oceanography and is available at https://tos.org/oceanography/assets/docs/32-1_supplement.pdf.

Figure 1. Representatives of the NPSEP aboard E/V *Nautilus* with ROVs *Argus* and *Hercules* (photo credit: Shelton Du Preez, DFO).

Methods, Preliminary Results, and Highlights

Partners

The Council of the Haida Nation (CHN)

Healthy ocean ecosystems are essential to the wellbeing of present and future generations on Haida Gwaii. Increasing our understanding of seamounts will help us to effectively protect and conserve these unique features and the ecosystems that they support.

Haida have a historical, spiritual and cultural connection with the SGaan Kinghlas-Bowie (SK-B) Seamount. According to Haida oral traditions, before the time of humans, supernatural beings made their home beneath numerous places around Haida Gwaii, including mountains, creeks, shoals and reefs and, in this case, the site of an ancient volcano. The seamount is said to be the home of a supernatural being known as SGaan Kinghlas, which in the Masset dialect means 'supernatural being looking outwards.' SK-B and the surrounding area have been designated by both the Haida Nation and DFO as a Marine Protected Area (MPA). The area is cooperatively managed by the Haida Nation and DFO through the SK-B Seamount Management Board, consisting of two CHN representatives and two DFO representatives.

https://www.haidanation.ca/

Please see Crew at Sea section below for information about CHN representative Jaasaljuus Yakgujanaas.

Fisheries and Oceans Canada (DFO)

The Government of Canada was committed to reaching domestic and international marine conservation targets to increase the amount of Canada's marine and coastal areas that are protected to 10% by 2020. On May 12, 2017, DFO announced a new large ocean Area of Interest (AOI) as the site of a new MPA

within the Offshore Pacific Bioregion located off the coast of British Columbia. The Offshore Pacific AOI is home to 87% of known Canadian seamounts, as well as 100% of known Canadian hydrothermal vents.

The data collected as part of this expedition will contribute scientific evidence to protect habitats with high conservation value to marine biodiversity and to support marine planning and management initiatives, including the Offshore Pacific AOI and the SK-B MPA. The long-term monitoring sites that will be established constitute the first of their kind. Deployed instruments will continuously record oceanic conditions, monitoring the effectiveness of the conservation areas for managing and protecting these ecosystems in a changing ocean.

https://www.dfo-mpo.gc.ca/index-eng.html

Please see Crew at Sea section below for information about DFO representatives Dr Cherisse Du Preez, Shelton Du Preez (contractor), Katie Gale, Dr Dana Haggarty, Tammy Norgard, James Pegg, and Candice St Germain.

Oceana Canada (OC)

OC is a non-government organization that campaigns to protect marine habitat, including through science-based expeditions. Canada's seamounts need to be better understood and protected. We can help ensure future generations inherit healthy oceans that support thriving coastal communities by protecting important marine habitats and rebuilding fish populations to abundance.

https://www.oceana.ca/en

Please see Crew at Sea section below for information about OC representatives Dr Robert Rangeley and Jennifer Whyte.

Ocean Networks Canada (ONC)

Monitoring the west and east coasts of Canada and the Arctic, ONC's real-time, continuous, open data supports scientific discovery and informed decision making by providing ocean intelligence to coastal communities, researchers, policy makers and governments. This expedition extended ONC's monitoring infrastructure to seamounts for the first time. An ONC built and designed autonomous observing platform installed on Dellwood Seamount collected a year of continuous data on temperature, salinity, oxygen and currents to help us better understand the stability of sponge and coral habitat on the seamount.

Seafloor video captured during this expedition was transmitted via satellite onboard—and made available to the public—through ONC's Oceans 2.0 data management and archive portal. ONC's 'SeaScribe' tool enables scientists—on board and onshore—to add real-time annotations to enrich the data collected. Video, ocean data, and metadata captured during this expedition will be used for research and as a record of observations in the region for future generations.

During the expedition, community events and youth engagement with the Haida and Nuu-chah-nulth First Nations included presentations and public events, complementing ONC's ongoing community engagement initiatives with educators, students, communities and Indigenous leaders along BC's Coast and in the Arctic.

https://www.oceannetworks.ca/

Please see Crew at Sea section below for information about ONC representative Mandy Leith.

Other Supporting Entities

Graduate students conducting research aboard the E/V *Nautilus* were supported by the Canadian Healthy Oceans Network (CHONe).

Specimens collected for taxonomic, genetic, and morphogical study were deposited at the Royal BC Museum (RBCM). The RBCM will store the specimens for perpetuity and share the data online for the scientific community.

Ocean Exploration Trust (OET) was contracted to support the expedition. OET is a nonprofit aimed to explore the ocean, seeking out new discoveries in the fields of geology, biology, maitime history, archaeology, and chemistry while pushing the boundaries of education, outreach, and technological innovations.

Shelton Du Preez was contracted to capture footage of the expedition, enivornment, and specimens for use in communication and outreach.

Crew at Sea

The expedition was successful due to the effective work of a multi-disciplinary team from CHN, DFO, OC, ONC, Memorial University (Alessia Ciraolo), the University of Victoria (Brett Jameson), an independent contractor (Shelton Du Preez), and the Ocean Exploration Trust (OET) E/V *Nautilus* crew (Figure 2) under the direction of Tammy Norgard (lead scientist; DFO) and Allison Fundis (expedition leader; OET). To learn more about each individual's role during the expedition, please click on their profiles available through Cruise | Nautilus Live.

Many scientists and partners ashore were able to contribute and participate in real-time through the live-stream video and audio, as well as designated science chat portals.

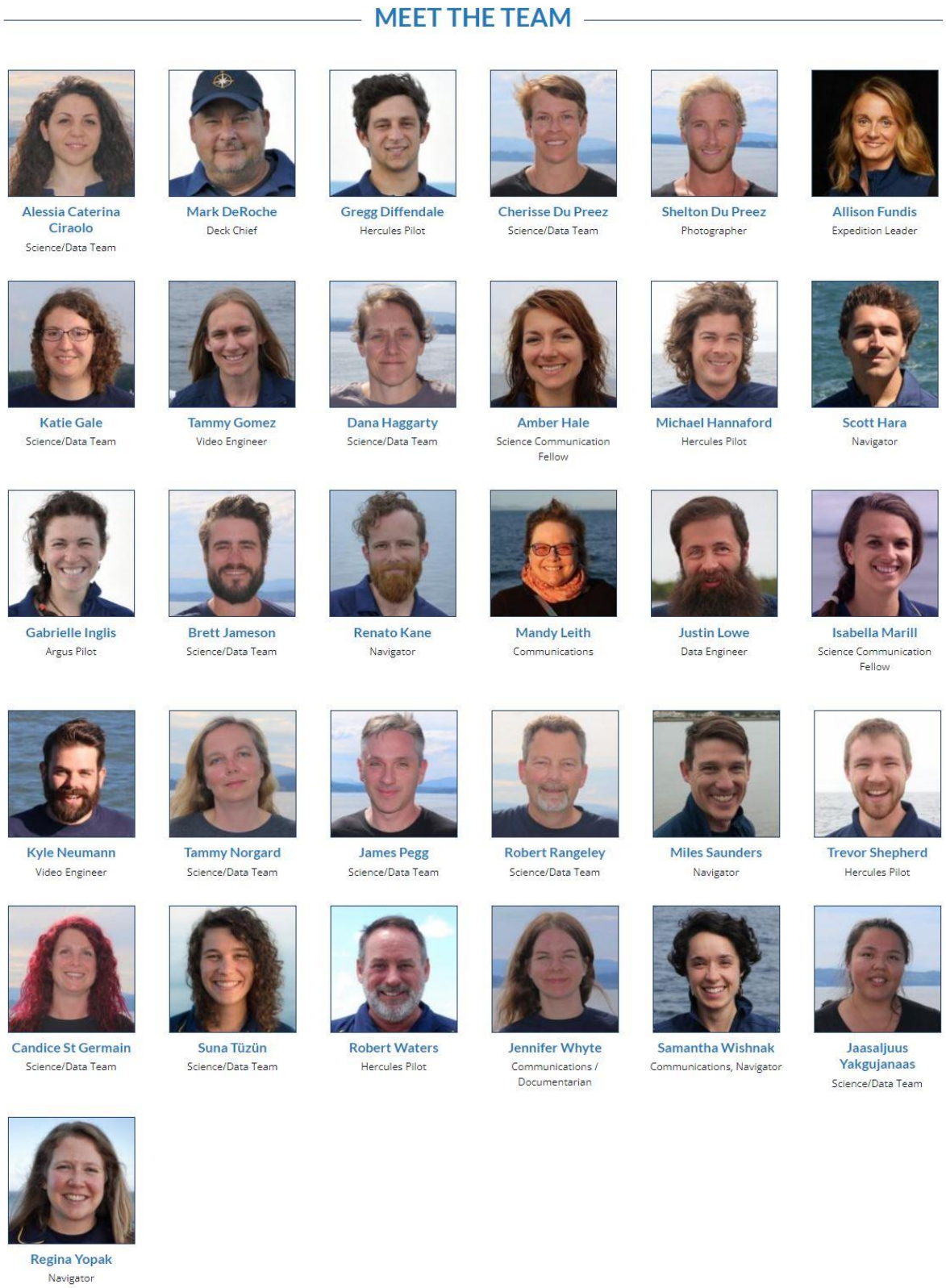


Figure 2. The Northeast Pacific Seamounts Expedition crew aboard the E/V *Nautilus* (credit: OET fom https://nautiluslive.org/cruise/na097).

Expedition Area

The Offshore Pacific Bioregion (OPB) off the west coast of BC is a mosaic of mountainous terrain, valleys, ridges, and basins that reflect its intense nearshore tectonic activity. The bioregion was thought to contain 52 seamounts (at time of publication – 2021- up to 65 seamounts), as well as hundreds of smaller knolls and hills. All known seamounts in the waters surrounding Canada are found off the Pacific coast, a region that includes the SK-B MPA. This bioregion also includes a large AOI designated in 2017 for marine protection. At 139,700 km^2, the AOI covers almost the entire southern half of the region, which contributed significantly to the Government of Canada's goal to protect 10% of the country's ocean by 2020.

The expedition was a 2,500 km voyage to explore and map seamounts in the OPB to inform management and protection (Figure 3). Mapping of the seafloor occurred in transit (dotted red line) as well as at targeted seamounts (stars). Detailed study of the oceanography and deep-sea ecology of seamounts was conducted on six different seamounts: Pierce/Davidson, Hodgkins, SK-B, Dellwood, Dellwood South, and Explorer.

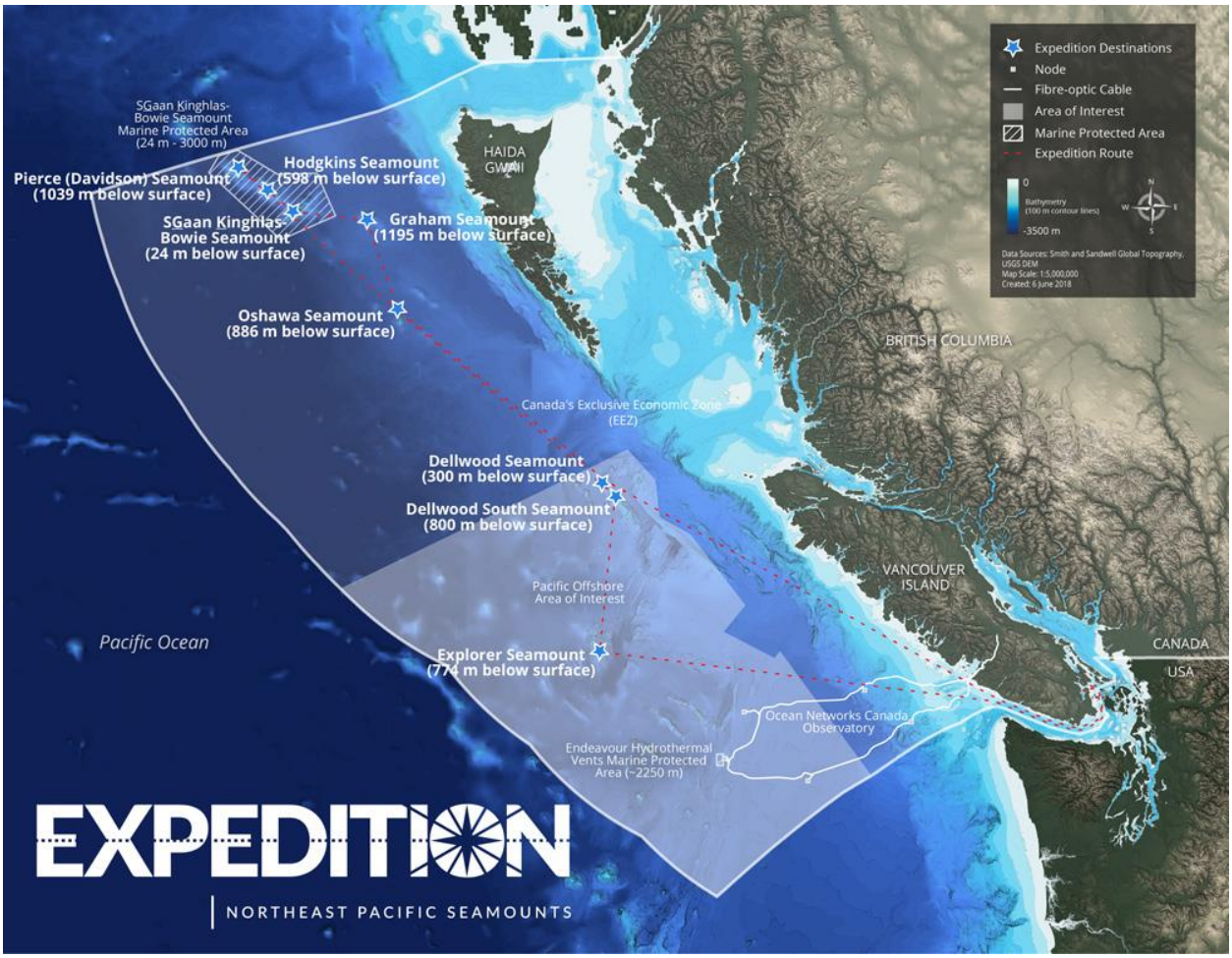


Figure 3. The expedition covered 2,500 km (red dotted line) through Canada's offshore AOI (grey area) and the SK–B MPA (hatched area) to map and study seamounts. Targeted seamounts for mapping and/or data collection are denoted by stars (map credit: ONC from https://www.oceannetworks.ca/discovering-and-protecting-seamounts-northeast-pacific).

Research Vessel

The expedition was conducted on board the E/V *Nautilus*, a 63m oceanographic exploration vessel operated by the OET (Figure 4). The E/V *Nautilus* operates state-of-the-art ROVs with high-fidelity cameras and data links, allowing for detailed video footage to be captured and broadcast. The use of ROVs was chosen over conventional sampling techniques such as grabs and trawls, as they allow for extremely fine-scale quantification of sea floor habitats, with minimal impacts. ROVs also allow for fauna (often fragile) to be retrieved intact for identification.

Figure 4. The E/V *Nautilus* (photo credit: Shelton Du Preez, DFO).

Mapping

One of the primary objectives of the expedition was to obtain high-resolution bathymetry data in the OPB as offshore bathymetry data are limited. In addition to mapping target seamounts, transits between dive locations were planned to pass over predicted or known seamounts to confirm their elevations and classification as seamounts (>1000 m).

This high-resolution mapping was done using the a hull-mounted Kongsberg EM 302 Multibeam Echosounder. All acoustic backscatter data, swath bathymetry, and navigation files were shared with the Marine Geoscience Data System (MGDS; NA097 - Marine Geoscience Data System (marine-geo.org)), which provides free public access and feeds into other mapping initiatives such as General Bathymetric Chart of the Oceans (GEBCO; GEBCO - The General Bathymetric Chart of the Oceans). The multibeam data can be found at https://www.ngdc.noaa.gov/ships/nautilus/NA097_mb.html.

Sub-bottom profiles were collected with a Knudsen 3260 sub-bottom profiler and echosounder at the same time as the multibeam data was collected. Mounted inside the hull of Nautilus, the echosounder operates at low frequencies to penetrate and reflect off of the layers of sediment, revealing a cross-section of the seafloor structure. The sub bottom profile data can requested from the authors in the paper.

In total 2,500 km of seafloor was mapped (Figure 5; Appendix 1). This mapping resulted in:

- four seamounts with more detailed multi-beam data collected than ever before (Dellwood, SK-B, Hodgkins (Figures 6-8); Explorer – 1 pass over summit)
- four seamounts with the first multi-beam data (Pierce/Davidson (Figure 9), Dellwood South, Oshawa, Graham),
- the confirmation/discovery of an additional seven seamounts that had never been mapped before (Unnamed (UN) 12, 18, 19, 25, 32, 33, 34; predicted in DFO 2019) (Figure 10).

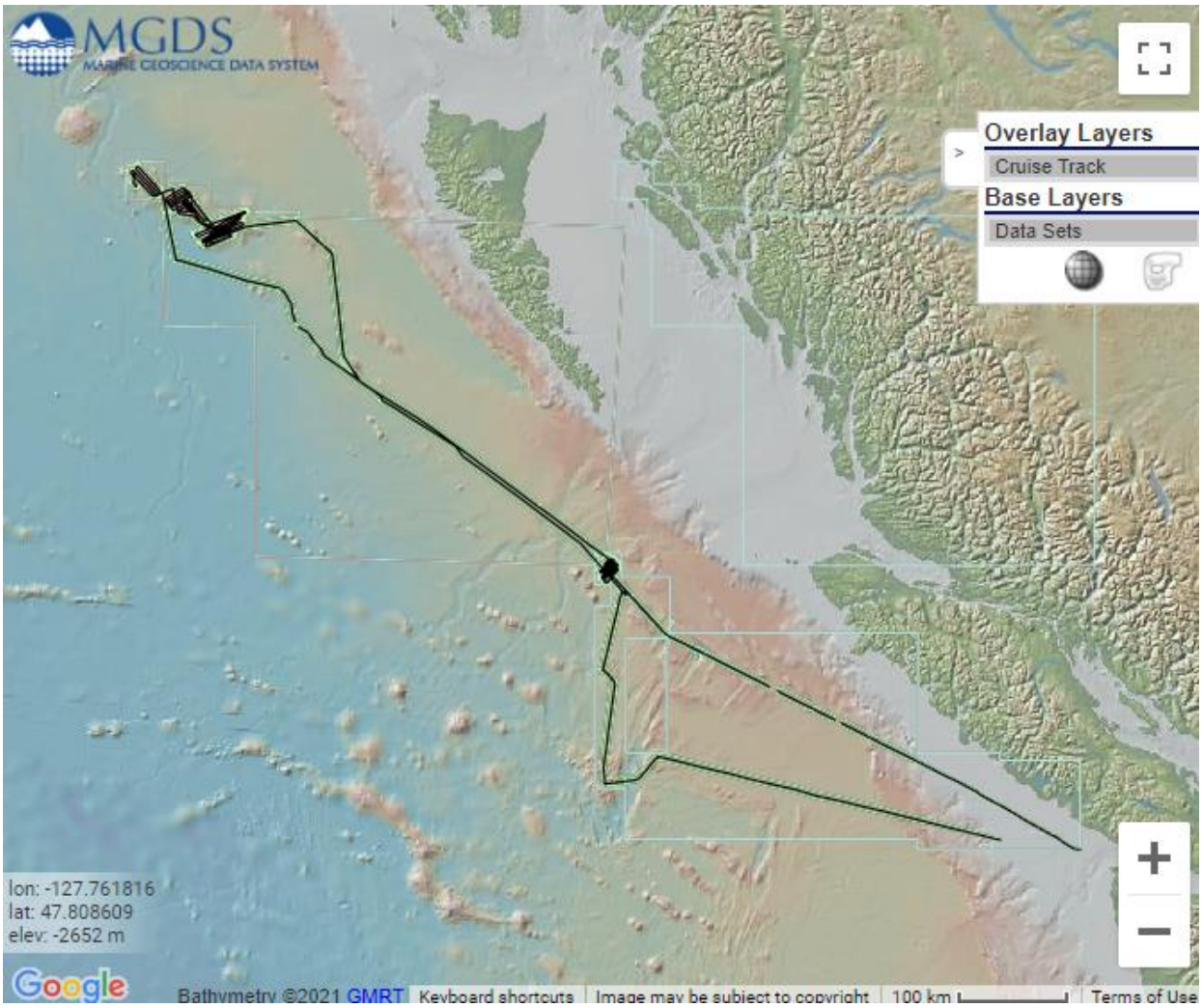


Figure 5. The 2,500 km of bathymetry data collected during the Pac2018-103 (NA097) expedition. Links to acoustic backscatter, swath bathymetry, and navigation files available https://www.marine-geo.org/tools/search/entry.php?id=NA097 (map credit: Marine Geoscience Data System).

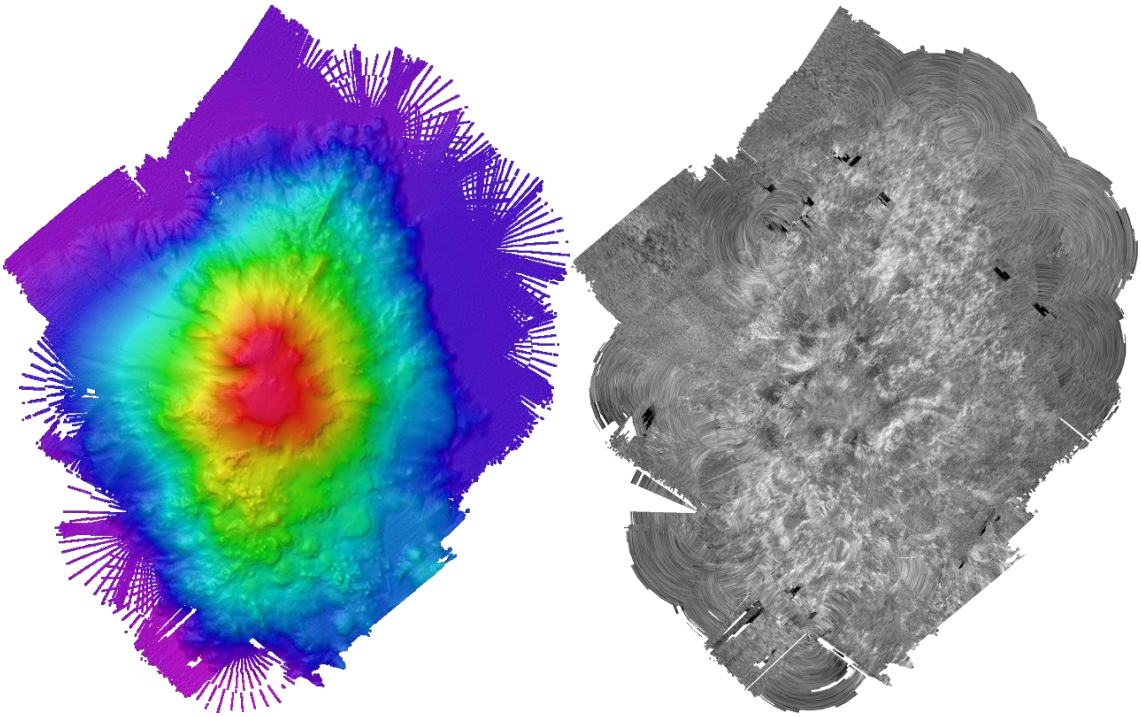


Figure 6. Bathymetry (rainbow colour progression with red for the shallowest depths progressing to purple for the deepest depths) (left) and Backscatter data (right) of Dellwood Seamount (map credit: OET).

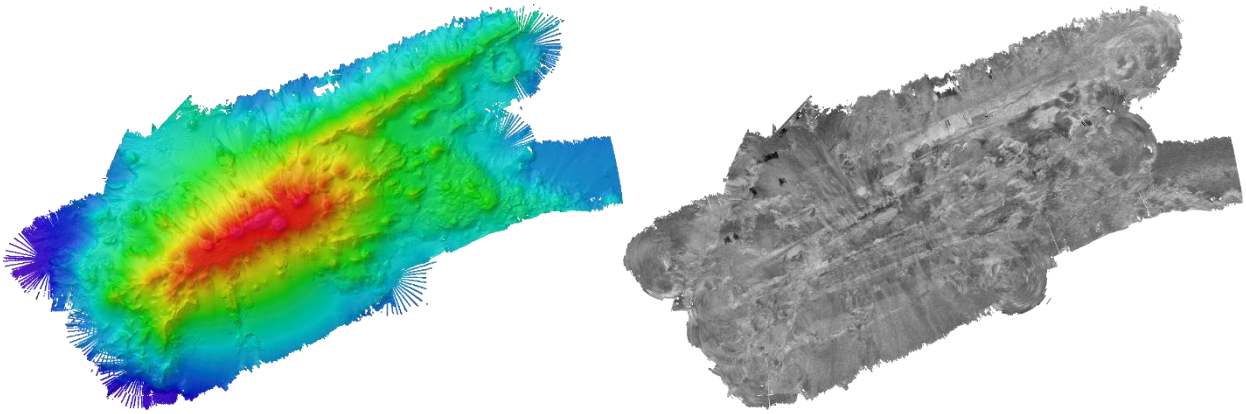


Figure 7. Bathymetry (rainbow colour progression with red for the shallowest depths progressing to purple for the deepest depths) (left) and Backscatter data (right) of SK-B Seamount (map credit: OET).

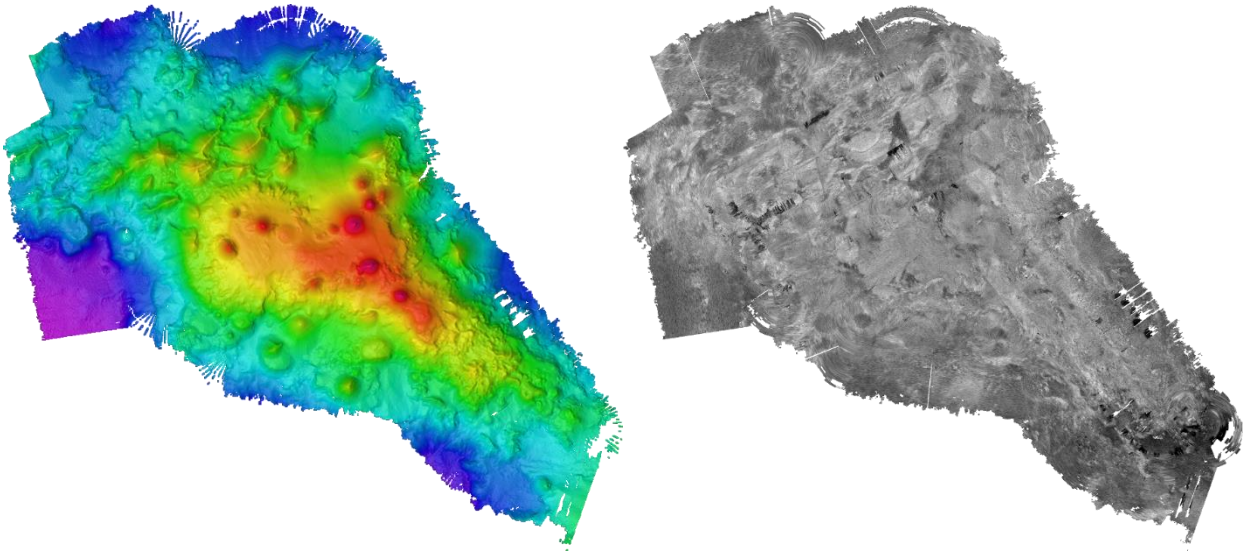


Figure 8. Bathymetry(rainbow colour progression with red for the shallowest depths progressing to purple for the deepest depths) (left) and Backscatter data (right) of Hodgkins Seamount (map credit: OET).

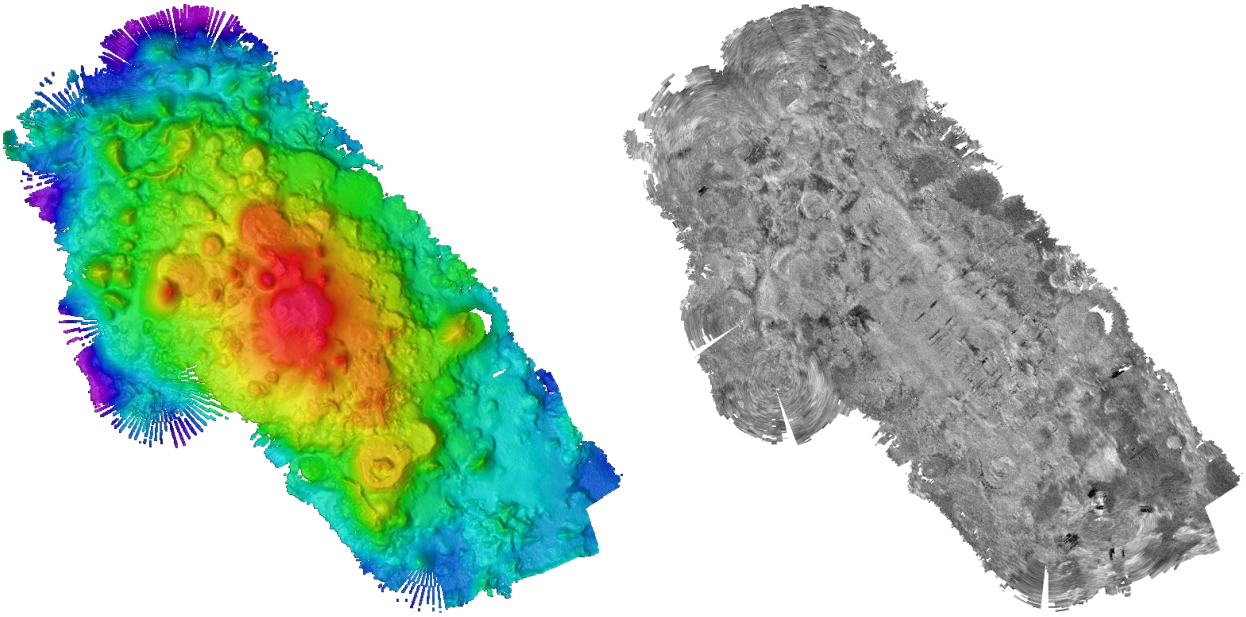


Figure 9. Bathymetry (rainbow colour progression with red for the shallowest depths progressing to purple for the deepest depths) (left) and Backscatter data (right) of Pierce/Davidson Seamount (map credit: OET).

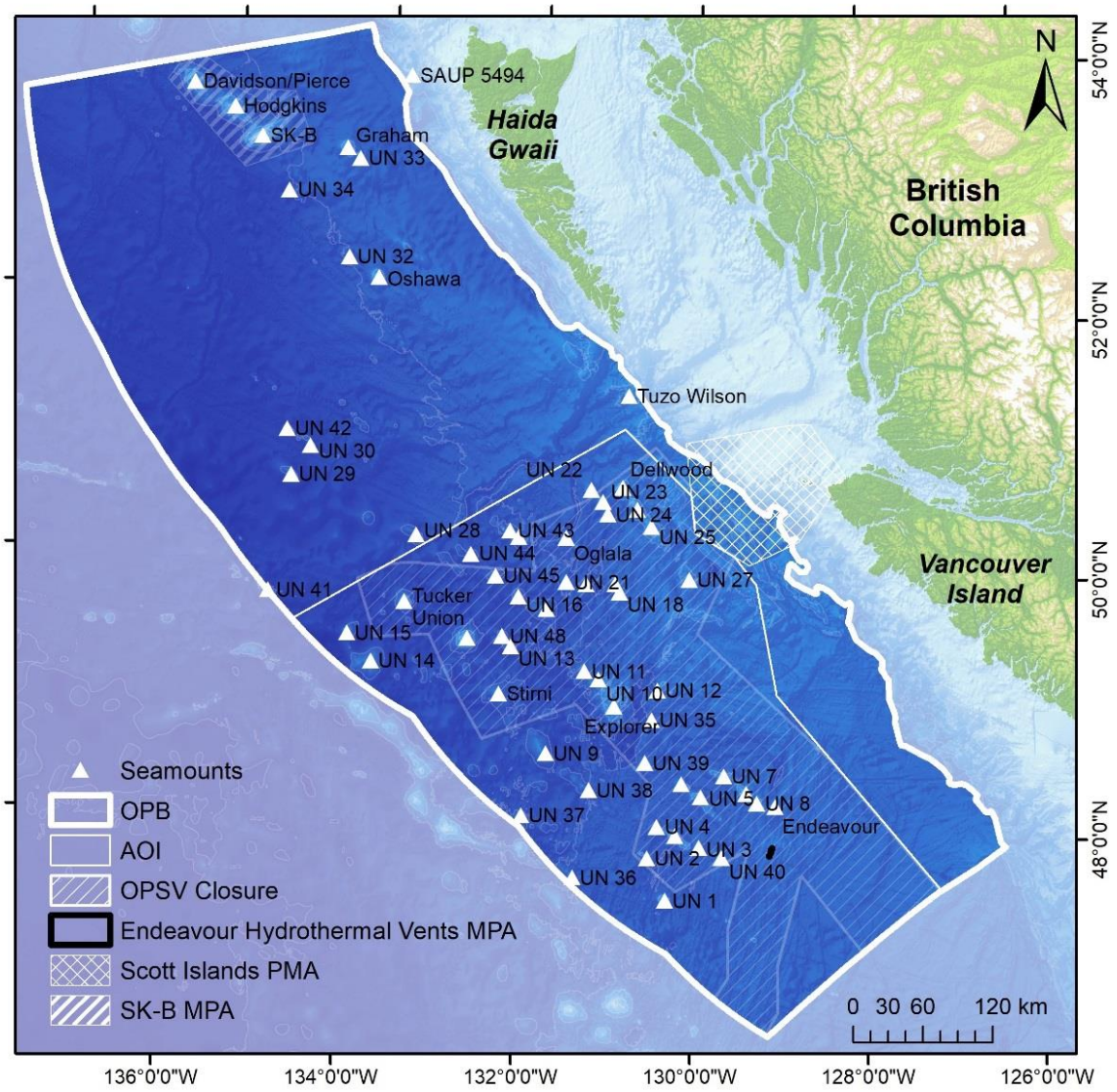


Figure 10. Bathymetry The location of the 62 seamounts (named and unnamed, UN) in the Offshore Pacific Bioregion (OPB; thick white line) and its different conservation areas: 47 in the AOI (thin white line), 36 of which are in the Offshore Pacific Seamounts and Vents (OPSV) Closure (in the AOI; thin slant), none in the Scott Islands Protected Marine Area (thick slant), and three in the SK-B MPA (hatched; map credit: reproduced from DFO 2021).

Oceanography

Another primary objective of the expedition was to gain a better understanding of the oceanographic effects of seamounts in the OPB.

Environmental conditions were logged continuously during dive transects with ROV-mounted sensors (Appendix 2). Depth was recorded with a Paroscientific Digiquartz 8CB series pressure sensor alongside a separate Sea-Bird FastCAT 49 Conductivity, Temperature and Depth (CTD) sensor. Oxygen levels were measured with an Aanderaa 3830 Oxygen optode.

Bongo nets were utilized to sample the community living in the water column around seamounts (Figure 11). The casts were done using a 56 cm diameter bongo with 256 µm mesh nets and accompanied by at CTD. Four successful bongo net tows were completed during the expedition (Appendix 3). The samples were preserved in formalin for future taxonomic analysis (Data not yet available, to be processed).

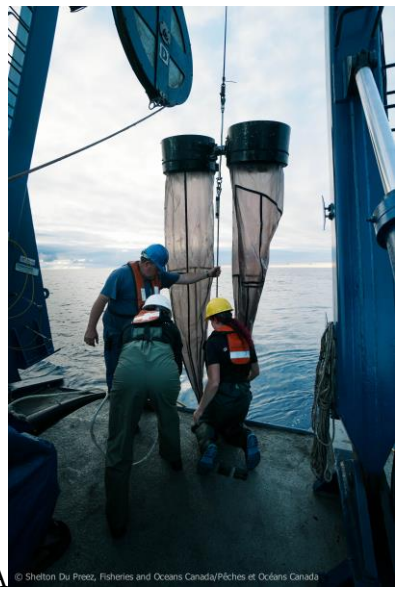
A 

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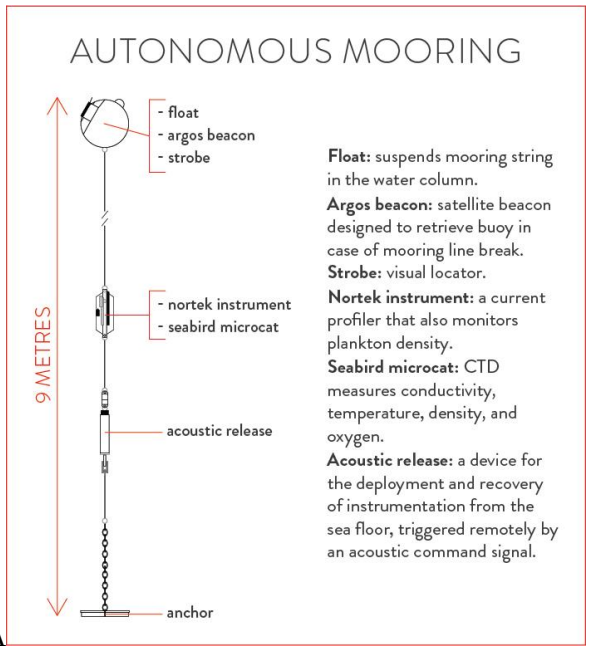
Figure 11. Bongo nets used for oceanographic sampling of the water column A)Being deployed from the aft deck of the E/V *Nautilus* and B) At the surface of the water column above a seamount (photo credits: Shelton Du Preez, DFO).

Discrete samples of the water column, at particular depths, were taken by Niskin bottles mounted on the ROV *Hercules* (Appendix 4), triggered remotely or via ROV manipulator. Forty eight samples were taken during the expedition. Once recovered on board the E/V *Nautilus* the samples were used for environmental deoxyribonucleic acid (eDNA) analysis (Figure 12). The eDNA project was done in partnership with Dr Meredith Everett at the National Oceanic and Atmospheric Administration (NOAA). The water collected was passed through a sterile filter using a vacuum manifold with pump. The water was allowed to fully filter (until the filter was dry) before turning off the pump. Surfaces, gloves, and forceps were wiped clean with DNA Away to limit cross-contamination between samples. Filters were transferred from the filtering cups to sample vials that were filled with 5mL of 95% ethanol using filter forceps, ensuring filters were completely submerged in the ethanol. Vials with submerged filters were in a dark box for storage. Two-litre sample bottles were rinsed with a solution of fresh water and 10% chlorine bleach and were allowed to dry before re-sampling. Dr Everett's subsequent methods and preliminary results were recently shared in a presentation available online (https://deepseacoraldata.noaa.gov/library/deep-sea-coral-seminars/20200409_NOAA-DSCRTP_WebinarSlides_MeredithEverett.pdf)

A  B  C 

Figure 12. EDNA sampling procedure with A)Water extracted from the Niskin bottle (triggered to sample discrete sample of water at determine depth) B) DNA sample vials filled with 95% ethanol and C) Filters submerged in 95% ethanol for preservation (photo credits: Shelton Du Preez, DFO).

At Dellwood Seamount one autonomous mooring developed by ONC was deployed (details can be found https://www.oceannetworks.ca/using-innovative-tech-monitor-and-protect-remote-seamounts). This mooring included a hydrophone to record marine mammal and fish sounds and a acoustic Doppler current profiler (ADCP) which gathered continuous data on seawater properties and near-bottom currents (Figure 13). The mooringwas recovered after one year, at which time ONC made the data available on their Oceans 2.0 site (https://data.oceannetworks.ca/DataSearch?location=DELLS).

A 

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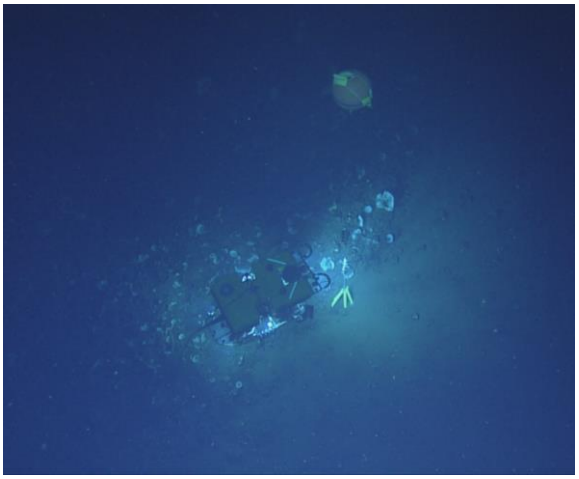
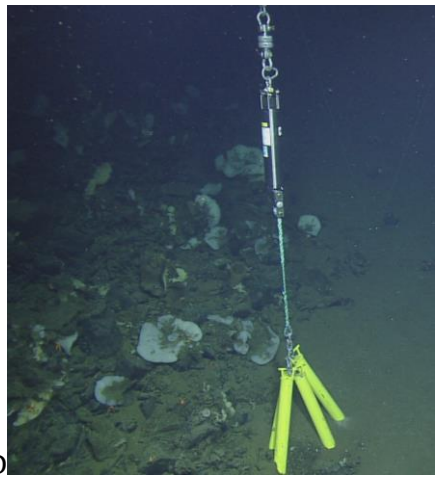
C  D 

Figure 13. The autonomous mooring designed by ONC for Dellwood Seamount A) Design schematic describing sensors (, B) Deployed from the aft deck of the E/V *Nautilus*, C) In situ on Dellwood Seamount with ROV *Hercules* (as seen by ROV *Argus*) C) With mooring weight and beginning of line visible on the edge of glass sponge and coral garden (photo credits: (A) ONC, (B) Shelton Du Preez, DFO, (C-D) NPSEP and OET).

Additionally, while the E/V *Nautilus* was in transit it would use Oceanscience UnderwayCTD©s (UCTDs; user guide available http://www.teledynemarine.com/Documents/Brand%20Support/OCEANSCIENCE/Technical%20Resources/Manuals%20and%20Guides/Underway%20Profiling%20System%20(UCTD)/UCTD%20Guide_Jul18.pdf). The UCTD is a ship-based system for the measurement of conductivity and temperature profiles while underway and is capable of profiling to over 400 m at a ship speed of 10 kt. Twenty seven UCTDs profiles were collected through out the expedition (Table 1, contact lead scientist for full data).

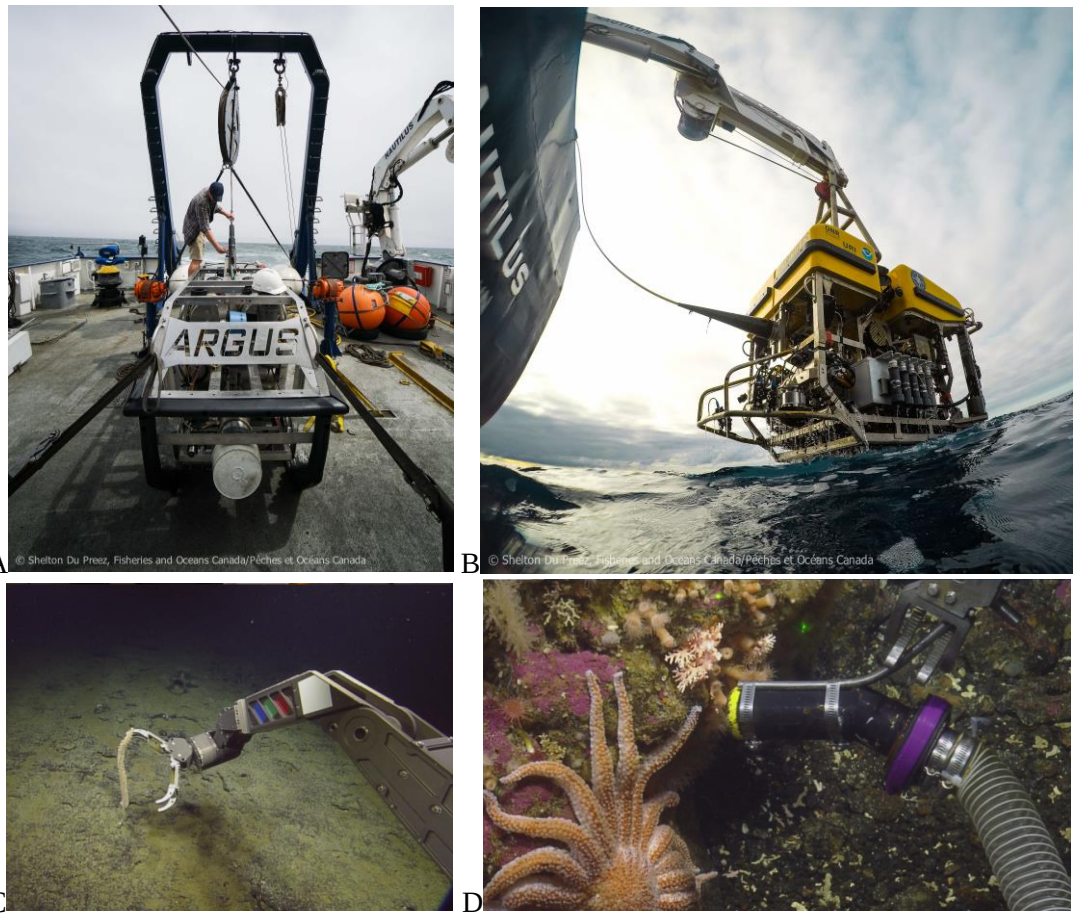
Table 1. UCTD profiles

Date and Time Stamp (UTC)	**Sensor**	**Probe**	**Max Depth (m)**
2018-07-06T23:02:06	CTD	OceanScience	559.7
2018-07-07T03:14:48	CTD	OceanScience	545.87
2018-07-08T01:20:30	CTD	SBE	543.24
2018-07-09T01:20:13	CTD	SBE	2999.02
2018-07-08T14:08:48	CTD	SBE	630.97
2018-07-09T15:31:24	CTD	OceanScience	529.45
2018-07-09T19:35:58	CTD	OceanScience	539.9
2018-07-10T03:18:02	CTD	OceanScience	535.01
2018-07-11T01:33:37	CTD	SBE	248.67
2018-07-11T04:55:56	CTD	OceanScience	535.96
2018-07-12T01:58:34	CTD	SBE	3499.05
2018-07-10T14:01:21	CTD	SBE	1996.81
2018-07-13T04:25:35	CTD	OceanScience	526.78
2018-07-11T11:04:53	XBT	T-7	759.44
2018-07-12T07:02:47	XBT	T-7	759.44
2018-07-07T07:04:03	XBT	T-7	759.44
2018-07-08T07:06:36	XBT	T-7	759.44
2018-07-09T07:53:01	XBT	T-7	759.44
2018-07-13T11:11:37	XBT	T-7	759.44
2018-07-14T04:12:30	CTD	OceanScience	538.28
2018-07-14T14:02:58	CTD	SBE	1094.13

Date and Time Stamp (UTC)	Sensor	Probe	Max Depth (m)
2018-07-15T04:56:08	CTD	OceanScience	534.98
2018-07-15T10:57:46	XBT	T-7	759.44
2018-07-16T00:21:12	CTD	SBE	1157.87
2018-07-18T11:01:43	XBT	T-7	759.44
2018-07-19T01:22:15	CTD	SBE	801.93
2018-07-19T19:02:18	CTD	SBE	778.81

Deep-Sea Ecology

The third primary objective of the expedition was to study the animals living on seamounts in the OPB. Dive transects were informed by multi-beam mapping, and proceeded upslope to finishat the shallowest point.. The dive transects were carried out with the ROV *Hercules*, a 4,000m depth rated ROV equipped for fine-scale video and specimen sampling (Figure 14). The ROV *Argus* was deployed in tandem with *Hercules*, providing tether management and an overview of *Hercules*' working environment. The feeds from each ROV, plus onboard cameras, were live-streamed (https://nautiluslive.org/) for a public audience, as well as for onshore team members.



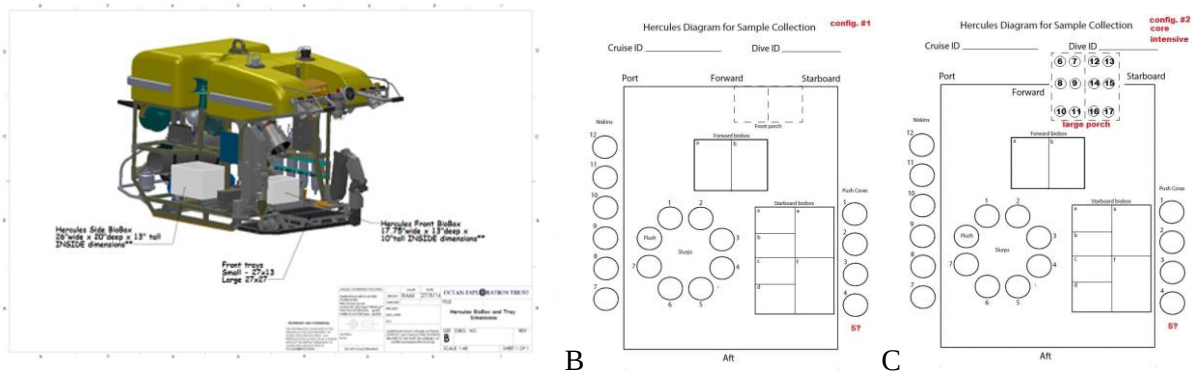
A B C D

Figure 14. Remote sampling equipment used in during the expedition A)ROV Hercules B)ROV Argus C)Predator manipulator arm collecting a coral sample and D) 'Slurp gun' suction sampler sampling coral (photo credits: (A-B) Shelton Du Preez, DFO, (C-D) NPSEP and OET).

The ROV *Hercules* was equipped with one high-definition video channel on fiber optic and four standard-definition video channels on coax. Details on camera components, environmental sampling tools (see also oceanography section above), navigation details, and more information for ROV *Hercules* on the Nautilus Live page https://nautiluslive.org/tech/rov-hercules. The high-definition digital cameras provided video and still imaging of the dive transects and close-up in-situ images of seasmount life. Additional cameras mounted for the expedition included GoPro cameras (a MISO GoPro Camera (D. Fornari WHOI-MISO Facility) and a Hero 4 or 5) for opportunistic photos, primarily for outreach, and a Rayfin camera, pointed downward to complement the photogrammetry mosaics (see details below). Additionally, flourescent lighting options were tested in use with the Rayfin camera.

The ROV *Argus* was also equipped with cameras and sensors, primarily a downward-facing Insite Pacific Zeus Plus high-definition camera, to provide a stable and safe working environment for *Hercules.* Details on the ROV, cameras, sensors, and navigation are available on the Nautilus Live page https://nautiluslive.org/tech/rov-argus.

Biological specimens were collected during dive transects with a "Predator" seven-function manipulator arm or a "slurp gun" suction sampler (Figure 14C&D) and stored in ROV 'bioboxes' or 'slups' containers (Figure 15) until retrieval on vessel. Sediment samples were taken via ROV-manipulated push cores and stored on ROV until retrieval on vessel. The configuration for push cores and sample collection could be adjusted for core intensive dives (Figure 15).



A B C

Figure 15. ROV configuration for transporting samples to the surface A) Location of the bioboxes on ROV and B) Annotators log page depicting the 'regular' sample set up and C) Annotators log page depicting the 'core intensive' dive sample set up (image credits: OET).

During the dive transects ROV travel was halted for opportunistic collection of samples or to establish long term monitoring sites (see section below). The dive was directed from a 'control room' aboard the E/V *Nautilus* with the science crew and Ocean Exploration Trust ROV team working in cooperation through communication on headsets and being informed from the multiple sensors and cameras aboard the ROVs (Figure 16).

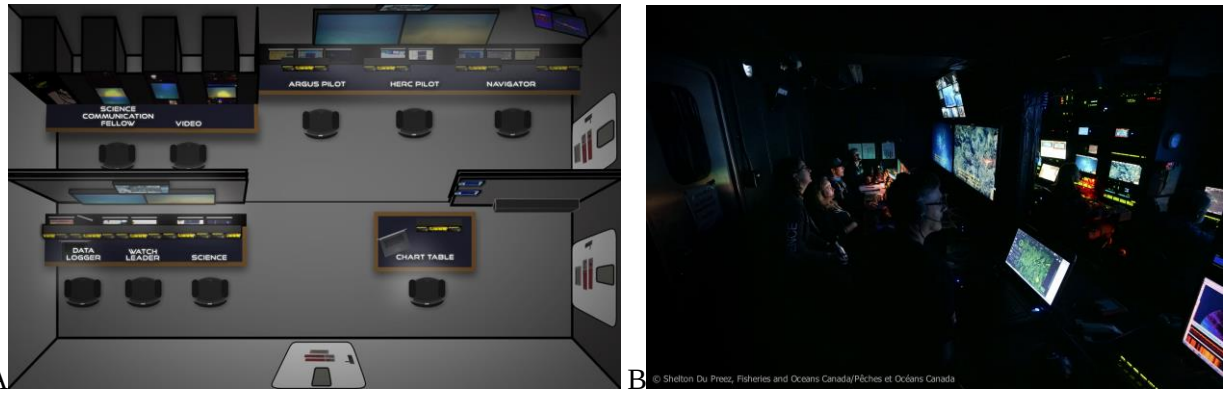


Figure 16. The control room for ROV dives aboard the E/V *Nautilus* (image credits: (A) OET, (B) Shelton Du Preez, DFO).

Ten scientific dives were completed on six seamounts (Figure 17-19, Table 2, and subsequent dive summaries). Scientific dives had previous occurred on Dellwood, SK-B, and Hodgkins Seamounts but these were the first dives on Pierce/Davidson, Dellwood South, and Explorer Seamounts. Continuous video and annotations occurred throughout the dive transects and have been stored for viewing on ONC's SeaTube page under heading 'DFO/Oceana 2018-07 Nautilus (Jul 2018)' (https://data.oceannetworks.ca/SeaTube?resourceTypeId=1000&resourceId=23543&diveId=972&time=2018-07-19). Annotation of samples and events were made in OET log Seascribe. Subsequent analysis on all imagery has occurred through the annotation platform Biigle (https://biigle.de).

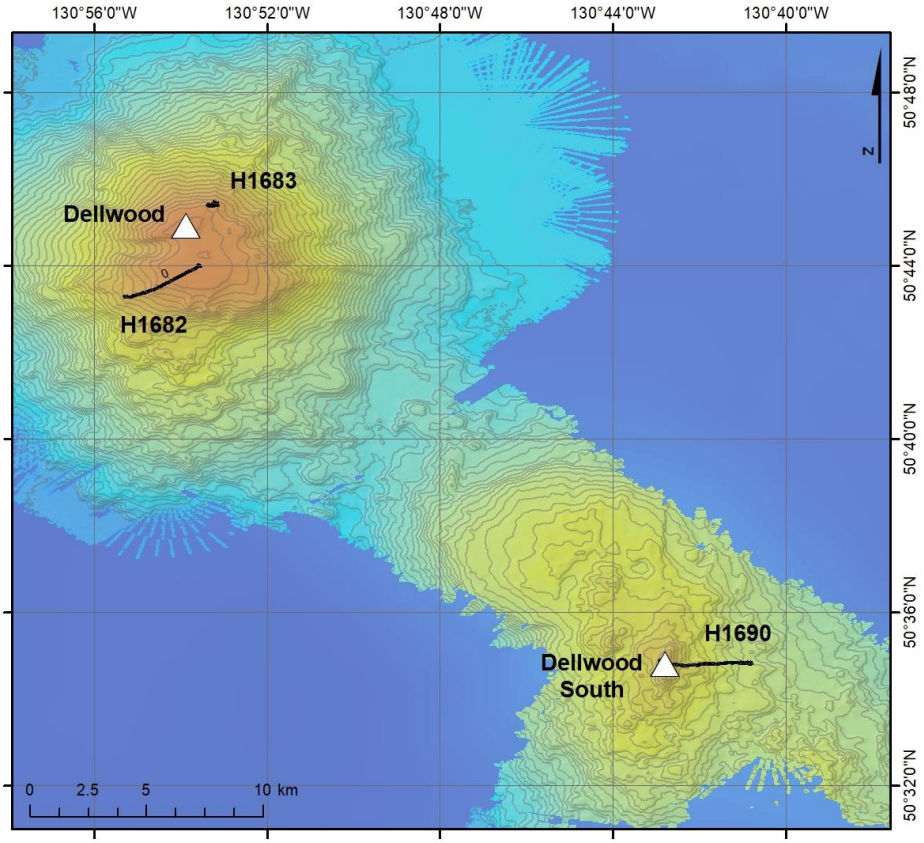


Figure 17. Expedition bathymetry data for Dellwood and Dellwood South seamounts, with tracks for dives H1682, H1683 and H1690 denoted by black lines. Triangles indicate seamount summits (map credit: DFO).

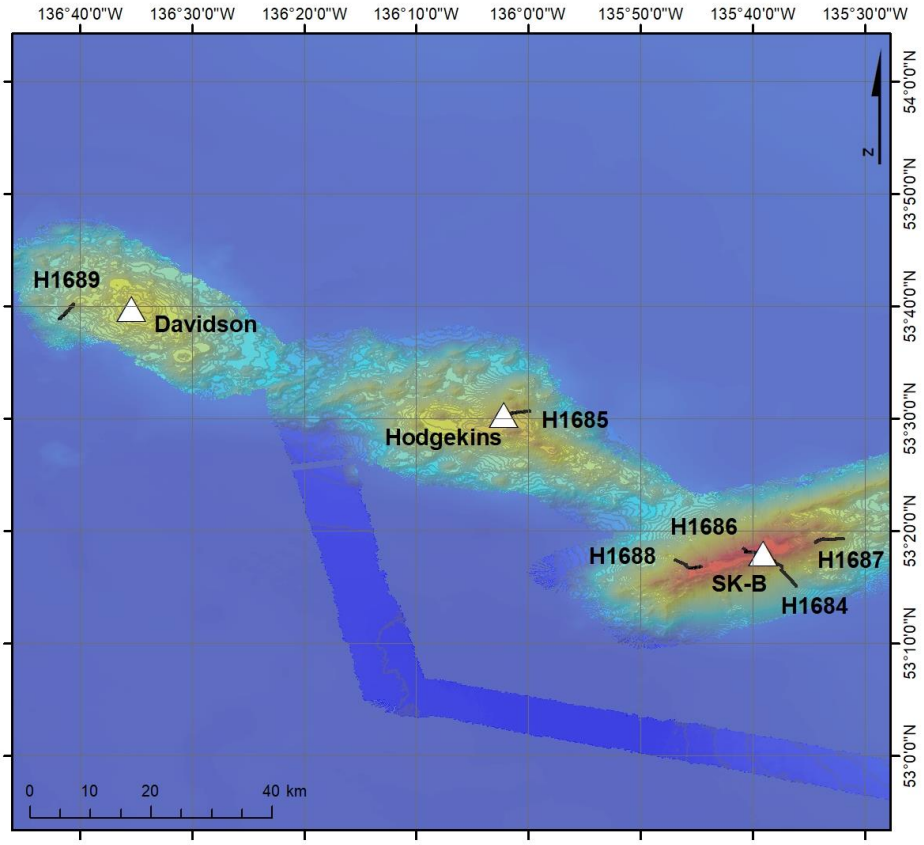


Figure 18. Expedition bathymetry data for Pierce/Davidson, Hodgkins and SK-B seamounts, with tracks of dives H1684 to H1689 deontes with black line. Triangles indicate seamount summits (map credit: DFO).

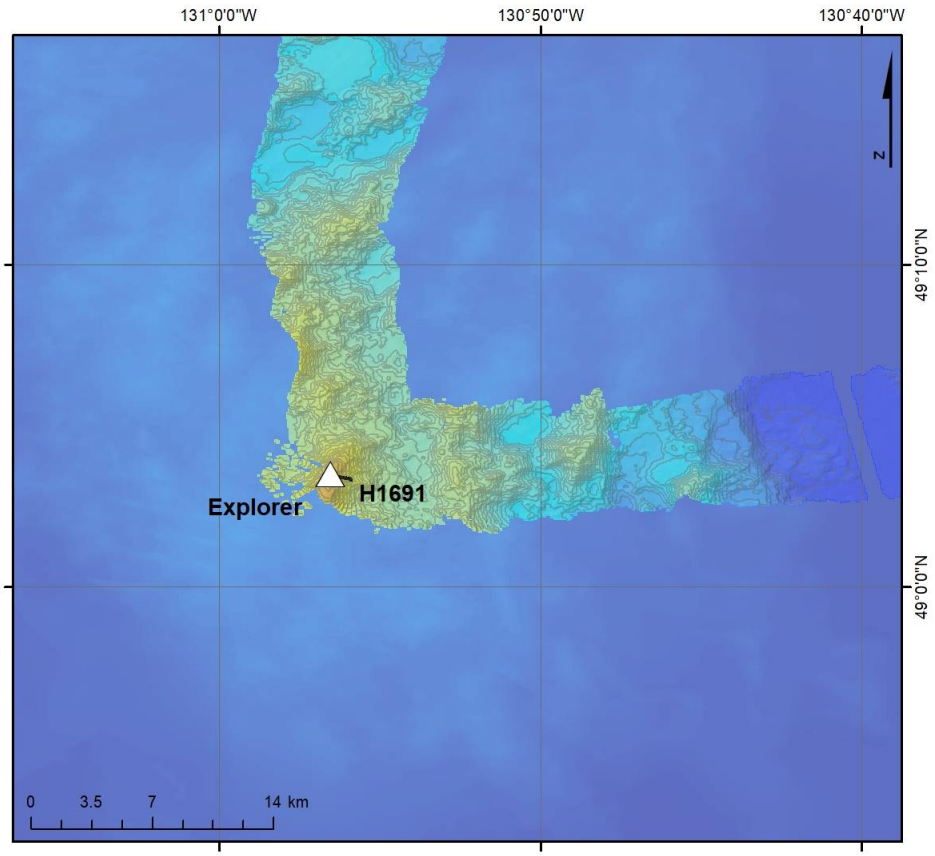


Figure 19. Expedition bathymetry data for Explorer seamount, with the track of dive H1691 denoted by black lines. Triangle indicates seamount summit (map credit: DFO).

Table 2. Dive Summaries. D=Depth and LMS=number of Long-term Monitoring Sites deployed during dive.

Site Name	Dive #	Date (UTC)	Max D (m)	Start D (m)	End D (m)	Time (hrs)	Length (km)	LMS
Dellwood Seamount	H1682	2018-07-07	836.65	822.46	552.37	8.02	5.58	1
Dellwood Seamount	H1683	2018-07-08	668.88	628.06	602.71	10.58	4.83	5
SK-B Seamount	H1684	2018-07-10	1992.39	1964.59	244.23	10.1	12.57	3
Hodgkins Seamount	H1685	2018-07-11	1407.53	1407.38	599.32	10.31	9.96	4
SK-B Seamount	H1686	2018-07-12	191.16	184.36	47.73	11.63	6.22	2
SK-B Seamount	H1687	2018-07-13	1258.3	1249.03	580.4	10.36	7.59	4
SK-B Seamount	H1688	2018-07-14	1093.77	1085.43	174.97	10.81	7.57	3
Pierce/Davidson Seamount	H1689	2018-07-15	2046.17	2027.17	1158.76	8.42	9.95	1
Dellwood South Seamount	H1690	2018-07-18	1445.75	1442.35	807.8	9.94	9.18	2
Explorer Seamount	H1691	2018-07-19	946.72	942.89	787.45	4.15	3.38	1

Opportunistic samples were collected during dive transects of voucher specimens for major seamount taxa. It is such a unique opportunity to have the ability to collect voucher specimens that the scientists

were working from a 'wish list' of specimen vouchers from colleagues and collaborators around the world. During the expedition, 570 specimen vouchers and tissue samples were collected (Appendix 4 and 5). The vouchers were predominantly of sponge and coral species, but did span a significant taxonomic range, particularly as many species do not live in isolation (Appendix 6). Many of these vouchers were or rare or unique species, including seven new species of glass sponges (identified by the late Dr Henry Reiswig), eight new species of demosponge (data in work by Bruce Ott), two new species of corals, and a parasitic zoanthid (Merlin Best working in collaboration with world experts for the Cnidarians). When the ROVs were recovered onboard the E/V *Nautilus*, the specimens were processed in the wet lab (Figure 20). Specimens were photographed, counted, assigned unique identification numbers and given provisional taxonomic names. Tissue samples for DNA barcoding were taken and preserved in 95% Ethanol; the remainder of the specimen was preserved in 70% Ethanol. Further upgrading of identifications was based on availability of taxonomic expertise. Specimens were vouchered at the Royal British Columbia Museum (RBCM) where they will be accessible to future researchers and data can be searched online (http://search-collections.royalbcmuseum.bc.ca/) and is shared with biodiversity data aggregator Canadensys (https://community.canadensys.net/). Specimen records along with in-situ and lab images were uploaded to iNaturalist, a web-based utility for sharing biodiversity observations (https://www.inaturalist.org/projects/marine-life-of-the-northeast-pacific).

Figure 20. Specimen collection A) Retrieved from ROV *Hercules*, B) Sorted in the wet labatory aboard the E/V *Nautilus*, C) Photographed for live, relaxed morphological features and D) Stored at the RBCM (photo credits: Shelton Du Preez, DFO)

Fifteen successful push cores were collected during the expedition (Appendix 4). The push cores were collected for two Canadian Healthy Oceans Network (CHONe) graduate students. Alessia Ciraolo (Memorial University) incubated sediment for 24 hours in order to look at benthic nutrient fluxes and benthic community structure under hypoxic conditions (data not published). Brett Jameson (University of Victoria) used microsensors to measure dissolved oxygen and nitrous oxide profiles in the top few millimeters of the sediment to investigate how oxygen minimum zones affect benthic nitrous oxide

cycling. Additionally, he sampled for nucleic acids (DNA/RNA) to get a snapshot of the microbial community dynamics (data not published).

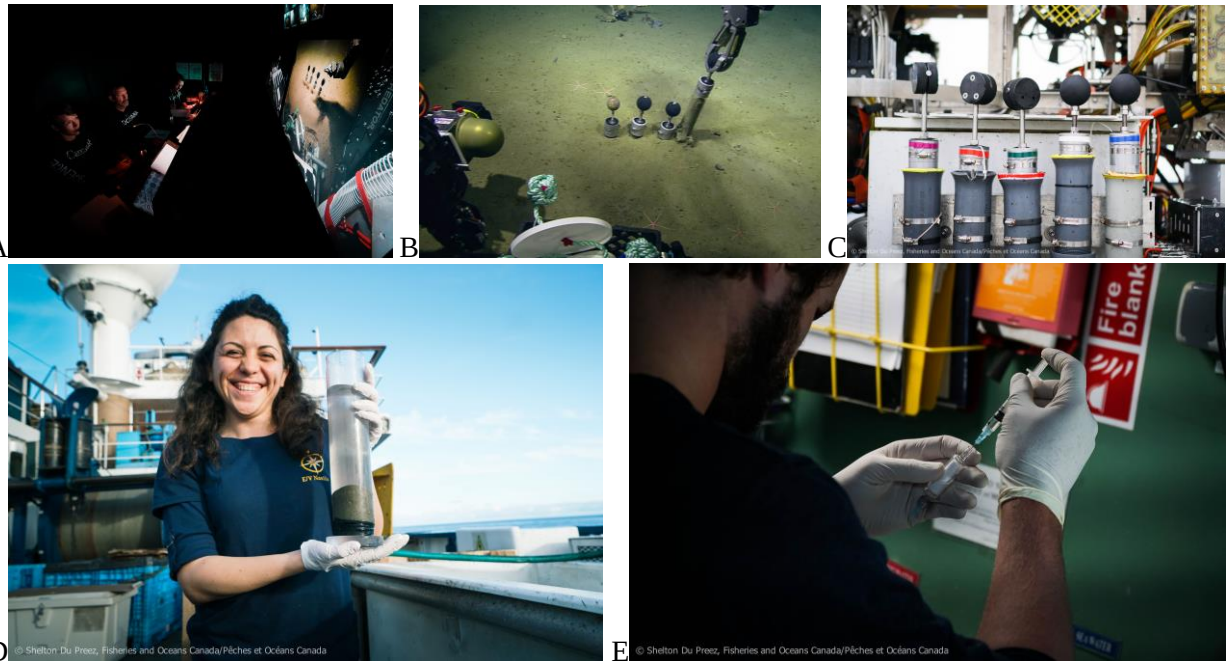


Figure 21. Push core collection A) Push core collection directed by the science team from the control room on the E/V *Nautilus*, B) Push core samples in situ, C) Push core samples brought to the surface aboard the ROV *Hercules*, D) PhD candidate Alessia Ciraolo with a collected push core, and D) PhD candidate Brett Jameson conducuting his experiments (photo credits: (A-B) NPSEP and OET, (C-E) Shelton Du Preez, DFO).

In addition to imagery transects and opportunistic samples, long-term monitoring stations were established on all seamounts surveyed (Table 3 and Appendix 7). These will allow for repeat monitoring of precise locations to assess change over time. Monitoring site markers consisted of two circular white plastic labels (25 cm diameter) suspended at 90° to each other (to maximize visualization opportunity) on a floating line connected to a weight (Figure 22). At each monitoring site the ROV was used to gather a 10 m by 10 m photogrammetry mosaic of high-resolution images, with methodology similar to Du Preez and Fisher (2018), whereby the marker is aligned at the starting corner of the grid, ROV heading and depth (~1 m above seafloor at start) kept constant, and the pilots fly the "lawn-mower" protocol, capturing a minimum of 1/3 overlap between adjacent runs (lines). Imagery for the mosaic collected using the main pilot camera (video camera facing downward but not perpendicular) and the still camera (downward-facing). Once complete, we collected close-up investigative imagery of corals, sponges, and other notable fauna within the site. Sites were selected for a number of priorities, including depth relative to the Oxygen Minimum Zone (470 to 1700; Ross et al. 2020) and high abundance of corals and sponges. Post expedition analyses of these long-term monitoring sites will include the production of high-resolution photo mosaics, 3-D reconstruction of the physical environment (in Pix4D), and fine-scale geoprocessing (in ArcGIS).

Table 3. The 29 long-term monitoring sites established during the expedition

Dive	Seamount Name	Marker name	Latitude	Longitude	Depth (m)
H1682	Dellwood	Dellwood mooring	50.7215502	-130.920556	833
H1682	Dellwood	A1	50.72149544	-130.920496	833
H1683	Dellwood	B1	50.7568615	-130.888173	625
H1683	Dellwood	B2	50.757104	-130.8861219	640
H1683	Dellwood	B3	50.7568945	-130.8867171	633
H1683	Dellwood	B4	50.75691395	-130.8873988	630
H1683	Dellwood	B5	50.7566603	-130.8891552	607
H1683	Dellwood	B6	50.756671	-130.88896	616
H1684	SK-B	C1	53.25743088	-135.6070538	1807
H1684	SK-B	C2	53.27880814	-135.6232077	899
H1684	SK-B	C3	53.2954585	-135.642676	252
H1685	Hodgkins	A2	53.507799	-136.024496	945
H1685	Hodgkins	A3	53.507425	-136.0288555	835
H1685	Hodgkins	C4	53.50682645	-136.0322265	727
H1685	Hodgkins	C5	53.50654608	-136.0360255	597
H1686	SK-B	Cliff face	53.3023966	-135.6745988	79
H1686	SK-B	1969 Marker	53.30036203	-135.6525834	63
H1687	SK-B	E1	53.3216345	-135.5362925	1111
H1687	SK-B	E2	53.32144848	-135.5619215	644
H1687	SK-B	E3	53.32069303	-135.5446423	828
H1687	SK-B	E4	53.3162535	-135.5738181	584
H1688	SK-B	G1	53.2855886	-135.771603	787
H1688	SK-B	G2	53.2807645	-135.7654307	467
H1688	SK-B	G3	53.27955438	-135.763261	350
H1689	Pierce/Davidson	E5	53.66913239	-136.6764762	1165
H1690	Dellwood South	E6	50.579324	-130.705392	1028
H1690	Dellwood South	G6	50.5805005	-130.7127886	811
H1691	Explorer	G4	49.05814128	-130.9419158	799
H1691	Explorer	G5	49.057452	-130.93953	868

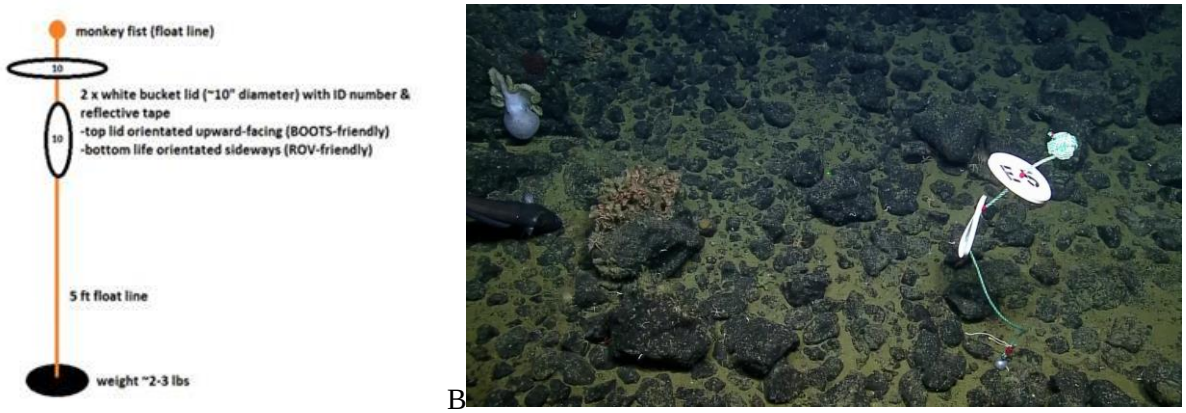
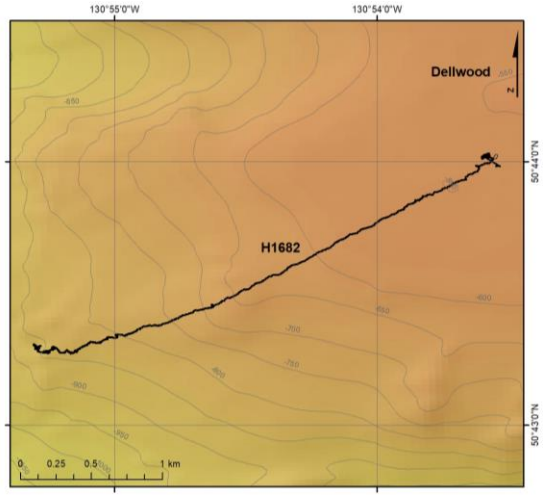


Figure 22. Long-term study site marker A) Design schematic (credit: Cherisse Du Preez) and B) in situ (photo credit: NPSEP and OET).

Summary of Dive H1682 - Dellwood Seamount



Dive objective - Dive at Dellwood Seamount site to find and take images of the earlier deployed autonomous mooring; complete a mosaic survey around mooring; opportunistically collect biological, Niskin and push core samples.

Dive details – See Figure 23 for transect path, Table 4 for operation details, and Table 5 for key annotation summaries.

Figure 23. Dive H1682 transect on Dellwood Seamount

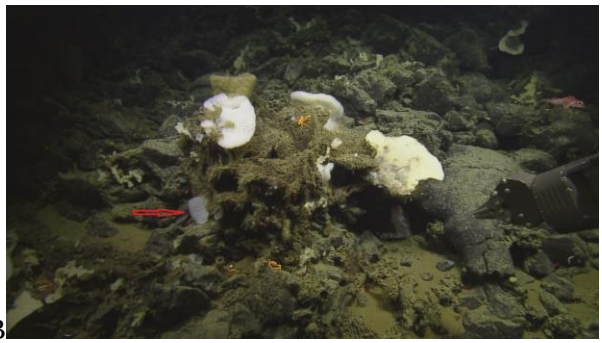
Table 4. Summary for H1682 on Dellwood Seamount

Cruise: NA097	**Vehicle:** Herc/Argus
Dive Number: H1682	**Site:** Dellwood
Launch Time UTC: 2018-07-07T16:29:03.010Z	**Recovery Time UTC:** 2018-07-08T02:13:08.156Z
On Bottom UTC: 2018-07-07T17:18:14.883Z	**Off Bottom Time UTC:** 2018-07-08T01:19:39.792Z
Total Time (hours): 9.73	**Total Bottom Time (hours):** 8.02
+/-Dec. Lat/Lon In Water: 50.72093 -130.920771	**+/-Dec. Lat/Lon On Deck:** 50.7330195 -130.8923615
+/-Dec. Lat/Lon On Bottom: 50.7213024736 -130.921487925	**+/-Dec. Lat/Lon Off Bottom:** 50.7336162659 -130.8931455
Depth on bottom (meters): 822.46	**Depth off bottom (meters):** 552.37
Herc Max Depth (meters): 836.65	**Herc Avg Depth (meters):** 750.04
Argus Max Depth (meters): 821.57	**Argus Avg Depth (meters):** 729.80

Table 5. Summary of events during dive H1682 on Dellwood Seamount

Time (UTC)	Description
1629 - 1718	Hercules in water - on bottom at 822 m; on a glass sponge garden. Pyrosomes sighted on Argus cam during the descent.
1728 - 1900	Landed 80 m west of mooring, found mooring at 17:35. Investigation and photo mosaic survey of the mooring site.
1810 - 1856	Photo mosaic survey
1900 - 2203	Moved on to explore the area and find potential samples. Observed organisms; striaited sponges, shrimp, benthic tunicate, branching corals, skeleton shrimp, tube worm, thornyhead, scarlet king crab, crinoids, anemones, soles. SAMPLE NA097-001 through -011.
2204 - 2328	Continuing the visual survey: deep sea sole, sea pen (Halipteris), aggregation of large sponges and corals. 22:52 Change in substrate, more bedrock visible, many ophiuroids. Umbellula, Solaster, Cheiraster.
2333 - 2359	Yellow mat on rough looking softer sediment, dense ophiuroid aggregations, octopus.
0003 - 0114	SAMPLE NA097-012 through -017.
0119 - 0213	Hercules off bottom - on deck.

This dive started on a gorgeous, dense glass sponge garden (Figure 24a) . Then proceeded to find the mooring, deployed marker A1 and commenced the photo mosaic, to establish the first time series site and data for Dellwood Seamount (Table 3 and Appendix 7). The dive then proceeded on transect course with opportunistic sample collection of organisms (see Appendix 4 and 5 for details of each sample). Highlights of the collected samples include three new species to science (a striated glass sponge *Tretodictyum* n. sp. https://www.inaturalist.org/observations/17991950 Figure 24b; demosponge *Sphaerotylus* n. sp. https://www.inaturalist.org/observations/18983856 Figure 24c; a parasitic zoanthid *Zibrowius* sp. https://www.inaturalist.org/observations/17992349 Figure 24d). As the dive progressed we encountered lava tube formations (Figure 24e), patches of mud (Figure 24f), and near the end of the dive we moved into areas with dense brittle star aggregations and more sea stars (Figure 24g). Additional dive highlights included footage of Deep-sea sole (*Embassichthys bathybius*, Figure 24h), Gaint Pacific Octopus (*Enteroctopus dofleini*, Figure 24f), and Humbolt Squid (*Dosidicus gigas*, Figure 24i).

A  B 

C  D 

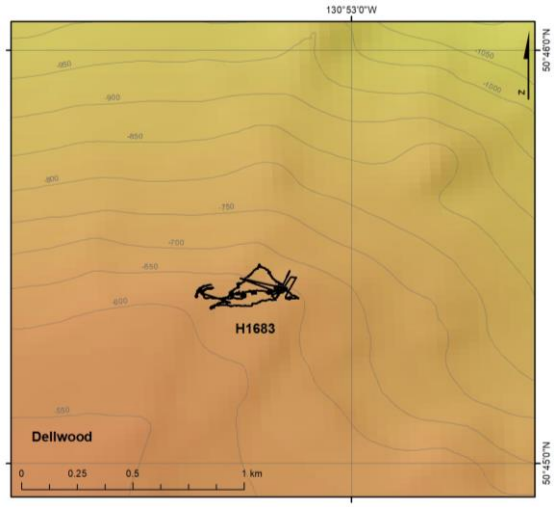
E  F 

G  H 

I 

Figure 24. Dive H1682 A) Coral garden, B) Striated Glass Sponge (*Tretodictyum* n. sp.), C) Demosponge (*Sphaerotylus* n. sp), D) Parasitic zoanthid (*Zibrowius* sp.), E) Lava tubes, F) Mud patch with a Giant Pacific Octopus (*Enteroctopus dofleini*), G) Dense brittle star and sea star aggregations, H) Deep-sea sole (*Embassichthys bathybius*) and I) Mud patch with Humbolt Squid (*Dosidicus gigas*) (photo credits: NPSEP and OET).

Summary of Dive H1683 - Dellwood Seamount



Dive objective - Dive at Dellwood Seamount to explore the potential historic venting site and collect opportunistic core, suction, grab and Niskin samples; deploy markers and perform mosaic transects.

Dive details – See Figure 25 for transect path, Table 6 for operation details, and Table 7 for key annotation summaries.

Figure 25. Dive H1683 transect on Dellwood Seamount

Table 6. Summary for H1683 on Dellwood Seamount

Cruise: NA097	**Vehicle:** Herc/Argus
Dive Number: H1683	**Site:** Dellwood Seamount
Launch Time UTC: 2018-07-08T14:07:57.186Z	**Recovery Time UTC:** 2018-07-09T02:09:50.620Z
On Bottom UTC: 2018-07-08T14:44:45.664Z	**Off Bottom Time UTC:** 2018-07-09T01:19:22.792Z
Total Time (hours): 12.03	**Total Bottom Time (hours):** 10.58
+/-Dec. Lat/Lon In Water: 50.75743 -130.8857375	**+/-Dec. Lat/Lon On Deck:** 50.7564235 -130.888326
+/-Dec. Lat/Lon On Bottom: 50.7567655534 -130.88565157	**+/-Dec. Lat/Lon Off Bottom:** 50.7568432356 -130.889372452
Depth on bottom (meters): 628.06	**Depth off bottom (meters):** 602.71
Herc Max Depth (meters): 668.88	**Herc Avg Depth (meters):** 631.76
Argus Max Depth (meters): 649.96	**Argus Avg Depth (meters):** 609.91

Table 7. Summary of events during dive H1683 on Dellwood Seamount

Time (UTC)	Event description
1407 - 1444	Hercules in water - on bottom.
1452 - 1653	Starting the visual survey. Skate egg case and octopus observed. SAMPLE NA097-018 trough 021; rock and sediment scoop samples.
1704 - 1744	Monitoring site (investigate) - 17:04. Push core sampling SAMPLE NA097-022 through -024, sample -022 was discarded.
1822 - 1835	SAMPLE NA097-025 and -026. Seastar eating a pyrosome observed. 18:34 Marker B1
1845 - 1914	Photo mosaic survey.
1921 - 2034	Close up of brittle stars feeding on soft coral. Holothurian, deep sea sole, crinoid observed. SAMPLE NA097-27 and -28.
2107 - 2142	SAMPLE NA097-29 and -30. 21:42 Marker B2
2155 - 2220	Photo mosaic survey
2234 - 2234	Marker B3
2236 - 2311	Photo mosaic survey
2321 - 2326	Octopus, glass sponges covered in brittle stars observed. 23:28 Marker B4.
2327 - 2358	Photo mosaic survey
0018 - 0018	Marker B5
0022 - 0052	Photo mosaic survey
0100 - 0119	SAMPLE NA097-031 and -032
0119 - 0209	Hercules off bottom - on deck

The second dive on Dellwood Seamount focused on exploring the historic venting site (confirmed not active, temperature probes and exploring rocks and sediment Figure 26a) and setting up 5 monitoring sites (B1-B5) to establish time series and collect initial data (Table 3 and Appendix 7). At each of the sites a marker was deployed and a photo mosaic was completed. Between sites, outside of the established grid, opportunistic samples were collected (see Appendix 4 for full details). The dive was conducted on interesting vent substrate with various sediment deposition and basalitc rock (Figure 26b).

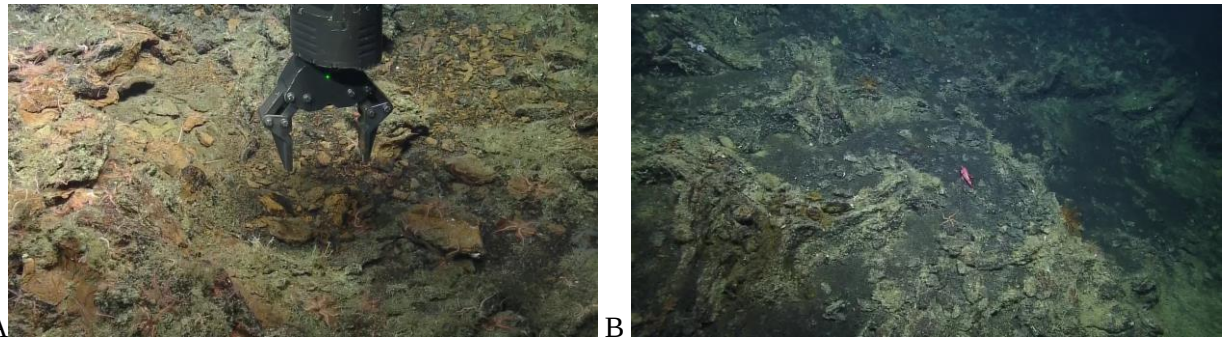
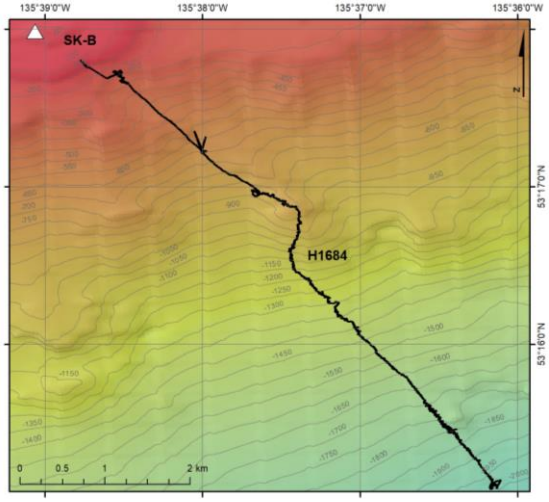


Figure 26. Dive H1683 A) Inspecting (historic) venting site, B) Start of visual survey (photo credits: NPSEP and OET).

Summary of Dive H1684 - SGaan Kinghlas-Bowie Seamount



Dive objective – To conduct a track line starting from the base of the seamount up to the summit, shallowest depth to be decided by the ROV team. Also drop markers C1 and C2 and conduct mosaic surveys at marker sites.

Dive details – See Figure 27 for transect path, Table 8 for operation details, and Table 9 for key annotation summaries.

Figure 27. Dive H1684 transect on SK-B Seamount.

Table 8. Summary for H1684 on SK-B Seamount

Cruise: NA097	**Vehicle:** Herc/Argus
Dive Number: H1684	**Site:** Sgaan Kinghlas-Bowie
Launch Time UTC: 2018-07-10T14:00:30.397Z	**Recovery Time UTC:** 2018-07-11T02:14:03.631Z
On Bottom UTC: 2018-07-10T15:26:39.561Z	**Off Bottom Time UTC:** 2018-07-11T01:32:46.409Z
Total Time (hours): 12.23	**Total Bottom Time (hours):** 10.10
+/-Dec. Lat/Lon In Water: 53.251501 -135.6019975	**+/-Dec. Lat/Lon On Deck:** 53.294883 -135.6437835
+/-Dec. Lat/Lon On Bottom: 53.251758722 -135.602625458	**+/-Dec. Lat/Lon Off Bottom:** 53.2955193889 -135.642486233
Depth on bottom (meters): 1964.59	**Depth off bottom (meters):** 244.23
Herc Max Depth (meters): 1992.39	**Herc Avg Depth (meters):** 1227.08
Argus Max Depth (meters): 1974.37	**Argus Avg Depth (meters):** 1209.43

Table 9. Summary of events during dive H1684 at SK-B Seamount

Time (UTC)	Event description
1400 - 1526	Hercules in water - on bottom. Fireworks jelly observed during the descent.
1544 - 1556	Push core SAMPLE NA097-035 through -039
1613 - 1615	3 niskin bottles fired: SAMPLE NA097-040 through -042
1630 - 1824	First view of corals on large boulder. Approaching cliff. 18:07 Marker C1; near coral in low O2 zone. Close up of large coral (possibly *Calyptrophora* sp.)
1840 - 1846	ROV grab of a brisingid star and sea urchin: SAMPLE NA097-043 and -044.
1824 - 2156	Photo mosaic survey C2. 21:54 Marker C2. Fine scale antimora, rattails, skate, Scarlet King Crab, thornyheads, crinoids, deep sea sole, sea urchins observed.
2332 - 0047	Midwater transit to a shallower depth of the seamount.
0111 - 0130	Photo mosaic survey of C3 site. 01:16 Marker C3.
0132 - 0214	Hercules off bottom - on deck.

The dive started at 1992 m on mud with Niskin samples and push cores (Figure 28a). Progressed along transect towards the summit with opportunistic collections. Established 3 long term monitoring sites - deployed markers C1-C3 and completed associated photo mosaics (Table 3 and Appendix 7). Dive transitioned to rocky basalt habitat with tubes and pillow formation (Figure 28b) and the back to mud habitat with lots of rattails, antimoras, urchins, brittle stars, skates, etc. (Figure 28c). Near the end of the dive we reached a beautiful rockcliff in large corals, sponges, and associated community include some Red Tree Coral (*Primnoa pacifica;* Figure 28d).

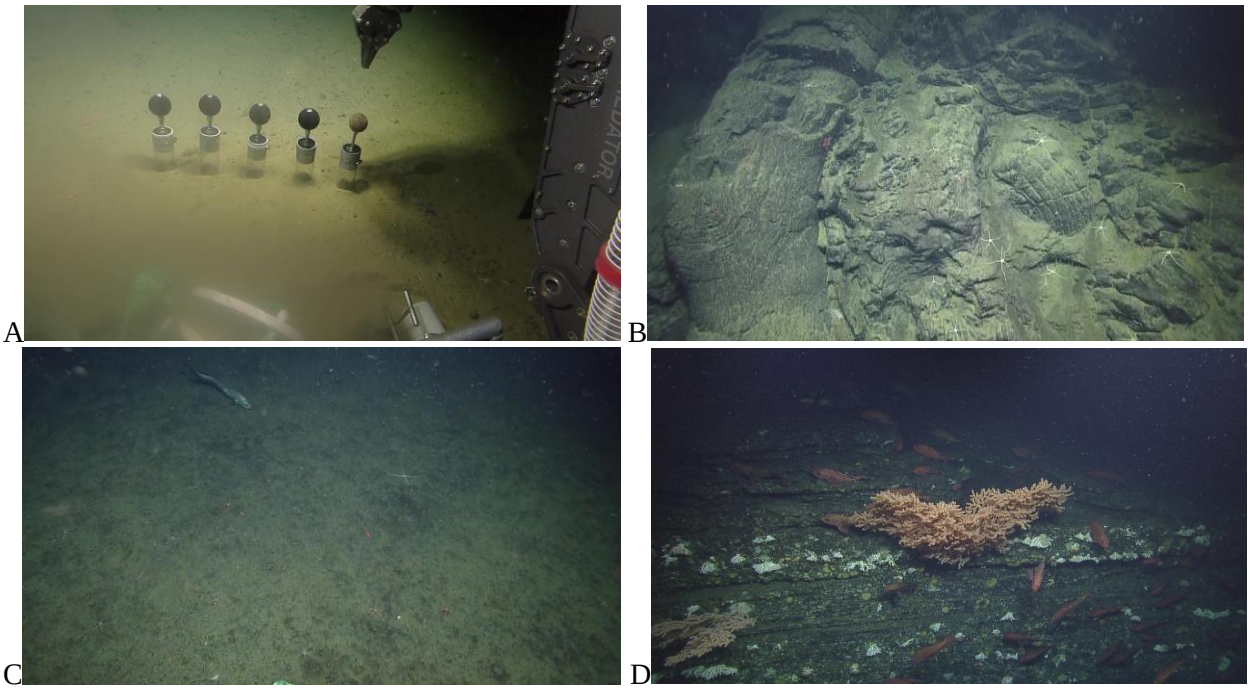
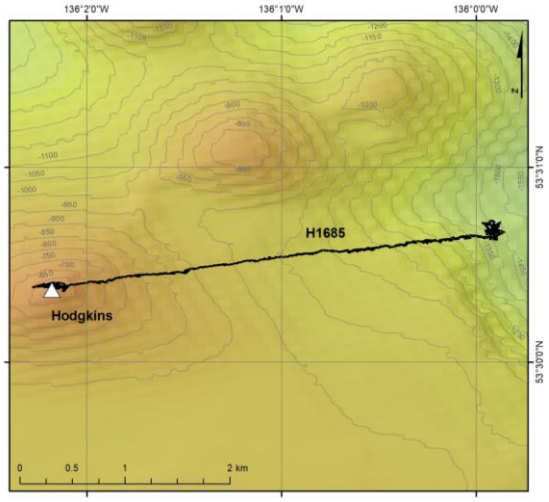


Figure 28. Dive H1684 A) Push cores in mud habitat, B) Rocky basalt tube habitat, C) Mud habitat, and D) Rocky cliff face habitat (photo credits: NPSEP and OET).

Summary of Dive H1685 - Hodgkins Seamount



Dive objective – To transect from a depth of 1400 m towards pinnacle at roughly 600 m. Deploy long-term markers, opportunistic collections, core sampling, and firing of all six Niskin bottled for eDNA samples.

Dive details – See Figure 29 for transect path, Table 10 for operation details, and Table 11 for key annotation summaries.

Figure 29. Dive H1685 transect on Hodgkins Seamount.

Table 10. Summary for H1685 on Hodgkins Seamount

Cruise: NA097	**Vehicle:** Herc/Argus
Dive Number: H1685	**Site:** Hodgkins Seamount
Launch Time UTC: 2018-07-11T14:15:20.770Z	**Recovery Time UTC:** 2018-07-12T03:03:54.526Z
On Bottom UTC: 2018-07-11T15:39:15.540Z	**Off Bottom Time UTC:** 2018-07-12T01:57:43.130Z
Total Time (hours): 12.81	**Total Bottom Time (hours):** 10.31
+/-Dec. Lat/Lon In Water: 53.510462 -135.9985635	**+/-Dec. Lat/Lon On Deck:** 53.506625 -136.041742
+/-Dec. Lat/Lon On Bottom: 53.5105270659 -135.998348395	**+/-Dec. Lat/Lon Off Bottom:** 53.5064466551 -136.035338202
Depth on bottom (meters): 1407.38	**Depth off bottom (meters):** 599.32
Herc Max Depth (meters): 1407.53	**Herc Avg Depth (meters):** 937.64
Argus Max Depth (meters): 1395.65	**Argus Avg Depth (meters):** 917.21

Table 11. Summary of events during dive H1685 on Hodgkins Seamount

Time (UTC)	Event description
1415 - 1539	Hercules in water - on bottom.
1554	Starting visual survey
1942 -1946	Deploy monitoring site A2
2024 - 2031	Rock with corals, brittle stars, octopus and nudibranchs
2157 – 2202	Deploy monitoring site A3
2203 – 2234	Photomosaic of monitoring site A3
2322 – 2326	Monitoring site C4
0037 – 0041	Monitoring site C5
0042 - 0106	Photomosaic of monitoring site C5
0123 - 0129	SAMPLE NA097-059 -060 Glass sponge into stbd biobox
0157 - 0303	Hercules off bottom – on deck

The dive began at 1407 m on rocky basalt and immediately, litter was observed (Budweiser can; Figure 30a). During the transect towards the summit (597 m) four markers and associated photo mosaics were completed (A2, A3, C4, C5; Table 3 and Appendix 7). The majority of the dive was on similar rocky basalt habitat, though near the end of the dive (near the summit) it transitioned through a loose bolder

field (Figure 30b) that transition to bedrock cliff near summit (Figure 30c). Throughout the dive there were a few observations of Deep-sea octopus (*Graneledone boreopacifica*) including during A2 where there was highlight imagery of an incredibly diverse community on a little boulder, the 'octopuses garden' (Figure 30d). Many new and/or rare species were colleted this dive with highlights being a mushroom coral (*Anthomastus* sp., 100% BOL match with species not yet described/published; https://www.inaturalist.org/observations/19408470 Figure 30e), a new species of glass sponge Farrea (*Farrea* n. sp. 'A'; https://www.inaturalist.org/observations/19539565 Figure 30f), a carnivorous sponge (*Asbestopluma (Asbestopluma) monticola*; https://www.inaturalist.org/observations/19679050 Figure 30g), a new glass bugle-shaped sponge (*Homoieurete* n. sp.; https://www.inaturalist.org/observations/19681030 Figure 30h), and one another new glass sponge species (*Hexactinella* n. sp. A; https://www.inaturalist.org/observations/19843940 Figure 30i).

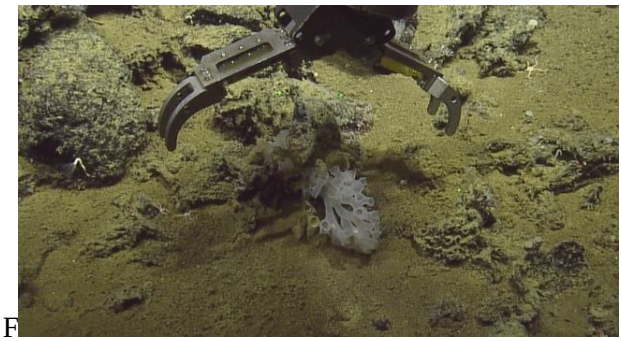

A


B


C


D


E


F

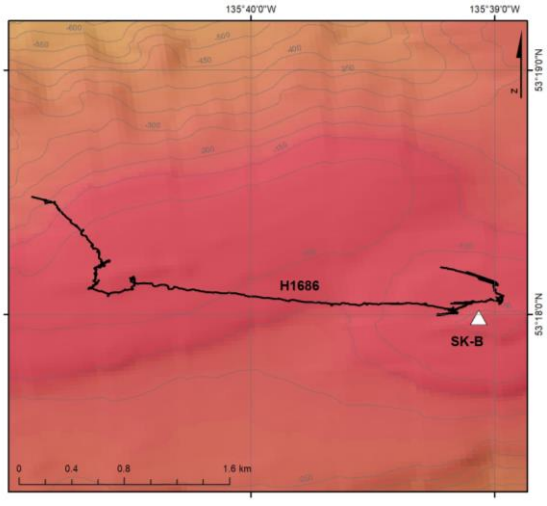

G


H


I

Figure 30. Dive H1685 A) Litter (Budweiser can) observed on rocky basalt substrate, B), Loose cobble habitat approaching summit, C) Bedrock summit, D) An 'octopuses garden', E) Mushroom coral (*Anthomastus* sp.), F) Glass sponge Farrea (*Farrea* n. sp.), G) Carnivorous sponge (*Asbestopluma (Asbestopluma) monticola*), H) Glass bugle-shaped sponge (*Homoieurete* n. sp.) and I) New glass sponge species (*Hexactinella* n. sp.) (photo credits: NPSEP and OET).

Summary of Dive H1686 - SGaan Kinghlas-Bowie Seamount



Dive objective – Transect from 250 m start point to the 1st pinnacle and then across the 2nd pinnacle, drop markers, conduct photo mosaics, and collect opportunistic samples along the transect.

Dive details – See Figure 31 for transect path, Table 12 for operation details, and Table 13 for key annotation summaries.

Figure 31. Dive H1686 transect on SK-B Seamount

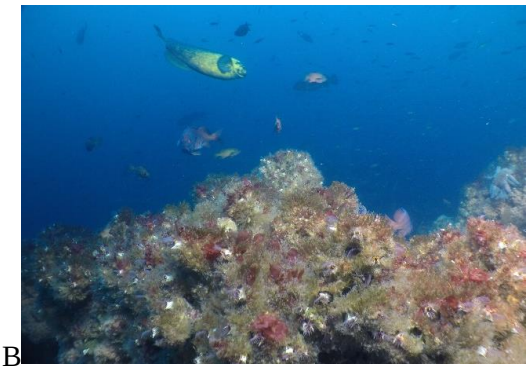
Table 12. Summary for H1686 on SK-B Seamount

Cruise: NA097	**Vehicle:** Herc/Argus
Dive Number: H1686	**Site:** Sgaan Kinglas-Bowie
Launch Time UTC: 2018-07-12T14:12:38.892Z	**Recovery Time UTC:** 2018-07-13T02:09:04.953Z
On Bottom UTC: 2018-07-12T14:12:38.892Z	**Off Bottom Time UTC:** 2018-07-13T01:50:23.416Z
Total Time (hours): 11.94	**Total Bottom Time (hours):** 11.63
+/-Dec. Lat/Lon In Water: 53.3082 -135.681263	**+/-Dec. Lat/Lon On Deck:** 53.3033335 -135.6572255
+/-Dec. Lat/Lon On Bottom: 53.3077609744 -135.680763976	**+/-Dec. Lat/Lon Off Bottom:** 53.3026604611 -135.651315668
Depth on bottom (meters): 184.36	**Depth off bottom (meters):** 47.73
Herc Max Depth (meters): 191.16	**Herc Avg Depth (meters):** 77.70
Argus Max Depth (meters): 173.61	**Argus Avg Depth (meters):** 60.61

Table 13. Summary of events during dive H1686 at SK-B Seamount

Time (UTC)	Event description
1401 - 1402	Hercules in water - on bottom.
1417 - 1531	Starting visual survey. SAMPLE NA097-061. Northern ronguil, *Dirona albolineata*, rosethorn, P*arastichopus*, alaska ronguil observed.
1545 - 1802	SAMPLE NA097-062 through -067.
1908 - 2000	Photo mosaic survey of Marker site (cliff face used as marker).
2004 - 2213	Visual survey resumed. Wolf eel, siphonophore, Pacific halibut, deep sea sole, anemones observed. 22:11 old fishing line detected.
2222 - 2304	SAMPLE NA097-067 through -071.
2333 - 2337	Photo mosaic survey at Marker Site, marker: DFO Concrete Block. Difficult terrain made it hard to get close to bottom.
0000 - 0124	Vertical wall with zooanthids, coralline algae, stylaster coral, tiger rockfish observed. SAMPLE NA097-072 through -077.
0150 - 0209	Hercules off bottom - on deck.

The dive began with an observation of a Sun Star (*Rathbunaster* sp.) feeding on squat lobsters (*Munida* sp.; Figure 32a) The dive was a relatively shallow dive that started around 191 m and proceeded up to the pinnacle around 39 m (Figure 32b) – high diversity and abundance of life was observed on this shallow seamount (e.g. Figures 32c). As the dive progressed opportunistic samples were collected. No markers were deployed but two photo mosaics where conducted at 'cliff face' and 'CHS (Canadian Hydrographic Services) concrete block' (Table 3 and Appendix 7). The 'CHS concrete block' had a tag 1969, was used anchor to hold a tide gage in the 1970's. Fishing line was observed multiple times (e.g. Figure 32d).

A  B 

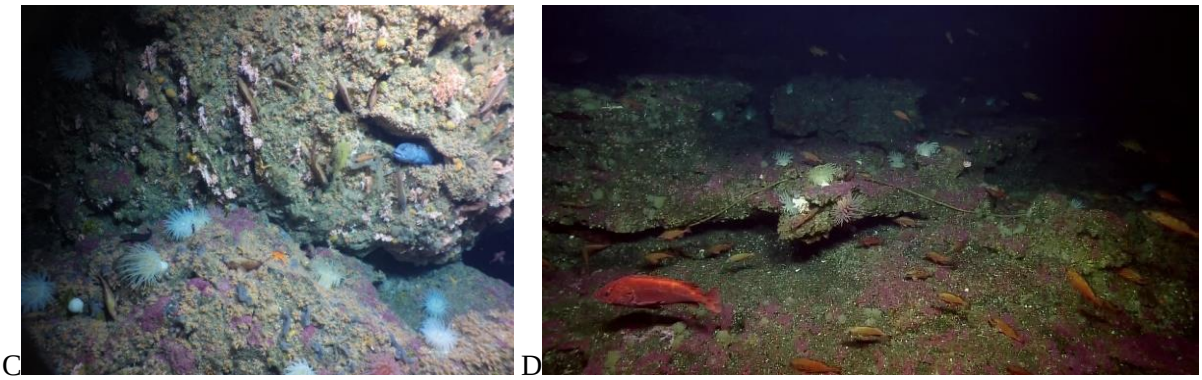
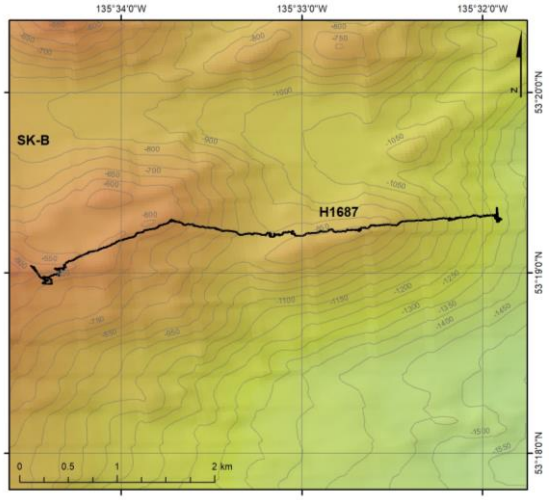


Figure 32. Dive 1686 A) A Sun Star (*Rathbunaster* sp.) feeding on squat losters (*Munida* sp.), B) The pinnacle (39 m) of SK-B Seamount rich with life including red algae and schools of fish (including prowfish (*Zaprora silenus*)), C) High abundance and diversity of life, and D) Lost fishing line (photo credits: NPSEP and OET).

Summary of Dive H1687 - SGaan Kinghlas-Bowie Seamount



Dive objective – Deploy markers and complete mosaic surveys along a trackline from deep to shallow, stop for opportunistic samples.

Dive details – See Figure 33 for transect path, Table 14 for operation details, and Table 15 for key annotation summaries.

Figure 33. Dive H1687 transect on SK-B Seamount

Table 14. Summary for H1687 on SK-B Seamount

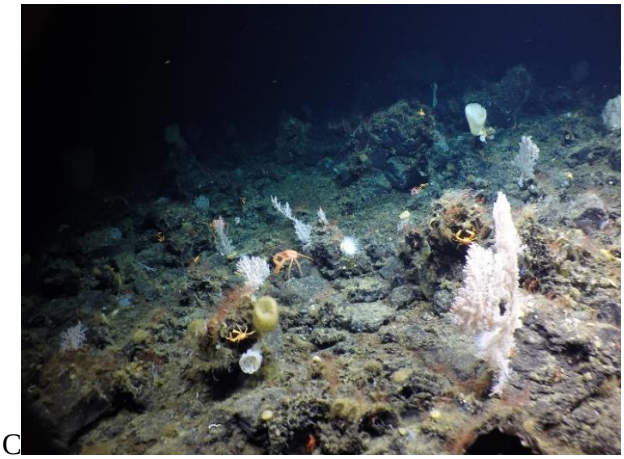
Cruise: NA097	**Vehicle:** Herc/Argus
Dive Number: H1687	**Site:** Sgaan Kinglas-Bowie
Launch Time UTC: 2018-07-13T14:04:10.311Z	**Recovery Time UTC:** 2018-07-14T02:18:26.696Z
On Bottom UTC: 2018-07-13T15:02:47.078Z	**Off Bottom Time UTC:** 2018-07-14T01:24:30.198Z
Total Time (hours): 12.24	**Total Bottom Time (hours):** 10.36
+/-Dec. Lat/Lon In Water: 53.3226155 -135.53174	**+/-Dec. Lat/Lon On Deck:** 53.31829 -135.5770205
+/-Dec. Lat/Lon On Bottom: 53.3219980937 -135.532048	**+/-Dec. Lat/Lon Off Bottom:** 53.3162725 -135.573797675
Depth on bottom (meters): 1249.03	**Depth off bottom (meters):** 580.40
Herc Max Depth (meters): 1258.30	**Herc Avg Depth (meters):** 853.99
Argus Max Depth (meters): 1231.54	**Argus Avg Depth (meters):** 833.88

Table 15. Summary of events during dive H1687 at SK-B Seamount

Time (UTC)	Event description
1404 - 1502	Hercules in water - on bottom.
1542 - 1647	SAMPLE NA097-079 through -088. Octopus and *Paragorgia* coral observed.
1747 - 1810	SAMPLE NA097-089 through -092.
1710 - 1734	Photo mosaic survey. 17:13 Marker E1.
1905 - 1928	19:02 Marker E3
1929 - 2150	Investigating marker site. Thornyheads, tanner crab, Scarlet king crab, deep sea soles, rattail, *Chonelasma* glass sponge, dead bamboo corals observed.
2213 - 2232	Photo mosaic survey. 22:08 Marker E2
2258 - 0016	SAMPLE NA097-093 through -095. Bamboo corals, crinoids, sponges, deep sea sole, sablefish, rockfish, *Paragorgia* coral and fishing line observed. Strong currents.
0047 - 0110	Photo mosaic survey. 00:38 Marker E4
0119 - 0122	SAMPLE NA097-096 and -097.
0124 - 0218	Hercules off bottom - on deck.

The dive started today at 1258 m, on a steep slope (Figure 34a), and proceeded towards the pinnacle, with opportunistic samples collected along the way. Three marker sites were established (E1-E3) with corresponding photo mosaics (Table 3 and Appendix 7). The dive featured beautiful glass sponge and coral gardens – including large *Chonelasma* sp. (Figure 34b) and high coral diversity and abundance (Figure 34c). Approaching the end of the dive, came across extensive area of brittle star 'carpet' (Figure 34d). A new species of *Farrea* was collected during this dive (*Farrea* n. sp.; https://www.inaturalist.org/observations/19952120 Figure 34e). At times the current was very strong during the dive. Lost fishing line observed during transect.

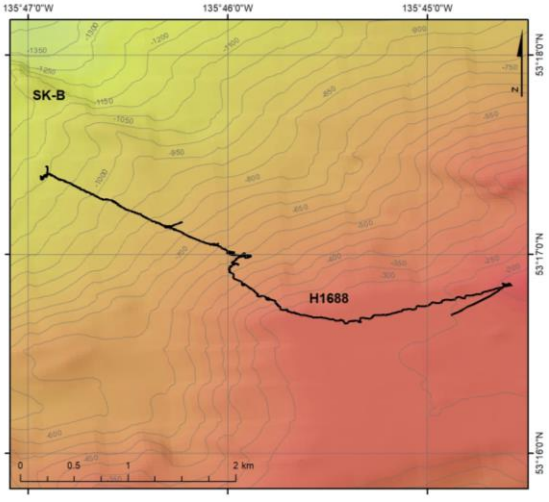
A  B 

C  D 

E 

Figure 34. Dive 1687 A) Start of dive on steep slope at 1258 m, B) Large *Chonelasma* sp., C) Example of glass sponge and coral gardens, D) 'Carpet' of brittle stars, and E) *Farrea* n. sp. (photo credits: NPSEP and OET).

Summary of Dive H1688 - SGaan Kinghlas-Bowie Seamount



Dive objective – Deploy markers and complete mosaic surveys along a trackline from deep to shallow, stopping for opportunistic samples.

Dive details – See Figure 35 for transect path, Table 16 for operation details, and Table 17 for key annotation summaries.

Figure 35. Dive H1688 transect on SK-B Seamount

Table 16. Summary for H1688 on SK-B Seamount

Cruise: NA097	**Vehicle:** Herc/Argus
Dive Number: H1688	**Site:** Sgaan Kinglas-Bowie
Launch Time UTC: 2018-07-14T14:02:07.218Z	**Recovery Time UTC:** 2018-07-15T02:03:16.096Z
On Bottom UTC: 2018-07-14T14:51:54.709Z	**Off Bottom Time UTC:** 2018-07-15T01:40:48.537Z
Total Time (hours): 12.02	**Total Bottom Time (hours):** 10.81
+/-Dec. Lat/Lon In Water: 53.290575 -135.78189	**+/-Dec. Lat/Lon On Deck:** 53.27544 -135.7504815
+/-Dec. Lat/Lon On Bottom: 53.289614 -135.782074656	**+/-Dec. Lat/Lon Off Bottom:** 53.2807066563 -135.742953492
Depth on bottom (meters): 1085.43	**Depth off bottom (meters):** 174.97
Herc Max Depth (meters): 1093.77	**Herc Avg Depth (meters):** 574.45
Argus Max Depth (meters): 1075.97	**Argus Avg Depth (meters):** 554.74

Table 17. Summary of events during dive H1688 on SK-B Seamount

Time (UTC)	Event description
1402 - 1451	Hercules in water - on bottom. 14:26 SAMPLE NA097-098 Bucket sample for phytoplankton.
1518 - 1624	Starting visual survey. SAMPLE NA097-099 through -104.
1711 - 1750	Photo mosaic survey. 17:09 Marker G1.
1820 - 1855	SAMPLE NA097-105 through -109. Boot sponges, mushroom corals, purple anemones and hairy triton observed.
1935 - 2013	Coming off bottom to re-adjust vehicles for strong currents - back on bottom.
2050 - 2114	SAMPLE NA097-110 through -115.
2132 - 2153	Photo mosaic survey. 21:31 Marker G2.
2209 - 2255	SAMPLE NA097-116 through -118. Massive coral garden surrounded by brittle stars (*Primnoa*), rosethorn and other rock fishes, pink nudibranch, octopus observed.
2307 - 2327	Photo mosaic survey. 22:52 Marker G3.
2329 - 0000	SAMPLE NA097-119 through -121.
0140 - 0203	Hercules off bottom - on deck. 01:46 SAMPLE NA097-0122 Bucket sample for phytoplankton.

The dive started at 1090 m on some mud, with some strong current, the sea whips observed were bent at the top (Figure 36a) . The dive progressed towards the pinnacle and encountered rocky habitat with a greater diversity of life (Figure 36b). Opportunistic samples were taken and three monitoring sites (G1-G3; Table 3 and Appendix 7) with associated photo mosaics were established as the dive progressed. The last monitoring site (G3) was at the start of the dive highlights which were encountering incredible ‘forests’ of corals (Figure 36c&d). These ‘forests’ had some of the tallest and most dense aggregations of Red Tree Corals (*Primona pacifica*) that the science team has ever observed. Lost fishing line was observed.

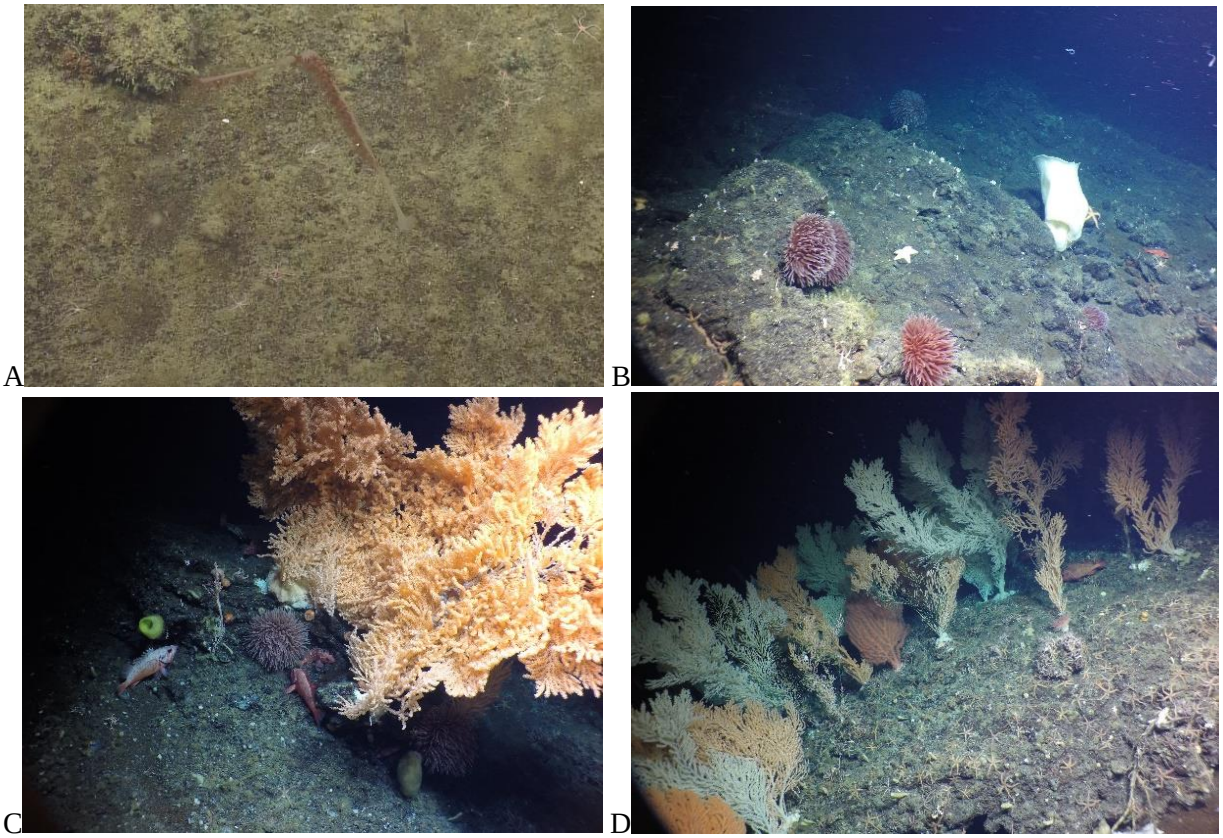
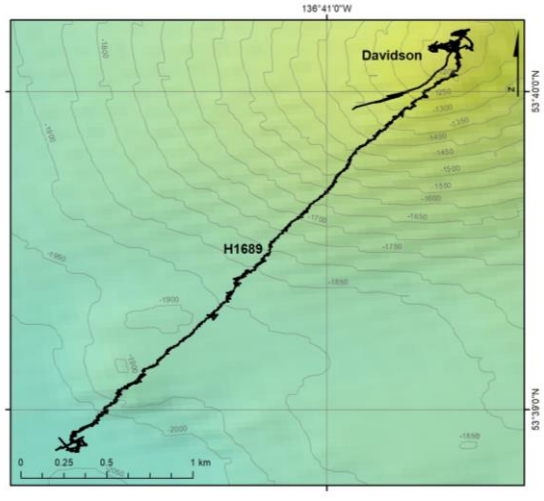


Figure 36. Dive 1688 A) Mud habitat with a bent sea whip, B) Early rock habitat, and associated life, C&D) Red Tree Coral (*Primnoa pacifica)* 'forests'(photo credits: NPSEP and OET).

Summary of Dive H1689 – Pierce/Davidson Seamount



Dive objective – Dive on the western side of the seamount starting from deep to shallow, taking opportunistic push core, Niskin and biological samples

Dive details – See Figure 37 for transect path, Table 18 for operation details, and Table 19 for key annotation summaries.

Figure 37. Dive H1689 transect on Pierce/Davidson Seamount

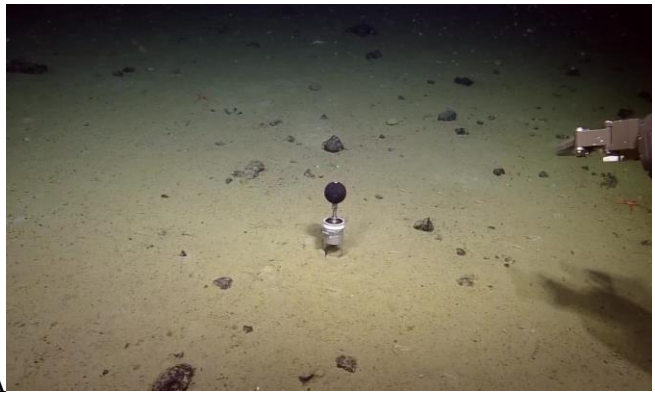
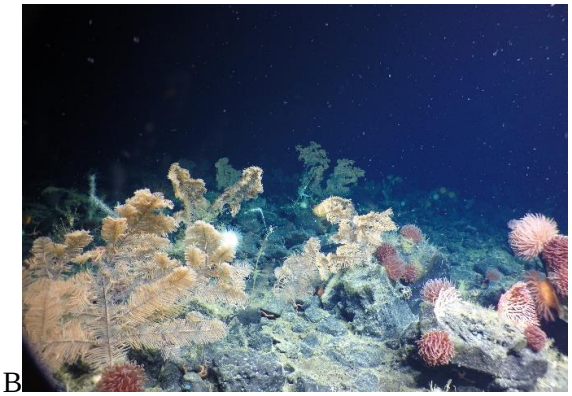
Table 18. Summary for H1689 on Pierce/Davidson Seamount

Cruise: NA097	**Vehicle:** Herc/Argus
Dive Number: H1689	**Site:** Davidson_Seamount
Launch Time UTC: 2018-07-15T14:30:00.636Z	**Recovery Time UTC:** 2018-07-16T01:52:36.852Z
On Bottom UTC: 2018-07-15T15:55:01.497Z	**Off Bottom Time UTC:** 2018-07-16T00:20:21.963Z
Total Time (hours): 11.38	**Total Bottom Time (hours):** 8.42
+/-Dec. Lat/Lon In Water: 53.648213 -136.6973185	**+/-Dec. Lat/Lon On Deck:** 53.6654775 -136.6832235
+/-Dec. Lat/Lon On Bottom: 53.6483011704 -136.696292563	**+/-Dec. Lat/Lon Off Bottom:** 53.6694064473 -136.676412032
Depth on bottom (meters): 2027.17	**Depth off bottom (meters):** 1158.76
Herc Max Depth (meters): 2046.17	**Herc Avg Depth (meters):** 1552.42
Argus Max Depth (meters): 2029.49	**Argus Avg Depth (meters):** 1531.33

Table 19. Summary of events during dive H1689 at Pierce/Davidson Seamount

Time (UTC)	**Event description**
1430 - 1555	Hercules in water - on bottom.
1620 - 1738	Muddy bottom. SAMPLE NA097-124 through -133. Urchins, deep sea sole, pycnogonids, sponges, bivalves, tunicate, polychaete observed.
1802 - 1830	Photo mosaic survey. Polychaete, grenadier, rocks with brittlestars and hydroids, long-spined sea cucumber observed.
1835 - 2100	Resuming visual survey. Pompom anemone, *Farrea* sponge, crinoids, venus flytrap anemone, *Hymenaster* (?), rattail, spiny crab and some sea star feeding behavior observed.
2140 - 2324	SAMPLE NA097-134 through -141. Octopus, sponge, brachiopod, observed.
2325 - 2354	Photo mosaic survey. 23:28 Maker E5.
0002 - 0014	SAMPLE NA097-142 through -145.
0020 - 0152	Hercules off bottom - on deck.

This dive started at 2043 m on muddy substrate with sediment cores and Niskin samples (Figure 38a). The dive progressed, with opportunistic sampling along the way, up to 1165 m at which point a marker (E5) was deployed along with corresponding photo mosaic survey (Table 3 and Appendix 7). A large section of this dive featured high abundance of black corals (Antipatharians), Pom Pom Anemones (*Liponema brevicorne*), mushroom corals (Fungiidae), and glass sponges (Figure 38b&c). Including the stalked sponge (Hexactinellida (OTU: PH11); Figure 31c) not previously observed this expedition. Litter was observed (circuit breaker; Figure 38d).

A  B 


C

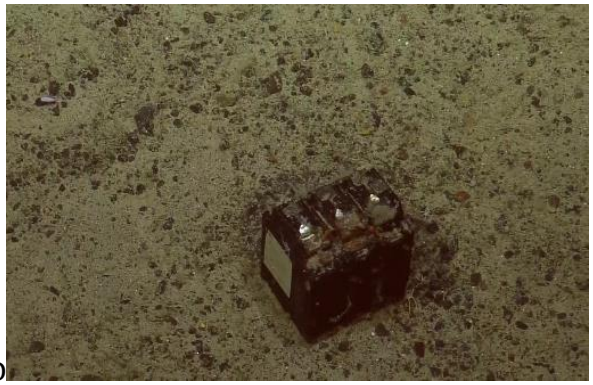
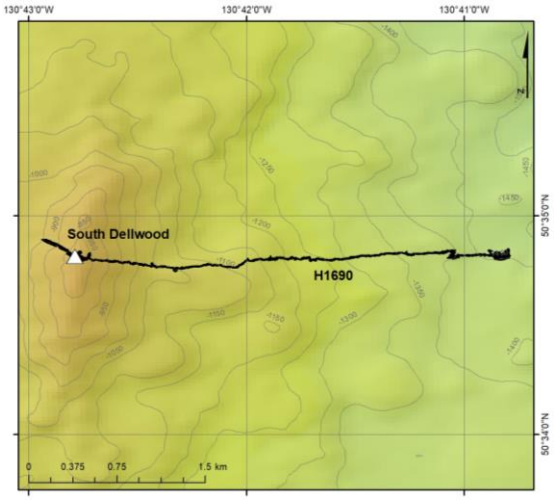

D

Figure 38. Dive 1689 A) Mud habitat, B) Community of black corals (Antipatharians), Pom Pom Anemones (*Liponema brevicorne*), mushroom corals (Fungiidae), C) Community of black corals (Antipatharians), Pom Pom Anemones (*Liponema brevicorne*), and glass sponges including the stalked sponge, and D)Littter observed (a circuit breaker)

Summary of Dive H1690 – Dellwood South Seamount



Dive objective – To dive on the eastern side of the seamount, start at 2000m and travel to the pinnacle, stop for opportunistic sampling.

Dive details – See Figure 39 for transect path, Table 20 for operation details, and Table 21 for key annotation summaries.

Figure 39. Dive H1690 dive transect on Dellwood South Seamount

Table 20. Summary for H1690 on Dellwood South Seamount

Cruise: NA097	**Vehicle:** Herc/Argus
Dive Number: H1690	**Site:** South Dellwood Seamount
Launch Time UTC: 2018-07-18T14:17:02.551Z	**Recovery Time UTC:** 2018-07-19T02:51:31.615Z
On Bottom UTC: 2018-07-18T15:24:49.673Z	**Off Bottom Time UTC:** 2018-07-19T01:21:24.082Z
Total Time (hours): 12.57	**Total Bottom Time (hours):** 9.94
+/-Dec. Lat/Lon In Water: 50.5807245 -130.6810475	**+/-Dec. Lat/Lon On Deck:** 50.5815605 -130.715797
+/-Dec. Lat/Lon On Bottom: 50.58027665 -130.680773593	**+/-Dec. Lat/Lon Off Bottom:** 50.5801597996 -130.712478104
Depth on bottom (meters): 1442.35	**Depth off bottom (meters):** 807.80
Herc Max Depth (meters): 1445.75	**Herc Avg Depth (meters):** 1146.99
Argus Max Depth (meters): 1427.91	**Argus Avg Depth (meters):** 1126.95

Table 21. Summary of events during dive H1690 on Dellwood South Seamount

Time (UTC)	Event description
1417 - 1527	Hercules in water - on bottom, testing the bottom for core sampling.
1538 - 1600	SAMPLE NA097-146 through -154.
1609 - 1748	Starting the visual survey. Close ups on corals and anemones. SAMPLE NA097-155 through -159.
1752 - 1938	Bamboo coral, Thornyhead, nudibranch Pleurobranchia, branching *Farrea*, curled bamboo coral, pink titan nudibranch, *Solaster*, sponge and anemone observed. SAMPLE NA097-160 and -161.
1952 - 2149	SAMPLE NA097-162 through -166. Scarlet king crab, deep sea sole observed.
2159 - 2236	Photo mosaic survey. 21:57 Marker E6.
2237 - 2341	Continuing transect up to the ridge of the seamount. Zoom on octopus, brisingid sea star, morphyte of *Chonelasma*(?), sponge with brachyuran crab. Many brisingid sea stars observed as slope increased, zoom on *Farrea* sponge and crabs.
2322 - 0008	SAMPLE NA097-167 through -169.
0042 - 0102	Photo mosaic survey. 00:38 Marker G6.
0112 - 0114	SAMPLE NA097-170 and -171.
0121 - 0251	Hercules off bottom - on deck.

This dive started at depth of 1444 m with sediment, Niskin, and opportunistic species sampling (Figure 40a). The dive progressed along a transect toward the summit. Along the transect, lost fishing gear was encountered and followed for a short time (Figures 40b). A DFO live event was hosted mid dive. The dive progressed onto more rocky habitat (Figure 40c) Markers E6 and G6 were deployed (Table 3 and Appendix 7) associated photo mosaics completed. During the dive there was an observation of a Deep-sea Octopus (*Graneledone boreopacifca*) with a interesting colour pattern display (Figure 40d). Collected specimen highlights include a soft coral (*Gersemia juliepackardae*, determined by 100% BOL match; https://www.inaturalist.org/observations/20856675) and the new species of Bugle Glass Sponge (*Pinulasma* n. sp.; https://www.inaturalist.org/observations/20952696).

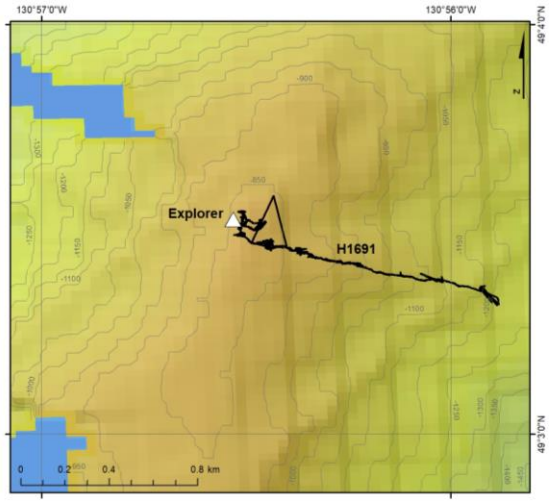
A  B 

C  D 

E  F 

Figure 40. Dive 1690 A) Mud habitat, B) Lost fishing line, C) Rocky habitat, D) Deep-sea Octopus (*Graneledone boreopacifca*) with a interesting colour pattern display, E) Soft coral (*Gersemia juliepackardae*) and F) Bugle Glass Sponge (*Pinulasma* n. sp.) (photo credits: NPSEP and OET).

Summary of Dive H1691 – Explorer Seamount



Dive objective – To follow a transect starting at approximately 1000 m to the summit, complete horizontal transects for ~100 m at same depth if encountered areas of coral abundance. Collect opportunistic samples.

Dive details – See Figure 41 for transect path, Table 22 for operation details, and Table 23 for key annotation summaries.

Figure 41. Dive H1691 dive transect on Explorer Seamount

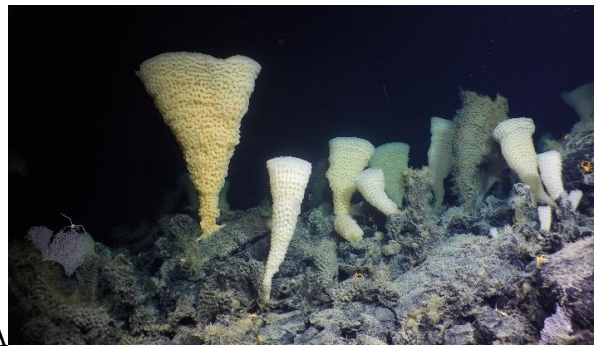
Table 22. Summary for H1691 on Explorer Seamount

Cruise: NA097	**Vehicle:** Herc/Argus
Dive Number: H1691	**Site:** Explorer Seamount
Launch Time UTC: 2018-07-19T14:08:47.115Z	**Recovery Time UTC:** 2018-07-19T20:00:39.277Z
On Bottom UTC: 2018-07-19T14:52:15.824Z	**Off Bottom Time UTC:** 2018-07-19T19:01:27.117Z
Total Time (hours): 5.86	**Total Bottom Time (hours):** 4.15
+/-Dec. Lat/Lon In Water: 49.0559015 -130.93208	**+/-Dec. Lat/Lon On Deck:** 49.0596540415 -130.943079765
+/-Dec. Lat/Lon On Bottom: 49.0567590248 -130.936858461	**+/-Dec. Lat/Lon Off Bottom:** 49.058442 -130.941579933
Depth on bottom (meters): 942.89	**Depth off bottom (meters):** 787.45
Herc Max Depth (meters): 946.72	**Herc Avg Depth (meters):** 836.71
Argus Max Depth (meters): 921.36	**Argus Avg Depth (meters):** 817.99

Table 23. Summary of events during dive H1691 on Explorer Seamount

Time (UTC)	Description
1408 - 1452	Hercules in water - on bottom.
1505 - 1535	Bugle sponge, cluster of boot sponges and Bugle sponge skeleton, black corals, squat lobsters, bubblegum coral observed.
1635 - 1717	Completing 10m x 10m grid for mosaic
1720 - 1746	Photo mosaic survey. 17:20 Marker G4.
1810 - 1844	SAMPLE NA097-172 through -180.
1901 - 2000	Hercules off bottom - on deck.

This dive started at 943 m and progressed to the pinnacle at 790 m. The entire dive was an incredible sponge garden with multiple species of glass sponges growing in high abundance and on top of dead sponge skeletons (Figures 42a-c). Living in amoungst the garden were corals, crabs, squat lobsters, shrimp, brisingid seastars, and anemones. Markers (G4-5) and subsequent photomosaics were completed (Table 3 and Appendix 7). Highlight imagery included a large coral (*Parastenella* cf. *ramosa;* Figure 42d), 'sponge pants' *Pinulasma* n. sp. (Figure 42e), and potential evidence of a seastar eating a glass sponge (Figure 42f).

A  B 

C   D

 E  F

Figure 42. Dive 1691 A-C)The incredible abundance of the glass sponge garden, D) A large coral (*Parastenella* cf. *ramose*, E)An interesting observation of two *Pinulasma* n. sp. sponges with fused oscula, also referred to as the 'sponge pants' sponge, F)Potential evidence of a seastar feeding on a glass sponge on Explorer Seamount (photo credits: NPSEP and OET).

Surface Surveys

During the expedition Dr Robert Rangeley of Oceana Canada conducted some ad hoc seabird surveys to observe which animals are associated with seamounts in the OPB. Continuous 90° forward scans in 5 minute recording intervals on the hour were conducted from the E/V *Nautilus* Compass deck. Transects were counted as a 200 meter strip in 50 m bands. The scans we from the bow to 90° to starboard or port (opposite sun glare) using Celestron 8X24 binoculars. Photo identification confirmations were taken with a 200mm telephoto lens on a Canon 5D Mark4.

Thirty-two transects were conducted over a 5 day period (Appendix 8). The birds observed were Leach's Storm Petrel (*Oceanodroma leucorhoa*), Northern Fulmar (*Fulmarus glacialis*), Blackfooted Albatross (*Phoebastria nigripes;* Figure 43d), unidentified alcids, and unidentified seabirds. 63 individuals were observed during the expedition. In addition, only a few opportunistic observations were made of other surface animals during the expedition: Ocean Sunfish (*Mola mola),* Humpback Whales (*Megaptera novaeangliae;* Figure 43a-c) pod of porpoises (poor sighting unable to identify species), and a small brown shark (likely a Dogfish).

A  B 

C  D 

Figure 43. Surface sightings A-C) Humpback Whales and D) Blackfooted Albatross (photo credits: Shelton DuPreez, DFO).

Media and Outreach

Figure 44. NPSEP members participating in outreach and media events (photo credits: Shelton Du Preez)

The NPSEP and OET acknowledge that science communication to stakeholders, the scientific community, and the general public are integral to conducting science (Figure 44). Taking advantage of the high-bandwidth communication facilities on the E/V *Nautilus*, education and outreach activities were given high priority during the expedition. All dives were livestreamed to the public online (https://nautiluslive.org/) and the RBCM played dives on a large screen in their entry hall. Multiple media and outreach sessions were scheduled, with over 540 people were taking part in live Q&A sessions with shipboard scientists and staff:

5 July 2018
Prior to leaving port, the expedition partners held a press event aboard E/V Nautilus including tours and interviews with Fisheries and Oceans Canada, Oceana Canada, Ocean Networks Canada, and Ocean Exploration Trust. Participating press included CBC Victoria, CTV News at Noon, Global BC, and Penninsula News Review.

6 July 2018
Live ship-to-shore interaction training with OET's Science Communication Fellows.

7 July 2018
Live streams of ROV dives; social media posting of images and video by science communication team

8 July 2018
Social media posts by science communication team

9 July 2018

Live stream Q&A session with ~32 students (12-15 yo) and staff at a shipwreck camp hosted at Gelfand STEM Center at Cape Western Reserve University (Cleveland, OH), facilitated by science communication team.

10 July 2018
Live stream Q&A session with ~40 adult learners at Other Lifelong Learning Institute at California State University Channel Islands, facilitated by science communication team.

11 July 2018
Live stream Q&A session with ~13 campers at the Audubon Society of Rhode Island, ~25 science campers in grades 5-7 at Cornerstone Academy's EARDC Aquatic Science Camp in San Marcos, TX, and ~20 students of the Tseshaht First Nation in Port Alberni, BC.

12 July 2018
Live stream Q&A sessions with ~10-15 middle school campers at Marineland in Florida, and ~35 early career researchers at PICES Summer School in Victoria, BC. Ship-to-shore connection facilitated by Professor Kim Juniper (ONC) on shore.

13 July 2018
Live stream Q&A sessions with ~50 middle school STEM campers at Kearsarge Regional Middle School (Sutton, NH) who are in the process of building their own small ROV (SeaPerch). Bob Rangeley (Oceana Canada), Dana Haggarty (DFO), and Samantha Wishnak (OET) hosted a Facebook Live event that was streamed via the Oceana Canada, Oceana International, and Nautilus Live accounts.

ONC Chief Science Dr. Kim Juniper gave a presentation on the expedition to over 60 visitors at the Haida Cultural Centre in Skidegate. A live link to the EV Nautilus was established to permit visitors to ask questions directly to outreach staff on the research vessel. This event was organized by the CHN.

14 July 2018
Live stream Q&A sessions with ~50 young adults and college students at the CaNOE National Ocean Literacy Symposium in Newfoundland and ~50 people of all ages in Haida Gwaii with ONC representatives hosting the connection on shore. ONC Chief Science Dr. Kim Juniper met with over 70 community members gathered at Christian's Longhouse (Tluu Xaada Nay) in Old Masset and gave a presentation on the expedition. A live link was established to EV Nautilus, permitting onboard Haida biologist Jaasaljuus Yukgujanaas and DFO staff to engage in a Q&A session with community members. This exchange took place during ROV operations on SGaan-Kinghlas Bowie Seamount, a Marine Protected Area jointly managed by DFO and the CHN. The event was organized by the CHN and was highlighted on their website https://www.haidanation.ca/armchair-divers-exploring-sg%cc%b2aan-k%cc%b2inghlas/

15 July 2018
Live streams of ROV dives.

16 July 2018
Live stream Q&A session with ~20 high school students at University of California Santa Barbara's REEF summer program.

17 July 2018
Live stream Q&A sessions with ~25 student (6-10 yo) at Kids Club Great Pacific located at the Patagonia Headquarters office in Ventura, CA, ~40 elementary school students at the Corpus Christi Science

Museum of History in TX, and ~15 elementary students (8-11 yo) at the Cowichan Estuary Nature Centre in Cowichan Bay, BC.

18 July 2018
Live to DFO staff across Canada, streamed via www.nautiluslive.org with support from the Inner Space Center at University of Rhode Island. Live stream Q&A sessions with ~20 high school students participating in a STEM Scholars summer program at the Franklin Institute in Philadelphia, PA and ~60 middle school and high school campers at University of Southern Mississippi's Sea Camp Program within the School of Ocean Sciences and Engineering.

19 July 2019
Survey recap event on Facebook Live, hosted by OET (https://www.facebook.com/nautiluslive/). Live stream Q&A sessions with ~30 college students in an introductory oceanography class at Diablo Valley College in Pleasant Hill, CA, ~30 college students at University of California Santa Barbara.

The outreach and science communication for this expedition was incredibly successful as there were over 3.7 million people reached on social media and 130 countries watched the dives online. There were 180 media stories generated (Appendix 9) related to expedition across radio, television, and print. Incredible imagery was taken by those on board including an independent film maker who produced the following amazing videos that can be used for outreach purposes for perpetuity:

- Exploring the Deep Sea: The Northeast Pacific Seamount Expedition and Partners https://www.youtube.com/watch?v=Mz0EFiBgUoA
- Exploring the Deep Sea: The Offshore Pacific Seamounts (Underwater Mountains) https://www.youtube.com/watch?v=hjPf_zmhU00
- Exploring the Deep Sea: The Abyss of the Offshore Pacific https://www.youtube.com/watch?v=hjPf_zmhU00
- Exploring the Deep Sea: Hydrothermal Vents of the Offshore Pacific https://www.youtube.com/watch?v=04nrtlWwlx8&t=37s

Highlight videos for Dellwood Seamount were produced by ONC and hosted by Oceana Canada (https://vimeo.com/279671316) and by the E/V *Nautilus* (https://www.youtube.com/watch?v=p0zlK1oShNk). Blog posts were produced by Jaasaljuus Yakgujanaas for the Council of the Haida Nation (https://www.haidanation.ca/seamount-expedition-day-3/) and Oceana Canada (https://oceana.ca/en/blog/highlights-dellwood-seamount). The E/V *Nautilus* team also created an online gallery of image highlights (https://nautiluslive.org/album/2018/07/09/life-slope-dellwood-seamount).

Highlight videos for were produced for SGaan Kinghlas-Bowie Semount by the E/V *Nautlius* (https://www.youtube.com/watch?v=vntjmy29ymc) and ONC – hosted by Oceana Canada (https://www.youtube.com/watch?v=IxhiKblFYes). Blog posts were produced by Jaasaljuus Yakgujanaas for the Council of the Haida Nation (https://www.haidanation.ca/seamount-expedition-day-6/ and https://www.haidanation.ca/seamount-expedition-8/) and Oceana (https://oceana.ca/en/blog/highlights-sgaan-kinghlas-bowie-seamount-marine-protected-area). The E/V *Nautilus* team also created an online gallery of image highlights (https://nautiluslive.org/album/2018/07/17/surveying-seamounts-sgaan-kinghlas-bowie-marine-protected-area)

ONC produced and Oceana Canada hosted a highlight video of Hodgkins Seamount (https://www.youtube.com/watch?v=VPD-0rIciWQ) and Jaasaljuus Yakgujanaas wrote a blog post for the Council of the Haida Nation (https://www.haidanation.ca/seamount-expedition-day-7/).

ONC produced and Oceana Canada hosted a highlight video of Davidson/Pierce Seamount (https://www.youtube.com/watch?v=gq0wV6VMmyU) and Jaasaljuus Yakgujanaas wrote a blog post for the Council of the Haida Nation (https://www.haidanation.ca/seamount-expedition-day-9/)

The E/V *Nautilus* produced a highlight video of 'Spongetopia' on Explorer Seamount (https://nautiluslive.org/video/2018/07/20/deep-sea-spongetopia-explorer-seamount)

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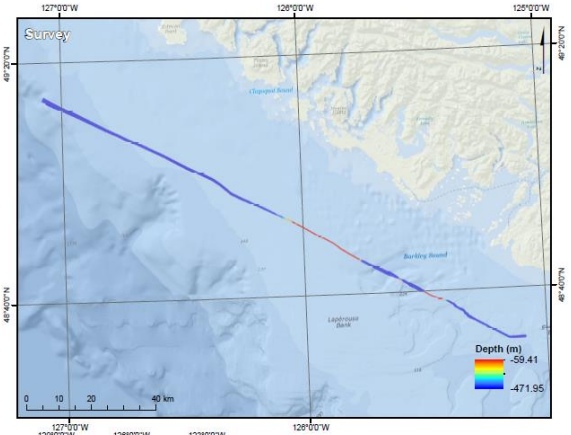
Appendix 1. Expedition details of 2,500 km of mapping

NA097_20180706_DellwoodTransit_A



Survey Start: 20180706_11:10:55
Survey End: 20180719_05:33:26

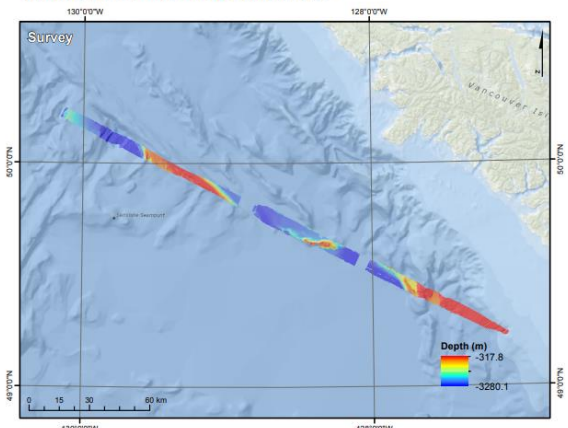
Areal Coverage: 126.74 km^2
Max Depth: -471.95 m
Min Depth: -59.41 m
Cell Size: 5 m

North Extent: 49.238642 DD
South Extent: 48.522446 DD
East Extent: -125.035440 DD
West Extent: -127.109746 DD

Basemap: ESRI, DeLorme, GEBCO, NOAA NGDC, and other contributers
Map Projection: WGS84_UTM9N
Vertical Reference: Waterline with no adjustment

OCEAN EXPLORATION TRUST

NA097_20180706_DellwoodTransit_B



Survey Start: 20180706_11:10:55
Survey End: 20180719_05:33:26

Areal Coverage: 1276.37 km^2
Max Depth: -3280.1 m
Min Depth: -317.8 m
Cell Size: 30 m

North Extent: 50.253799 DD
South Extent: 49.221575 DD
East Extent: -127.035537 DD
West Extent: -130.156942 DD

Basemap: ESRI, DeLorme, GEBCO, NOAA NGDC, and other contributers
Map Projection: WGS84_UTM9N
Vertical Reference: Waterline with no adjustment

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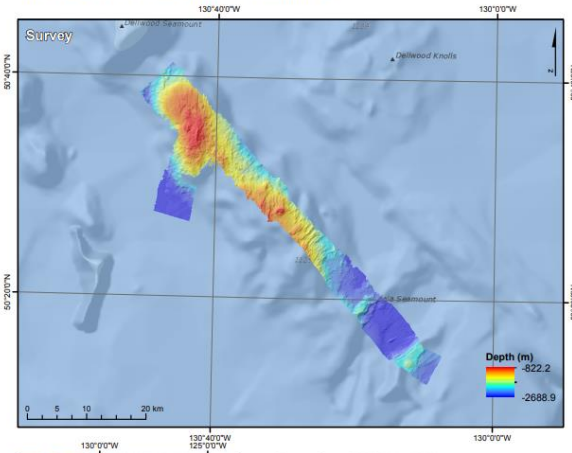
NA097_20180706_DellwoodTransit_C



Survey Start: 20180706_11:10:55
Survey End: 20180719_05:33:26

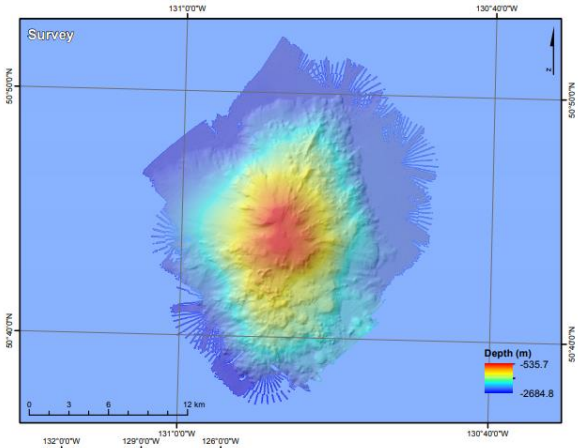
Areal Coverage: 456.98 km^2
Max Depth: -2688.9 m
Min Depth: -822.2 m
Cell Size: 30 m

North Extent: 50.696022 DD
South Extent: 50.197494 DD
East Extent: -130.122570 DD
West Extent: -130.852962 DD

Basemap: ESRI, DeLorme, GEBCO, NOAA NGDC, and other contributers
Map Projection: WGS84_UTM9N
Vertical Reference: Waterline with no adjustment

OCEAN EXPLORATION TRUST

NA097_20180707_DellwoodSeamount



Survey Start: 20180707_12:58:10
Survey End: 20180718_12:13:14

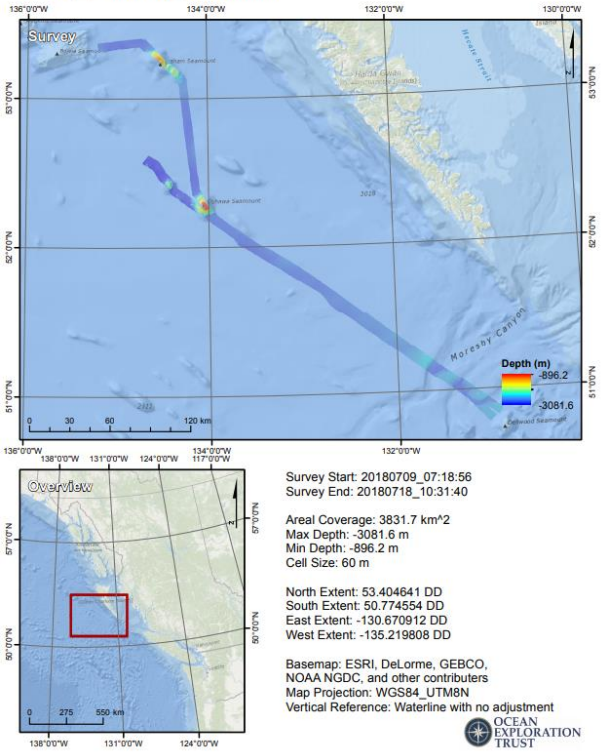
Areal Coverage: 372.7 km^2
Max Depth: -2684.8 m
Min Depth: -535.7 m
Cell Size: 30 m

North Extent: 50.874542 DD
South Extent: 50.618644 DD
East Extent: -130.720213 DD
West Extent: -131.047251 DD

Basemap: ESRI, DeLorme, GEBCO, NOAA NGDC, and other contributers
Map Projection: WGS84_UTM9N
Vertical Reference: Waterline with no adjustment

OCEAN EXPLORATION TRUST

NA097_20180709_SKBtransit



Survey Start: 20180709_07:18:56
Survey End: 20180718_10:31:40

Areal Coverage: 3831.7 km^2
Max Depth: -3081.6 m
Min Depth: -896.2 m
Cell Size: 60 m

North Extent: 53.404641 DD
South Extent: 50.774554 DD
East Extent: -130.670912 DD
West Extent: -135.219808 DD

Basemap: ESRI, DeLorme, GEBCO,
NOAA NGDC, and other contributers
Map Projection: WGS84_UTM8N
Vertical Reference: Waterline with no adjustment

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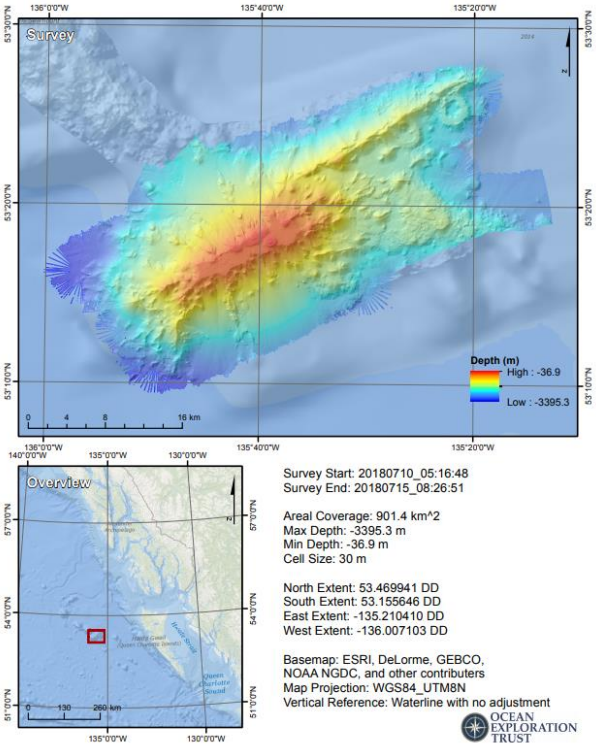
NA097_20180710_SKBseamount



Survey Start: 20180710_05:16:48
Survey End: 20180715_08:26:51

Areal Coverage: 901.4 km^2
Max Depth: -3395.3 m
Min Depth: -36.9 m
Cell Size: 30 m

North Extent: 53.469941 DD
South Extent: 53.155646 DD
East Extent: -135.210410 DD
West Extent: -136.007103 DD

Basemap: ESRI, DeLorme, GEBCO,
NOAA NGDC, and other contributers
Map Projection: WGS84_UTM8N
Vertical Reference: Waterline with no adjustment

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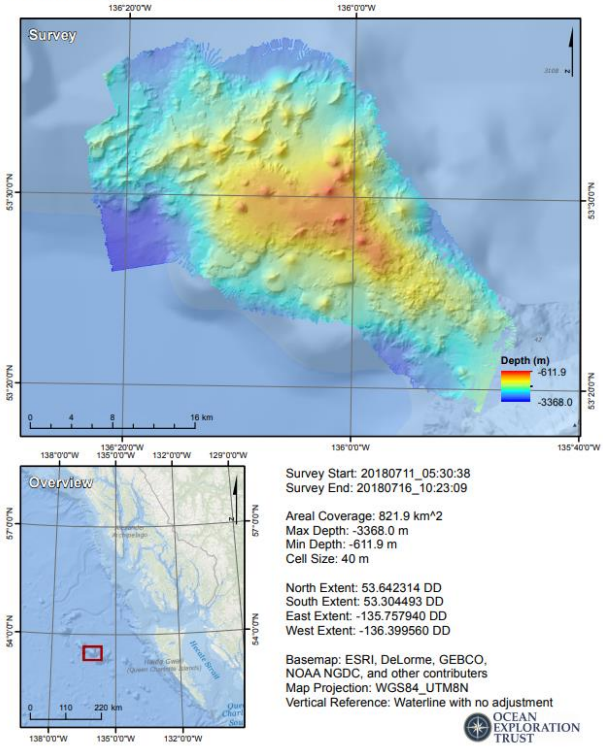
NA097_20180711_HodgkinsSeamount



Survey Start: 20180711_05:30:38
Survey End: 20180716_10:23:09

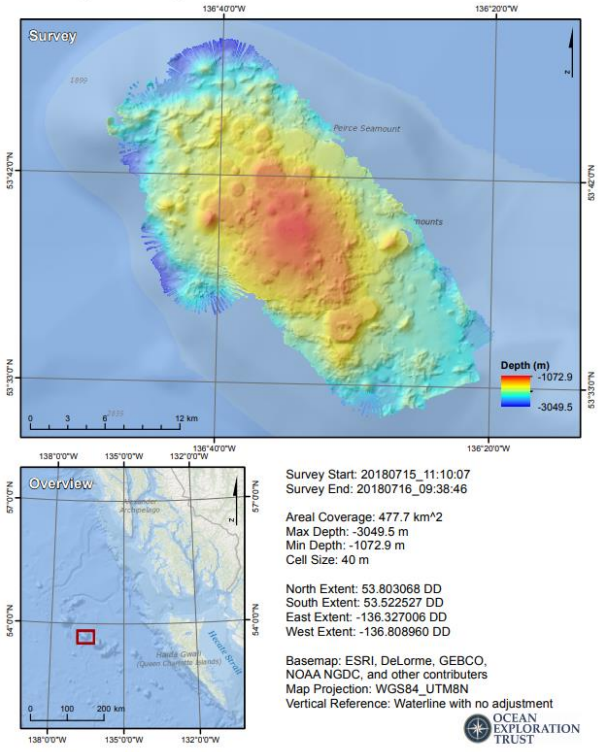
Areal Coverage: 821.9 km^2
Max Depth: -3368.0 m
Min Depth: -611.9 m
Cell Size: 40 m

North Extent: 53.642314 DD
South Extent: 53.304493 DD
East Extent: -135.757940 DD
West Extent: -136.399560 DD

Basemap: ESRI, DeLorme, GEBCO,
NOAA NGDC, and other contributers
Map Projection: WGS84_UTM8N
Vertical Reference: Waterline with no adjustment

OCEAN EXPLORATION TRUST

NA097_20180715_DavidsonSeamount



Survey Start: 20180715_11:10:07
Survey End: 20180716_09:38:46

Areal Coverage: 477.7 km^2
Max Depth: -3049.5 m
Min Depth: -1072.9 m
Cell Size: 40 m

North Extent: 53.803068 DD
South Extent: 53.522527 DD
East Extent: -136.327006 DD
West Extent: -136.808960 DD

Basemap: ESRI, DeLorme, GEBCO,
NOAA NGDC, and other contributers
Map Projection: WGS84_UTM8N
Vertical Reference: Waterline with no adjustment

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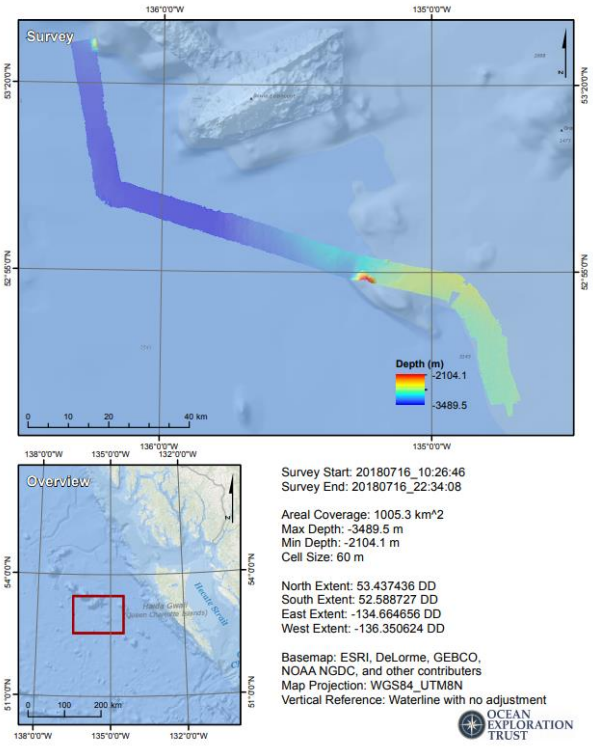
NA097_20180716_SKBtransitSouth



Survey Start: 20180716_10:26:46
Survey End: 20180716_22:34:08

Areal Coverage: 1005.3 km^2
Max Depth: -3489.5 m
Min Depth: -2104.1 m
Cell Size: 60 m

North Extent: 53.437436 DD
South Extent: 52.588727 DD
East Extent: -134.664656 DD
West Extent: -136.350624 DD

Basemap: ESRI, DeLorme, GEBCO,
NOAA NGDC, and other contributers
Map Projection: WGS84_UTM8N
Vertical Reference: Waterline with no adjustment

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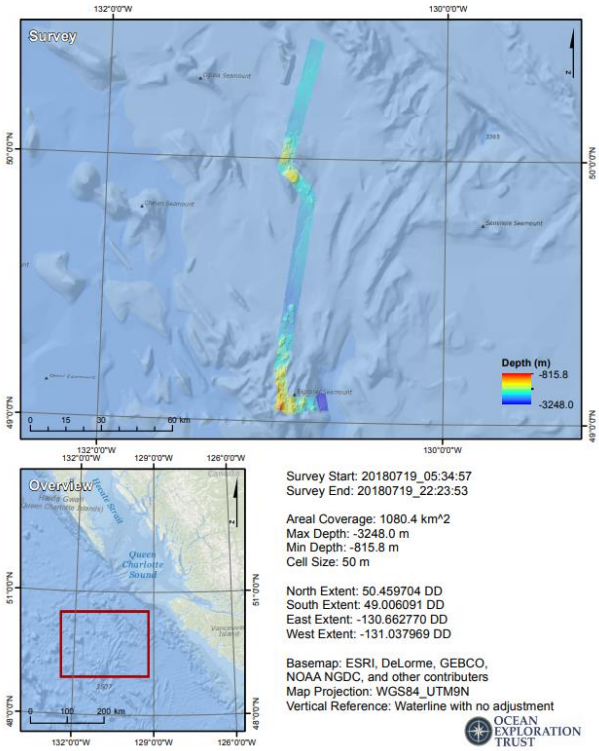
NA097_20180719_ExplorerTransit



Survey Start: 20180719_05:34:57
Survey End: 20180719_22:23:53

Areal Coverage: 1080.4 km^2
Max Depth: -3248.0 m
Min Depth: -815.8 m
Cell Size: 50 m

North Extent: 50.459704 DD
South Extent: 49.006091 DD
East Extent: -130.662770 DD
West Extent: -131.037969 DD

Basemap: ESRI, DeLorme, GEBCO,
NOAA NGDC, and other contributers
Map Projection: WGS84_UTM9N
Vertical Reference: Waterline with no adjustment

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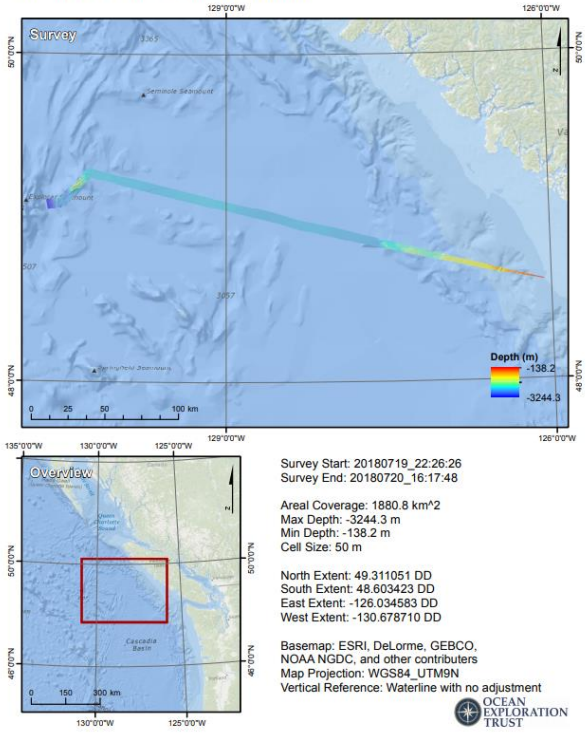
NA097_20180719_VictoriaTransit



Survey Start: 20180719_22:26:26
Survey End: 20180720_16:17:48

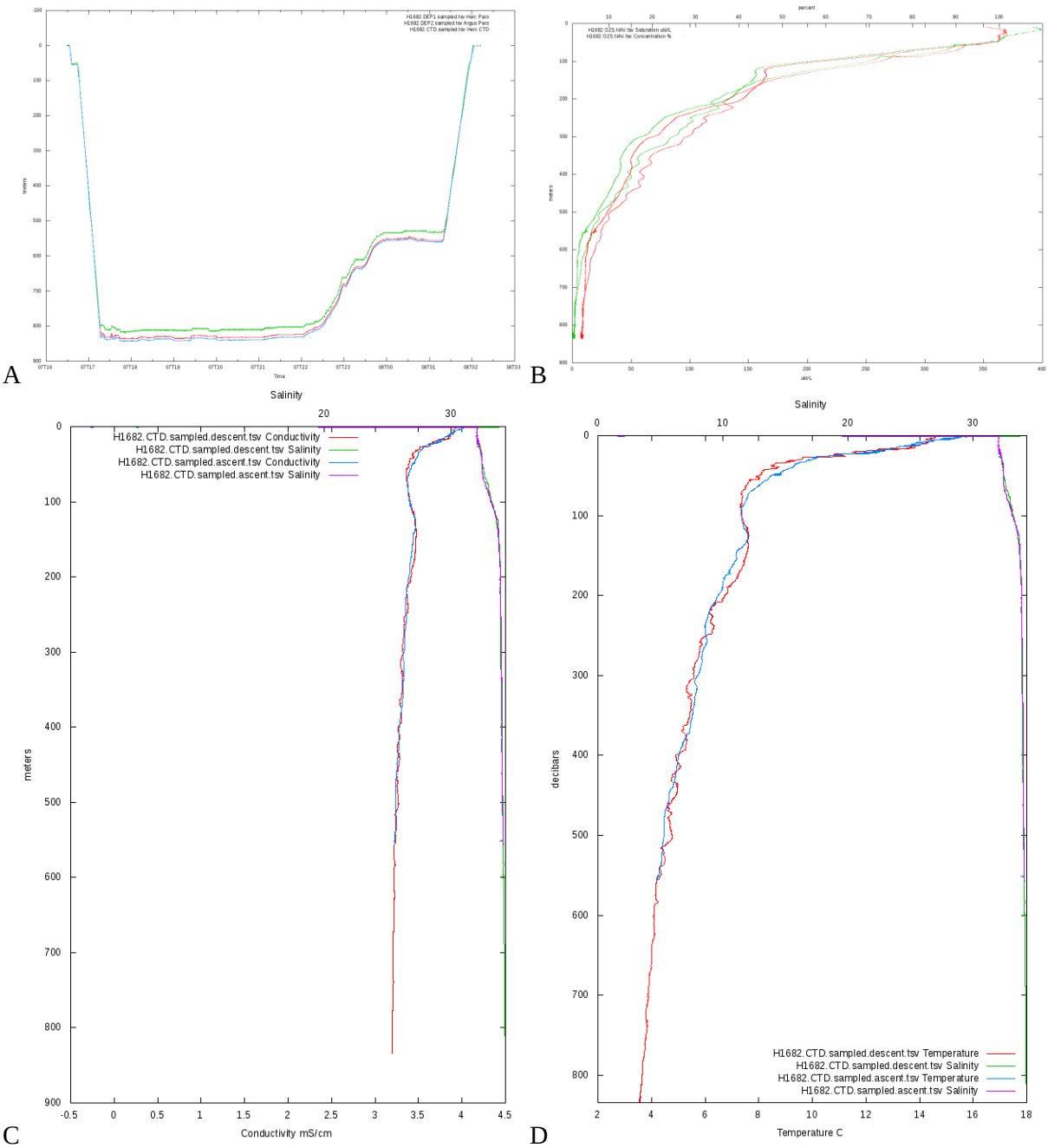
Areal Coverage: 1880.8 km^2
Max Depth: -3244.3 m
Min Depth: -138.2 m
Cell Size: 50 m

North Extent: 49.311051 DD
South Extent: 48.603423 DD
East Extent: -126.034583 DD
West Extent: -130.678710 DD

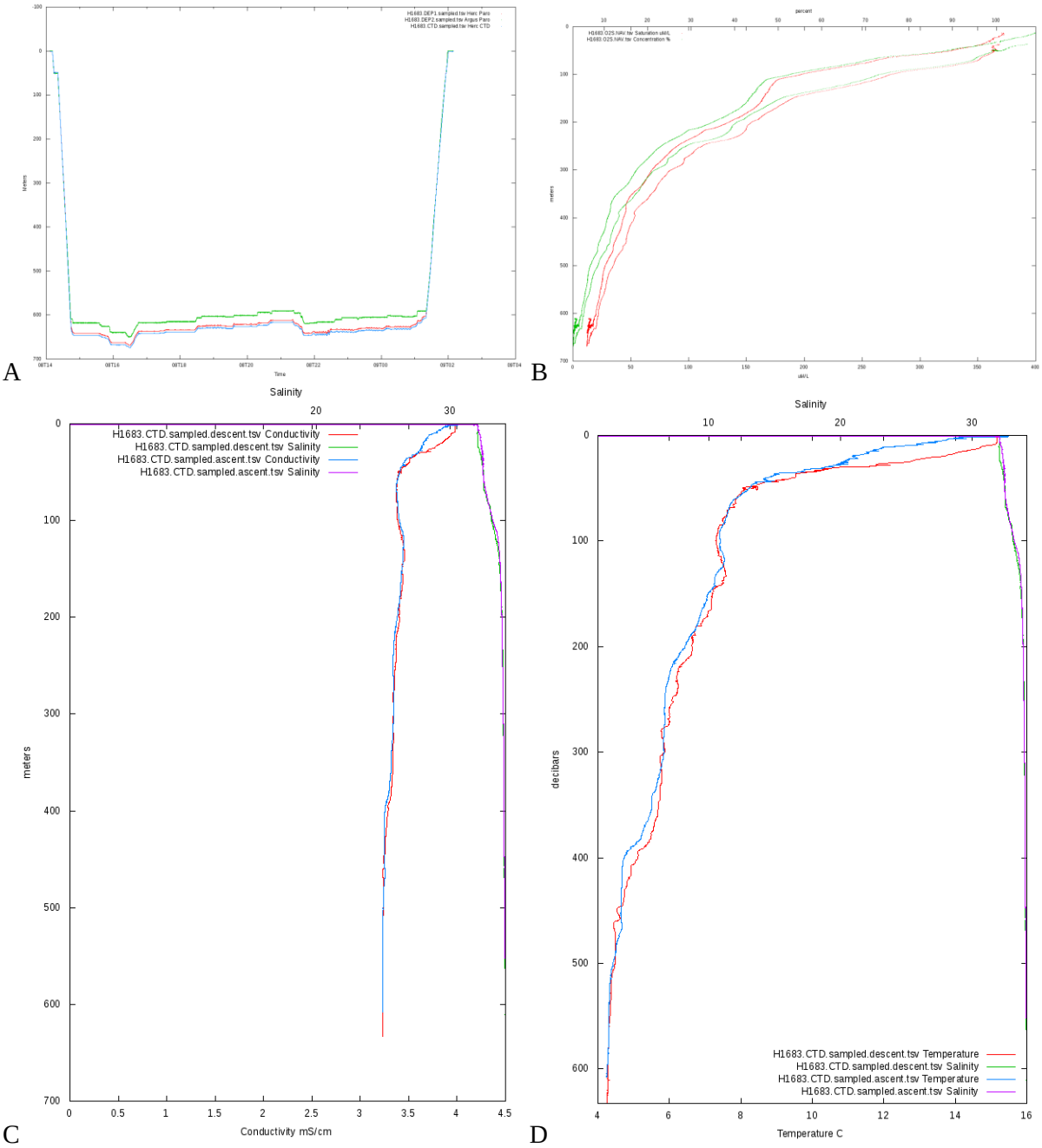
Basemap: ESRI, DeLorme, GEBCO,
NOAA NGDC, and other contributers
Map Projection: WGS84_UTM9N
Vertical Reference: Waterline with no adjustment

OCEAN EXPLORATION TRUST

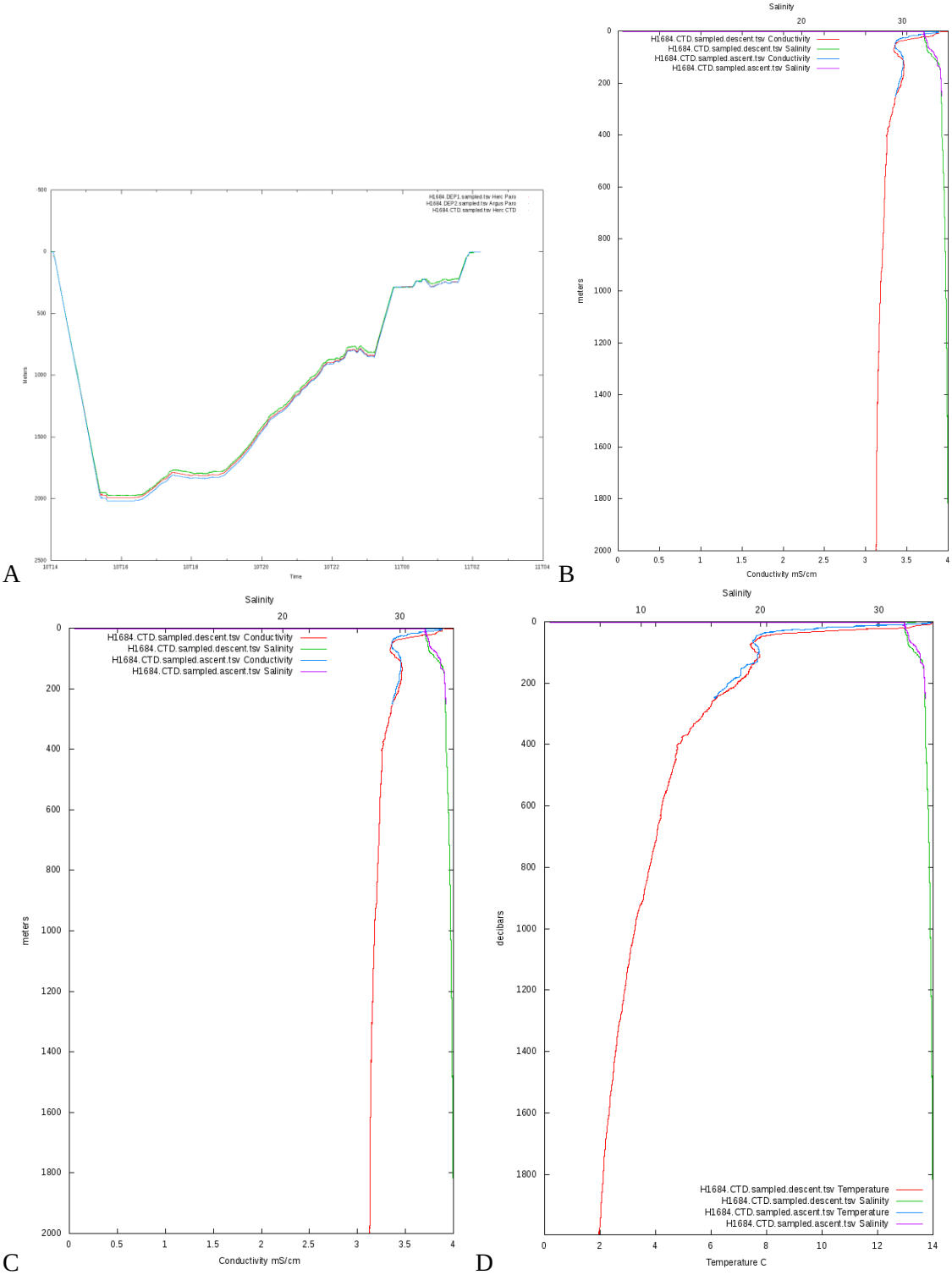
Appendix 2. Salinity/Conductivity, Depth, Temperature and Oxygen profiles of ROV dives



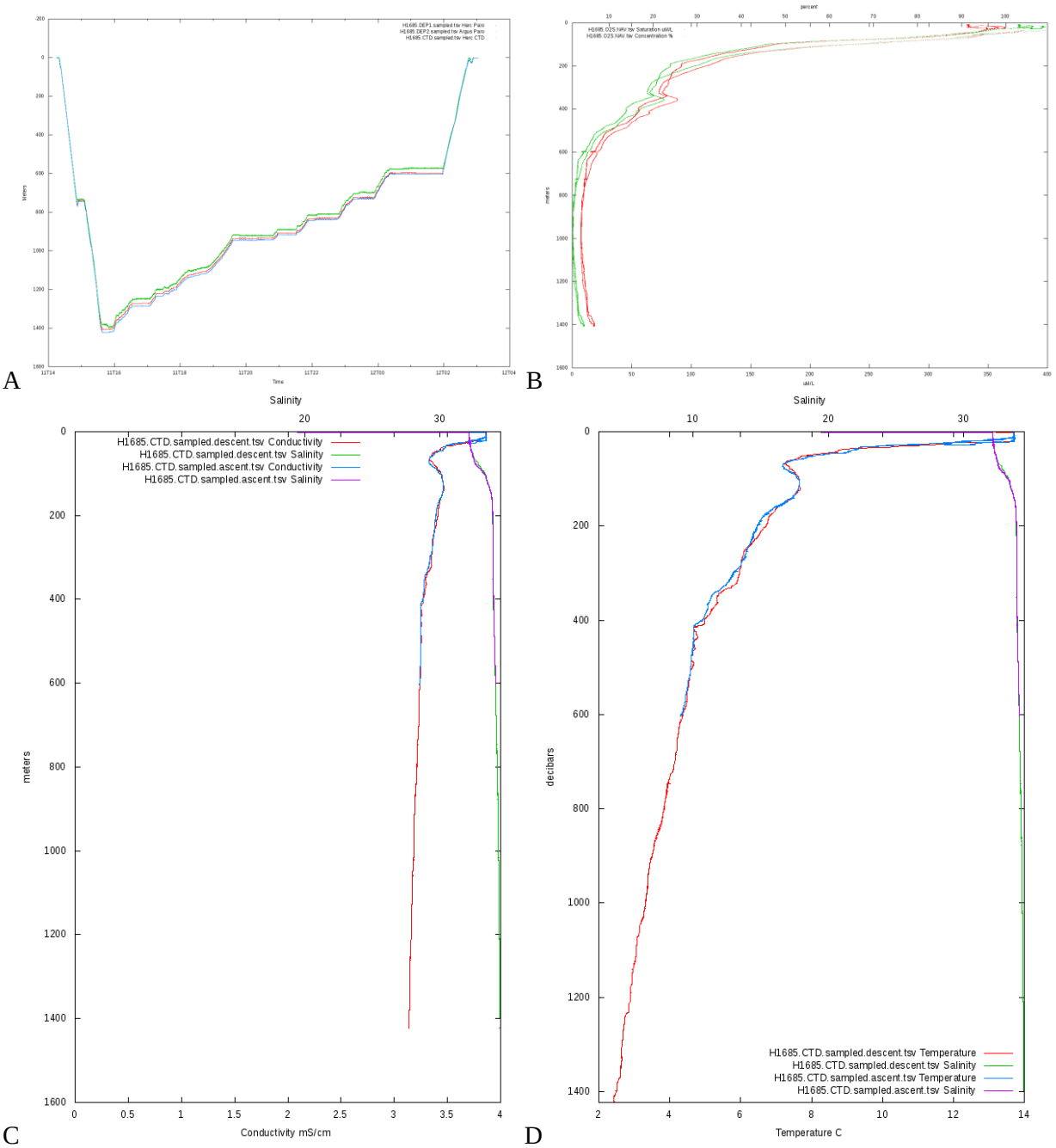
Appendix 2.1. Dive H1682 A) Depth profile vs time - Red: depth recorded by Hercules sensors; Green: depth recorded by Argus sensors; Blue: depth recorded by Hercules-mounted CTD sensor, B) Oxygen saturation (red, µM/L) and concentration (green, %) vs depth, C) salinity and conductivity vs depth, D) temperature and salinity vs pressure



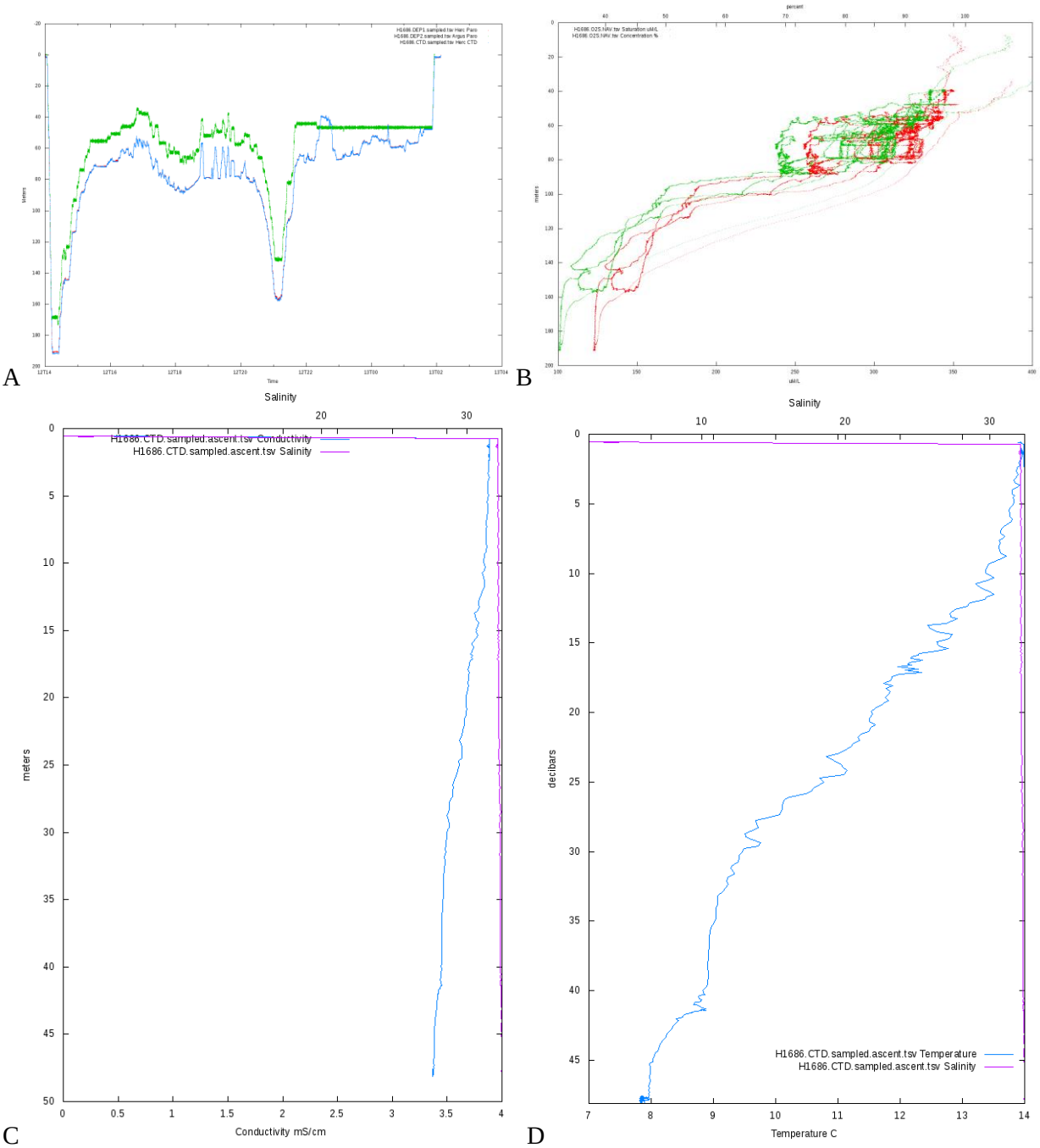
Appendix 2.2. Dive H1683 A)Depth profile vs time - Red: depth recorded by Hercules sensors; Green: depth recorded by Argus sensors; Blue: depth recorded by Hercules-mounted CTD sensor, B) Oxygen saturation (red, µM/L) and concentration (green, %) vs depth, C) salinity and conductivity vs depth, and D) temperature and salinity vs pressure



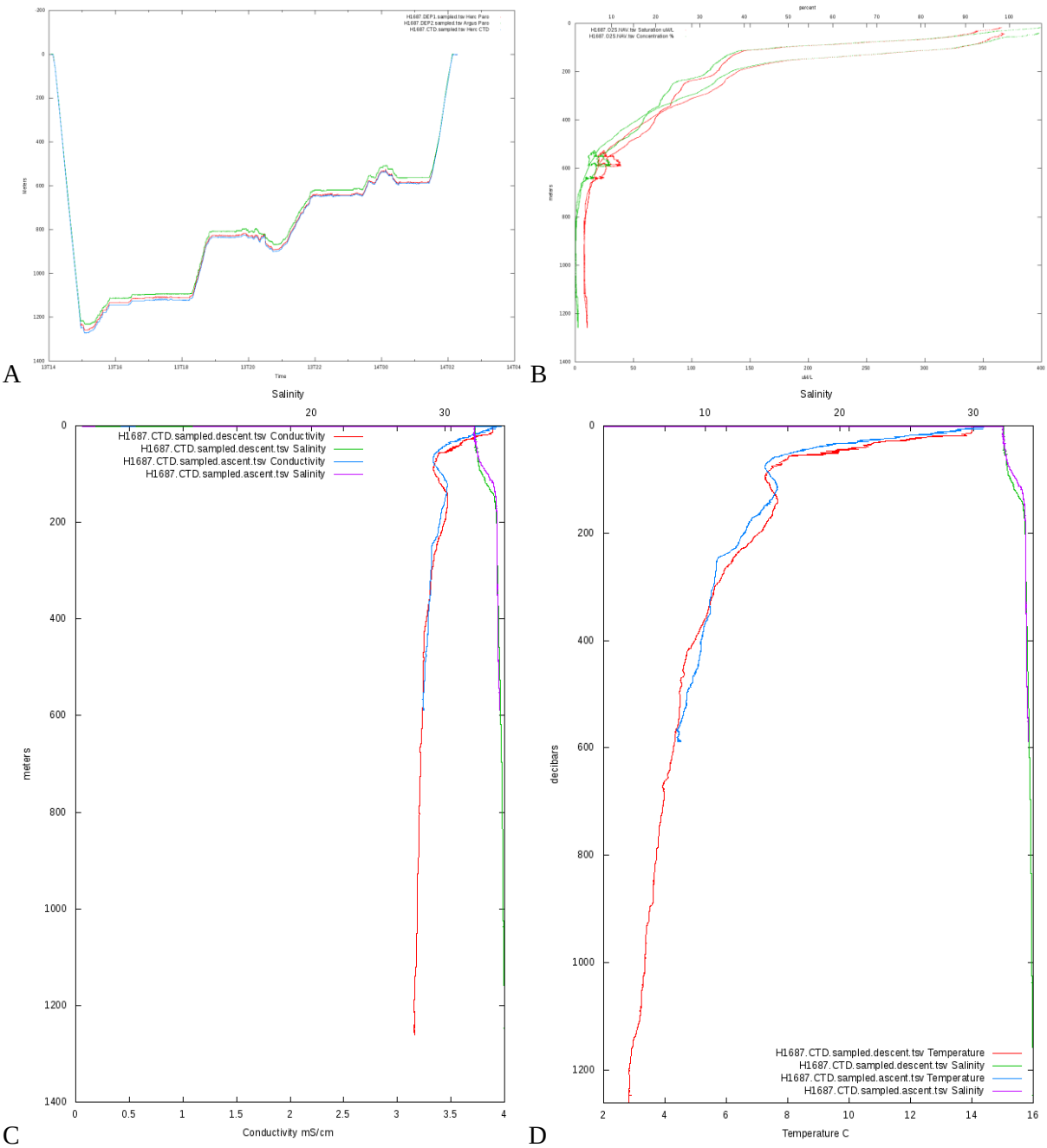
Appendix 2.3. Dive H1684 a) Depth profile vs time -Red: depth recorded by Hercules sensors; Green: depth recorded by Argus sensors; Blue: depth recorded by Hercules-mounted CTD sensor, B) Oxygen saturation (red, µM/L) and concentration (green, %) vs depth, C) salinity and conductivity vs depth, and D) temperature and salinity vs pressure



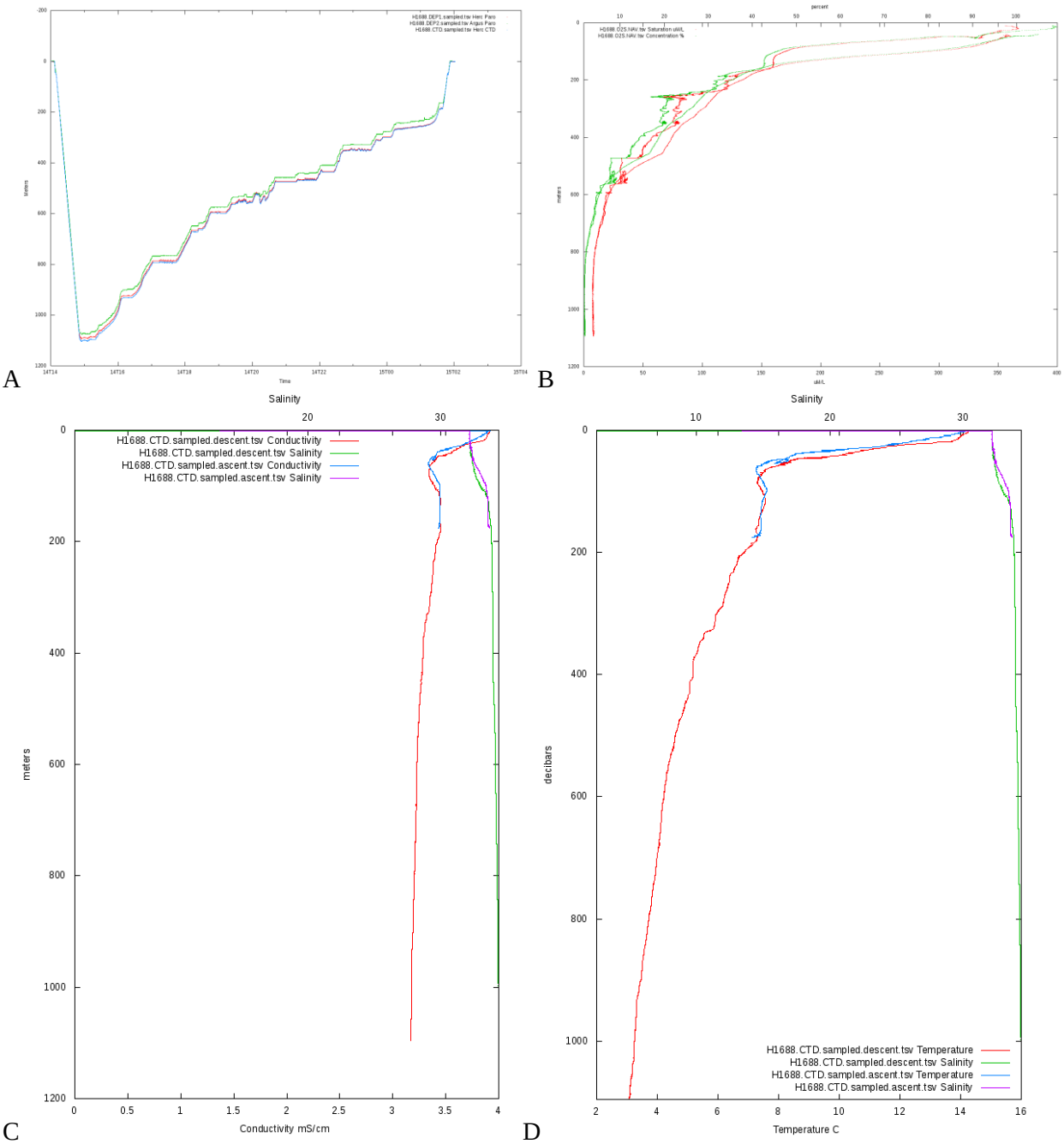
Appendix 2.4. Dive H1685 A) Depth profile vs time - Red: depth recorded by Hercules sensors; Green: depth recorded by Argus sensors; Blue: depth recorded by Hercules-mounted CTD sensor, B) Oxygen saturation (red, µM/L) and concentration (green, %) vs depth, C) salinity and conductivity vs depth, and D) temperature and salinity vs pressure



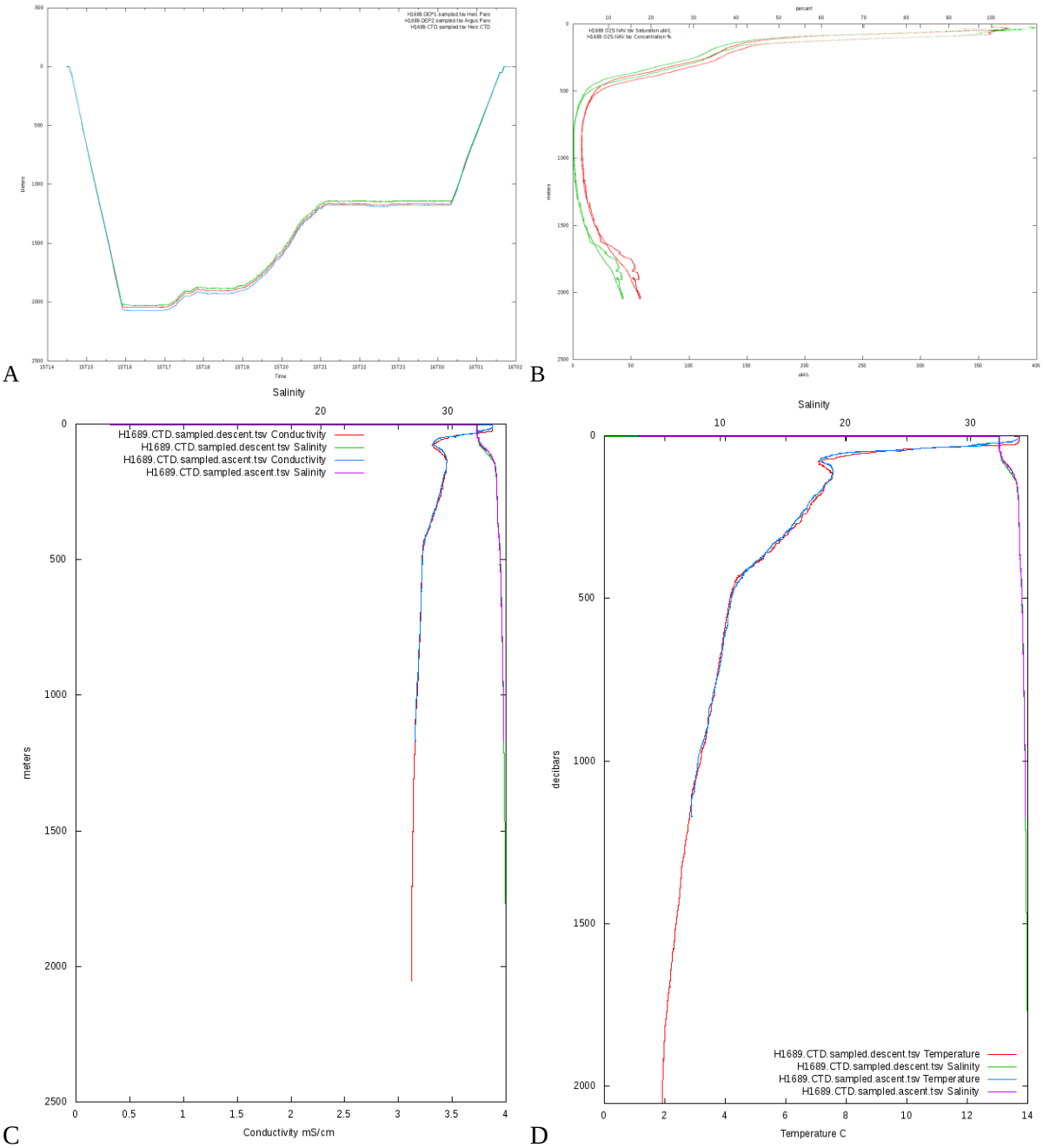
Appendix 2.5. Dive H1686 A)Depth profile vs time - Red: depth recorded by Hercules sensors; Green: depth recorded by Argus sensors; Blue: depth recorded by Hercules-mounted CTD sensor, B) Oxygen saturation (red, µM/L) and concentration (green, %) vs depth, C) salinity and conductivity vs depth, and D) temperature and salinity vs pressure



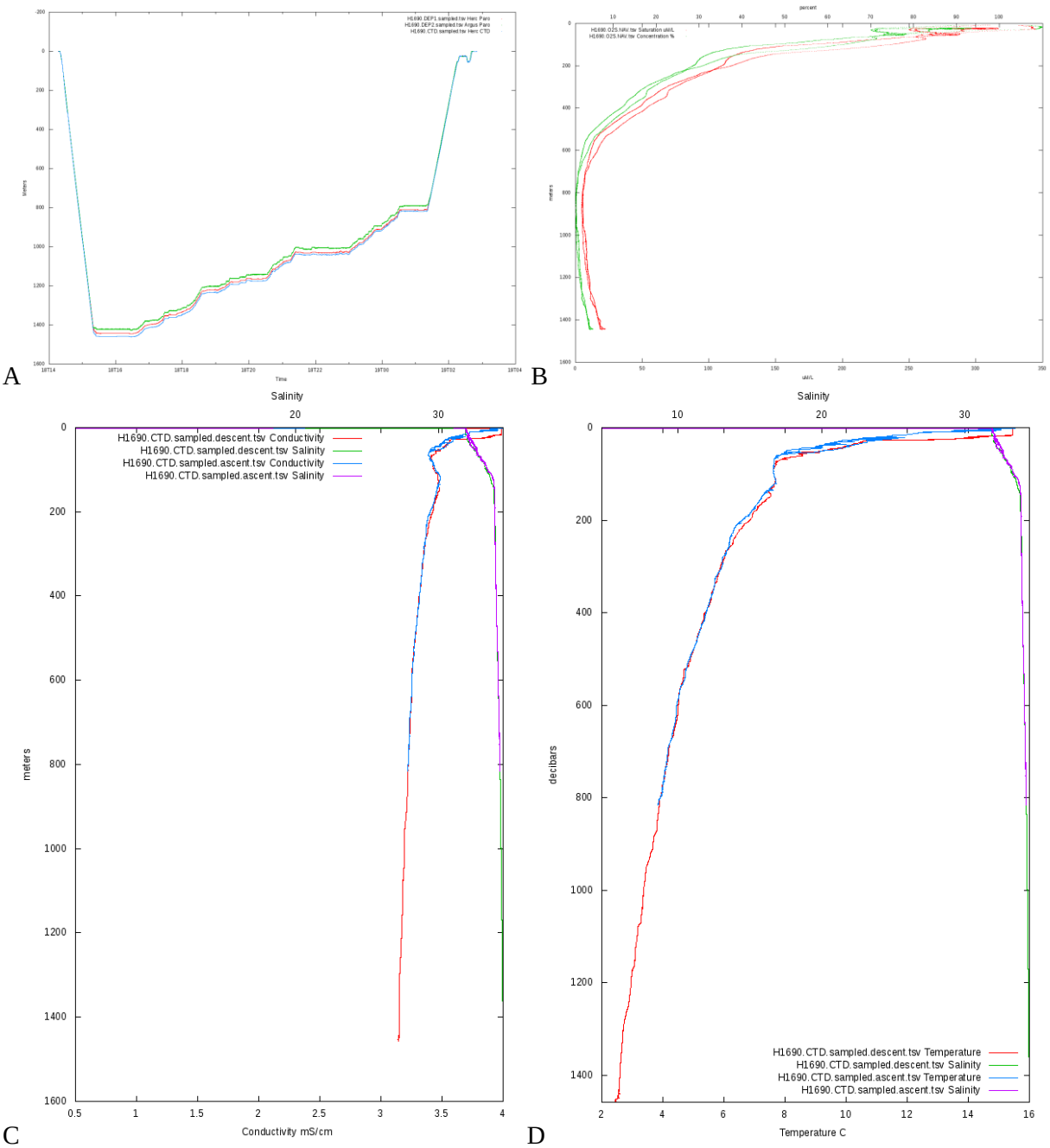
Appendix 2.6. Dive H1687 a) Depth profile vs time - Red: depth recorded by Hercules sensors; Green: depth recorded by Argus sensors; Blue: depth recorded by Hercules-mounted CTD sensor, B) Oxygen saturation (red, µM/L) and concentration (green, %) vs depth, C) salinity and conductivity vs depth, and D) temperature and salinity vs pressure



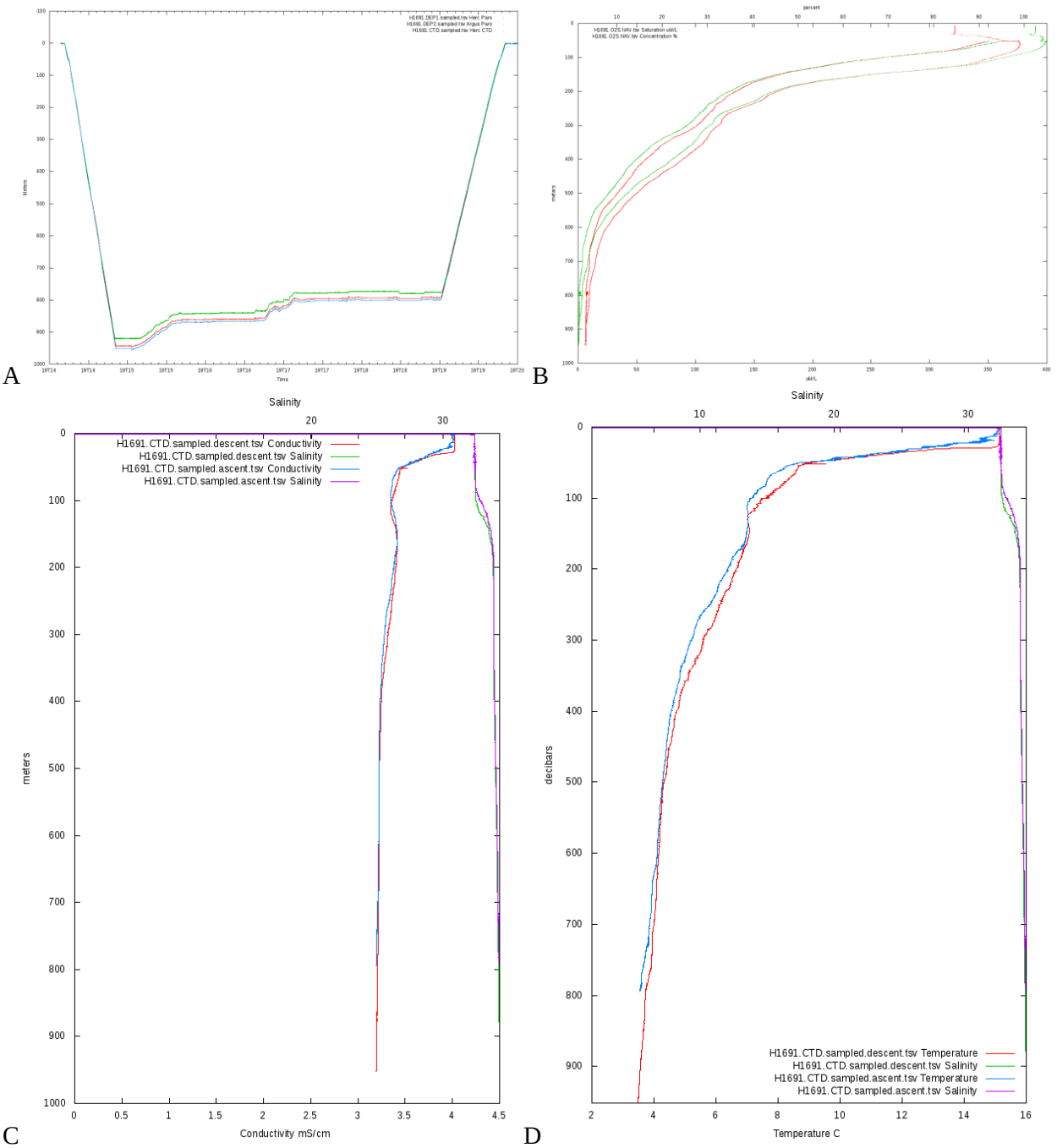
Appendix 2.7. Dive H1688 A)Depth profile vs time - Red: depth recorded by Hercules sensors; Green: depth recorded by Argus sensors; Blue: depth recorded by Hercules-mounted CTD sensor, B) Oxygen saturation (red, µM/L) and concentration (green, %) vs depth, C) salinity and conductivity vs depth, and D) temperature and salinity vs pressure



Appendix 2.8. Dive H1689 A)Depth profile vs time - Red: depth recorded by Hercules sensors; Green: depth recorded by Argus sensors; Blue: depth recorded by Hercules-mounted CTD sensor, B) Oxygen saturation (red, µM/L) and concentration (green, %) vs depth, C) salinity and conductivity vs depth, and D) temperature and salinity vs pressure



Appendix 2.9. Dive H1690 A) Depth profile vs time - Red: depth recorded by Hercules sensors; Green: depth recorded by Argus sensors; Blue: depth recorded by Hercules-mounted CTD sensor, B) Oxygen saturation (red, µM/L) and concentration (green, %) vs depth, C) salinity and conductivity vs depth, and D) temperature and salinity vs pressure



Appendix 2.10. Dive H1691 A) Depth profile vs time - Red: depth recorded by Hercules sensors; Green: depth recorded by Argus sensors; Blue: depth recorded by Hercules-mounted CTD sensor, B) Oxygen saturation (red, µM/L) and concentration (green, %) vs depth, C) salinity and conductivity vs depth, D) temperature and salinity vs pressure

Appendix 3. Bongo net sampling details

Dive	Site	Depth (m)	In water date/time	In water nav (lat/long)	On deck date/time	On deck nav (lat/long)	Total Time (hours)

BONG001	Dellwood	250	2018-07-09 T03:05:41.046Z	50.7668945 -130.9143305	2018-07-09 T03:44:45.254Z	50.766902 -130.914319	0.65
BONG002	Dellwood	250	2018-07-09 T05:25:07.388Z	50.7902825 -130.9353855	2018-07-09 T05:54:52.728Z	50.7902985 -130.935384	0.5
BONG004	SK-B	75 m	2018-07-13 T02:54:42.141Z	53.3048045 -135.670104	2018-07-13 T03:04:44.748Z	53.3047995 -135.6700885	0.17
BONG005	SK-B	250	2018-07-15 T03:06:54.868Z	53.2400085 -135.787476	2018-07-15 T03:38:33.726Z	53.240013 -135.787481	0.53

Appendix 4. Summary of all ROV sampling events

Appendix Table 4.1 All ROV sampling events and recorded environmental data.

Sampling event	Sampling equipment	Date-Time Logged (UTC)	Latitude	Longitude	Depth (m)	Temp (°C)	Salinity (PSU)	Oxygen (µmoles/L)	Corrected O2data (x0813)
NA097-001	ROV Grab	2018-07-07T20:09:19.460Z	50.72134009	-130.9190548	832	3.6805	34.2567	9.1759	7.4600
NA097-002	ROV Grab	2018-07-07T20:23:14.254Z	50.72136386	-130.919059	832	3.6652	34.2610	9.1698	7.4550
NA097-003	ROV Grab	2018-07-07T20:26:29.340Z	50.72136034	-130.9190621	832	3.6533	34.2641	9.0584	7.3645
NA097-004	ROV Grab	2018-07-07T20:31:21.140Z	50.721368	-130.919083	832	3.7157	34.2704	9.0020	7.3186
NA097-005	Niskin Bottle	2018-07-07T20:34:25.984Z	50.72135733	-130.9190507	832	3.6995	34.3025	9.0088	7.3241
NA097-006	ROV Grab	2018-07-07T20:59:02.829Z	50.72138871	-130.9190146	832	3.6056	34.2784	8.1896	6.6581
NA097-007	ROV Grab	2018-07-07T21:03:22.530Z	50.721378	-130.9190315	832	3.9180	34.1158	8.2494	6.7068
NA097-008	ROV Grab	2018-07-07T21:44:08.856Z	50.721881	-130.9175923	824	3.5743	34.2890	8.0813	6.5701
NA097-009	ROV Grab	2018-07-07T21:49:48.245Z	50.7218668	-130.9175825	824	3.5493	34.2961	7.8903	6.4148
NA097-010	ROV Slurp	2018-07-07T22:02:51.447Z	50.721905	-130.917548	823	3.5634	34.2972	7.8023	6.3433
NA097-011	Niskin Bottle	2018-07-07T22:03:29.607Z	50.721908	-130.917533	822	3.5663	34.2933	7.8179	6.3560
NA097-012	Push Core	2018-07-08T01:05:07.348Z	50.73347859	-130.8926572	556	4.1819	34.1436	17.7312	14.4155
NA097-014	Niskin Bottle	2018-07-08T01:13:20.856Z	50.7334825	-130.8926635	556	4.1771	34.1440	17.7058	14.3948
NA097-015	Niskin Bottle	2018-07-08T01:13:57.551Z	50.73347612	-130.8926623	556	4.1665	34.1477	17.5827	14.2948
NA097-016	Niskin Bottle	2018-07-08T01:14:19.575Z	50.73347455	-130.892649	556	4.1683	34.1473	17.6242	14.3285
NA097-017	Niskin Bottle	2018-07-08T01:14:57.775Z	50.7334765	-130.8926475	556	4.1644	34.1473	17.5883	14.2993
NA097-018	ROV Grab	2018-07-08T15:08:30.311Z	50.75704837	-130.886059	642	4.1972	34.1654	15.5097	12.6094
NA097-020	ROV Grab	2018-07-08T16:20:03.815Z	50.75768603	-130.886631	663	4.0092	34.1936	12.6702	10.3008
NA097-021	ROV Grab	2018-07-08T16:53:43.887Z	50.75722821	-130.8878515	637	4.0625	34.1867	13.0843	10.6375
NA097-023	Push Core	2018-07-08T17:44:09.024Z	50.757132	-130.8878995	634	4.1181	34.1789	13.7332	11.1651
NA097-024	Push Core	2018-07-08T18:08:37.013Z	50.7571285	-130.887895	634	4.0199	34.1861	13.3251	10.8333
NA097-025	ROV Grab	2018-07-08T18:22:53.453Z	50.75713318	-130.887907	634	4.0441	34.1835	13.3469	10.8510

Sampling event	Sampling equipment	Date-Time Logged (UTC)	Latitude	Longitude	Depth (m)	Temp (°C)	Salinity (PSU)	Oxygen (µmoles/L)	Corrected O2data (x0813)
NA097-026	Niskin Bottle	2018-07-08T18:26:44.156Z	50.75712025	-130.8878718	632	4.0671	34.1842	13.5408	11.0086
NA097-027	ROV Grab	2018-07-08T20:15:23.600Z	50.7566695	-130.8883955	621	4.0645	34.1851	13.9003	11.3009
NA097-028	ROV Grab	2018-07-08T20:34:33.543Z	50.75648889	-130.8885055	618	4.0967	34.1719	14.1714	11.5214
NA097-029	ROV Grab	2018-07-08T21:07:15.896Z	50.7562555	-130.888989	612	4.1338	34.1634	14.6583	11.9172
NA097-031	Niskin Bottle	2018-07-09T01:18:11.062Z	50.75683833	-130.8893654	603	4.2411	34.1287	19.9043	16.1822
NA097-032	Niskin Bottle	2018-07-09T01:19:05.741Z	50.75683767	-130.8893612	602	4.2399	34.1289	19.8831	16.1650
NA097-039	Push Core	2018-07-10T15:54:58.760Z	53.25186375	-135.6025714	1992	1.9441	34.5799	53.8004	43.7398
NA097-040	Niskin Bottle	2018-07-10T16:13:58.328Z	53.25188637	-135.6025014	1992	1.9250	34.5819	55.1706	44.8537
NA097-041	Niskin Bottle	2018-07-10T16:14:35.574Z	53.25189837	-135.6025316	1992	1.9249	34.5819	55.2220	44.8955
NA097-042	Niskin Bottle	2018-07-10T16:15:59.899Z	53.25186145	-135.6024956	1992	1.9256	34.5816	55.3220	44.9768
NA097-043	Push Core	2018-07-10T18:40:52.635Z	53.25761614	-135.6072276	1804	2.0708	34.5557	40.6242	33.0275
NA097-044	ROV Grab	2018-07-10T18:46:07.249Z	53.2575955	-135.6072126	1804	2.0665	34.5554	40.5293	32.9503
NA097-045	ROV Grab	2018-07-11T16:40:36.639Z	53.51052993	-136.0020615	1274	2.6564	34.4474	12.3920	10.0747
NA097-046	ROV Grab	2018-07-11T16:47:45.813Z	53.51052416	-136.0020228	1273	2.6631	34.4460	12.4169	10.0949
NA097-047	Niskin Bottle	2018-07-11T16:49:57.706Z	53.51053143	-136.0020262	1273	2.6626	34.4470	12.3584	10.0474
NA097-048	ROV Grab	2018-07-11T17:22:04.904Z	53.51029453	-136.0030798	1222	2.7365	34.4341	11.0215	8.9605
NA097-049	ROV Grab	2018-07-11T17:52:18.217Z	53.51029	-136.005284	1190	2.7729	34.4277	10.5269	8.5583
NA097-050	ROV Grab	2018-07-11T20:43:35.546Z	53.507679	-136.0248797	936	3.5358	34.3020	7.8666	6.3955
NA097-051	ROV Grab	2018-07-11T21:25:12.721Z	53.50756608	-136.0258908	910	3.4909	34.3086	7.8871	6.4122
NA097-052	ROV Grab	2018-07-11T21:26:18.848Z	53.507566	-136.0258852	910	3.4886	34.3096	7.9137	6.4338
NA097-053	Niskin Bottle	2018-07-11T21:34:40.395Z	53.50758284	-136.026534	896	3.4898	34.3062	7.9005	6.4231
NA097-054	ROV Slurp	2018-07-11T22:42:18.827Z	53.50734174	-136.0289095	829	3.5762	34.2962	8.1360	6.6146
NA097-055	Niskin Bottle	2018-07-11T23:18:49.227Z	53.50683555	-136.0322284	725	3.9636	34.1979	10.2532	8.3359
NA097-056	Niskin Bottle	2018-07-12T00:35:58.757Z	53.50653705	-136.0360255	597	4.2566	34.1463	17.6801	14.3739
NA097-057	Niskin Bottle	2018-07-12T00:36:19.486Z	53.50654162	-136.0360258	597	4.2545	34.1465	17.4662	14.2000
NA097-058	Niskin Bottle	2018-07-12T00:36:38.852Z	53.50654257	-136.0360244	597	4.2542	34.1454	17.4931	14.2219
NA097-059	ROV Grab	2018-07-12T01:23:00.804Z	53.5065528	-136.0359617	599	4.2003	34.1607	15.3472	12.4773

Sampling event	Sampling equipment	Date-Time Logged (UTC)	Latitude	Longitude	Depth (m)	Temp (°C)	Salinity (PSU)	Oxygen (µmoles/L)	Corrected O2data (x0813)
NA097-060	ROV Grab	2018-07-12T01:29:06.675Z	53.50657287	-136.0359445	599	4.2881	34.1085	15.7254	12.7848
NA097-061	ROV Grab	2018-07-12T14:40:30.488Z	53.30714989	-135.6798257	144	7.2305	33.7447	136.0510	110.6095
NA097-062	ROV Grab / Slurp	2018-07-12T15:45:05.506Z	53.304295	-135.6771655	72	7.7175	32.4407	322.3125	262.0400
NA097-063	ROV Grab	2018-07-12T15:49:01.364Z	53.304296	-135.6771545	72	7.6468	32.5649	309.6610	251.7544
NA097-064	ROV Grab / Slurp	2018-07-12T16:07:43.118Z	53.30358342	-135.6769018	68	7.8661	32.4436	317.4476	258.0849
NA097-065	ROV Slurp	2018-07-12T16:08:01.582Z	53.30358479	-135.676902	68	7.8452	32.4512	318.2574	258.7433
NA097-066	Niskin Bottle	2018-07-12T16:10:09.988Z	53.3035815	-135.6769077	68	7.8679	32.4265	323.5955	263.0832
NA097-067	ROV Grab	2018-07-12T18:02:08.927Z	53.30158423	-135.676872	86	7.4814	32.8471	259.2266	210.7512
NA097-068	Niskin Bottle	2018-07-12T22:22:10.576Z	53.30022576	-135.6526938	55	8.1802	32.4369	328.5152	267.0828
NA097-069	ROV Slurp	2018-07-12T22:46:46.171Z	53.30012266	-135.6526337	45	8.3575	32.3862	344.4254	280.0178
NA097-070	ROV Slurp	2018-07-12T22:59:48.055Z	53.300207	-135.6529318	67	7.7454	32.5050	313.6145	254.9686
NA097-071	Niskin Bottle	2018-07-12T23:04:28.376Z	53.3002035	-135.6529075	67	7.6117	32.6002	310.4163	252.3685
NA097-072	ROV Slurp	2018-07-13T00:43:23.337Z	53.3010555	-135.6502295	59	7.7831	32.4766	323.7684	263.2237
NA097-073	Niskin Bottle	2018-07-13T00:43:50.585Z	53.3010555	-135.6502355	59	7.9059	32.4535	324.7037	263.9841
NA097-074	ROV Slurp	2018-07-13T01:01:24.974Z	53.301021	-135.6502435	62	7.9394	32.4399	336.5982	273.6543
NA097-075	ROV Slurp	2018-07-13T01:19:44.130Z	53.30093784	-135.64973	56	7.6012	32.5188	321.9456	261.7418
NA097-076	Niskin Bottle	2018-07-13T01:24:14.995Z	53.3008865	-135.6496787	56	7.4950	32.5588	314.6693	255.8262
NA097-077	Niskin Bottle	2018-07-13T01:24:36.602Z	53.30089206	-135.6496823	56	7.4895	32.5618	315.0106	256.1036
NA097-079	ROV Grab	2018-07-13T15:42:21.765Z	53.32179355	-135.5347452	1167	2.8958	34.3879	10.0195	8.1458
NA097-080	ROV Grab / Slurp	2018-07-13T15:54:55.236Z	53.32171681	-135.5356893	1133	2.8692	34.4144	9.8268	7.9892
NA097-081	ROV Grab	2018-07-13T15:58:50.848Z	53.32171113	-135.5356843	1133	2.8847	34.4106	9.7325	7.9125
NA097-082	ROV Grab	2018-07-13T16:05:58.107Z	53.321716	-135.5356803	1133	2.9227	34.4060	9.5208	7.7404
NA097-083	Niskin Bottle	2018-07-13T16:08:29.030Z	53.32172259	-135.5356846	1133	2.9311	34.4031	9.3003	7.5611
NA097-084	ROV Slurp	2018-07-13T16:12:23.337Z	53.3217215	-135.5356635	1133	2.9787	34.4012	9.1459	7.4356
NA097-085	ROV Grab	2018-07-13T16:16:06.901Z	53.3217295	-135.535689	1133	3.0026	34.3974	9.1161	7.4113
NA097-086	ROV Slurp	2018-07-13T16:22:21.969Z	53.3217255	-135.5356775	1133	2.9891	34.3931	8.9565	7.2817

Sampling event	Sampling equipment	Date-Time Logged (UTC)	Latitude	Longitude	Depth (m)	Temp (°C)	Salinity (PSU)	Oxygen (µmoles/L)	Corrected O2data (x0813)
NA097-087	ROV Slurp	2018-07-13T16:43:12.265Z	53.32156856	-135.5361589	1114	3.0967	34.3747	8.6032	6.9944
NA097-088	ROV Slurp	2018-07-13T16:47:02.075Z	53.321592	-135.5361656	1115	3.0823	34.3788	8.4718	6.8875
NA097-089	ROV Grab	2018-07-13T17:47:25.823Z	53.3216195	-135.5363335	1110	3.1072	34.3774	8.4819	6.8958
NA097-090	Niskin Bottle	2018-07-13T17:50:42.258Z	53.32161087	-135.536346	1110	3.1038	34.3716	8.3825	6.8150
NA097-091	ROV Slurp	2018-07-13T18:05:43.787Z	53.3216796	-135.5363617	1111	3.1092	34.3362	8.3350	6.7764
NA097-092	ROV Slurp	2018-07-13T18:10:57.595Z	53.32168533	-135.5363714	1111	3.0972	34.3354	8.4185	6.8442
NA097-093	ROV Grab	2018-07-13T22:58:02.567Z	53.3215057	-135.5620369	641	4.3078	34.0931	21.9513	17.8464
NA097-094	Niskin Bottle	2018-07-13T23:00:16.674Z	53.3215025	-135.5620395	641	4.2958	34.0974	21.6004	17.5611
NA097-095	Niskin Bottle	2018-07-14T00:16:56.069Z	53.317035	-135.5726475	550	4.5249	34.0413	32.0501	26.0567
NA097-096	ROV Grab	2018-07-14T01:19:27.916Z	53.316262	-135.573853	583	4.5149	34.0425	33.3382	27.1039
NA097-097	Niskin Bottle	2018-07-14T01:22:09.362Z	53.31625019	-135.5738408	583	4.4879	34.0470	30.0722	24.4487
NA097-098	ROV Grab	2018-07-14T14:26:20.130Z	53.289725	-135.7820365	465	4.8126	34.0046	61.4718	49.9766
NA097-099	ROV Slurp	2018-07-14T15:18:26.368Z	53.289933	-135.7813665	1085	3.0121	34.3891	8.3867	6.8184
NA097-100	ROV Grab	2018-07-14T15:30:14.542Z	53.2895255	-135.780559	1060	3.0357	34.3826	8.3002	6.7481
NA097-101	ROV Slurp	2018-07-14T16:13:43.138Z	53.28769809	-135.7761454	924	3.3504	34.3323	7.7845	6.3288
NA097-102	ROV Slurp	2018-07-14T16:16:56.342Z	53.28768374	-135.7761335	924	3.3573	34.3335	7.6766	6.2411
NA097-103	Niskin Bottle	2018-07-14T16:16:56.342Z	53.28768374	-135.7761335	924	3.3573	34.3335	7.6766	6.2411
NA097-104	ROV Slurp	2018-07-14T16:24:29.770Z	53.28769745	-135.7760841	924	3.3863	34.3266	7.7845	6.3288
NA097-105	ROV Grab	2018-07-14T18:20:20.001Z	53.28412662	-135.7680429	667	4.1747	34.1492	17.6633	14.3603
NA097-106	Niskin Bottle	2018-07-14T18:20:40.495Z	53.284128	-135.768046	667	4.1732	34.1493	17.6683	14.3644
NA097-107	ROV Grab	2018-07-14T18:30:23.176Z	53.28416192	-135.7677865	658	4.1596	34.1539	17.5404	14.2604
NA097-108	ROV Slurp	2018-07-14T18:54:08.307Z	53.28347444	-135.766252	594	4.1943	34.1433	19.0980	15.5266
NA097-109	Niskin Bottle	2018-07-14T18:55:19.873Z	53.28347756	-135.7662473	594	4.1957	34.1442	18.8585	15.3319
NA097-110	ROV Grab	2018-07-14T20:50:20.786Z	53.28087964	-135.7654256	472	4.4955	34.0706	32.4305	26.3660
NA097-111	ROV Slurp	2018-07-14T20:56:16.714Z	53.2808775	-135.7654226	472	4.6324	34.0441	38.4494	31.2594
NA097-112	ROV Slurp	2018-07-14T20:58:08.549Z	53.2808835	-135.765421	472	4.6643	34.0363	41.5457	33.7767
NA097-113	ROV Slurp	2018-07-14T21:03:37.149Z	53.2808735	-135.7654196	472	4.7148	34.0156	40.8838	33.2386

Sampling event	Sampling equipment	Date-Time Logged (UTC)	Latitude	Longitude	Depth (m)	Temp (°C)	Salinity (PSU)	Oxygen (µmoles/L)	Corrected O2data (x0813)
NA097-114	ROV Grab	2018-07-14T21:12:47.832Z	53.2808825	-135.7654115	472	4.7437	34.0141	45.8918	37.3100
NA097-115	Niskin Bottle	2018-07-14T21:14:01.381Z	53.28088684	-135.7654125	472	4.7288	34.0210	45.8694	37.2918
NA097-116	ROV Grab	2018-07-14T22:22:11.093Z	53.28044949	-135.7647065	433	4.7935	34.0063	51.2772	41.6884
NA097-117	ROV Grab	2018-07-14T22:22:44.253Z	53.280448	-135.7647115	433	4.8011	34.0043	51.3941	41.7834
NA097-118	Niskin Bottle	2018-07-14T22:25:09.794Z	53.280447	-135.764704	433	4.7917	34.0062	51.9835	42.2626
NA097-119	Niskin Bottle	2018-07-14T23:29:43.439Z	53.27956249	-135.7634089	349	5.4867	33.9399	80.7116	65.6185
NA097-120	ROV Grab	2018-07-14T23:48:34.498Z	53.27914459	-135.7625138	311	5.3827	33.9506	80.2868	65.2731
NA097-121	ROV Grab	2018-07-15T00:00:51.169Z	53.2789775	-135.7623814	299	5.4014	33.9459	79.6552	64.7597
NA097-122	ROV Grab	2018-07-15T01:46:12.015Z	53.2802155	-135.7439935	90	7.5366	33.2225	176.5624	143.5452
NA097-124	Push Core	2018-07-15T16:20:49.881Z	53.64865887	-136.696588	2045	1.9029	34.5862	57.6277	46.8513
NA097-125	Push Core	2018-07-15T16:40:48.144Z	53.64862418	-136.6966382	2045	1.9050	34.5924	57.6389	46.8604
NA097-126	Push Core	2018-07-15T16:37:18.630Z	53.64866429	-136.6966492	2045	1.9030	34.5870	57.7155	46.9227
NA097-127	Push Core	2018-07-15T16:36:34.671Z	53.64869	-136.696642	2045	1.9059	34.5861	57.6415	46.8625
NA097-128	Push Core	2018-07-15T16:34:30.562Z	53.648637	-136.696644	2045	1.9043	34.5862	57.6854	46.8982
NA097-129	Niskin Bottle	2018-07-15T16:43:30.204Z	53.6486435	-136.696598	2045	1.9032	34.5865	57.7547	46.9545
NA097-130	Niskin Bottle	2018-07-15T16:45:03.546Z	53.64866126	-136.6965943	2045	1.9042	34.5865	57.8515	47.0333
NA097-131	Niskin Bottle	2018-07-15T16:45:19.569Z	53.648667	-136.696601	2045	1.9056	34.5861	57.7408	46.9433
NA097-132	ROV Slurp	2018-07-15T16:45:45.225Z	53.64860621	-136.6966161	2045	1.9398	34.5680	57.7535	46.9536
NA097-133	ROV Grab	2018-07-15T17:38:30.351Z	53.65086532	-136.6942638	1924	1.9788	34.5730	54.0670	43.9564
NA097-134	ROV Grab	2018-07-15T21:40:58.011Z	53.66904439	-136.6771666	1165	2.8956	34.4052	9.1759	7.4600
NA097-135	Niskin Bottle	2018-07-15T21:49:18.277Z	53.66900135	-136.6772884	1165	2.8955	34.4047	9.0725	7.3759
NA097-136	ROV Slurp	2018-07-15T22:03:23.399Z	53.66909783	-136.6772729	1165	2.7974	34.4192	10.1855	8.2808
NA097-137	ROV Slurp	2018-07-15T22:32:15.691Z	53.66901544	-136.677678	1175	2.8170	34.4177	9.7244	7.9059
NA097-138	ROV Slurp	2018-07-15T22:41:51.045Z	53.6689901	-136.6776425	1174	2.8562	34.4118	9.5373	7.7539
NA097-139	ROV Slurp	2018-07-15T22:58:33.163Z	53.669179	-136.676588	1165	2.8258	34.4232	10.1211	8.2284
NA097-140	ROV Slurp	2018-07-15T23:09:47.442Z	53.66915218	-136.6765713	1165	2.8294	34.4155	10.1146	8.2231
NA097-141	Niskin Bottle	2018-07-15T23:24:51.666Z	53.6691465	-136.6764845	1164	2.9093	34.4212	9.6444	7.8409

Sampling event	Sampling equipment	Date-Time Logged (UTC)	Latitude	Longitude	Depth (m)	Temp (°C)	Salinity (PSU)	Oxygen (µmoles/L)	Corrected O2data (x0813)
NA097-142	ROV Slurp	2018-07-16T00:02:07.746Z	53.66917537	-136.6765338	1166	2.8658	34.4095	9.5493	7.7635
NA097-143	ROV Grab	2018-07-16T00:10:49.676Z	53.669336	-136.6765075	1165	2.8641	34.4082	9.3841	7.6293
NA097-144	ROV Slurp	2018-07-16T00:12:10.138Z	53.66929225	-136.676496	1165	2.8687	34.4105	9.3589	7.6088
NA097-145	ROV Grab	2018-07-16T00:14:39.248Z	53.66928775	-136.6765545	1165	2.8773	34.4068	9.3652	7.6139
NA097-146	Push Core	2018-07-18T15:38:49.394Z	50.58028308	-130.680856	1444	2.4734	34.4996	21.5290	17.5031
NA097-147	Push Core	2018-07-18T15:45:36.864Z	50.5802072	-130.6808195	1444	2.4797	34.4986	21.4170	17.4120
NA097-148	Push Core	2018-07-18T15:47:20.999Z	50.58024271	-130.6807755	1444	2.4766	34.4988	21.4232	17.4170
NA097-149	Push Core	2018-07-18T15:49:42.289Z	50.5802705	-130.680767	1444	2.4707	34.5019	21.4960	17.4763
NA097-150	Push Core	2018-07-18T15:51:38.990Z	50.5802625	-130.680829	1444	2.6098	34.4411	21.5435	17.5149
NA097-151	Niskin Bottle	2018-07-18T15:55:50.248Z	50.58029757	-130.6808599	1444	2.5618	34.4545	21.4768	17.4606
NA097-152	Niskin Bottle	2018-07-18T15:56:00.824Z	50.5802958	-130.680866	1444	2.5359	34.4764	21.3513	17.3586
NA097-153	Niskin Bottle	2018-07-18T15:56:14.775Z	50.5802935	-130.6808524	1444	2.5049	34.4927	21.3661	17.3707
NA097-154	ROV Grab	2018-07-18T16:00:55.248Z	50.58027033	-130.680831	1444	2.6667	34.3951	20.6474	16.7863
NA097-155	ROV Grab	2018-07-18T16:09:31.003Z	50.58028644	-130.6808623	1443	2.4926	34.4956	21.0269	17.0949
NA097-156	ROV Slurp	2018-07-18T16:19:51.995Z	50.58022	-130.6807735	1443	2.5079	34.4926	20.3692	16.5601
NA097-157	ROV Slurp	2018-07-18T17:32:49.420Z	50.5804005	-130.6872297	1354	2.6772	34.4830	15.4660	12.5738
NA097-158	Niskin Bottle	2018-07-18T17:34:38.019Z	50.58039018	-130.687257	1353	2.6968	34.4691	15.4269	12.5421
NA097-159	ROV Grab	2018-07-18T17:48:17.325Z	50.58046949	-130.6877701	1348	2.6874	34.4735	15.2925	12.4328
NA097-160	ROV Grab	2018-07-18T18:54:25.489Z	50.579979	-130.6947345	1222	2.8829	34.4408	10.7929	8.7746
NA097-161	ROV Grab	2018-07-18T19:38:31.333Z	50.58009	-130.69767	1181	2.9742	34.4273	9.4550	7.6869
NA097-162	ROV Grab	2018-07-18T19:52:07.417Z	50.580046	-130.6980025	1173	2.9847	34.4257	9.4725	7.7011
NA097-163	ROV Grab	2018-07-18T20:22:04.020Z	50.58001533	-130.6982213	1165	3.0157	34.4223	9.0212	7.3342
NA097-164	ROV Grab	2018-07-18T21:42:24.524Z	50.57920838	-130.7054754	1032	3.0956	34.4061	8.0222	6.5221
NA097-165	ROV Grab	2018-07-18T21:48:17.296Z	50.5791995	-130.705476	1032	3.0998	34.4061	8.0675	6.5589
NA097-166	Niskin Bottle	2018-07-18T21:49:24.601Z	50.579231	-130.705489	1032	3.0984	34.4051	8.0515	6.5459
NA097-167	ROV Grab	2018-07-18T23:22:50.613Z	50.5797283	-130.7086104	978	3.3499	34.3651	6.5287	5.3078
NA097-168	ROV Grab	2018-07-18T23:54:40.757Z	50.5798911	-130.710102	911	3.5482	34.3389	5.6657	4.6062

Sampling event	Sampling equipment	Date-Time Logged (UTC)	Latitude	Longitude	Depth (m)	Temp (°C)	Salinity (PSU)	Oxygen (µmoles/L)	Corrected O2data (x0813)
NA097-169	ROV Grab	2018-07-19T00:08:07.753Z	50.5798525	-130.710497	883	3.5709	34.3386	5.6526	4.5956
NA097-170	ROV Grab	2018-07-19T01:12:51.575Z	50.58057079	-130.7126774	812	3.7333	34.3186	5.5096	4.4793
NA097-171	Niskin Bottle	2018-07-19T01:14:47.437Z	50.5805825	-130.7126865	812	3.9691	34.1316	5.5128	4.4819
NA097-172	ROV Grab	2018-07-19T18:10:46.631Z	49.0588245	-130.9417416	794	3.5944	34.2898	7.6751	6.2399
NA097-173	Niskin Bottle	2018-07-19T18:13:15.274Z	49.05882889	-130.9417553	793	3.6019	34.2883	7.6899	6.2519
NA097-174	ROV Slurp	2018-07-19T18:18:41.313Z	49.058824	-130.9417565	794	3.5998	34.2883	7.7398	6.2924
NA097-175	ROV Grab	2018-07-19T18:35:33.633Z	49.05904717	-130.9418145	795	3.5910	34.2918	7.5899	6.1706
NA097-176	ROV Grab	2018-07-19T18:35:54.151Z	49.0590495	-130.9418164	795	3.5913	34.2917	7.4918	6.0909
NA097-177	ROV Slurp	2018-07-19T18:41:10.815Z	49.05904024	-130.9418156	795	3.5893	34.2935	7.4080	6.0227
NA097-178	ROV Slurp	2018-07-19T18:41:31.373Z	49.059045	-130.941812	795	3.5883	34.2935	7.4098	6.0242
NA097-179	ROV Slurp	2018-07-19T18:44:12.130Z	49.059047	-130.9417998	795	3.5787	34.2952	7.3599	5.9836
NA097-180	Niskin Bottle	2018-07-19T18:44:25.794Z	49.05903764	-130.9418162	795	3.5796	34.2955	7.3901	6.0081

Appendix Table 4.2 Summary of sample types broken down by seamount

Seamount	Rock	Sediment	Voucher	Tissue	Water	Total
Dellwood	3	10	65	34	17	129
SK-B	3	5	110	81	23	222
Hodgkins	1	0	45	26	6	78
Pierce/Davidson	1	8	26	14	10	59
Dellwood South	0	14	48	33	22	117
Explorer	0	0	28	19	10	57

Appendix 5. Taxonomic information for all voucher specimens collected during the expedition.

RBCM= Royal BC Museum, BOL=Barcode of LIfe

A 'living' version of this document (with more details) is available
https://docs.google.com/spreadsheets/d/10fPElWuMRQXscpn2afSmr15_cZu8N_5Y9NkPCtxS6IM/edit#gid=0

iNaturalist page	Event Log ID	Wet Lab Sample ID	RBCM Catalogue #	WetLab Description – Subsample	Phylum	Major Group	Family	Genus	Species	Identifier	Sample Nature	Current location	Dive ID	Location Name
	NA097-001	NA097-001-01-A-BOL		small piece of sponge	Porifera	Hexactinellida	Tretodictyidae	Tretodictyum	n. sp. A	Henry Reiswig	Tissue	BOL	H1682	Dellwood Seamount
	NA097-001	NA097-001-02-A-NOAA		small piece of sponge	Porifera	Hexactinellida	Tretodictyidae	Tretodictyum	n. sp. A	Henry Reiswig	Tissue	NOAA	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/17991950	NA097-001	NA097-001-03-G-RBCM	018-00878-001	rest of the sponge	Porifera	Hexactinellida	Tretodictyidae	Tretodictyum	n. sp. A	Henry Reiswig	Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/17992349	NA097-002	NA097-002-01-A-BOL		snip of coral	Cnidaria	Zoantharia	Parazoanthidae	Zibrowius	sp.	James Reimer	Tissue	BOL	H1682	Dellwood Seamount
	NA097-002	NA097-002-02-A-NOAA		snip of coral	Cnidaria	Zoantharia	Parazoanthidae	Zibrowius	sp.	James Reimer	Tissue	NOAA	H1682	Dellwood Seamount
	NA097-002	NA097-002-03-G-RBCM	018-00879-001	coral	Cnidaria	Zoantharia	Parazoanthidae	Zibrowius	sp.	James Reimer	Specimen	RBCM	H1682	Dellwood Seamount
	NA097-002	NA097-002-04-A-BOL		snip of sponge that was attached to the rock	Porifera	Demospongiae	Vulcanellidae	Poecillastra	sp.	Henry Reiswig	Tissue	BOL	H1682	Dellwood Seamount
	NA097-002	NA097-002-04-A-NOAA		snip of sponge that was attached to the rock	Porifera	Demospongiae	Vulcanellidae	Poecillastra	sp.	Henry Reiswig	Tissue	NOAA	H1682	Dellwood Seamount
	NA097-002	NA097-002-04-G-RBCM	018-00879-002	rest of the sponge	Porifera	Demospongiae	Vulcanellidae	Poecillastra	sp.	Henry Reiswig	Specimen	RBCM	H1682	Dellwood Seamount

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https://www.inaturalist.org/observations/17997514	NA097-002	NA097-002-05-G-RBCM	018-00879-003	small scale worm	Annelida	Polychaeta	Polynoidae	Harmothoe	sp.	Biologica	Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/17998465	NA097-002	NA097-002-06-G-RBCM	018-00879-004	brittle star (x2)	Echinodermata	Ophiuroidea					Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18012465	NA097-002	NA097-002-07-G-RBCM	018-00879-005	large scale worm (was inside the sponge)	Annelida	Polychaeta	Polynoidae	Harmothoe	sp.	Biologica	Specimen	RBCM	H1682	Dellwood Seamount
	NA097-002	NA097-002-08-A-BOL		one of the brittle stars (x3)	Echinodermata	Ophiuroidea					Tissue	BOL	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18012845	NA097-002	NA097-002-08-G-RBCM	018-00879-006	the other two brittle stars	Echinodermata	Ophiuroidea					Specimen	RBCM	H1682	Dellwood Seamount
	NA097-002	NA097-002-09-A-BOL		brachiopods (x2). Snip of tissue	Mollusca	Bivalvia	Pectinidae	Delectopecten	vancouverensis	Hugh MacIntosh	Tissue	BOL	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18013157	NA097-002	NA097-002-09-G-RBCM	018-00879-007	rest of the brachiopods	Mollusca	Bivalvia	Pectinidae	Delectopecten	vancouverensis	Hugh MacIntosh	Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18016783	NA097-002	NA097-002-10-G-RBCM	018-00879-008	small white coral that was on the rock	Cnidaria	Octocorallia	Primnoidae	Parastenella	cf. ramosa	Merlin Best & Jim Boutillier	Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18040163	NA097-002	NA097-002-11-G-RBCM	018-00879-009	small red polychaeta	Annelida	Polychaeta	Syllidae	Syllis	sp.	Biologica	Specimen	RBCM	H1682	Dellwood Seamount
	NA097-003	NA097-003-01-A-BOL		snip of coral	Cnidaria	Octocorallia	Primnoidae	Parastenella	cf. ramosa	Merlin Best & Jim Boutillier	Tissue	BOL	H1682	Dellwood Seamount
	NA097-003	NA097-003-01-A-NOAA		snip of coral	Cnidaria	Octocorallia	Primnoidae	Parastenella	cf. ramosa	Merlin Best & Jim Boutillier	Tissue	NOAA	H1682	Dellwood Seamount
https://www.inaturalist.or	NA097-003	NA097-003-01-	018-00881-001	coral	Cnidaria	Octocorallia	Primnoidae	Parastenella	cf. ramosa	Merlin Best &	Specimen	RBCM	H1682	Dellwood Seamount

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g/observations/18147592		G-RBCM								Jim Boutillier				
https://www.inaturalist.org/observations/18147843	NA097-003	NA097-003-02-G-RBCM	018-00881-002	red brittle star	Echinodermata	Ophiuroidea	Ophiacanthidae	Ophiacantha	diplasia	Philip Lambert	Specimen	RBCM	H1682	Dellwood Seamount
	NA097-003	NA097-003-03-A-BOL		one of the white brittle stars (x8)	Echinodermata	Ophiuroidea					Tissue	BOL	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18174800	NA097-003	NA097-003-03-G-RBCM	018-00881-003	rest of the brittle stars	Echinodermata	Ophiuroidea					Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18148070	NA097-003	NA097-003-04-G-RBCM	018-00881-004	amphipod	Arthropoda	Amphipoda	Dulichiidae	Dulichiopsis	barnardi	Biologica	Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18175794	NA097-003	NA097-003-05-G-RBCM	018-00881-005	very small polychaeta	Annelida	Polychaeta	Euphrosinidae	Euphrosine	sp.	Biologica	Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18176107	NA097-003	NA097-003-06-G-RBCM	018-00881-006	two small white sponges	Porifera	Demospongiae	Hadromerida (Order)			Henry Reiswig	Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18175139	NA097-003	NA097-003-07-G-RBCM	018-00881-007	brachiopod	Mollusca	Bivalvia	Pectinidae	Delectopecten	vancouverensis	Hugh MacIntosh	Specimen	RBCM	H1682	Dellwood Seamount
	NA097-004	NA097-004-01-A-BOL		snip of Paragorgia coral	Cnidaria	Octocorallia	Paragorgiidae	Paragorgia	cf. jamesi	Merlin Best	Tissue	BOL	H1682	Dellwood Seamount
	NA097-004	NA097-004-01-A-NOAA		snip of Paragorgia coral	Cnidaria	Octocorallia	Paragorgiidae	Paragorgia	cf. jamesi	Merlin Best	Tissue	NOAA	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18182465	NA097-004	NA097-004-01-G-RBCM	018-00882-001	Paragorgia	Cnidaria	Octocorallia	Paragorgiidae	Paragorgia	cf. jamesi	Merlin Best	Specimen	RBCM	H1682	Dellwood Seamount
	NA097-004	NA097-004-02-A-BOL		one of the brittle stars (x3)	Echinodermata	Ophiuroidea					Tissue	BOL	H1682	Dellwood Seamount

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https://www.inaturalist.org/observations/18182781	NA097-004	NA097-004-02-G-RBCM	018-00882-002	rest of the brittle stars	Echinodermata	Ophiuroidea					Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18183118	NA097-004	NA097-004-03-G-RBCM	018-00882-003	amphipod	Arthropoda	Amphipoda	Melphidippidae			Biologica	Specimen	RBCM	H1682	Dellwood Seamount
	NA097-004	NA097-004-04-A-BOL		branch of hydroid	Cnidaria	Hydrozoa	Campanulariidae	Rhizocaulus	verticillatus	Henry Choong	Tissue	BOL	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18183402	NA097-004	NA097-004-04-G-RBCM	018-00882-004	hydroids	Cnidaria	Hydrozoa	Campanulariidae	Rhizocaulus	verticillatus	Henry Choong	Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18219278	NA097-004	NA097-004-05-G-RBCM	018-00882-005	sponge	Porifera	Demospongiae	Hadromerida (Order)			Henry Reiswig	Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18506813	NA097-006	NA097-006-01-A-BOL		snip of black coral	Cnidaria	Antipatharia	Schizopathidae	Lillipathes	cf. wingi	Merlin Best	Tissue	BOL	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18506813	NA097-006	NA097-006-01-A-NOAA		snip of black coral	Cnidaria	Antipatharia	Schizopathidae	Lillipathes	cf. wingi	Merlin Best	Tissue	NOAA	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18506813	NA097-006	NA097-006-01-G-RBCM	018-00883-001	coral	Cnidaria	Antipatharia	Schizopathidae	Lillipathes	cf. wingi	Merlin Best	Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18507155	NA097-006	NA097-006-02-G-RBCM	018-00883-002	nudibranch	Mollusca	Nudibranchia	Flabellinidae	Flabellina	sp.	Biologica	Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18508313	NA097-006	NA097-006-03-G-RBCM	018-00883-003	white small coral	Cnidaria	Anthozoa	Primnoidae	Parastenella	cf. ramosa	Merlin Best & Jim Boutillier	Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18508710	NA097-006	NA097-006-04-A-BOL		snip of hydroid	Cnidaria	Hydrozoa					Tissue	BOL	H1682	Dellwood Seamount

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https://www.inaturalist.org/observations/18508710	NA097-006	NA097-006-04.1-G-RBCM	018-00883-004	hydroid	Cnidaria	Hydrozoa	Lafoeidae	Acryptolaria	sp.	Henry Choong	Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18508710	NA097-006	NA097-006-04.2-G-RBCM	018-00883-017	hydroid	Cnidaria	Hydrozoa	Lafoeidae	Lafoea	regia	Henry Choong	Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18508710	NA097-006	NA097-006-04.3-G-RBCM	018-00883-018	hydroid	Cnidaria	Hydrozoa	Haleciidae	Halecium	delicatulum	Henry Choong	Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18508858	NA097-006	NA097-006-05-G-RBCM	018-00883-005	Polychaeta #1	Annelida	Polychaeta	Errantia (Subclass)			Biologica	Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18701537	NA097-006	NA097-006-06-G-RBCM	018-00883-006	cnidarian	Cnidaria	Alcyonacea				Merlin Best	Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18702105	NA097-006	NA097-006-07-G-RBCM	018-00883-007	Polychatea #2 (partial)	Annelida	Polychaeta	Polynoidae	Harmothoe	sp.	Biologica	Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18702421	NA097-006	NA097-006-08-G-RBCM	018-00883-008	brachiopod (x2)	Mollusca	Bivalvia	Pectinidae	Delectopecten	vancouverensis	Hugh MacIntosh	Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18707747	NA097-006	NA097-006-09-G-RBCM	018-00883-009	brittle star	Echinodermata	Ophiuroidea	Ophiacanthidae	Ophiacantha	rhachophora	Philip Lambert	Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18707846	NA097-006	NA097-006-10-G-RBCM	018-00883-010	annelid worms (x2)	Mollusca	Mollusca	Macellomeniidae	Macellomenia	sp.	Biologica	Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18831581	NA097-006	NA097-006-11-G-RBCM	018-00883-011	single stalk hydroid	Echinodermata	Crinoidea				Henry Choong	Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18832343	NA097-006	NA097-006-12-G-RBCM	018-00883-012	annelid	Annelida	Polychaeta	Terebellidae			Biologica	Specimen	RBCM	H1682	Dellwood Seamount

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https://www.inaturalist.org/observations/18832779	NA097-006	NA097-006-13-G-RBCM	018-00883-013	Polychaeta #3	Annelida	Polychaeta	Eunicidae	Eunice	sp.	Biologica	Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18833504	NA097-006	NA097-006-14-G-RBCM	018-00883-014	Polychaeta #4	Annelida	Polychaeta	Polynoidae	Harmothoe	sp.	Biologica	Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18849834	NA097-006	NA097-006-15-G-RBCM	018-00883-015	Polychaeta #5 (x2)	Annelida	Polychaeta	Syllidae	Nudisyllis	sp.	Biologica	Specimen	RBCM	H1682	Dellwood Seamount
	NA097-006	NA097-006-16-A-BOL		Shrimp (x2) in biobox	Arthropoda	Decapoda	Thoridae	Heptacarpus	moseri	Biologica	Tissue	BOL	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18849935	NA097-006	NA097-006-16-G-RBCM	018-00883-016	Shrimp (x2) in biobox	Arthropoda	Decapoda	Thoridae	Heptacarpus	moseri	Biologica	Specimen	RBCM	H1682	Dellwood Seamount
	NA097-007	NA097-007-01-A-BOL		snip of black coral	Cnidaria	Antipathariа	Cladopathidae	Chrysopathes	speciosa	Merlin Best	Tissue	BOL	H1682	Dellwood Seamount
	NA097-007	NA097-007-01-A-NOAA		snip of black coral	Cnidaria	Antipathariа	Cladopathidae	Chrysopathes	speciosa	Merlin Best	Tissue	NOAA	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18866778	NA097-007	NA097-007-01-G-RBCM	018-00884-001	rest of coral	Cnidaria	Antipathariа	Cladopathidae	Chrysopathes	speciosa	Merlin Best	Specimen	RBCM	H1682	Dellwood Seamount
	NA097-007	NA097-007-02-A-BOL		snip of small white-pink coral on rock	Cnidaria	Octocorallia	Primnoidae	Parastenella	cf. ramosa	Merlin Best & Jim Boutillier	Tissue	BOL	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18867396	NA097-007	NA097-007-02-G-RBCM	018-00884-002	rest of white-pink coral	Cnidaria	Octocorallia	Primnoidae	Parastenella	cf. ramosa	Merlin Best & Jim Boutillier	Specimen	RBCM	H1682	Dellwood Seamount
	NA097-007	NA097-007-03-A-BOL		one of the brittle stars (x2)	Echinodermata	Ophiuroidea					Tissue	BOL	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18945402	NA097-007	NA097-007-03-G-RBCM	018-00884-003	the other brittle star	Echinodermata	Ophiuroidea					Specimen	RBCM	H1682	Dellwood Seamount

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https://www.inaturalist.org/observations/18945668	NA097-007	NA097-007-04-G-RBCM	018-00884-004	Annelid #1	Mollusca	Mollusca	Solenogastres (Class)			Biologica	Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18946051	NA097-007	NA097-007-05-G-RBCM	018-00884-005	red worms (were symbiotic on the coral)	Nemertea	Nemertea				Biologica	Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18948627	NA097-007	NA097-007-06-G-RBCM	018-00884-006	sea spider	Arthropoda	Pycnogonida					Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18948737	NA097-007	NA097-007-07-G-RBCM	018-00884-007	scale worm	Annelida	Polychaeta	Polynoidae	Harmothoe	sp.	Biologica	Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18948986	NA097-007	NA097-007-08-G-RBCM	018-00884-008	Annelid #2	Nemertea	Nemertea				Biologica	Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18949173	NA097-007	NA097-007-09-G-RBCM	018-00884-009	amphiopod	Arthropoda	Amphipoda	Stenothoidae			Biologica	Specimen	RBCM	H1682	Dellwood Seamount
	NA097-007	NA097-007-10-A-BOL		shrimp (in biobox)	Arthropoda	Decapoda	Thoridae			Biologica	Tissue	BOL	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18949269	NA097-007	NA097-007-10-G-RBCM	018-00884-010	shrimp (in biobox)	Arthropoda	Decapoda	Thoridae			Biologica	Specimen	RBCM	H1682	Dellwood Seamount
	NA097-008	NA097-008-01-A-BOL		snip of red branching coral	Cnidaria	Octocorallia	Plexauridae	Swiftia	simplex	Cherisse Du Preez	Tissue	BOL	H1682	Dellwood Seamount
	NA097-008	NA097-008-01-A-NOAA		snip of red branching coral	Cnidaria	Octocorallia	Plexauridae	Swiftia	simplex	Cherisse Du Preez	Tissue	NOAA	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18971231	NA097-008	NA097-008-01-G-RBCM	018-00885-001	coral	Cnidaria	Octocorallia	Plexauridae	Swiftia	simplex	Cherisse Du Preez	Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.or	NA097-009	NA097-009-01-	018-00886-001	sponge	Porifera	Demospongiae	Polymastiidae	Sphaerotylus	n. sp. A	Bruce Ott	Specimen	RBCM	H1682	Dellwood Seamount

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g/observations/18983856		G-RBCM												
https://www.inaturalist.org/observations/18985753	NA097-010	NA097-010-01-G-RBCM	018-00887-001	sponge	Porifera	Demospongiae	Polymastiidae	Sphaerotylus	n. sp. A	Bruce Ott	Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18986431	NA097-010	NA097-010-02-G-RBCM	018-00887-002	brittle star	Echinodermata	Ophiuroidea					Specimen	RBCM	H1682	Dellwood Seamount
https://www.inaturalist.org/observations/18988487	NA097-018/019	NA097-018/019-02-G-RBCM	018-00888-001	Sponge	Porifera	Hexactinellida					Specimen	RBCM	H1683	Dellwood Seamount
https://www.inaturalist.org/observations/18988723	NA097-018/019	NA097-018/019-03-G-RBCM	018-00888-002	brachiopod	Mollusca	Bivalvia	Pectinidae	Delectopecten	vancouverensis	Hugh MacIntosh	Specimen	RBCM	H1683	Dellwood Seamount
	NA097-018/019	NA097-018/019-04-A-BOL		one of the small brittle stars (x8)	Echinodermata	Ophiuroidea	Ophiacanthidae	Ophiacantha	diplasia	Philip Lambert	Tissue	BOL	H1683	Dellwood Seamount
https://www.inaturalist.org/observations/18989089	NA097-018/019	NA097-018/019-04-G-NORG	018-00888-003	rest of the brittle stars	Echinodermata	Ophiuroidea	Ophiacanthidae	Ophiacantha	diplasia	Philip Lambert	Specimen	Tammy Norgard	H1683	Dellwood Seamount
	NA097-018/019	NA097-018/019-05-A-BOL		snip of an arm of one of the large brittle stars	Echinodermata	Ophiuroidea	Ophiacanthidae	Ophiacantha	diplasia	Philip Lambert	Tissue	BOL	H1683	Dellwood Seamount
	NA097-018/019	NA097-018/019-05-G-NORG		rest of the large brittle stars	Echinodermata	Ophiuroidea	Ophiacanthidae	Ophiacantha	diplasia	Philip Lambert	Tissue	RBCM(Royal BC Museum)	H1683	Dellwood Seamount
https://www.inaturalist.org/observations/30819742	NA097-018/019	NA097-018/019-05-G-RBCM	018-00888-004	one of the large brittle stars	Echinodermata	Ophiuroidea	Ophiacanthidae	Ophiacantha	diplasia	Philip Lambert	Tissue	RBCM	H1683	Dellwood Seamount
	NA097-018/019	NA097-018/019-06-A-BOL		one of the polychaeta (x3)	Annelida	Polychaeta	Nereididae			Biologica	Tissue	BOL	H1683	Dellwood Seamount
	NA097-	NA097-018/019	018-00888-005	rest of polychaeta	Annelida	Polychaeta	Nereididae			Biologica	Specimen	RBCM	H1683	Dellwood Seamount

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	018/019	-06-G-RBCM												
	NA097-025	NA097-025-01-A-BOL		snip of an arm	Echinodermata	Asteroidea	Benthopectinidae	Benthopecten	clavigera	Philip Lambert	Tissue	BOL	H1683	Dellwood Seamount
https://www.inaturalist.org/observations/19103263	NA097-025	NA097-025-01-G-RBCM	018-00889-001	sea star	Echinodermata	Asteroidea	Benthopectinidae	Benthopecten	clavigera	Philip Lambert	Specimen	RBCM	H1683	Dellwood Seamount
	NA097-027	NA097-027-01-A-BOL		snip of an arm	Echinodermata	Asteroidea	Goniasteridae	Mediaster	tenellus	Philip Lambert	Tissue	BOL	H1683	Dellwood Seamount
https://www.inaturalist.org/observations/19104090	NA097-027	NA097-027-01-G-RBCM	018-00890-001	sea star	Echinodermata	Asteroidea	Goniasteridae	Mediaster	tenellus	Philip Lambert	Specimen	RBCM	H1683	Dellwood Seamount
	NA097-028	NA097-028-01-A-BOL		snip of sea cucumber for DNA	Echinodermata	Holothuroidea	Laetmogonidae	Pannychia	moseleyi	Philip Lambert	Tissue	BOL	H1683	Dellwood Seamount
https://www.inaturalist.org/observations/19104709	NA097-028	NA097-028-01-G-RBCM	018-00891-001	sea cucumber	Echinodermata	Holothuroidea	Laetmogonidae	Pannychia	moseleyi	Philip Lambert	Specimen	RBCM	H1683	Dellwood Seamount
	NA097-029	NA097-029-01-A-BOL		one of the tube worms (x5)	Annelida	Polychaeta	Chaetopteridae	Chaetopterus		Katie Gale	Tissue	BOL	H1683	Dellwood Seamount
https://www.inaturalist.org/observations/19107573	NA097-029	NA097-029-01-G-RBCM	018-00892-001	rest of the worms	Annelida	Polychaeta	Chaetopteridae	Chaetopterus		Katie Gale	Specimen	RBCM	H1683	Dellwood Seamount
https://www.inaturalist.org/observations/19276417	NA097-029	NA097-029-02-G-RBCM	018-00892-002	brittle star #1 (darker in colour)	Echinodermata	Ophiuroidea	Ophiacanthidae	Ophiacantha	diplasia	Philip Lambert	Specimen	RBCM	H1683	Dellwood Seamount
https://www.inaturalist.org/observations/19277265	NA097-029	NA097-029-03-G-RBCM		brittle star #2 (light pink)	Echinodermata	Ophiuroidea					Specimen	MISSING	H1683	Dellwood Seamount
	NA097-030	NA097-030-01-A-BOL		snip of an arm	Echinodermata	Asteroidea	Echinasteridae	Henricia	clarki	Katie Gale	Tissue	BOL	H1683	Dellwood Seamount
https://www.inaturalist.or	NA097-030	NA097-030-01-	018-00893-001	rest of the sea star	Echinodermata	Asteroidea	Echinasteridae	Henricia	clarki	Katie Gale	Specimen	RBCM	H1683	Dellwood Seamount

iNaturalist page	Event Log ID	Wet Lab Sample ID	RBCM Catalogue #	WetLab Description – Subsample	Phylum	Major Group	Family	Genus	Species	Identifier	Sample Nature	Current location	Dive ID	Location Name
g/observations/19277655		G-RBCM												
	NA097-043	NA097-043-01-A-BOL		snip of an arm	Echinodermata	Asteroidea	Freyellidae	Freyellaster	fecundus	Philip Lambert	Tissue	BOL	H1684	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19405961	NA097-043	NA097-043-01-G-RBCM	018-00894-001	rest of brisingid sea star	Echinodermata	Asteroidea	Freyellidae	Freyellaster	fecundus	Philip Lambert	Specimen	RBCM	H1684	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19406582	NA097-043	NA097-043-02-G-RBCM	018-00894-002	Polychaeta #1	Annelida	Polychaeta	Nereididae			Biologica	Specimen	RBCM	H1684	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19406341	NA097-043	NA097-043-03-G-RBCM	018-00894-003	Polychaeta #2, wrapped by the mouth of sea star, likely commensal	Annelida	Polychaeta					Specimen	RBCM	H1684	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19406788	NA097-043	NA097-043-04-G-RBCM	018-00894-004	Polychaeta #3	Annelida	Polychaeta	Polynoidae			Biologica	Specimen	RBCM	H1684	Sgaan Kinghlas-Bowie Seamount
	NA097-044	NA097-044-01-A-BOL		4 tube feet	Echinodermata	Echinoidea	Echinothuriidae	Sperosoma	obscurum	Richard Mooi (California Academy of Sciences)	Tissue	BOL	H1684	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19407895	NA097-044	NA097-044-01-G-RBCM	018-00895-001	whole sea urchin	Echinodermata	Echinoidea	Echinothuriidae	Sperosoma	obscurum	Richard Mooi (California Academy of Sciences)	Specimen	RBCM	H1684	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19408096	NA097-044	NA097-044-02-G-RBCM	018-00895-002	polychaeta associate	Annelida	Polychaeta	Polynoidae	Macellicephala	sp.	Biologica	Specimen	RBCM	H1684	Sgaan Kinghlas-Bowie Seamount
	NA097-045	NA097-045-01-A-BOL		piece of mushroom sponge	Cnidaria	Octocorallia	Alcyoniidae	Anthomastus	sp.	Merlin Best & Tina	Tissue	BOL	H1685	Hodgkins Seamount

iNaturalist page	Event Log ID	Wet Lab Sample ID	RBCM Catalogue #	WetLab Description – Subsample	Phylum	Major Group	Family	Genus	Species	Identifier	Sample Nature	Current location	Dive ID	Location Name
										Molodtsova				
	NA097-045	NA097-045-01-A-NOAA		piece of mushroom sponge	Cnidaria	Octocorallia	Alcyoniidae	Anthomastus	sp.	Merlin Best & Tina Molodtsova	Tissue	BOL	H1685	Hodgkins Seamount
https://www.inaturalist.org/observations/19408470	NA097-045	NA097-045-01-G-RBCM	018-00896-001	mushroom coram	Cnidaria	Octocorallia	Alcyoniidae	Anthomastus	sp.	Merlin Best & Tina Molodtsova	Specimen	RBCM	H1685	Hodgkins Seamount
	NA097-045	NA097-045-02-A-BOL		snip of sponge associate	Porifera	Demospongiae				Henry Reiswig	Tissue	BOL	H1685	Hodgkins Seamount
https://www.inaturalist.org/observations/19521534	NA097-045	NA097-045-02-G-RBCM	018-00896-002	rest of sponge associate	Porifera	Demospongiae	Petrosiidae	Neopetrosia	sp.	Bruce Ott	Specimen	RBCM	H1685	Hodgkins Seamount
https://www.inaturalist.org/observations/19521939	NA097-045	NA097-045-03.1-G-RBCM	018-00896-003	Hhydrois	Bryozoa	Bryozoa	Bugulidae	Bugula		Heidi Gartner	Specimen	RBCM	H1685	Hodgkins Seamount
https://www.inaturalist.org/observations/19521939	NA097-045	NA097-045-03.2-G-RBCM	018-00896-006	Hhydrois	Bryozoa	Bryozoa	Crisiidae	Filicrisia	geniculata	Heidi Gartner	Specimen	RBCM	H1685	Hodgkins Seamount
https://www.inaturalist.org/observations/19522254	NA097-045	NA097-045-04-G-RBCM	018-00896-004	worm	Annelida	Polychaeta	Sabellidae	Chone	sp.	Biologica	Specimen	RBCM	H1685	Hodgkins Seamount
	NA097-045	NA097-045-05-G-RBCM	018-00896-005	brittle stars (x5)	Echinodermata	Ophiuroidea					Specimen	RBCM	H1685	Hodgkins Seamount
	NA097-046	NA097-046-01-A-BOL		snip of coral	Cnidaria	Octocorallia	Isididae	Keratoisis	sp.	Merlin Best	Tissue	BOL	H1685	Hodgkins Seamount
	NA097-046	NA097-046-01-A-NOAA		snip of coral	Cnidaria	Octocorallia	Isididae	Keratoisis	sp.	Merlin Best	Tissue	NOAA	H1685	Hodgkins Seamount
https://www.inaturalist.or	NA097-046	NA097-046-01-	018-00897-001	rest of coral	Cnidaria	Octocorallia	Isididae	Keratoisis	sp.	Merlin Best	Specimen	RBCM	H1685	Hodgkins Seamount

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g/observations/19522635		G-RBCM												
	NA097-046	NA097-046-02-G-RBCM	018-00897-002	brittle star	Echinodermata	Ophiuroidea	Ophiacanthidae	Ophiacantha	eurypoma	Philip Lambert	Specimen	RBCM	H1685	Hodgkins Seamount
	NA097-046	NA097-046-03-A-BOL	pycnogonid	Arthropoda	Pycnogonida						Tissue	BOL	H1685	Hodgkins Seamount
https://www.inaturalist.org/observations/19536823	NA097-046	NA097-046-03-G-RBCM	018-00897-003	pycnogonid	Arthropoda	Pycnogonida					Specimen	RBCM	H1685	Hodgkins Seamount
https://www.inaturalist.org/observations/19537434	NA097-046	NA097-046-04-G-RBCM	018-00897-004	aplacophoran worm	Nemertea	Nemertea				Biologica	Specimen	RBCM	H1685	Hodgkins Seamount
	NA097-048	NA097-048-01-A-BOL		snip of Farrea sponge	Porifera	Hexactinellida	Farreidae	Farrea	n. sp. A.	Henry Reiswig	Tissue	BOL	H1685	Hodgkins Seamount
	NA097-048	NA097-048-01-A-NOAA		snip of Farrea sponge	Porifera	Hexactinellida	Farreidae	Farrea	n. sp. A.	Henry Reiswig	Tissue	NOAA	H1685	Hodgkins Seamount
https://www.inaturalist.org/observations/19539565	NA097-048	NA097-048-01-G-RBCM	018-00898-001	rest of Farrea specimen	Porifera	Hexactinellida	Farreidae	Farrea	n. sp. A.	Henry Reiswig	Specimen	RBCM	H1685	Hodgkins Seamount
	NA097-048	NA097-048-02-A-BOL		snip of sponge associate #1	Porifera	Demospongiae	Ancorinidae	Stelletta	n. sp. C	Bruce Ott	Tissue	BOL	H1685	Hodgkins Seamount
	NA097-048	NA097-048-02-A-NOAA		snip of sponge associate #1	Porifera	Demospongiae	Ancorinidae	Stelletta	n. sp. C	Bruce Ott	Tissue	NOAA	H1685	Hodgkins Seamount
	NA097-048	NA097-048-02-G-RBCM	018-00898-002	rest of sponge associate #1	Porifera	Demospongiae	Ancorinidae	Stelletta	n. sp. C	Bruce Ott	Specimen	RBCM	H1685	Hodgkins Seamount
	NA097-048	NA097-048-03-A-BOL		one of the ispopods (x4)	Arthropoda	Isopoda	Aegidae	Aegiochus	symmetrica	Biologica	Tissue	BOL	H1685	Hodgkins Seamount

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https://www.inaturalist.org/observations/19542568	NA097-048	NA097-048-03-G-RBCM	018-00898-003	rest of isopods	Arthropoda	Isopoda	Aegidae	Aegiochus	symmetrica	Biologica	Specimen	RBCM	H1685	Hodgkins Seamount
	NA097-048	NA097-048-04.1-G-RBCM	018-00898-004	miscellaneous animals	Echinodermata	Ophiuroidea					Specimen	RBCM	H1685	Hodgkins Seamount
	NA097-048	NA097-048-04.2-G-RBCM	018-00898-012	miscellaneous animals	Bryozoa	Bryozoa	Smittinidae	Smittina	sp.	Heidi Gartner	Specimen	RBCM	H1685	Hodgkins Seamount
	NA097-048	NA097-048-04.3-G-RBCM	018-00898-013	miscellaneous animals	Porifera	Demospongiae	Polymastiidae	Radiella?	sp.	Bruce Ott	Specimen	RBCM	H1685	Hodgkins Seamount
	NA097-048	NA097-048-04.4-G-RBCM	018-00898-014	miscellaneous animals	Annelida	Polychaeta	Polynoidae	Harmothoe	sp.	Biologica	Specimen	RBCM	H1685	Hodgkins Seamount
https://www.inaturalist.org/observations/19542739	NA097-048	NA097-048-05-G-RBCM	018-00898-005	sponge associate #2	Porifera	Demospongiae	Ancorinidae	Stelletta	n. sp. C	Bruce Ott	Specimen	RBCM	H1685	Hodgkins Seamount
	NA097-048	NA097-048-06-A-BOL		snip of sponge associate #3	Porifera	Demospongiae	Ancorinidae	Stelletta	n. sp. D	Bruce Ott	Tissue	BOL	H1685	Hodgkins Seamount
	NA097-048	NA097-048-06-A-NOAA		snip of sponge associate #3	Porifera	Demospongiae	Ancorinidae	Stelletta	n. sp. D	Bruce Ott	Tissue	NOAA	H1685	Hodgkins Seamount
https://www.inaturalist.org/observations/19542949	NA097-048	NA097-048-06-G-RBCM	018-00898-006	rest of sponge associate #3	Porifera	Demospongiae	Ancorinidae	Stelletta	n. sp. D	Bruce Ott	Specimen	RBCM	H1685	Hodgkins Seamount
https://www.inaturalist.org/observations/19643567	NA097-048	NA097-048-07-G-RBCM	018-00898-007	Brittle star #1	Echinodermata	Ophiuroidea	Ophiacanthidae	Ophiacantha	rhachophora	Philip Lambert	Specimen	RBCM	H1685	Hodgkins Seamount
	NA097-048	NA097-048-08-G-RBCM	018-00898-008	hydroid	Bryozoa	Bryozoa	Crisiidae	Filicrisia	cf. geniculata	Heidi Gartner	Specimen	RBCM	H1685	Hodgkins Seamount

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	NA097-048	NA097-048-09-G-RBCM	018-00898-009	sponge associate #4	Porifera	Hexactinellida	Farreidae	Farrea	n. sp. A	Henry Reiswig	Specimen	RBCM	H1685	Hodgkins Seamount
	NA097-048	NA097-048-10-G-RBCM	018-00898-010	brittle star #4 (x3)	Echinodermata	Ophiuroidea					Specimen	RBCM	H1685	Hodgkins Seamount
	NA097-048	NA097-048-11-G-RBCM	018-00898-011	bryozoan	Porifera	Demospongiae	Raspailiidae	Eurypon	n. sp.	Bruce Ott	Specimen	RBCM	H1685	Hodgkins Seamount
	NA097-049	NA097-049-01-A-BOL		snip of coral	Cnidaria	Octocorallia	Isididae			Merlin Best	Tissue	BOL	H1685	Hodgkins Seamount
	NA097-049	NA097-049-01-A-NOAA		snip of coral	Cnidaria	Octocorallia	Isididae			Merlin Best	Tissue	NOAA	H1685	Hodgkins Seamount
https://www.inaturalist.org/observations/19659609	NA097-049	NA097-049-01-G-RBCM	018-00899-001	coral	Cnidaria	Octocorallia	Isididae			Merlin Best	Specimen	RBCM	H1685	Hodgkins Seamount
	NA097-049	NA097-049-02-A-BOL		pycnogonid (x2)	Arthropoda	Pycnogonida					Tissue	BOL	H1685	Hodgkins Seamount
	NA097-049	NA097-049-02-G-RBCM	018-00899-002	pycnogonid (x2)	Arthropoda	Pycnogonida					Specimen	Biologica	H1685	Hodgkins Seamount
	NA097-050	NA097-050-01-A-BOL		snip of sponge	Porifera	Demospongiae	Desmacellidae	Asbestopluma (Asbestopluma)	monticola	Henry Reiswig	Tissue	BOL	H1685	Hodgkins Seamount
	NA097-050	NA097-050-01-A-NOAA		snip of sponge	Porifera	Demospongiae	Desmacellidae	Asbestopluma (Asbestopluma)	monticola	Henry Reiswig	Tissue	NOAA	H1685	Hodgkins Seamount
https://www.inaturalist.org/observations/19679050	NA097-050	NA097-050-01-G-RBCM	018-00900-001	sponge	Porifera	Demospongiae	Desmacellidae	Asbestopluma (Asbestopluma)	monticola	Henry Reiswig	Specimen	RBCM	H1685	Hodgkins Seamount
	NA097-050	NA097-050-02-	018-00900-002	isopod	Annelida	Polychaeta	Macellicephalinae			Biologica	Specimen	RBCM	H1685	Hodgkins Seamount

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		G-RBCM					(Subfamily)							
	NA097-051	NA097-051-01-A-BOL		snip of bugle sponge	Porifera	Hexactinellida	Sceptrulophora incertae sedis	Homoieuretе	n. sp. 1	Henry Reiswig	Tissue	BOL	H1685	Hodgkins Seamount
	NA097-051	NA097-051-01-A-NOAA		snip of bugle sponge	Porifera	Hexactinellida	Sceptrulophora incertae sedis	Homoieuretе	n. sp. 1	Henry Reiswig	Tissue	NOAA	H1685	Hodgkins Seamount
https://www.inaturalist.org/observations/19681030	NA097-051	NA097-051-01-G-RBCM	018-00901-001	bugle sponge	Porifera	Hexactinellida	Sceptrulophora incertae sedis	Homoieuretе	n. sp. 1	Henry Reiswig	Specimen	RBCM	H1685	Hodgkins Seamount
	NA097-051	NA097-051-02-A-BOL		snip of sea cucumber associate	Echinodermata	Holothuroidea	Psolidae	Psolus	squamatus	Philip Lambert	Tissue	BOL	H1685	Hodgkins Seamount
https://www.inaturalist.org/observations/19719723	NA097-051	NA097-051-02-G-RBCM	018-00901-002	rest of sea cucumber	Echinodermata	Holothuroidea	Psolidae	Psolus	squamatus	Philip Lambert	Specimen	RBCM	H1685	Hodgkins Seamount
https://www.inaturalist.org/observations/19719995	NA097-051	NA097-051-03-G-RBCM	018-00901-003	brittle star #1	Echinodermata	Ophiuroidea	Ophiacanthidae	Ophiacantha	diplasia	Philip Lambert	Specimen	RBCM	H1685	Hodgkins Seamount
https://www.inaturalist.org/observations/19720101	NA097-051	NA097-051-04-G-RBCM	018-00901-004	brittle star #2 (x3)	Echinodermata	Ophiuroidea	Ophiacanthidae	Ophiacantha		Philip Lambert	Specimen	RBCM	H1685	Hodgkins Seamount
	NA097-051	NA097-051-05-G-RBCM	018-00901-005	ctenophore	Ctenophora	Ctenophora	Doliopsidina (Suborder)			Biologica	Specimen	RBCM	H1685	Hodgkins Seamount
https://www.inaturalist.org/observations/19830099	NA097-051	NA097-051-06-G-RBCM	018-00901-006	sponge associate	Porifera	Demospongiae				Henry Reiswig	Specimen	RBCM	H1685	Hodgkins Seamount
https://www.inaturalist.org/observations/19830413	NA097-051	NA097-051-07-G-RBCM	018-00901-007	bivalve	Mollusca	Bivalvia	Pectinidae	Delectopecten	vancouverensis	Hugh MacIntosh	Specimen	RBCM	H1685	Hodgkins Seamount
	NA097-054	NA097-054-01-A-BOL		two siphonopores	Cnidaria	Siphonophorae	Apolemiidae			BOLD	Tissue	BOL	H1685	Hodgkins Seamount

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https://www.inaturalist.org/observations/19832237	NA097-054	NA097-054-01-G-RBCM	018-00902-001	rest of the siphonophore colony	Cnidaria	Siphonophorae	Apolemiidae			BOLD	Specimen	RBCM	H1685	Hodgkins Seamount
	NA097-059	NA097-059-01-A-BOL		snip of glass sponge	Porifera	Hexactinellida	Tretodictyidae	Hexactinella	n. sp. A	Henry Reiswig	Tissue	BOL	H1685	Hodgkins Seamount
	NA097-059	NA097-059-01-A-NOAA		snip of glass sponge	Porifera	Hexactinellida	Tretodictyidae	Hexactinella	n. sp. A	Henry Reiswig	Tissue	NOAA	H1685	Hodgkins Seamount
https://www.inaturalist.org/observations/19843940	NA097-059	NA097-059-01-G-RBCM	018-00903-001	rest of glass sponge	Porifera	Hexactinellida	Tretodictyidae	Hexactinella	n. sp. A	Henry Reiswig	Specimen	RBCM	H1685	Hodgkins Seamount
	NA097-059	NA097-059-02-G-RBCM	018-00903-002	tube worm	Annelida	Polychaeta	Serpulidae			Biologica	Specimen	RBCM	H1685	Hodgkins Seamount
	NA097-059	NA097-059-03-G-RBCM	018-00903-003	miscellaneous animals	Echinodermata	Ophiuroidea	Ophiactidae	Ophiopholis	longispina	Philip Lambert	Specimen	RBCM	H1685	Hodgkins Seamount
	NA097-060	NA097-060-01-A-BOL		snip of tube worm	Annelida	Polychaeta	Chaetopteridae	Chaetopterus		Katie Gale	Tissue	BOL	H1685	Hodgkins Seamount
https://www.inaturalist.org/observations/19845355	NA097-060	NA097-060-01-G-RBCM	018-00904-001	rest of tube worms	Annelida	Polychaeta	Chaetopteridae	Chaetopterus		Katie Gale	Specimen	RBCM	H1685	Hodgkins Seamount
	NA097-060	NA097-060-02-A-BOL		snip of brittle star #1	Echinodermata	Ophiuroidea	Ophiactidae	Ophiopholis	longispina	Philip Lambert	Tissue	BOL	H1685	Hodgkins Seamount
https://www.inaturalist.org/observations/19845738	NA097-060	NA097-060-02-G-RBCM	018-00904-002	rest of brittle star #1	Echinodermata	Ophiuroidea	Ophiactidae	Ophiopholis	longispina	Philip Lambert	Specimen	RBCM	H1685	Hodgkins Seamount
	NA097-060	NA097-060-03-A-BOL		snip of brittle star #2 (x4)	Echinodermata	Ophiuroidea	Ophiacanthidae	Ophiacantha	diplasia	Philip Lambert	Tissue	BOL	H1685	Hodgkins Seamount
https://www.inaturalist.org/observations/19845903	NA097-060	NA097-060-03-G-RBCM	018-00904-003	rest of brittle star #2	Echinodermata	Ophiuroidea	Ophiacanthidae	Ophiacantha	diplasia	Philip Lambert	Specimen	RBCM	H1685	Hodgkins Seamount

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	NA097-060	NA097-060-04-A-BOL		snip of brittle star #3	Echinodermata	Ophiuroidea	Ophiacanthidae	Ophiacantha	diplasia	Philip Lambert	Tissue	BOL	H1685	Hodgkins Seamount
https://www.inaturalist.org/observations/19846554	NA097-060	NA097-060-04-G-RBCM	018-00904-004	rest of brittle star #3	Echinodermata	Ophiuroidea	Ophiacanthidae	Ophiacantha	diplasia	Philip Lambert	Specimen	RBCM	H1685	Hodgkins Seamount
	NA097-060	NA097-060-05-G-RBCM	018-00904-001	tubing of the worm	Annelida	Polychaeta	Chaetopteridae	Chaetopterus		Katie Gale	Specimen	RBCM	H1685	Hodgkins Seamount
https://www.inaturalist.org/observations/19848170	NA097-060	NA097-060-06-G-RBCM	018-00904-005	hydroid	Cnidaria	Hydrozoa	Campanulariidae	Rhizocaulus	verticillatus	Henry Choong	Specimen	RBCM	H1685	Hodgkins Seamount
	NA097-061	NA097-061-01-A-BOL		snip of Rathbunaster arm	Echinodermata	Asteroidea	Asteriidae	Rathbunaster	sp.	Katie Gale	Tissue	BOL	H1686	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19848454	NA097-061	NA097-061-01-G-RBCM	018-00905-001	rest of Rathbunaster arm	Echinodermata	Asteroidea	Asteriidae	Rathbunaster	sp.	Katie Gale	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-062	NA097-062-01-A-BOL		snip of Pycnopodia arm	Echinodermata	Asteroidea	Asteriidae	Pycnopodia	heliantoides	Philip Lambert	Tissue	BOL	H1686	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19849249	NA097-062	NA097-062-01-G-RBCM	018-00906-001	rest of Pycnopodia arm	Echinodermata	Asteroidea	Asteriidae	Pycnopodia	heliantoides	Philip Lambert	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19849528	NA097-062	NA097-062-02-A-BOL		hydroid branches	Cnidaria	Hydrozoa					Tissue	BOL	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-062	NA097-062-02-A-NOAA		hydroid branches	Cnidaria	Hydrozoa					Tissue	NOAA	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-062	NA097-062-03.1-G-RBCM	018-00906-002	rest of hydroids together with caprellid amphipods	Cnidaria	Hydrozoa	Sertulariidae	Sertularia	cf. tenera	Henry Choong	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount

iNaturalist page	Event Log ID	Wet Lab Sample ID	RBCM Catalogue #	WetLab Description – Subsample	Phylum	Major Group	Family	Genus	Species	Identifier	Sample Nature	Current location	Dive ID	Location Name
	NA097-062	NA097-062-03.2-G-RBCM	018-00906-003	rest of hydroids together with caprellid amphipods	Arthropoda	Amphipoda	Caprellidae	Metacaprella	kennerlyi	Biologica	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-062	NA097-062-03-A-BOL		caprellid amphipod	Arthropoda	Amphipoda	Caprellidae	Metacaprella	kennerlyi	BOLD	Tissue	NOAA	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-063	NA097-063-02-G-RBCM	018-00907-001	gastropod	Mollusca	Gastropoda	Columbellidae	Amphissa	cf. versicolor	Melissa Frey	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-063	NA097-063-03-G-RBCM	018-00907-002	sponge	Porifera	Calcera				Henry Reiswig	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-063	NA097-063-04-G-RBCM		red algae, branching filaments	Rhodophyta	Rhodophyta					Specimen	RBCM(Royal BC Museum)	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-063	NA097-063-05-G-RBCM		red algae, sheet-like	Rhodophyta	Rhodophyta					Specimen	RBCM(Royal BC Museum)	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-063	NA097-063-06-G-RBCM		red algae, fuzzy filament	Rhodophyta	Rhodophyta					Specimen	RBCM(Royal BC Museum)	H1686	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19851499	NA097-063	NA097-063-07-G-RBCM	018-00907-003	Christmas tree worm	Annelida	Polychaeta	Serpulidae	Crucigera	zygophora	Biologica	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-063	NA097-063-08.1-G-RBCM	018-00907-004	sponge&tube worm&bryozoan	Sipuncula	Sipuncula	Phascolosomatidae	Phascolosoma	agassizi	Biologica	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-063	NA097-063-08.2-G-RBCM	018-00907-005	sponge&tube worm&bryozoan	Porifera	Calcera	Leucosoleniidae	Leucosolenia	sp.	Bruce Ott	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-063	NA097-063-08.3-G-RBCM	018-00907-006	sponge&tube worm&bryozoan	Bryozoa	Bryozoa	Celleporariidae	Celleporaria	sp.	Heidi Gartner	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount

iNaturalist page	Event Log ID	Wet Lab Sample ID	RBCM Catalogue #	WetLab Description – Subsample	Phylum	Major Group	Family	Genus	Species	Identifier	Sample Nature	Current location	Dive ID	Location Name
	NA097-063	NA097-063-09-A-BOL		rock with many more organisms	Bryozoa	Bryozoa					Tissue	BOL	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-063	NA097-063-09.1-G-RBCM	018-00907-007	rock with many more organisms	Bryozoa	Bryozoa	Microporellidae	Microporella	sp.	Heidi Gartner	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-063	NA097-063-09.2-G-RBCM	018-00907-008	rock with many more organisms		Porifera	Demospongiae				Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-063	NA097-063-09.3-G-RBCM	018-00907-009	rock with many more organisms		Arthropoda	Amphipoda				Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-063	NA097-063-09.4-G-RBCM	018-00907-010	rock with many more organisms		Arthropoda	Isopoda				Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-063	NA097-063-09.5-G-RBCM	018-00907-011	rock with many more organisms		Mollusca	Hiatellidae	Hiatella	arctica	Hugh MacIntosh	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-063	NA097-063-09.6-G-RBCM	018-00907-012	rock with many more organisms		Bryozoa	Diaperoeciidae	Diaperoforma	sp.	Heidi Gartner	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-063	NA097-063-09.7-G-RBCM	018-00907-013	rock with many more organisms		Bryozoa	Crisiidae	Bicrisia		Heidi Gartner	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-064	NA097-064-02-A-BOL		one of the gastropods (x3)	Mollusca	Gastropoda	Columbellidae	Amphissa	cf. versicolor	Melissa Frey	Tissue	BOL	H1686	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19852293	NA097-064	NA097-064-02-G-RBCM	018-00908-001	rest of the gastropods	Mollusca	Gastropoda	Columbellidae	Amphissa	cf. versicolor	Melissa Frey	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19864026	NA097-064	NA097-064-03-A-BOL		branch of hydroid	Cnidaria	Hydrozoa					Tissue	BOL	H1686	Sgaan Kinghlas-Bowie Seamount

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	NA097-064	NA097-064-03-A-NOAA		branch of hydroid	Cnidaria	Hydrozoa					Tissue	NOAA	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-064	NA097-064-04.1-G-RBCM	018-00908-002	rest of hydroids together with caprellid amphipods	Cnidaria	Hydrozoa	Sertularidae	Sertularia	tenera	Henry Choong	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-064	NA097-064-04.2-G-RBCM	018-00908-003	rest of hydroids together with caprellid amphipods	Arthropoda	Amphipoda	Caprellidae	Metacaprella	kennerlyi	Biologica	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-064	NA097-064-04-A-BOL		caprellid amphipod	Arthropoda	Amphipoda	Caprellidae	Metacaprella	kennerlyi	Biologica	Tissue	BOL	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-065	NA097-065-01-A-BOL		piece of Stylaster	Cnidaria	Hydrozoa	Stylasteridae	Stylaster		Cherisse Du Preez	Tissue	BOL	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-065	NA097-065-01-A-NOAA		piece of Stylaster	Cnidaria	Hydrozoa	Stylasteridae	Stylaster		Cherisse Du Preez	Tissue	NOAA	H1686	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19865602	NA097-065	NA097-065-01-G-RBCM	018-00909-001	Rest of Stylaster	Cnidaria	Hydrozoa	Stylasteridae	Stylaster		Cherisse Du Preez	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-067	NA097-067-01-A-BOL		snip of zooanthid tissue	Cnidaria	Zoantharia	Epizoanthidae	Epizoanthus	scotinus	James Reimer & Hiroki Kise	Tissue	BOL	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-067	NA097-067-01-A-NOAA		snip of zooanthid tissue	Cnidaria	Zoantharia	Epizoanthidae	Epizoanthus	scotinus	James Reimer & Hiroki Kise	Tissue	NOAA	H1686	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19867139	NA097-067	NA097-067-01-G-RBCM	018-00910-001	rest of the zooanthids	Cnidaria	Zoantharia	Epizoanthidae	Epizoanthus	scotinus	James Reimer & Hiroki Kise	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-067	NA097-067-02-A-BOL	mini bivalves	Brachiopoda	Brachiopoda	Terebratulidae	Terebratulina	unguicula	Heidi Gartner	Tissue	BOL	H1686	Sgaan Kinghlas-	

iNaturalist page	Event Log ID	Wet Lab Sample ID	RBCM Catalogue #	WetLab Description – Subsample	Phylum	Major Group	Family	Genus	Species	Identifier	Sample Nature	Current location	Dive ID	Location Name
														Bowie Seamount
	NA097-067	NA097-067-02.1-G-RBCM	018-00910-002	mini bivalves	Mollusca	Bivalvia	Pectinidae	Delectopecten	vancouverensis	Hugh MacIntosh	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-067	NA097-067-02.2-G-RBCM	018-00910-003	mini bivalves	Brachiopoda	Brachiopoda	Terebratulidae	Terebratulina	unguicula	Heidi Gartner	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-067	NA097-067-03-G-RBCM	018-00910-004	branched bryozoans	Bryozoa	Bryozoa	Candidae	Caberea	ellisii	Heidi Gartner	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-067	NA097-067-04.1-G-RBCM	018-00910-005	juvenile seastar+5 brittle stars+gastropod	Echinodermata						Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-067	NA097-067-04.2-G-RBCM	018-00910-014	juvenile seastar+5 brittle stars+gastropod	Mollusca	Gastropoda	Epitoniidae	Epitonium	indianorum	Melissa Frey	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-067	NA097-067-04.3-G-RBCM	018-00910-015	juvenile seastar+5 brittle stars+gastropod		Bryozoa	Candidae	Tricellaria	circumternata	Heidi Gartner	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-067	NA097-067-04.4-G-RBCM	018-00910-016	juvenile seastar+5 brittle stars+gastropod		Bryozoa	Bugulidae	Dendrobeania	longispinosa	Heidi Gartner	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-067	NA097-067-04.5-G-RBCM	018-00910-017	juvenile seastar+5 brittle stars+gastropod		Bryozoa	Tubuliporidae			Heidi Gartner	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-067	NA097-067-05.1-G-RBCM	018-00910-006	arthropod+worm	Arthropoda	Decapoda	Epialtidae	Epialtinae (Subfamily)		Biologica	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount

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	NA097-067	NA097-067-05.2-G-RBCM	018-00910-007	arthropod+worm	Chordata	Tunicata	Doliopsidina (Suborder)				Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-067	NA097-067-06-G-RBCM	018-00910-008	crusted bryozoan	Bryozoa	Bryozoa	Celleporariidae	Celleporaria	sp.	Heidi Gartner	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-067	NA097-067-07-G-RBCM	018-00910-009	crabs (x2)	Arthropoda	Decapoda	Epialtidae	Chorilia	longipes	Heidi Gartner	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-067	NA097-067-08-G-RBCM	018-00910-010	sea urchin	Echinodermata	Echinoidea	Strongylocentrotidae	Strongylocentrotus	sp.	Philip Lambert	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/21010217	NA097-067	NA097-067-09-G-RBCM	018-00910-013	Polychaete	Annelida	Polychaeta	Terebellidae	Eupolymnia	sp.	Biologica	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-067	NA097-067-10-G-RBCM	018-00910-011	zooanthids	Cnidaria	Zoanthiaria	Epizoanthidae	cf. Epizoanthus	sp.	Jim Reimer	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-067	NA097-067-11-A-BOL		snip of ascidian tunicat	Chordata	Ascidiacea	Styelidae	Cnemidocarpa	finmarkiensis	Heidi Gartner	Tissue	BOL	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-067	NA097-067-11-G-RBCM	018-00910-012	rest of ascidian tunicat	Chordata	Ascidiacea	Styelidae	Cnemidocarpa	finmarkiensis	Heidi Gartner	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-069	NA097-069-01-A-BOL		snip of red algae	Rhodophyta	Rhodophyta					Tissue	BOL	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-069	NA097-069-01-E-RBCM		other part of red algae	Rhodophyta	Rhodophyta					Specimen	MISSING	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-069	NA097-069-01-G-RBCM		part of red algae	Rhodophyta	Rhodophyta					Specimen	MISSING	H1686	Sgaan Kinghlas-Bowie Seamount

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https://www.inaturalist.org/observations/19934852	NA097-069	NA097-069-02-G-RBCM	018-00911-001	articulated red algae with hydroids and miscellaneous creatures	Bryozoa	Bryozoa	Crisiidae	Bicrisia	sp.	Heidi Gartner	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-070	NA097-070-01-A-BOL		snip of sponge tissue	Porifera	Demospongiae	Ancorinidae	Penares	cortius	Cherisse Du Preez	Tissue	BOL	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-070	NA097-070-01-A-NOAA		snip of sponge tissue	Porifera	Demospongiae	Ancorinidae	Penares	cortius	Cherisse Du Preez	Tissue	NOAA	H1686	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19935754	NA097-070	NA097-070-01-G-RBCM	018-00912-001	rest of sponge associate	Porifera	Demospongiae	Ancorinidae	Penares	cortius	Cherisse Du Preez	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-070	NA097-070-02-A-BOL		snip of bryozoan (with hydroids attached)	Bryozoa	Bryozoa					Tissue	BOL	H1686	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19935894	NA097-070	NA097-070-02-G-RBCM	018-00912-002	rest of bryozoan	Bryozoa	Bryozoa	Candidae	Caberea	sp.	Heidi Gartner	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-070	NA097-070-03-A-BOL	crab	Arthropoda	Decapoda	Epialtidae	Chorilia	longipes		Heidi Gartner	Tissue	BOL	H1686	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19936296	NA097-070	NA097-070-03-G-RBCM	018-00912-003	crab	Arthropoda	Decapoda	Epialtidae	Chorilia	longipes	Heidi Gartner	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19936780	NA097-070	NA097-070-04-G-RBCM	018-00912-004	hydroid	Cnidaria	Hydrozoa	Tubuliporidae	Tubulipora	sp.	Heidi Gartner	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-070	NA097-070-05-A-BOL		one of the isopods	Arthropoda	Isopoda	Janiridae			Biologica	Tissue	BOL	H1686	Sgaan Kinghlas-Bowie Seamount

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	NA097-070	NA097-070-05-G-RBCM	018-00912-005	rest of isopods	Arthropoda	Isopoda	Janiridae			Biologica	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-070	NA097-070-06-A-BOL		miscellaneous creatures	Arthropoda	Amphipoda					Tissue	BOL	H1686	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19937907	NA097-070	NA097-070-06.1-G-RBCM	018-00912-006	miscellaneous creatures	Arthropoda	Amphipoda	Ischyroceridae	Ischyroceru s	sp.	Biologica	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19937907	NA097-070	NA097-070-06.2-G-RBCM	018-00912-007	miscellaneous creatures	Arthropoda	Amphipoda	Isaeidae	Photis	pachydactyla	Biologica	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19937907	NA097-070	NA097-070-06.3-G-RBCM	018-00912-008	miscellaneous creatures	Arthropoda	Amphipoda	Stenothoidae			Biologica	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19937907	NA097-070	NA097-070-06.4-G-RBCM	018-00912-009	miscellaneous creatures	Arthropoda	Isopoda	Munnidae	Munna	sp.	Biologica	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19937907	NA097-070	NA097-070-06.5-G-RBCM	018-00912-010	miscellaneous creatures	Bryozoa	Cyclostomata	Crisiidae	Bicrisia	sp.	Heidi Gartner	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-072	NA097-072-01-A-BOL		snip of Stylaster	Cnidaria	Hydrozoa	Stylasteridae	Stylaster		Cherisse Du Preez	Tissue	BOL	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-072	NA097-072-01-A-NOAA		snip of Stylaster	Cnidaria	Hydrozoa	Stylasteridae	Stylaster		Cherisse Du Preez	Tissue	NOAA	H1686	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19938651	NA097-072	NA097-072-01-G-RBCM	018-00913-001	rest of Stylaster	Cnidaria	Hydrozoa	Stylasteridae	Stylaster		Cherisse Du Preez	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-072	NA097-072-02-A-BOL		hydroid branches	Bryozoa	Bryozoa					Tissue	BOL	H1686	Sgaan Kinghlas-Bowie Seamount

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https://www.inaturalist.org/observations/19938991	NA097-072	NA097-072-02-G-RBCM	018-00913-002	rest of hydroid	Bryozoa	Bryozoa	Crisuliporidae	Crisulipora	sp.	Heidi Gartner	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-072	NA097-072-03-A-BOL		one of the annelid worms (x4)	Annelida	Polychaeta					Tissue	BOL	H1686	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19939190	NA097-072	NA097-072-03-G-RBCM	018-00913-003	rest of annelid worms	Annelida	Hirudinea (Subclass)				Biologica	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-072	NA097-072-04-G-RBCM	018-00913-004	nematods	Annelida	Polychaeta	Syllidae	Proceraea	sp.	Biologica	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-074	NA097-074-01-A-BOL		snip of sponge tissue	Porifera	Demospongiae	Ancorinidae	Stelletta	n. sp. A	Bruce Ott	Tissue	BOL	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-074	NA097-074-01-A-NOAA		snip of sponge tissue	Porifera	Demospongiae	Ancorinidae	Stelletta	n. sp. A	Bruce Ott	Tissue	NOAA	H1686	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19951703	NA097-074	NA097-074-01-G-RBCM	018-00914-001	rest of sponge	Porifera	Demospongiae	Ancorinidae	Stelletta	n. sp. A	Bruce Ott	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-075	NA097-075-01-G-RBCM	018-00915-001	sample not collected from jar, sat overnight and 091&092 collected into this jar on 13 JUL 2018	Cnidaria	Hydrozoa	Stylasteridae			Merlin Best	Specimen	RBCM	H1686	Sgaan Kinghlas-Bowie Seamount
	NA097-079	NA097-079-01-A-BOL		snip of Farrea sponge	Porifera	Hexactinellida	Farreidae	Farrea	n. sp. B	Henry Reiswig	Tissue	BOL	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-079	NA097-079-01-		snip of Farrea sponge	Porifera	Hexactinellida	Farreidae	Farrea	n. sp. B	Henry Reiswig	Tissue	NOAA	H1687	Sgaan Kinghlas-

iNaturalist page	Event Log ID	Wet Lab Sample ID	RBCM Catalogue #	WetLab Description – Subsample	Phylum	Major Group	Family	Genus	Species	Identifier	Sample Nature	Current location	Dive ID	Location Name
		A-NOAA												Bowie Seamount
https://www.inaturalist.org/observations/19952120	NA097-079	NA097-079-01-G-RBCM	018-00916-001	rest of Farrea sponge	Porifera	Hexactinellida	Farreidae	Farrea	n. sp. B	Henry Reiswig	Specimen	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-079	NA097-079-02.1-G-RBCM	018-00916-002	brittle stars (x21) + polychaeta	Echinodermata	Ophiuroidea	Ophiacanthidae	Ophiacantha	clypeata	Philip Lambert	Specimen	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-079	NA097-079-02.2-G-RBCM	018-00916-003	brittle stars (x21) + polychaeta	Annelida	Polychaeta	Polynoidae	Harmothoe	sp.	Biologica	Specimen	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-080	NA097-080-01-A-BOL		snip of coral	Cnidaria	Octocorallia	Isididae			Merlin Best	Tissue	BOL	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-080	NA097-080-01-A-NOAA		snip of coral	Cnidaria	Octocorallia	Isididae			Merlin Best	Tissue	NOAA	H1687	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19953767	NA097-080	NA097-080-01-G-RBCM	018-00917-001	rest of coral	Cnidaria	Octocorallia	Isididae			Merlin Best	Specimen	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-081	NA097-081-01-A-BOL		snip of Stylaster	Cnidaria	Hydrozoa	Stylasteridae	cf. Distichopora sp.		Merlin Best	Tissue	BOL	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-081	NA097-081-01-A-NOAA		snip of Stylaster	Cnidaria	Hydrozoa	Stylasteridae	cf. Distichopora sp.		Merlin Best	Tissue	NOAA	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-081	NA097-081-01-G-RBCM	018-00918-001	Rock & rest of organisms	Cnidaria	Hydrozoa	Stylasteridae	cf. Distichopora sp.		Merlin Best	Specimen	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-082	NA097-082-01-A-BOL		snip of sponge	Porifera	Hexactinellida	Rosselliidae	Rhabdocalyptus	sp.	Henry Reiswig	Tissue	BOL	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-082	NA097-082-01-		snip of sponge	Porifera	Hexactinellida	Rosselliidae	Rhabdocalyptus	sp.	Henry Reiswig	Tissue	NOAA	H1687	Sgaan Kinghlas-

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		A-NOAA												Bowie Seamount
https://www.inaturalist.org/observations/19954596	NA097-082	NA097-082-01-G-RBCM	018-00919-001	rest of the sponge	Porifera	Hexactinellida	Rosellidae	Rhabdocalyptus	sp.	Henry Reiswig	Specimen	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-082	NA097-082-02-G-RBCM	018-00919-002	rock with sponge and bryozoans(?) + brittle stars	Porifera	Hexactinellida	Farreidae	Farrea	sp.	Bruce Ott	Specimen	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19956424	NA097-084	NA097-084-01-G-RBCM	018-00920-001	red worm	Nemertea	Nemertea	Lineidae			Biologica	Specimen	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19956610	NA097-084	NA097-084-02-G-RBCM	018-00920-002	brittle star	Echinodermata	Ophiuroidea	Ophiuridae	Ophiura	leptoctenia	Philip Lambert	Specimen	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19956913	NA097-084	NA097-084-03-G-RBCM	018-00920-003	Nemertean	Nemertea	Nemertea					Specimen	Biologica	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-085	NA097-085-02-G-RBCM	018-00921-001	scale worm	Annelida	Polychaeta	Polynoidae	Harmothoe	sp.	Biologica	Specimen	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19957982	NA097-085	NA097-085-03-G-RBCM	018-00921-002	crown sponge	Porifera	Demospongiae				Henry Reiswig	Specimen	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-085	NA097-085-04.1-G-RBCM	018-00921-003	various sponges & brittle star	Porifera	Demospongiae	Polymastiidae	Sphaerotylus	n. sp. A	Bruce Ott	Specimen	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19958110	NA097-085	NA097-085-04.2-G-RBCM	018-00921-004	various sponges & brittle star	Echinodermata	Ophiuroidea	Ophiacanthidae	Ophiacantha	clypeata	Philip Lambert	Specimen	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-085	NA097-085-05-A-BOL		branch of hydroid	Cnidaria	Hydrozoa	Haleciidae	Halecium	delicatulum	Henry Choong	Tissue	BOL	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-085	NA097-085-05-		branch of hydroid	Cnidaria	Hydrozoa	Haleciidae	Halecium	delicatulum	Henry Choong	Tissue	NOAA	H1687	Sgaan Kinghlas-

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		A-NOAA												Bowie Seamount
https://www.inaturalist.org/observations/19957537	NA097-085	NA097-085-05-G-RBCM	018-00921-005	rest pf hydroids with worms on branches	Cnidaria	Hydrozoa	Haleciidae	Halecium	delicatulum	Henry Choong	Specimen	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-086	NA097-086-01-A-BOL		snip of pyrosom	Chordata	Thaliacea					Tissue	BOL	H1687	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19958500	NA097-086	NA097-086-01-G-RBCM	018-00922-001	rest of pyrosome	Chordata	Thaliacea					Tissue	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-087	NA097-087-01-A-BOL		snip of coral	Cnidaria	Octocorallia	Plexauridae	Swiftia	pacifica	Cherisse Du Preez	Tissue	BOL	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-087	NA097-087-01-A-NOAA		snip of coral	Cnidaria	Octocorallia	Plexauridae	Swiftia	pacifica	Cherisse Du Preez	Tissue	NOAA	H1687	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19958715	NA097-087	NA097-087-01-G-RBCM	018-00923-001	rest of coral	Cnidaria	Octocorallia	Plexauridae	Swiftia	pacifica	Cherisse Du Preez	Specimen	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-087	NA097-087-02-G-RBCM	018-00923-002		Echinodermata	Ophiuroidea					Specimen	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-087	NA097-087-03-G-RBCM	018-00923-003		Echinodermata	Ophiuroidea					Specimen	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-087	NA097-087-04-G-RBCM	018-00923-004		Echinodermata	Ophiuroidea					Specimen	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-088	NA097-088-01-A-BOL		snip of tube worm tissue	Annelida	Polychaeta	Chaetopteridae	Chaetopterus		Katie Gale	Tissue	BOL	H1687	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.or	NA097-088	NA097-088-01-	018-00924-001	rest of tube worms	Annelida	Polychaeta	Chaetopteridae	Chaetopterus		Katie Gale	Specimen	RBCM	H1687	Sgaan Kinghlas-

iNaturalist page	Event Log ID	Wet Lab Sample ID	RBCM Catalogue #	WetLab Description – Subsample	Phylum	Major Group	Family	Genus	Species	Identifier	Sample Nature	Current location	Dive ID	Location Name
g/observations/19959027		G-RBCM												Bowie Seamount
https://www.inaturalist.org/observations/19972138	NA097-088	NA097-088-02-G-RBCM	018-00924-002	brittle star	Echinodermata	Ophiuroidea					Specimen	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-088	NA097-088-03-A-BOL		one of annelid worms	Annelida	Polychaeta	Lumbrineridae	Lumbrineris	sp.	Biologica	Tissue	BOL	H1687	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19972297	NA097-088	NA097-088-03-G-RBCM	018-00924-003	rest of annelid worms	Annelida	Polychaeta	Lumbrineridae	Lumbrineris	sp.	Biologica	Specimen	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-088	NA097-088-04-G-RBCM	018-00924-001	tube worm tubing	Annelida	Polychaeta	Chaetopteridae	Chaetopterus	sp.	Katie Gale	Specimen	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19972431	NA097-088	NA097-088-05-G-RBCM	018-00924-004	worm	Nemertea	Nemertea				Biologica	Specimen	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-089	NA097-089-01-A-BOL		snip of chiton tissue	Mollusca	Polyplacophora	Mopaliidae	Placiphorella	pacifica	Heidi Gartner	Tissue	BOL	H1687	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19972796	NA097-089	NA097-089-01-G-RBCM	018-00925-001	chiton	Mollusca	Polyplacophora	Mopaliidae	Placiphorella	pacifica	Heidi Gartner	Specimen	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-089	NA097-089-02-A-BOL		branch of hydroids	Cnidaria	Hydrozoa	Lafoeidae	Zygophylax	convallaria	Henry Choong	Tissue	BOL	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-089	NA097-089-02-A-NOAA		branch of hydroids	Cnidaria	Hydrozoa	Lafoeidae	Zygophylax	convallaria	Henry Choong	Tissue	NOAA	H1687	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19973062	NA097-089	NA097-089-02.1-G-RBCM	018-00925-002	rest of hydroids	Cnidaria	Hydrozoa	Lafoeidae	Zygophylax	convallaria	Henry Choong	Specimen	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-089	NA097-089-	018-00925-005	rest of hydroids	Cnidaria	Hydrozoa	Sertularidae	Thuiaria	geniculata	Henry Choong	Specimen	RBCM	H1687	Sgaan Kinghlas-

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		02.2-G-RBCM												Bowie Seamount
	NA097-089	NA097-089-03-01.1-G-RBCM	018-00925-003"A"	tiny round sponges	Porifera	Demospongiae	Polymastiidae	Sphaerotylus	capitatus	Bruce Ott	Specimen	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-089	NA097-089-03-01.1-G-RBCM	018-00925-003"B"	tiny round sponges	Porifera	Demospongiae	Polymastiidae	Radiella	sp.	Bruce Ott				
	NA097-089	NA097-089-03-01.2-G-RBCM	018-00925-006	tiny round sponges	Porifera	Demospongiae	Polymastiidae	Radiella	sp. nov.	Bruce Ott	Specimen	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-089	NA097-089-03-02-G-RBCM		tiny round sponges	Porifera	Demospongiae	Tetillidae	Craniella	sp. nov.	Bruce Ott	Specimen	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-089	NA097-089-04-E-RBCM		rock with a sponge+tunicate+unknown white organism	Porifera	Unknown					Specimen	MISSING	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-089	NA097-089-05-G-RBCM	018-00925-004	brittle star with small rocks	Echinodermata	Ophiuroidea					Specimen	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-091	NA097-091-01-A-BOL		snip of crinoid	Echinodermata	Crinoidea	Antedonidae	Florometra	asperrima	Philip Lambert	Tissue	BOL	H1687	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19973412	NA097-091	NA097-091-01-G-RBCM	018-00926-001	rest of crinoid	Echinodermata	Crinoidea	Antedonidae	Florometra	asperrima	Philip Lambert	Specimen	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-092	NA097-092-01-A-BOL		branch of crinoid	Echinodermata	Crinoidea	Antedonidae	Florometra	serratissima	Katie Gale	Tissue	BOL	H1687	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19974936	NA097-092	NA097-092-01-G-RBCM	018-00927-001	rest of crinoid	Echinodermata	Crinoidea	Antedonidae	Florometra	serratissima	Katie Gale	Specimen	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount

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	NA097-092	NA097-092-02-G-RBCM	018-00927-002	brittle star	Echinodermata	Ophiuroidea	Ophiacanthidae	Ophiacantha	rhachophora	Philip Lambert	Specimen	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-093	NA097-093-01-A-BOL		branch of coral	Cnidaria	Octocorallia	Primnoidae	Primnoa	pacifica	Merlin Best	Tissue	BOL	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-093	NA097-093-01-A-NOAA		branch of coral	Cnidaria	Octocorallia	Primnoidae	Primnoa	pacifica	Merlin Best	Tissue	NOAA	H1687	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19977468	NA097-093	NA097-093-01-E-EE		almost half a piece of the coral	Cnidaria	Octocorallia	Primnoidae	Primnoa	pacifica	Merlin Best	Tissue	EE (Evan Edinger)	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-093	NA097-093-01-E-RBCM		other half	Cnidaria	Octocorallia	Primnoidae	Primnoa	pacifica	Merlin Best	Specimen	MISSING	H1687	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19977753	NA097-093	NA097-093-02-G-RBCM	018-00928-002	brittle star #1	Echinodermata	Ophiuroidea	Ophiactidae	Ophiopholis	bakeri	Philip Lambert	Specimen	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/19978046	NA097-093	NA097-093-03-G-RBCM	018-00928-003	brittle star #2	Echinodermata	Ophiuroidea	Ophiactidae	Ophiopholis	longispina	Philip Lambert	Specimen	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-096	NA097-096-01-A-BOL		snip of coral	Cnidaria	Anthozoa	Paragorgiidae	Paragorgia	cf. jamesi	Merlin Best	Tissue	BOL	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-096	NA097-096-01-A-NOAA		snip of coral	Cnidaria	Anthozoa	Paragorgiidae	Paragorgia	cf. jamesi	Merlin Best	Tissue	NOAA	H1687	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/20014111	NA097-096	NA097-096-01-G-RBCM	018-00929-001	rest of coral	Cnidaria	Anthozoa	Paragorgiidae	Paragorgia	cf. jamesi	Merlin Best	Specimen	RBCM	H1687	Sgaan Kinghlas-Bowie Seamount
	NA097-099	NA097-099-01-A-BOL		snip of sea pen polyps	Cnidaria	Pennatulacea	Halipteridae	Halipteris	californica	Merlin Best	Tissue	BOL	H1688	Sgaan Kinghlas-Bowie Seamount

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	NA097-099	NA097-099-01-A-NOAA		snip of sea pen polyps	Cnidaria	Pennatulacea	Halipteridae	Halipteris	californica	Merlin Best	Tissue	NOAA	H1688	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/20014339	NA097-099	NA097-099-01-G-RBCM	018-00930-001	rest of sea pen	Cnidaria	Pennatulacea	Halipteridae	Halipteris	californica	Merlin Best	Specimen	RBCM	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-100	NA097-100-01-A-BOL		snip of zooanthid polyps	Cnidaria	Alcyonacea	Clavulariidae			BOLD Match	Tissue	BOL	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-100	NA097-100-01-A-NOAA		snip of zooanthid polyps	Cnidaria	Alcyonacea	Clavulariidae			BOLD Match	Tissue	NOAA	H1688	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/20014589	NA097-100	NA097-100-01-G-RBCM	018-00931-001	rest of zooanthids together with rock	Cnidaria	Alcyonacea	Clavulariidae			BOLD Match	Specimen	RBCM	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-100	NA097-100-02-G-RBCM	018-00931-002	brittle stars(x3)	Echinodermata	Ophiuroidea	Ophiacanthidae	Ophiacantha	rhachophora	Philip Lambert	Specimen	RBCM	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-100	NA097-100-03.1-G-RBCM	018-00931-003	polychaeta worms (x2)	Annelida	Polychaeta	Eunicidae	Eunice	sp.	Biologica	Specimen	RBCM	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-100	NA097-100-03.2-G-RBCM	018-00931-006	polychaeta worms (x2)	Annelida	Polychaeta	Polynoidae	Harmothoe	sp.	Biologica	Specimen	RBCM	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-100	NA097-100-04-G-RBCM	018-00931-004	tiny sponge	Porifera	Demospongiae	Polymastiidae	Radiella	sp.	Bruce Ott	Specimen	RBCM	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-100	NA097-100-05-G-RBCM	018-00931-005	polychaeta structures?	Annelida	Polychaeta	Sabellidae			Biologica	Specimen	RBCM	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-101	NA097-101-01-A-BOL		snip of Swiftia	Cnidaria	Octocorallia	Plexauridae	Swiftia	simplex	Cherisse Du Preez	Tissue	BOL	H1688	Sgaan Kinghlas-Bowie Seamount

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	NA097-101	NA097-101-01-A-NOAA		snip of Swiftia	Cnidaria	Octocorallia	Plexauridae	Swiftia	simplex	Cherisse Du Preez	Tissue	NOAA	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-101	NA097-101-01-G-RBCM	018-00932-001	rest of Swiftia	Cnidaria	Octocorallia	Plexauridae	Swiftia	simplex	Cherisse Du Preez	Specimen	RBCM	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-101	NA097-101-02-G-RBCM	018-00932-002	brittle star	Echinodermata	Ophiuroidea	Ophiacanthidae	Ophiacantha	bathybia	Philip Lambert	Specimen	RBCM	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-102	NA097-102-01-A-BOL		snip of black coral	Cnidaria	Antipatharia	Antipathidae	Bathypathes	cf. patula	Merlin Best	Tissue	BOL	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-102	NA097-102-01-A-NOAA		snip of black coral	Cnidaria	Antipatharia	Antipathidae	Bathypathes	cf. patula	Merlin Best	Tissue	NOAA	H1688	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/20019108	NA097-102	NA097-102-01-G-RBCM	018-00933-001	rest of black coral	Cnidaria	Antipatharia	Antipathidae	Bathypathes	cf. patula	Merlin Best	Specimen	RBCM	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-104	NA097-104-01-A-BOL		snip of coral	Cnidaria	Antipatharia	Schizopathidae	Lillipathes	cf. wingi	Merlin Best	Tissue	BOL	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-104	NA097-104-01-A-NOAA		snip of coral	Cnidaria	Antipatharia	Schizopathidae	Lillipathes	cf. wingi	Merlin Best	Tissue	NOAA	H1688	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/20019385	NA097-104	NA097-104-01-G-RBCM	018-00934-001	rest of coral	Cnidaria	Antipatharia	Schizopathidae	Lillipathes	cf. wingi	Merlin Best	Specimen	RBCM	H1688	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/20019881	NA097-104	NA097-104-02-G-RBCM	018-00934-002	brittle star	Echinodermata	Ophiuroidea	Asteronychidae	Asteronyx	loveni	Philip Lambert	Specimen	RBCM	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-105	NA097-105-01-A-BOL		snip of bamboo coral	Cnidaria	Octocorallia	Isididae	Isidella	tentaculum	Merlin Best	Tissue	BOL	H1688	Sgaan Kinghlas-Bowie Seamount

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	NA097-105	NA097-105-01-A-NOAA		snip of bamboo coral	Cnidaria	Octocorallia	Isididae	Isidella	tentaculum	Merlin Best	Tissue	NOAA	H1688	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/20020615	NA097-105	NA097-105-01-G-RBCM	018-00935-001	rest of bamboo coral	Cnidaria	Octocorallia	Isididae	Isidella	tentaculum	Merlin Best	Specimen	RBCM	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-107	NA097-107-01-A-BOL		snip of bamboo coral	Cnidaria	Octocorallia	Isididae			Cherisse Du Preez	Tissue	BOL	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-107	NA097-107-01-A-NOAA		snip of bamboo coral	Cnidaria	Octocorallia	Isididae			Cherisse Du Preez	Tissue	NOAA	H1688	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/20020816	NA097-107	NA097-107-01-G-RBCM	018-00936-001	rest of coral	Cnidaria	Octocorallia	Isididae			Cherisse Du Preez	Specimen	RBCM	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-108	NA097-108-01-A-BOL		snip of seapen	Cnidaria	Octocorallia	Halipteridae	Halipteris	californica	Merlin Best	Tissue	BOL	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-108	NA097-108-01-A-NOAA		snip of seapen	Cnidaria	Octocorallia	Halipteridae	Halipteris	californica	Merlin Best	Tissue	NOAA	H1688	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/20140206	NA097-108	NA097-108-01-G-RBCM	018-00937-001	rest of seapen	Cnidaria	Octocorallia	Halipteridae	Halipteris	californica	Merlin Best	Specimen	RBCM	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-110	NA097-110-01-A-BOL		snip of an arm	Echinodermata	Asteroidea	Benthopectinidae	Nearchaster	aciculosus	Philip Lambert	Tissue	BOL	H1688	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/20140874	NA097-110	NA097-110-01-G-RBCM	018-00938-001	rest of sea star	Echinodermata	Asteroidea	Benthopectinidae	Nearchaster	aciculosus	Philip Lambert	Specimen	RBCM	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-111	NA097-111-01-A-BOL		snip of sole tissue	Chordata	Pisces	Pleuronectidae	Embassichthys	bathybius	BOLD	Tissue	BOL	H1688	Sgaan Kinghlas-Bowie Seamount

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	NA097-111	NA097-111-01-G-RBCM		sole	Chordata	Pisces	Pleuronectidae	Embassichthys	bathybius	BOLD	Specimen	MISSING	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-112	NA097-112-01-A-BOL		snip of gastropod tissue	Mollusca	Gastropoda	Cymatiidae	Fusitriton	oregonensis	Heidi Gartner	Tissue	BOL	H1688	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/20163736	NA097-112	NA097-112-01-G-RBCM	018-00939-001	gastropod	Mollusca	Gastropoda	Cymatiidae	Fusitriton	oregonensis	Heidi Gartner	Specimen	RBCM	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-113	NA097-113-01-A-BOL		one cheliped of squat lobster	Arthropoda	Decapoda	Munididae	Munida	quadrispina	Tammy Norgard	Tissue	BOL	H1688	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/20164060	NA097-113	NA097-113-01-G-RBCM	018-00940-001	rest of squat lobsters	Arthropoda	Decapoda	Munididae	Munida	quadrispina	Tammy Norgard	Specimen	RBCM	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-114	NA097-114-01-A-BOL		snip of bamboo coral	Cnidaria	Octocorallia	Primnoidae	Primnoa	pacifica	Merlin Best	Tissue	BOL	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-114	NA097-114-01-A-NOAA		snip of bamboo coral	Cnidaria	Octocorallia	Primnoidae	Primnoa	pacifica	NOAA Genetics	Tissue	NOAA	H1688	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/20164445	NA097-114	NA097-114-01-G-RBCM	018-00941-001	rest of bamboo coral	Cnidaria	Octocorallia	Primnoidae	Primnoa	pacifica	Merlin Best	Specimen	RBCM	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-116	NA097-116-01-A-BOL		snip of primnoa polyp	Cnidaria	Octocorallia	Primnoidae	Primnoa	pacifica	Cherisse Du Preez	Tissue	BOL	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-116	NA097-116-01-A-NOAA		snip of primnoa polyp	Cnidaria	Octocorallia	Primnoidae	Primnoa	pacifica	Cherisse Du Preez	Tissue	NOAA	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-116	NA097-116-01-E-EE		couple of the primnoa branches	Cnidaria	Octocorallia	Primnoidae	Primnoa	pacifica	Cherisse Du Preez	Tissue	EE (Evan Edinger)	H1688	Sgaan Kinghlas-Bowie Seamount

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https://www.inaturalist.org/observations/20164785	NA097-116	NA097-116-01-E-RBCM	018-00942-001	rest of the primnoa branches	Cnidaria	Octocorallia	Primnoidae	Primnoa	pacifica	Cherisse Du Preez	Specimen	RBCM	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-117	NA097-117-01-A-BOL		snip of primnoa polyp	Cnidaria	Octocorallia	Primnoidae	Primnoa	pacifica	Cherisse Du Preez	Tissue	BOL	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-117	NA097-117-01-A-NOAA		snip of primnoa polyp	Cnidaria	Octocorallia	Primnoidae	Primnoa	pacifica	Cherisse Du Preez	Tissue	NOAA	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-117	NA097-117-01-E-EE		couple of the primnoa branches	Cnidaria	Octocorallia	Primnoidae	Primnoa	pacifica	Cherisse Du Preez	Tissue	EE (Evan Edinger)	H1688	Sgaan Kinghlas-Bowie Seamount
https://www.inaturalist.org/observations/20165703	NA097-117	NA097-117-01-G-RBCM	018-00943-001	rest of the primnoa branches	Cnidaria	Octocorallia	Primnoidae	Primnoa	pacifica	Cherisse Du Preez	Specimen	RBCM	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-120/121	NA097-120/121-01-G-RBCM	018-00944-001	brittle stars (x6)	Echinodermata	Ophiuroidea	Ophiactidae	Ophiopholis	bakeri	Philip Lambert	Specimen	RBCM	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-120/121	NA097-120/121-02-G-RBCM	018-00944-002	gastropod	Mollusca	Gastropoda	Muricidae	Scabrotrophon	lasius	Melissa Frey	Specimen	RBCM	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-120	NA097-120-01-E-EE		whole skeleton	Cnidaria	Octocorallia	Primnoidae	Primnoa	pacifica		Specimen	EE (Evan Edinger)	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-121	NA097-121-01-E-EE		whole skeleton	Cnidaria	Octocorallia	Primnoidae	Primnoa	pacifica		Specimen	EE (Evan Edinger)	H1688	Sgaan Kinghlas-Bowie Seamount
	NA097-132	NA097-132-01-A-BOL		snip of one of the polychaete (x3)	Annelida	Polychaeta					Tissue	BOL	H1689	Davidson/Pierce Seamount
https://www.inaturalist.org/observations/20166562	NA097-132	NA097-132-01-G-RBCM	018-00945-001	rest of polychaetes	Annelida	Polychaeta	Acrocirridae			Biologica	Specimen	RBCM	H1689	Davidson/Pierce Seamount

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https://www.inaturalist.org/observations/20166925	NA097-132	NA097-132-02-G-RBCM	018-00945-002	sponge	Porifera	Demospongiae	Hadromerida (Order)			Henry Reiswig	Specimen	RBCM	H1689	Davidson/Pierce Seamount
https://www.inaturalist.org/observations/20166562	NA097-132	NA097-132-03-G-RBCM	018-00945-003	worm	Mollusca	Mollusca	Solenogastres (Class)			Biologica	Specimen	RBCM	H1689	Davidson/Pierce Seamount
	NA097-133	NA097-133-01-A-BOL		snip of bivalve tissue	Mollusca	Bivalvia	Limidae	Acesta	mori	Hugh MacIntosh	Tissue	BOL	H1689	Davidson/Pierce Seamount
https://www.inaturalist.org/observations/20167360	NA097-133	NA097-133-01-G-RBCM	018-00946-001	rest of bivalve	Mollusca	Bivalvia	Limidae	Acesta	mori	Hugh MacIntosh	Specimen	RBCM	H1689	Davidson/Pierce Seamount
	NA097-133	NA097-133-02-G-RBCM	018-00946-002	brittle star	Echinodermata	Ophiuroidea	Ophiacanthidae	Ophiacantha	eurypoma	Philip Lambert	Specimen	RBCM	H1689	Davidson/Pierce Seamount
	NA097-133	NA097-133-03-G-RBCM	018-00946-003	Hydroid & small coral?	Cnidaria	Hydrozoa	Lafoeidae	Lafoea	cf. dumosa	Henry Choong	Specimen	RBCM	H1689	Davidson/Pierce Seamount
	NA097-133	NA097-133-04-G-RBCM	018-00946-004	rock	Bryozoa	Bryozoa	Teuchoporidae	Lagenicella	sp.	Heidi Gartner	Specimen	RBCM	H1689	Davidson/Pierce Seamount
	NA097-134	NA097-134-01-A-BOL		snip of coral	Cnidaria	Octocorallia	Paragorgiidae	Paragorgia	sp.	BOLD	Tissue	BOL	H1689	Davidson/Pierce Seamount
	NA097-134	NA097-134-01-A-NOAA		snip of coral	Cnidaria	Octocorallia	Paragorgiidae	Paragorgia	sp.	Merlin Best & BOLD	Tissue	NOAA	H1689	Davidson/Pierce Seamount
https://www.inaturalist.org/observations/20167783	NA097-134	NA097-134-01-G-RBCM	018-00947-001	rest of coral	Cnidaria	Octocorallia	Paragorgiidae	Paragorgia	sp.	Merlin Best & BOLD	Specimen	RBCM	H1689	Davidson/Pierce Seamount
	NA097-136	NA097-136-01-A-BOL		snip of vase sponge	Porifera	Hexactinellida	Sceptrulophora incertae sedis	Homoieuretee	n. sp. 1	Henry Reiswig	Tissue	BOL	H1689	Davidson/Pierce Seamount
	NA097-136	NA097-136-01-		snip of vase sponge	Porifera	Hexactinellida	Sceptrulophora	Homoieuretee	n. sp. 1	Henry Reiswig	Tissue	NOAA	H1689	Davidson/Pierce Seamount

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		A-NOAA					incertae sedis							
https://www.inaturalist.org/observations/20168271	NA097-136	NA097-136-01-G-RBCM	018-00948-001	rest of vase sponge	Porifera	Hexactinellida	Sceptrulophora incertae sedis	Homoieuretе	n. sp. 1	Henry Reiswig	Specimen	RBCM	H1689	Davidson/Pierce Seamount
https://www.inaturalist.org/observations/20168747	NA097-136	NA097-136-02-G-RBCM	018-00948-002	scale worm	Annelida	Polychaeta	Polynoidae	Harmothoe	sp.	Biologica	Specimen	RBCM	H1689	Davidson/Pierce Seamount
https://www.inaturalist.org/observations/20208601	NA097-136	NA097-136-03-G-RBCM	018-00948-003	snails (x3)	Mollusca	Gastropoda	Peltospiridae	cf. Depressigyra	globulus	Melissa Frey	Specimen	RBCM	H1689	Davidson/Pierce Seamount
	NA097-137	NA097-137-01-A-BOL		snip of a leg of squat lobster	Arthropoda	Decapoda	Munidopsidae	Munidopsis	sp.	Heidi Gartner	Tissue	BOL	H1689	Davidson/Pierce Seamount
https://www.inaturalist.org/observations/20350864	NA097-137	NA097-137-01-G-RBCM	018-00949-001	rest of squat lobsters	Arthropoda	Decapoda	Munidopsidae	Munidopsis	sp.	Heidi Gartner	Specimen	RBCM	H1689	Davidson/Pierce Seamount
	NA097-138	NA097-138-01-A-BOL		snip of parchment worm	Annelida	Polychaeta	Chaetopteridae	Chaetopterus		Katie Gale	Tissue	BOL	H1689	Davidson/Pierce Seamount
https://www.inaturalist.org/observations/20351477	NA097-138	NA097-138-01-G-RBCM	018-00950-001	rest of parchment worm	Annelida	Polychaeta	Chaetopteridae	Chaetopterus		Katie Gale	Specimen	RBCM	H1689	Davidson/Pierce Seamount
	NA097-138	NA097-138-02-G-RBCM	018-00950-001	tubing of the worm	Annelida	Polychaeta	Chaetopteridae	Chaetopterus		Katie Gale	Specimen	RBCM	H1689	Davidson/Pierce Seamount
https://www.inaturalist.org/observations/22668471	NA097-138	NA097-138-03.1-G-RBCM	018-00950-002	brittle stars (x21) + polychaeta	Echinodermata	Ophiuroidea	Ophiacanthidae	Ophiacantha		Philip Lambert	Specimen	RBCM	H1689	Davidson/Pierce Seamount
	NA097-138	NA097-138-03.2-G-RBCM	018-00950-006		Echinodermata	Ophiuroidea	Ophiacanthidae	Ophiacantha	rhachophora	Philip Lambert	Specimen	RBCM	H1689	Davidson/Pierce Seamount
	NA097-138	NA097-138-04-G-RBCM	018-00950-003	worm (associate, fan only)	Annelida	Polychaeta	Sabellidae			Biologica	Specimen	RBCM	H1689	Davidson/Pierce Seamount

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	NA097-138	NA097-138-05-G-RBCM	018-00950-004	copepod	Arthropoda	Copepoda	Calanidae	Neocalanus	cristatus	Biologica	Specimen	RBCM	H1689	Davidson/Pierce Seamount
	NA097-138	NA097-138-06-G-RBCM	018-00950-005	amphipod	Arthropoda	Amphipoda	Munnopsidae	Eurycope	sp.	Biologica	Specimen	RBCM	H1689	Davidson/Pierce Seamount
	NA097-139	NA097-139-01-A-BOL		snip of a leg of the crab	Arthropoda	Decapoda	Chirostylidae	Sternostylus	iaspis	Heidi Gartner	Tissue	BOL	H1689	Davidson/Pierce Seamount
https://www.inaturalist.org/observations/20351743	NA097-139	NA097-139-01-G-RBCM	018-00951-001	rest of crab	Arthropoda	Decapoda	Chirostylidae	Sternostylus	iaspis	Heidi Gartner	Specimen	RBCM	H1689	Davidson/Pierce Seamount
	NA097-140	NA097-140-01-A-BOL		snip of nudibranch tissue	Mollusca	Gastropoda	Pleurobranchidae	Berthella	californica	Melissa Frey	Tissue	BOL	H1689	Davidson/Pierce Seamount
https://www.inaturalist.org/observations/20352526	NA097-140	NA097-140-01-G-RBCM	018-00952-001	rest of nudibranch	Mollusca	Gastropoda	Pleurobranchidae	Berthella	californica	Melissa Frey	Specimen	RBCM	H1689	Davidson/Pierce Seamount
	NA097-140	NA097-140-02-A-BOL		snip of sponge	Porifera	Demospongiae	Hadromerida (Order)			Henry Reiswig	Tissue	BOL	H1689	Davidson/Pierce Seamount
	NA097-140	NA097-140-02-G-RBCM	018-00952-002	rest of sponge	Porifera	Demospongiae	Hadromerida (Order)			Henry Reiswig	Specimen	RBCM	H1689	Davidson/Pierce Seamount
	NA097-142	NA097-142-01-A-BOL		snip of tunicate	Chordata	Ascidiacea	Octacnemidae	Megalodicopia	hians	Tammy Norgard	Tissue	BOL	H1689	Davidson/Pierce Seamount
https://www.inaturalist.org/observations/20352761	NA097-142	NA097-142-01-G-RBCM	018-00953-001	rest of tunicate	Chordata	Ascidiacea	Octacnemidae	Megalodicopia	hians	Tammy Norgard	Specimen	RBCM	H1689	Davidson/Pierce Seamount
https://www.inaturalist.org/observations/20352891	NA097-142	NA097-142-02-G-RBCM	018-00953-002	brittle star	Echinodermata	Ophiuroidea	Ophiuridae	Ophiura	sarsii	Philip Lambert	Specimen	RBCM	H1689	Davidson/Pierce Seamount
https://www.inaturalist.org/observations/20467015	NA097-142	NA097-142-03-G-RBCM	018-00953-003	polychaeta	Annelida	Polychaeta	Macellicephalinae (Subfamily)			Biologica	Specimen	RBCM	H1689	Davidson/Pierce Seamount

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	NA097-143	NA097-143-01-A-BOL		snip of seastar arm	Echinodermata	Asteroidea	Goniasteridae	Mediaster	tenellus	Philip Lambert	Tissue	BOL	H1689	Davidson/Pierce Seamount
https://www.inaturalist.org/observations/20467452	NA097-143	NA097-143-01-G-RBCM	018-00954-001	rest of seastar	Echinodermata	Asteroidea	Goniasteridae	Mediaster	tenellus	Philip Lambert	Specimen	RBCM	H1689	Davidson/Pierce Seamount
	NA097-144	NA097-144-01-A-BOL		ip of snail tissue	Mollusca	Gastropoda	Buccinidae	Neptunea	pribilofensis	Heidi Gartner	Tissue	BOL	H1689	Davidson/Pierce Seamount
https://www.inaturalist.org/observations/20468096	NA097-144	NA097-144-01-G-RBCM	018-00955-001	rest of snail	Mollusca	Gastropoda	Buccinidae	Neptunea	pribilofensis	Heidi Gartner	Specimen	RBCM	H1689	Davidson/Pierce Seamount
	NA097-154	NA097-154-01-A-BOL		snip of sea cucumber	Echinodermata	Holothuroidea	Synallactidae	Pseudostichopus	mollis	Philip Lambert	Tissue	BOL	H1690	Dellwood South Seamount
https://www.inaturalist.org/observations/20468892	NA097-154	NA097-154-01-G-RBCM	018-00956-001	rest of sea cucumber	Echinodermata	Holothuroidea	Synallactidae	Pseudostichopus	mollis	Philip Lambert	Specimen	RBCM	H1690	Dellwood South Seamount
https://www.inaturalist.org/observations/20469404	NA097-154	NA097-154-02-G-RBCM	018-00956-002	brittle star	Echinodermata	Ophiuroidea	Ophiacanthidae	Ophiacantha	normani	Philip Lambert	Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-155	NA097-155-01-A-BOL		snip of coral	Cnidaria	Octocorallia	Primnoidae	Callogorgia	sp.	Merlin Best	Tissue	BOL	H1690	Dellwood South Seamount
	NA097-155	NA097-155-01-A-NOAA		snip of coral	Cnidaria	Octocorallia	Primnoidae	Callogorgia	sp.	Merlin Best	Tissue	NOAA	H1690	Dellwood South Seamount
https://www.inaturalist.org/observations/20469809	NA097-155	NA097-155-01-G-RBCM	018-00957-001	rest of coral	Cnidaria	Octocorallia	Primnoidae	Callogorgia	sp.	Merlin Best	Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-155	NA097-155-02-G-RBCM	018-00957-002	hydroids	Cnidaria	Hydrozoa	Lafoeidae	Lafoea	gracillima	Henry Choong	Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-155	NA097-155-03.1-G-RBCM	018-00957-003	polychaeta (x2)	Annelida	Polychaeta	Nereididae			Biologica	Specimen	RBCM	H1690	Dellwood South Seamount

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	NA097-155	NA097-155-03.2-G-RBCM	018-00957-012	polychaeta (x2)	Annelida	Polychaeta	Terebellidae			Biologica	Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-155	NA097-155-04-A-BOL		2 arms of brittle star #1	Echinodermata	Ophiuroidea	Asteronychidae	Asterosche ma	sublaeve	Philip Lambert	Tissue	BOL	H1690	Dellwood South Seamount
https://www.inaturalist.org/observations/20492479	NA097-155	NA097-155-04-G-RBCM	018-00957-004	brittle star #1	Echinodermata	Ophiuroidea	Asteronychidae	Asterosche ma	sublaeve	Philip Lambert	Specimen	RBCM	H1690	Dellwood South Seamount
https://www.inaturalist.org/observations/20498988	NA097-155	NA097-155-05-G-RBCM	018-00957-005	worm	Nemertea	Nemertea			sublaeve		Specimen	RBCM	H1690	Dellwood South Seamount
https://www.inaturalist.org/observations/20499574	NA097-155	NA097-155-06-G-RBCM	018-00957-006	limpet	Mollusca	Gastropoda	Neolepetopsidae	cf. Paralepetopsis	tunnicliffae	Melissa Frey	Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-155	NA097-155-07.1-G-RBCM	018-00957-007	brittle stars #2	Echinodermata	Ophiuroidea	Ophiacanthidae	Ophiacantha	sp.		Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-155	NA097-155-07.2-G-RBCM	018-00957-011	brittle stars #2	Echinodermata	Ophiuroidea	Ophiuridae	Ophiura	leptoctenia	Philip Lambert	Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-155	NA097-155-08-G-RBCM	018-00957-008	tube worms	Annelida	Polychaeta					Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-155	NA097-155-09-G-RBCM	018-00957-009	scale worm	Annelida	Polychaeta	Polynoidae	Harmothoe	sp.	Biologica	Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-155	NA097-155-10-E-RBCM	018-00957-010	rock	Arthropoda	Cirripedia					Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-156	NA097-156-01-A-BOL		snip of cup coral	Cnidaria	Scleractinia	Flabellidae			BOLD Match	Tissue	BOL	H1690	Dellwood South Seamount
	NA097-156	NA097-156-01-		snip of cup coral	Cnidaria	Scleractinia	Flabellidae			BOLD Match	Tissue	NOAA	H1690	Dellwood South Seamount

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		A-NOAA												
https://www.inaturalist.org/observations/20790578	NA097-156	NA097-156-01-G-RBCM	018-00958-001	rest of coral	Cnidaria	Scleractinia	Flabellidae			BOLD Match	Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-157	NA097-157-01-A-BOL		snip of bamboo coral	Cnidaria	Octocorallia	Isididae	Keratoisis	sp.	Merlin Best	Tissue	BOL	H1690	Dellwood South Seamount
	NA097-157	NA097-157-01-A-NOAA		snip of bamboo coral	Cnidaria	Octocorallia	Isididae	Keratoisis	sp.	Merlin Best	Tissue	NOAA	H1690	Dellwood South Seamount
https://www.inaturalist.org/observations/20790840	NA097-157	NA097-157-01-G-RBCM	018-00959-001	rest of bamboo coral	Cnidaria	Octocorallia	Isididae	Keratoisis	sp.	Merlin Best	Specimen	RBCM	H1690	Dellwood South Seamount
https://www.inaturalist.org/observations/20791191	NA097-157	NA097-157-02-G-RBCM	018-00959-002	gastropod	Mollusca	Gastropoda	Peltospiridae	cf. Depressigyra	globulus	Melissa Frey	Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-157	NA097-157-03-G-RBCM	018-00959-003	aplacophoran	Nemertea	Nemertea				Biologica	Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-159	NA097-159-01-A-BOL		snip of glass sponge	Porifera	Hexactinellida	Tretodictyidae	Tretodictyum	n. sp. A.	Henry Reiswig	Tissue	BOL	H1690	Dellwood South Seamount
	NA097-159	NA097-159-01-A-NOAA		snip of glass sponge	Porifera	Hexactinellida	Tretodictyidae	Tretodictyum	n. sp. A.	Henry Reiswig	Tissue	NOAA	H1690	Dellwood South Seamount
https://www.inaturalist.org/observations/20791390	NA097-159	NA097-159-01-E-RBCM	018-00960-001	rest of glass sponge	Porifera	Hexactinellida	Tretodictyidae	Tretodictyum	n. sp. A.	Henry Reiswig	Specimen	RBCM	H1690	Dellwood South Seamount
https://www.inaturalist.org/observations/20791897	NA097-159	NA097-159-02-G-RBCM	018-00960-002	Worm #1	Mollusca	Mollusca	Pruvotinidae			Biologica	Specimen	RBCM	H1690	Dellwood South Seamount
https://www.inaturalist.org/observations/20791594	NA097-159	NA097-159-03-G-RBCM	018-00960-003	Worm #2	Nemertea	Nemertea					Specimen	RBCM	H1690	Dellwood South Seamount

iNaturalist page	Event Log ID	Wet Lab Sample ID	RBCM Catalogue #	WetLab Description – Subsample	Phylum	Major Group	Family	Genus	Species	Identifier	Sample Nature	Current location	Dive ID	Location Name
	NA097-159	NA097-159-04-G-RBCM	018-00960-004	brittle star (x3)	Echinodermata	Ophiuroidea					Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-160	NA097-160-01-A-BOL		snip of sea pen	Cnidaria	Octocorallia	Anthoptilidae	Anthoptilum	grandiflorum	Merlin Best	Tissue	BOL	H1690	Dellwood South Seamount
	NA097-160	NA097-160-01-A-NOAA		snip of sea pen	Cnidaria	Octocorallia	Anthoptilidae	Anthoptilum	grandiflorum	Merlin Best	Tissue	NOAA	H1690	Dellwood South Seamount
https://www.inaturalist.org/observations/20792270	NA097-160	NA097-160-01-G-RBCM	018-00961-001	rest of sea pen	Cnidaria	Octocorallia	Anthoptilidae	Anthoptilum	grandiflorum	Merlin Best	Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-161	NA097-161-01-A-BOL		snip of sponge	Porifera	Hexactinellida	Euretidae	Chonelasma	oreia	Henry Reiswig	Tissue	BOL	H1690	Dellwood South Seamount
	NA097-161	NA097-161-01-A-NOAA		snip of sponge	Porifera	Hexactinellida	Euretidae	Chonelasma	oreia	Henry Reiswig	Tissue	NOAA	H1690	Dellwood South Seamount
https://www.inaturalist.org/observations/20792443	NA097-161	NA097-161-01-G-RBCM	018-00962-001	rest of sponge	Porifera	Hexactinellida	Euretidae	Chonelasma	oreia	Henry Reiswig	Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-162/163/170	NA097-162/163/170.1-G-RBCM	018-00965-001	miscellaneous animals and rock	Porifera	Hexactinellida					Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-162/163/170	NA097-162/163/170.2-G-RBCM	018-00965-002	miscellaneous animals and rock	Annelida	Polychaeta	Sabellidae			Biologica	Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-162/163/170	NA097-162/163/170.3-G-RBCM	018-00965-003	miscellaneous animals and rock	Bryozoa	Bryozoa	Candidae	Cradoscrupocellaria	cf. tenuirostris	Heidi Gartner	Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-162/163/170	NA097-162/163/170.4-	018-00965-004	miscellaneous animals and rock	Echinodermata	Ophiuroidea	Ophiacanthidae	Ophiacantha	rhachophora	Philip Lambert	Specimen	RBCM	H1690	Dellwood South Seamount

iNaturalist page	Event Log ID	Wet Lab Sample ID	RBCM Catalogue #	WetLab Description – Subsample	Phylum	Major Group	Family	Genus	Species	Identifier	Sample Nature	Current location	Dive ID	Location Name
		G-RBCM												
	NA097-162	NA097-162-01-A-BOL		snip of soft coral	Cnidaria	Octocorallia	Nephtheidae	Gersemia	juliepackardae	Merlin Best	Tissue	BOL	H1690	Dellwood South Seamount
	NA097-162	NA097-162-01-A-NOAA		snip of soft coral	Cnidaria	Octocorallia	Nephtheidae	Gersemia	juliepackardae	NOAA results	Tissue	NOAA	H1690	Dellwood South Seamount
https://www.inaturalist.org/observations/20856675	NA097-162	NA097-162-01-G-RBCM	018-00963-001	rest of soft coral	Cnidaria	Octocorallia	Nephtheidae	Gersemia	juliepackardae	Merlin Best	Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-162	NA097-162-02-A-BOL		snip of bamboo coral	Cnidaria	Octocorallia	Isididae			Merlin Best	Tissue	BOL	H1690	Dellwood South Seamount
	NA097-162	NA097-162-02-A-NOAA		snip of bamboo coral	Cnidaria	Octocorallia	Isididae			Merlin Best	Tissue	NOAA	H1690	Dellwood South Seamount
https://www.inaturalist.org/observations/20857111	NA097-162	NA097-162-02-G-RBCM	018-00963-002	rest of bamboo coral	Cnidaria	Octocorallia	Isididae			Merlin Best	Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-162	NA097-162-03.1-G-RBCM	018-00963-003	brittle stars	Echinodermata	Ophiuroidea	Ophiacanthidae	Ophiacantha	rhachophora	Philip Lambert	Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-162	NA097-162-03.2-G-RBCM	018-00963-009	brittle stars	Echinodermata	Ophiuroidea	Ophiuridae	Ophiura	leptoctenia	Philip Lambert	Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-162	NA097-162-04-G-RBCM	018-00963-004	polychaeta	Annelida	Polychaeta	Nereididae			Biologica	Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-162	NA097-162-05.1-G-RBCM	018-00963-005	hydroids	Cnidaria	Hydrozoa	Sertulariidae	Thuiaria	geniculata	Henry Choong	Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-162	NA097-162-05.2-G-RBCM	018-00963-010	hydroids	Cnidaria	Hydrozoa	Bougainvilliidae	Bougainvillia		Henry Choong	Specimen	RBCM	H1690	Dellwood South Seamount

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	NA097-162	NA097-162-06-G-RBCM	018-00963-006	worms or eggs	Nemertea	Nemertea				Biologica	Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-162	NA097-162-07-G-RBCM	018-00963-007	large worm	Annelida	Polychaeta	Eunicidae	Eunice	sp.	Biologica	Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-162	NA097-162-08-E-RBCM	018-00963-008	rock	Annelida	Polychaeta					Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-163	NA097-163-01-A-BOL		snip of mushroom coral	Cnidaria	Octocorallia	Alcyoniidae	Anthomastus	sp.	Merlin Best & Tina Molodtsova	Tissue	BOL	H1690	Dellwood South Seamount
	NA097-163	NA097-163-01-A-NOAA		snip of mushroom coral	Cnidaria	Octocorallia	Alcyoniidae	Anthomastus	sp.	Merlin Best & Tina Molodtsova	Tissue	NOAA	H1690	Dellwood South Seamount
https://www.inaturalist.org/observations/20857476	NA097-163	NA097-163-01-G-RBCM	018-00964-001	rest of mushroom coral with rock	Cnidaria	Octocorallia	Alcyoniidae	Anthomastus	sp.	Merlin Best & Tina Molodtsova	Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-164/165	NA097-164/165-01.1-G-RBCM	018-00967-001	rest of sponge	Porifera	Demospongiae	Ancorinidae	Stelletta	n. sp. C	Bruce Ott	Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-164/165	NA097-164/165-01.2-G-RBCM	018-00967-002	rest of sponge	Annelida	Polychaeta	Polynoidae	Harmothoe	sp.	Biologica	Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-164/165	NA097-164/165-01-A-BOL		snip of sponge	Porifera	Hexactinellida					Tissue	BOL	H1690	Dellwood South Seamount
	NA097-164/165	NA097-164/165-01-A-NOAA		snip of sponge	Porifera	Hexactinellida					Tissue	NOAA	H1690	Dellwood South Seamount

iNaturalist page	Event Log ID	Wet Lab Sample ID	RBCM Catalogue #	WetLab Description – Subsample	Phylum	Major Group	Family	Genus	Species	Identifier	Sample Nature	Current location	Dive ID	Location Name
	NA097-164	NA097-164-01-A-BOL		snip of coral	Cnidaria	Octocorallia	Paragorgiidae	Paragorgia	pacifica	Merlin Best	Tissue	BOL	H1690	Dellwood South Seamount
	NA097-164	NA097-164-01-A-NOAA		snip of coral	Cnidaria	Octocorallia	Paragorgiidae	Paragorgia	pacifica	Merlin Best	Tissue	NOAA	H1690	Dellwood South Seamount
https://www.inaturalist.org/observations/20857831	NA097-164	NA097-164-01-G-RBCM	018-00966-001	rest of coral	Cnidaria	Octocorallia	Paragorgiidae	Paragorgia	pacifica	Merlin Best	Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-165	NA097-165-01-A-BOL		snip of coral	Cnidaria	Octocorallia	Acanthogorgiidae	Acanthogorgia	sp.	Merlin Best	Tissue	BOL	H1690	Dellwood South Seamount
	NA097-165	NA097-165-01-A-NOAA		snip of coral	Cnidaria	Octocorallia	Acanthogorgiidae	Acanthogorgia	sp.	Merlin Best	Tissue	NOAA	H1690	Dellwood South Seamount
https://www.inaturalist.org/observations/20858407	NA097-165	NA097-165-01-G-RBCM	018-00968-001	rest of coral	Cnidaria	Octocorallia	Acanthogorgiidae	Acanthogorgia	sp.	Merlin Best	Specimen	RBCM	H1690	Dellwood South Seamount
https://www.inaturalist.org/observations/20951256	NA097-165	NA097-165-02-G-RBCM	018-00968-002	amphipod	Arthropoda	Amphipoda	Stenothoidae			Biologica	Specimen	RBCM	H1690	Dellwood South Seamount
https://www.inaturalist.org/observations/20951449	NA097-165	NA097-165-03-G-RBCM	018-00968-003	Caprellid amphipod	Arthropoda	Amphipoda	Caprellidae	Caprella	sp.	Biologica	Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-167	NA097-167-01-A-BOL		snip of brisingid arm	Echinodermata	Asteroidea	Brisingidae	Brisinga	synaptoma	Philip Lambert	Tissue	BOL	H1690	Dellwood South Seamount
	NA097-167	NA097-167-01-G-RBCM	018-00969-001	rest of brisingid sea star	Echinodermata	Asteroidea	Brisingidae	Brisinga	synaptoma	Philip Lambert	Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-168	NA097-168-01-A-BOL		snip of black colal	Cnidaria	Antipatharia	Cladopathidae	Chrysopathes	formosa	Merlin Best	Tissue	BOL	H1690	Dellwood South Seamount
	NA097-168	NA097-168-01-A-NOAA		snip of black colal	Cnidaria	Antipatharia	Cladopathidae	Chrysopathes	formosa	Merlin Best	Tissue	NOAA	H1690	Dellwood South Seamount

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https://www.inaturalist.org/observations/20951917	NA097-168	NA097-168-01-G-RBCM	018-00970-001	rest of black coral	Cnidaria	Antipatharia	Cladopathidae	Chrysopathes	formosa	Merlin Best	Specimen	RBCM	H1690	Dellwood South Seamount
https://www.inaturalist.org/observations/20952200	NA097-169	NA097-169-01-A-BOL		snip of coral	Cnidaria	Antipatharia	Antipathidae	Stichopathes	spiessi	Merlin Best	Tissue	BOL	H1690	Dellwood South Seamount
	NA097-169	NA097-169-01-G-RBCM	018-00971-001	rest of coral	Cnidaria	Antipatharia	Antipathidae	Stichopathes	spiessi	Merlin Best	Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-170	NA097-170-01-A-BOL		snip of sponge	Porifera	Hexactinellida	Euretidae	Pinulasma	n. sp. A	Henry Reiswig	Tissue	BOL	H1690	Dellwood South Seamount
	NA097-170	NA097-170-01-A-NOAA		snip of sponge	Porifera	Hexactinellida	Euretidae	Pinulasma	n. sp. A	Henry Reiswig	Tissue	NOAA	H1690	Dellwood South Seamount
https://www.inaturalist.org/observations/20952696	NA097-170	NA097-170-01-E-RBCM	018-00972-001	rest of sponge	Porifera	Hexactinellida	Euretidae	Pinulasma	n. sp. A	Henry Reiswig	Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-170	NA097-170-02-A-BOL		one of the 5 gastropods	Mollusca	Gastropoda	Peltospiridae	cf. Depressigyra	globulus	Melissa Frey	Tissue	BOL	H1690	Dellwood South Seamount
https://www.inaturalist.org/observations/20952854	NA097-170	NA097-170-02-G-RBCM	018-00972-002	rest of the gastropods	Mollusca	Gastropoda	Peltospiridae	cf. Depressigyra	globulus	Melissa Frey	Specimen	RBCM	H1690	Dellwood South Seamount
	NA097-172	NA097-172-01-A-BOL		snip of arm of sea star #1 (smaller)	Echinodermata	Asteroidea	Goniasteridae	Hippasteria	heathi	Philip Lambert	Tissue	BOL	H1691	Explorer Seamount
https://www.inaturalist.org/observations/20953294	NA097-172	NA097-172-01-G-RBCM	018-00973-001	rest of sea star #1	Echinodermata	Asteroidea	Goniasteridae	Hippasteria	heathi	Philip Lambert	Specimen	RBCM	H1691	Explorer Seamount
	NA097-172	NA097-172-02-A-BOL		snip of arm of sea star #2 (larger)	Echinodermata	Asteroidea	Goniasteridae	Hippasteria	heathi	Philip Lambert	Tissue	BOL	H1691	Explorer Seamount
https://www.inaturalist.org/observations/20953373	NA097-172	NA097-172-02-G-RBCM	018-00973-002	rest of sea star #2	Echinodermata	Asteroidea	Goniasteridae	Hippasteria	heathi	Philip Lambert	Specimen	RBCM	H1691	Explorer Seamount

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	NA097-172	NA097-172-03-A-BOL		snip of black coral branch	Cnidaria	Octocorallia	Primnoidae	Parastenella	cf. ramosa	Merlin Best & Jim Boutilier	Tissue	BOL	H1691	Explorer Seamount
	NA097-172	NA097-172-03-A-NOAA		snip of black coral branch	Cnidaria	Octocorallia	Primnoidae	Parastenella	cf. ramosa	Merlin Best & Jim Boutilier	Tissue	NOAA	H1691	Explorer Seamount
https://www.inaturalist.org/observations/20954649	NA097-172	NA097-172-03-G-RBCM	018-00973-003	rest of black coral	Cnidaria	Octocorallia	Primnoidae	Parastenella	cf. ramosa	Merlin Best & Jim Boutilier	Specimen	RBCM	H1691	Explorer Seamount
	NA097-174	NA097-174-01-A-BOL		snip of bugle sponge	Porifera	Hexactinellida	Euretidae	Pinulasma	sp.	Henry Reiswig	Tissue	BOL	H1691	Explorer Seamount
	NA097-174	NA097-174-01-A-NOAA		snip of bugle sponge	Porifera	Hexactinellida	Euretidae	Pinulasma	sp.	Henry Reiswig	Tissue	NOAA	H1691	Explorer Seamount
https://www.inaturalist.org/observations/20955113	NA097-174	NA097-174-01-G-RBCM	018-00974-001	rest of bugle sponge	Porifera	Hexactinellida	Euretidae	Pinulasma	sp.	Henry Reiswig	Specimen	RBCM	H1691	Explorer Seamount
	NA097-175	NA097-175-01-A-BOL		snip of anemone tissue	Cnidaria	Actiniaria					Tissue	BOL	H1691	Explorer Seamount
https://www.inaturalist.org/observations/20973448	NA097-175	NA097-175-01-G-RBCM	018-00975-001	rest of anemone	Cnidaria	Actiniaria					Specimen	RBCM	H1691	Explorer Seamount
https://www.inaturalist.org/observations/20974710	NA097-175	NA097-175-02.1-G-RBCM	018-00975-002	hydroids	Cnidaria	Hydrozoa	Haleciidae	Halecium	delicatulum	Henry Choong	Specimen	RBCM	H1691	Explorer Seamount
	NA097-175	NA097-175-02.2-G-RBCM	018-00975-013	hydroids	Cnidaria	Hydrozoa	Lafoeidae	Lafoea	gracillima	Henry Choong	Specimen	RBCM	H1691	Explorer Seamount
	NA097-175	NA097-175-03-A-BOL		snip of brittle star #1	Echinodermata	Ophiuroidea	Ophiacanthidae	Ophiacantha	diplasia	Philip Lambert	Tissue	BOL	H1691	Explorer Seamount
	NA097-175	NA097-175-03-G-RBCM	018-00975-003	rest of brittle star #1	Echinodermata	Ophiuroidea	Ophiacanthidae	Ophiacantha	diplasia	Philip Lambert	Specimen	RBCM	H1691	Explorer Seamount

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	NA097-175	NA097-175-04-G-RBCM	018-00975-004	brittle star #2	Echinodermata	Ophiuroidea	Ophiacanthidae	Ophiacantha	diplasia	Philip Lambert	Specimen	RBCM	H1691	Explorer Seamount
	NA097-175	NA097-175-05-G-RBCM	018-00975-005	Sponge #1	Porifera	Demospongiae	Ancorinidae	Stelletta	n. sp. B	Bruce Ott	Specimen	RBCM	H1691	Explorer Seamount
	NA097-175	NA097-175-06-G-RBCM	018-00975-006	Sponge #2	Porifera	Demospongiae	Ancorinidae	Stelletta	n. sp. B	Bruce Ott	Specimen	RBCM	H1691	Explorer Seamount
	NA097-175	NA097-175-07-G-RBCM	018-00975-007	Sponge #3	Porifera	Hexactinellida					Specimen	RBCM	H1691	Explorer Seamount
	NA097-175	NA097-175-08-A-BOL		snip of coral polyps	Cnidaria	Anthozoa	Clavulariidae	Clavularia	sp.	Merlin Best	Tissue	BOL	H1691	Explorer Seamount
	NA097-175	NA097-175-08-A-NOAA		snip of coral polyps	Cnidaria	Anthozoa	Clavulariidae	Clavularia	sp.	Merlin Best	Tissue	NOAA	H1691	Explorer Seamount
	NA097-175	NA097-175-08-G-RBCM	018-00975-008	rest of coral polyps	Cnidaria	Anthozoa	Clavulariidae	Clavularia	sp.	Merlin Best	Specimen	RBCM	H1691	Explorer Seamount
	NA097-175	NA097-175-09-A-BOL		two of the tube worms (x6)	Annelida	Polychaeta	Serpulidae	Bathyvermilia	eliasoni	Biologica	Tissue	BOL	H1691	Explorer Seamount
	NA097-175	NA097-175-09-G-RBCM	018-00975-009	rest of tube worms	Annelida	Polychaeta	Serpulidae	Bathyvermilia	eliasoni	Biologica	Specimen	RBCM	H1691	Explorer Seamount
	NA097-175	NA097-175-10-G-RBCM	018-00975-010	polychaeta (x2)	Mollusca	Bivalvia	Pectinidae	Delectopecten	vancouverensis	Hugh MacIntosh	Specimen	RBCM	H1691	Explorer Seamount
	NA097-175	NA097-175-11-G-RBCM	018-00975-011"A"	Sponge #4	Porifera	Demospongiae	Ancorinidae	Sphaerotylus	sp.	Bruce Ott	Specimen	RBCM	H1691	Explorer Seamount
	NA097-175	NA097-175-11-	018-00975	Sponge #4	Porifera	Demospongiae	Halichondriidae	gen nov.	sp.	Bruce Ott				

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		G-RBCM	-011"B"											
	NA097-175	NA097-175-12-E-RBCM	018-00975-012	dead solidified sponge	Porifera	Hexactinellida					Specimen	RBCM	H1691	Explorer Seamount
	NA097-176	NA097-176-01-A-BOL		snip of Farrea sponge	Porifera	Hexactinellida	Farreidae	Farrea	omniclavata	Henry Reiswig	Tissue	BOL	H1691	Explorer Seamount
	NA097-176	NA097-176-01-A-NOAA		snip of Farrea sponge	Porifera	Hexactinellida	Farreidae	Farrea	omniclavata	Henry Reiswig	Tissue	NOAA	H1691	Explorer Seamount
https://www.inaturalist.org/observations/21000925	NA097-176	NA097-176-01-E-RBCM	018-00976-001	rest of Farrea sponge	Porifera	Hexactinellida	Farreidae	Farrea	omniclavata	Henry Reiswig	Specimen	RBCM	H1691	Explorer Seamount
https://www.inaturalist.org/observations/21001635	NA097-176	NA097-176-02-G-RBCM	018-00976-002	polychaeta	Annelida	Polychaeta	Polynoidae	Harmothoe	sp.	Biologica	Specimen	RBCM	H1691	Explorer Seamount
https://www.inaturalist.org/observations/21001244	NA097-176	NA097-176-03-G-RBCM	018-00976-003	brittle star (x3)	Echinodermata	Ophiuroidea	Ophiacanthidae	Ophiacantha	diplasia	Philip Lambert	Specimen	RBCM	H1691	Explorer Seamount
	NA097-176	NA097-176-04-A-BOL	isopod	Arthropoda	Isopoda	Cymothoidae				Biologica	Tissue	BOL	H1691	Explorer Seamount
https://www.inaturalist.org/observations/21002531	NA097-176	NA097-176-04-G-RBCM	018-00976-004	isopod	Arthropoda	Isopoda	Cymothoidae			Biologica	Specimen	RBCM	H1691	Explorer Seamount
https://www.inaturalist.org/observations/21002198	NA097-176	NA097-176-05-G-RBCM	018-00976-005	bivalve	Mollusca	Bivalvia	Pectinidae	Delectopecten	vancouverensis	Hugh MacIntosh	Specimen	RBCM	H1691	Explorer Seamount
	NA097-176	NA097-176-06-A-BOL		snips of polyps of Farrea sponge	Cnidaria	Anthozoa	Alcyonacea			BOLD	Tissue	BOL	H1691	Explorer Seamount
	NA097-176	NA097-176-06-G-RBCM		rest of polyps	Cnidaria	Anthozoa	Alcyonacea			BOLD	Specimen	MISSING	H1691	Explorer Seamount

iNaturalist page	Event Log ID	Wet Lab Sample ID	RBCM Catalogue #	WetLab Description – Subsample	Phylum	Major Group	Family	Genus	Species	Identifier	Sample Nature	Current location	Dive ID	Location Name
	NA097-177	NA097-177-01-A-BOL		snip of boot sponge	Porifera	Hexactinellida	Rosellidae	Rhabdocalyptus	dawsoni	Henry Reiswig	Tissue	BOL	H1691	Explorer Seamount
	NA097-177	NA097-177-01-A-NOAA		snip of boot sponge	Porifera	Hexactinellida	Rosellidae	Rhabdocalyptus	dawsoni	Henry Reiswig	Tissue	NOAA	H1691	Explorer Seamount
https://www.inaturalist.org/observations/21003408	NA097-177	NA097-177-01-G-RBCM	018-00977-001	rest of boot sponge	Porifera	Hexactinellida	Rosellidae	Rhabdocalyptus	dawsoni	Henry Reiswig	Specimen	RBCM	H1691	Explorer Seamount
https://www.inaturalist.org/observations/21003740	NA097-177	NA097-177-02-G-RBCM	018-00977-002	polychaeta (x2)	Annelida	Polychaeta	Errantia (Subclass)			Biologica	Specimen	RBCM	H1691	Explorer Seamount
	NA097-178	NA097-178-01-A-BOL		snip of boot sponge	Porifera	Hexactinellida	Rosellidae	Schaudinnia	n. sp.	Henry Reiswig	Tissue	BOL	H1691	Explorer Seamount
	NA097-178	NA097-178-01-A-NOAA		snip of boot sponge	Porifera	Hexactinellida	Rosellidae	Schaudinnia	n. sp.	Henry Reiswig	Tissue	NOAA	H1691	Explorer Seamount
https://www.inaturalist.org/observations/21003132	NA097-178	NA097-178-01-G-RBCM	018-00978-001	rest of boot sponge	Porifera	Hexactinellida	Rosellidae	Schaudinnia	n. sp.	Henry Reiswig	Specimen	RBCM	H1691	Explorer Seamount
https://www.inaturalist.org/observations/22256089	NA097-178	NA097-178-02-G-RBCM	018-00978-002	brittle star	Echinodermata	Ophiuroidea	Ophiuridae	Ophiura	leptoctenia	Philip Lambert	Specimen	RBCM	H1691	Explorer Seamount
https://www.inaturalist.org/observations/22256091	NA097-178	NA097-178-03-G-RBCM	018-00978-003		Nemertea	Nemertea	Hoplonemertea (Class)			Biologica	Specimen	RBCM	H1691	Explorer Seamount
	NA097-179	NA097-179-01-A-BOL		snip of a leg of one of the shrimps	Arthropoda	Decapoda	Thoridae	Heptacarpus	moseri	Biologica	Tissue	BOL	H1691	Explorer Seamount
https://www.inaturalist.org/observations/21004008	NA097-179	NA097-179-01-G-RBCM	018-00979-001	rest of shrimps	Arthropoda	Decapoda	Thoridae	Heptacarpus	moseri	Biologica	Specimen	RBCM	H1691	Explorer Seamount
	NA097-XX	NA097-XX-01-G-RBCM	018-00880-001	shrimps in biobox (x3)	Arthropoda	Decapoda	Thoridae	Heptacarpus	moseri	Biologica	Specimen	RBCM	H1682	Dellwood Seamount

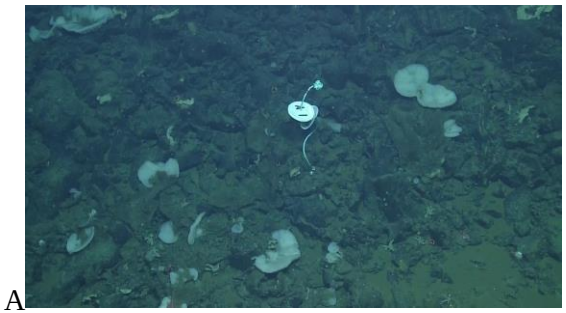
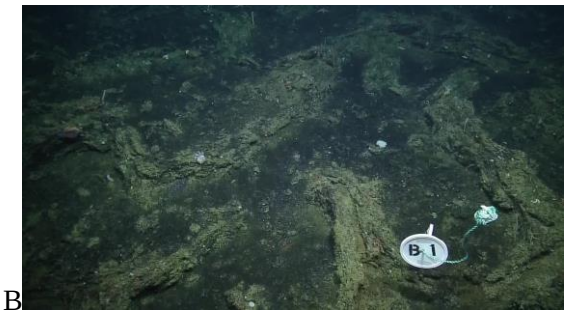
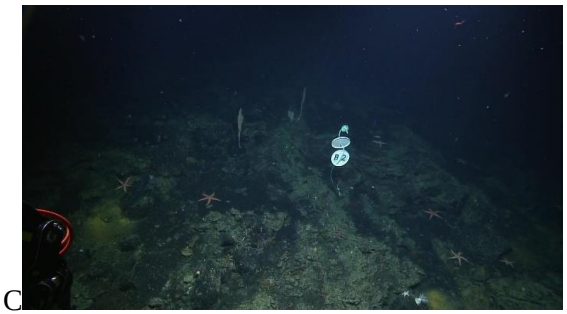
iNaturalist page	Event Log ID	Wet Lab Sample ID	RBCM Catalogue #	WetLab Description – Subsample	Phylum	Major Group	Family	Genus	Species	Identifier	Sample Nature	Current location	Dive ID	Location Name
	NA097-XX	NA097-XX-02-A-BOL		amphipods in biobox (x3)	Arthropoda	Amphipoda	Melphidippidae	Melphidippa	amorita	Biologica	Tissue	BOL	H1682	Dellwood Seamount
	NA097-XX	NA097-XX-02.1-G-RBCM	018-00880-002	amphipods in biobox (x3)	Arthropoda	Amphipoda	Melphidippidae	Melphidippa	amorita	Biologica	Specimen	RBCM	H1682	Dellwood Seamount
	NA097-XX	NA097-XX-02.2-G-RBCM	018-00880-003	amphipods in biobox (x3)	Arthropoda	Amphipoda	Melphidippidae	Melphidippa	amorita	Biologica	Specimen	RBCM	H1682	Dellwood Seamount
	NA097-052	SAME AS NA097-051		body part of sample -051	Porifera	Hexactinellida	Sceptrulophora incertae sedis	Homoieuretе		Henry Reiswig	Specimen	MISSING	H1685	Hodgkins Seamount

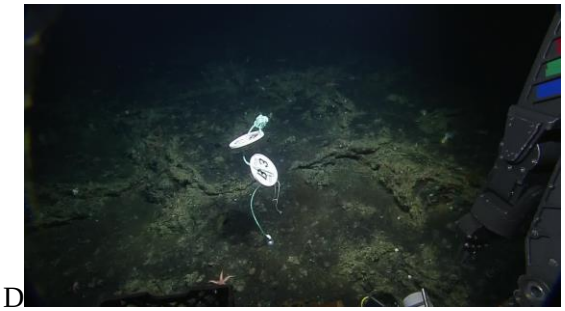
Appendix 6. Summary of taxonomic 'groups' for voucher specimens collected by seamount

Phylum	Major Group	Dellwood	SK-B	Hodgkins	Pierce/Davidson	Dellwood South	Explorer
Annelida							
	Polychaeta	18	22	6	9	12	4
Arthropoda							
	Amphipoda	3	42	0	1	2	0
	Cirripedia	0	0	0	0	1	0
	Copepodea	0	0	0	1	0	0
	Decapoda	8	8	0	2	0	6
	Isopoda	0	2	3	0	0	1
	Pycnogonida	1	0	4	0	0	0
Brachiopoda							
	Brachiopoda	0	3	0	0	0	0
Bryozoa							
	Bryozoa	0	6	2	0	1	0
Chordata							
	Ascidiacea	0	1	0	1	0	0
	Pisces	0	1	0	0	0	0
Cnidaria							
	Actinaria	0	0	0	0	0	1
	Anthozoa	2	2	1	0	0	1
	Antipatharia	2	2	0	0	2	1
	Hydrozoa	3	9	3	0	2	0
	Octocorallia	4	10	2	0	8	1
	Scleractinia	0	0	0	0	1	0
	Siphonophorae	0	0	1	0	0	0
	Unknown	1	1	0	0	0	0
	Zoantharia	1	3	0	0	0	0
Ctenophora							
	Ctenophora	0	0	1	0	0	0
Echinodermata							
	Asteroidea	3	4	0	1	1	2
	Crinoidea	0	2	0	0	0	0
	Echinoidea	0	2	0	0	0	0

	Holothuroidea	1	0	1	0	1	0
	Ophiuroidea	25	46	24	3	18	6
Mollusca							
	Aplacophora	0	0	1	0	1	0
	Bivalvia	5	2	1	1	0	2
	Gastropoda	1	7	0	3	6	0
	Polyplacophora	0	1	0	0	0	0
Nemertea							
	Nemertea	0	1	0	0	3	1
Platyhelminthes							
	Platyhelminthes	0	1	0	0	0	0
Porifera							
	Demospongiae	0	3	1	0	0	0
	Hexactinellida	7	8	10	3	5	10
	Unknown	0	1	1	0	0	0
Rhodophyta							
	Rhodophyta	0	5	0	0	0	0
Total		**85**	**195**	**62**	**28**	**64**	**36**

Appendix 7. In situ pictures of long-term monitoring site markers

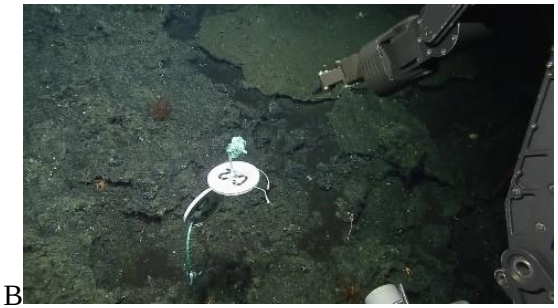
A  B  C 

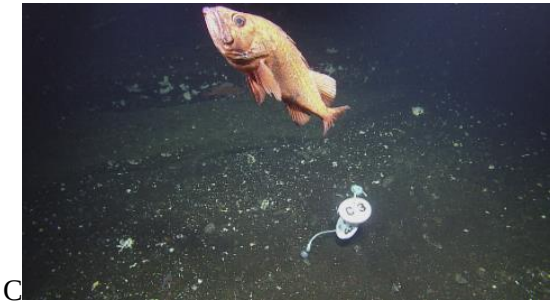
D  E  F 

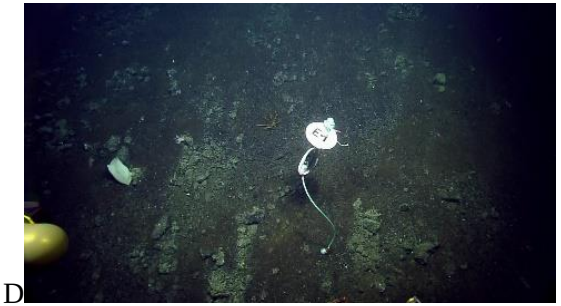
G 

Appendix 6.1. In situ images of the markers for the long-term monitoring sites on Dellwood Seamount A)A1, B)B1, C)B2, D)B3, E)B4, F)B5, and G)B6

A 

B 

C 

D 

E 

F 

G 

H 

I 

J 

K 

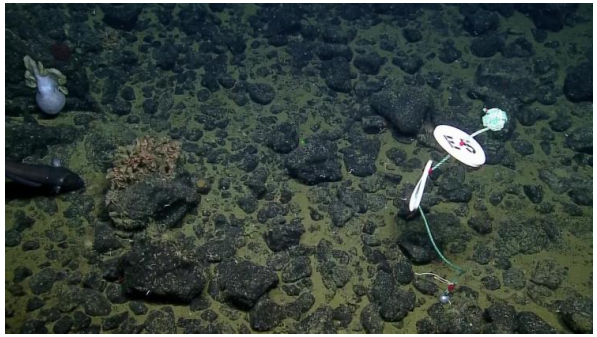
L 

Appendix 6.2. In situ images of the markers for the long-term monitoring sites on SK-B Seamount A) C1, B) C2, C) C3, D) E1, E) E3, F) E2, G) E4, H) G1, I) G2, J) G3, K) 'Cliff face' and L) CHS concrete block with a tag '1969' use as anchor for tide guage in 1970's

A  B 

C  D 

Appendix 6.3. In situ images of the markers for the long-term monitoring sites on Hodgkins Seamount A) A2, B) A3, C) C4, and D) C5



Appendix 6.4. In situ image of the marker (E5) for the long-term monitoring site on Davidson/Pierce Seamount

A 

B

Appendix 6.4. In situ images of the markers for the long-term monitoring sites on Dellwood South Seamount A) E6 and B) G6 on Dellwood

A 

B

Appendix 6.1. In situ images of the markers for the long-term monitoring sites on Explorer Deployed markers A) G5 and B) G4 on Explorer

Appendix 8. Bird surveys

Note - coordinates for each transect can be determined using the time stamps from the ship's log.

July 9 – Transit from Dellwood to SK-B Seamount. Scanned 90° bow to starboard. Nine transects surveyed from 1100-1920h for a total area of 2.778 km^2. Total number of birds observed was 34 giving an average density of 12.2/km2.

Appendix Table 7.1 Observation made during the transect on July 9, 2018.

Transect	Time (PDT)	Distance (m)	Count	Identification
1	1100-1105	150-200	1	no ID
2	1200-1205	51-100	1	Leach's storm petrel
3	1300-1305	51-100	2	Leach's storm petrel
3	1300-1305	0-50	1	Leach's storm petrel
3	1300-1305	51-100	12	Leach's storm petrel
4	1400-1405	0-50	1	blackfooted albatross
4	1400-1405	0-50	1	northern fulmer
4	1400-1405	51-100	1	blackfooted albatross
5	1500-1505	101-150	1	blackfooted albatross
6	1600-1605	51-100	1	Leach's storm petrel
6	1600-1605	101-150	1	Leach's storm petrel
7	1700-1705	101-150	1	Leach's storm petrel
7	1700-1705	51-100	1	Leach's storm petrel
7	1700-1705	101-150	1	northern fulmer
8	1800-1805	51-100	1	Leach's storm petrel
8	1800-1805	51-100	1	Leach's storm petrel
8	1800-1805	51-100	1	Leach's storm petrel
8	1800-1805	51-100	1	Leach's storm petrel
9	1915-1920	51-100	1	Leach's storm petrel
9	1915-1920	51-100	1	Leach's storm petrel
9	1915-1920	51-100	1	Leach's storm petrel
9	1915-1920	51-100	1	blackfooted albatross
off transect observations				
	1310-1340	0-50	2	ocean sunfish
	1500-1505	200+	4	pod of porpoise (poor sighting)
	1605-1620	0-50	1	small brown shark; approx. <1m in length. Possibly a dogfish.
	1605-1620	0-50	1	ocean sunfish

July 16 – Transit from Pierce/Davidson to the AOI. Scanned 90° bow to starboard. Nine transects surveyed from 0740-1610hrs for a total area of 2.02 km^2. No birds were observed.

July 17 – Transit to Dellwood South Seamount. Scanned 90° bow to port. Five transects surveyed from 1530-1930 for a total area of 1.64km^2. Total number of birds observed was 5 giving an average density of 3.05/km^2.

Appendix Table 7.2 Observation made during the transect on July 17, 2018.

Transect	Time (PDT)	Distance (m)	Count	Identification
1	1530-1535		0	
2	1630-1635		0	
3	1730-1735		0	
4	1830-1835	0-50	2	small alcids no ID
		51-100	1	Leach's storm petrel
		101-150	1	no ID. white
5	1930-1935	101-150	1	no ID petrel
off transect observations				
	1730-1735		2	Leach's storm petrel
	1830-1835		1	Northern Fulmer

July 19 – Transit from Explorer Seamount to Sidney, BC. Scanned 90° bow to starboard. Aborted due to unfavourable weather for observing animals. Three transects surveyed from 1430-1630h for a total area of 0.93 km^2. Total number of birds observed was 1 giving an average density of 1.08/km^2.

Appendix Table 7.3 Observation made during the transect on July 19, 2018.

Transect	Time (PDT)	Distance (m)	Count	Identification
1	1430		0	
2	1530		0	
3	1630	101-150	1	Blackfooted albatross

July 20 – Transit from Explorer Seamount to Sidney, BC. Scanned 90° bow to port. Six transects surveyed from 0800-1300h for a total area of 1.85km^2. Total number of birds observed was 23 giving an average density of 12.42/km^2.

Appendix Table 7.4 Observation made during the transect on July 20, 2018.

Transect	Time (PDT)	Distance (m)	Count	Identification
1	0800-0805	51-100	1	northern fulmer
		51-100	1	Leach's storm petrel
2	0900-0905	51-100	1	blackfooted albatross
		51-100	1	Leach's storm petrel
		101-150	1	northern fulmer
3	1000-1005	101-150		
4	1100-1105	51-100	8	northern fulmer
		101-150	2	northern fulmer
		101-150	1	no ID (alcid)
		150-200	1	no ID

5	1200-1205		0	
6	1300-1305	0-50	2	northern fulmer
		51-100	2	northern fulmer
		101-150	1	no ID
		150-200	1	no ID

Appendix 9. Outreach Summaries

Appendix Table 8.1 List of media coverage from June 6-Aug 7, 2018 complied by Oceana Canada for the expedition

Outlet	Date	Link	Headline/Description	Medium	Location	Reach
Toronto Star Online	6-Jun-18	https://www.thestar.com/news/canada/2018/06/08/oceans-canada-joins-forces-with-haida-nation-for-underwater-expedition-off-bc-coast.html	Oceans Canada teams up with Haida Nation for underwater expedition off B.C. coast	Online	National	5665000 TUV
570 News	8-Jun-18	http://www.570news.com/2018/06/08/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c/	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	60000 TUV
660news.com	8-Jun-18	http://www.1310news.com/2018/06/08/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c/	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	53000 TUV
680news.com	8-Jun-18	http://www.680news.com/2018/06/08/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c/	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	255000 ETUV
Alaska Highway News	8-Jun-18	http://www.alaskahighwaynews.ca/national/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c-1.23330326	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	15000 ETUV
assiniboiatimes.ca	8-Jun-18	http://www.assiniboiatimes.ca/news/national/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c-1.23330326	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	7000 ETUV
Barrie Today	8-Jun-18	https://www.barrietoday.com/national-news/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-bc-949582	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	8000 ETUV
Battlefords News-Optimist	8-Jun-18	http://www.newsoptimist.ca/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c-1.23330326	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	5000 ETUV
Battlefords Now	8-Jun-18	http://www.battlefordsnow.com/article/610409/four-groups-join-forces-study-seamounts-near-haida-gwaii-bc	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	10000 ETUV
baytoday.ca	8-Jun-18	https://www.baytoday.ca/national-news/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-bc-949582	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	22000 TUV
Benzinga	8-Jun-18	https://www.benzinga.com/pressreleases/18/06/r11855267/celebrating-world-oceans-day-by-partnering-to-explore-and-protect-myst	Celebrating World Oceans Day by partnering to explore and protect mysterious underwater mountains in Canada	Online	National	79000 ETUV
BradfordToday.ca	8-Jun-18	https://www.bradfordtoday.ca/national-news/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-bc-949582	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	10000 ETUV
brandonsun.com	8-Jun-18	brandonsun.com	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	33000 TUV

Bridge River Lillooet News	8-Jun-18	http://www.lillooetnews.net/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c-1.23330326	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	1861 TR
Burnaby Now	8-Jun-18	http://www.burnabynow.com/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c-1.23330326	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	12000 ETUV
Calgary Herald	8-Jun-18	http://calgaryherald.com/pmn/news-pmn/canada-news-pmn/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c/wcm/496b95fd-9140-4783-bad2-03af2d7d37aa	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	1247000 TUV
Canadian Insider	8-Jun-18	https://www.canadianinsider.com/celebrating-world-oceans-day-by-partnering-to-explore-and-protect-mysterious-underwater-mountains-in-canada	Celebrating World Oceans Day by partnering to explore and protect mysterious underwater mountains in Canada	Online	National	15000 TUV
Carlyle Observer	8-Jun-18	http://www.carlyleobserver.com/news/national-news/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c-1.23330326	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	15000 ETUV
CBC	8-Jun-18	http://www.cbc.ca/news/canada/british-columbia/underwater-volcanoes-seamounts-haida-gwaii-1.4699280	Expedition off Haida Gwaii will explore underwater volcanoes — live online	Online	National	3000000 TUV
CBC Radio One Kelowna	8-Jun-18		CBC Radio One Kelowna	Radio	Kelowna Bc	200000 TUV
CBC Radio One Vancouver	8-Jun-18		CBC Radio One Kelowna	Radio	Vancouver Bc	200000 TUV
CEO.ca	8-Jun-18	https://ceo.ca/@newswire/celebrating-world-oceans-day-by-partnering-to-explore	Celebrating World Oceans Day by partnering to explore and protect mysterious underwater mountains in Canada	Online	National	13000 TUV
CFJC Today	8-Jun-18	https://cfjctoday.com/article/624255/four-groups-join-forces-study-seamounts-near-haida-gwaii-bc	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	35000 ETUV
chatnewstoday.ca	8-Jun-18	https://chatnewstoday.ca/article/561178/four-groups-join-forces-study-seamounts-near-haida-gwaii-bc	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	10000 ETUV
CHEK News	8-Jun-18	https://www.cheknews.ca/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c-458772/	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	187000 TUV
Coast Reporter	8-Jun-18	http://www.coastreporter.net/news/national-news/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c-1.23330326	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	5000 ETUV
Collingwood News	8-Jun-18	https://www.collingwoodtoday.ca/national-news/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-bc-949582	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	15000 ETUV
CTV News	8-Jun-18	https://bc.ctvnews.ca/expedition-to-study-underwater-mountains-near-haida-gwaii-1.3966293	Expedition to study underwater mountains near Haida Gwaii	Online	National	3316000 ETUV

Delta Optimist	8-Jun-18	http://www.delta-optimist.com/news/national/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c-1.23330326	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	13000 TUV
Estevan Mercury	8-Jun-18	http://www.estevanmercury.ca/news/national-news/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c-1.23330326	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	5000 ETUV
Guelph Today	8-Jun-18	https://www.guelphtoday.com/national-news/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-bc-949582	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	21000 ETUV
Halifax Today	8-Jun-18	https://www.halifaxtoday.ca/national-news/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-bc-949582	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	21000 ETUV
Humbodlt Journal	8-Jun-18	http://www.humboldtjournal.ca/news/national-news/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c-1.23330326	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	15000 ETUV
infotel.ca	8-Jun-18	https://infotel.ca/newsitem/underwater-mountains/cp63071597	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	60000 ETUV
Kelowna Daily Courier	8-Jun-18	http://www.kelownadailycourier.ca/news/national_news/article_3dc3401e-acf7-5731-b6d5-eedbd0c1cc3c.html	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	10000 ETUV
Le Lezard.com	8-Jun-18	http://www.lelezard.com/en/	Célébrons la Journée mondiale des océans en collaborant pour explorer et protéger les mystérieux monts sous-marins du Canada	Online	National	6000 ETUV
Le Lezard.com	8-Jun-18	http://www.lelezard.com/en/news-17224192.html	Celebrating World Oceans Day by partnering to explore and protect mysterious underwater mountains in Canada	Online	National	6000 ETUV
London Free Press	8-Jun-18	http://lfpress.com/pmn/news-pmn/canada-news-pmn/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c/wcm/496b95fd-9140-4783-bad2-03af2d7d37aa	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	308000 TUV
MeadowlakeNOW	8-Jun-18	http://meadowlakenow.com/article/604822/four-groups-join-forces-study-seamounts-near-haida-gwaii-bc	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	2000 ETUV
Medicine Hat News	8-Jun-18	http://medicinehatnews.com/news/national-news/2018/06/08/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-bc/	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	24000 TUV
Money News	8-Jun-18	https://money.ca/news/2018/06/08/celebrating-world-oceans-day-by-partnering-to-explore-and-protect-mysterious-underwater-mountains-in-canada/	Celebrating World Oceans Day by partnering to explore and protect mysterious underwater mountains in Canada	Online	National	8000 TUV
My McMurray	8-Jun-18	http://www.mymcmurray.com/2018/06/08/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c/	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	45000 ETUV
NanaimoNewsNOW	8-Jun-18	https://nanaimonewsnow.com/article/581899/four-groups-join-forces-study-seamounts-near-haida-gwaii-bc	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	3000 ETUV

National Post	8-Jun-18	http://nationalpost.com/pmn/news-pmn/canada-news-pmn/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	1500000 ETUV
news1130.com	8-Jun-18	http://www.news1130.com/2018/06/08/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c/	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	43000 TUV
news957.com	8-Jun-18	http://www.news957.com/national/2018/06/08/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c/	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	18000 TUV
North Shore News	8-Jun-18	http://www.nsnews.com/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c-1.23330326	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	21000 ETUV
Northeast Now	8-Jun-18	http://www.northeastnow.com/article/526913/four-groups-join-forces-study-seamounts-near-haida-gwaii-bc	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	1500 ETUV
OrilliaMatters.com	8-Jun-18	https://www.orilliamatters.com/national-news/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-bc-949582	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	20000 TUV
Ottawa Citizen	8-Jun-18	http://ottawacitizen.com/pmn/news-pmn/canada-news-pmn/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c/wcm/496b95fd-9140-4783-bad2-03af2d7d37aa	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	1195000 TUV
paNow	8-Jun-18	http://panow.com/article/768913/four-groups-join-forces-study-seamounts-near-haida-gwaii-bc	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	27000 TUV
Penticton Herald	8-Jun-18	http://www.pentictonherald.ca/news/national_news/article_8520186a-2153-52eb-9a8e-b1db2a88e517.html	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	19000 TUV
Pipeline News	8-Jun-18	http://www.pipelinenews.ca/news/national-international-news/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c-1.23330326	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	15000 ETUV
Powell River Park	8-Jun-18	http://www.prpeak.com/news/national/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c-1.23330326	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	10000 ETUV
Prince George Citizen	8-Jun-18	http://www.princegeorgecitizen.com/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c-1.23330326	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	103000 TUV
Regina Leader Post	8-Jun-18	http://leaderpost.com/pmn/news-pmn/canada-news-pmn/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c/wcm/496b95fd-9140-4783-bad2-03af2d7d37aa	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	15000 ADV
Reston Recorder	8-Jun-18	http://www.restonrecorder.ca/news/national-international-news/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c-1.23330326	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	6000 ETUV

Richmond News	8-Jun-18	http://www.richmond-news.com/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c-1.23330326	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	50000 ETUV
Soo Today	8-Jun-18	https://www.sootoday.com/national-news/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-bc-949582	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	218000 TUV
Souris Plaindealer	8-Jun-18	http://www.sourisplaindealer.ca/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c-1.23330326	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	7000 ETUV
Squamish Chief	8-Jun-18	http://www.squamishchief.com/news/national/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c-1.23330326	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	4000 ETUV
Star Phoenix	8-Jun-18	http://thestarphoenix.com/pmn/news-pmn/canada-news-pmn/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c/wcm/496b95fd-9140-4783-bad2-03af2d7d37aa	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	547000 ETUV
Sudbury.com	8-Jun-18	https://www.sudbury.com/national/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-bc-949582	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	119000 TUV
The Chronicle Herald	8-Jun-18	http://thechronicleherald.ca/canada/1576470-four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b.c.	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	402000 TUV
The Province	8-Jun-18	http://theprovince.com/pmn/news-pmn/canada-news-pmn/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c/wcm/c01c2785-6e39-40ac-b257-07145e4c0b83	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	706000 TUV
The Tri-City News	8-Jun-18	http://www.tricitynews.com/news/national/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c-1.23330326	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	25000 TUV
Thompson Citizen	8-Jun-18	http://www.thompsoncitizen.net/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c-1.23330326	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	8000 TUV
Times Colonist (Victoria)	8-Jun-18	http://www.timescolonist.com/opinion/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c-1.23330326	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	426000 TUV
Timmins Today	8-Jun-18	https://www.timminstoday.com/national-news/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-bc-949582	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	12000 ADV
toronto.citynews.ca	8-Jun-18	http://toronto.citynews.ca/2018/06/08/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c/	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	85000 ETUV

Vancouver Courier	8-Jun-18	http://www.vancourier.com/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c-1.23330326	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	73000 ETUV
Vancouver is Awesome	8-Jun-18	https://www.vancouverisawesome.com/2018/06/08/four-groups-join-forces-to-study-underwater-mountains-near-haida-gwaii/	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	11000 TUV
Vancouver Sun	8-Jun-18	http://vancouversun.com/pmn/news-pmn/canada-news-pmn/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c/wcm/496b95fd-9140-4783-bad2-03af2d7d37aa	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	650000 ETUV
Westman Journal	8-Jun-18	http://www.westmanjournal.com/news/national/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c-1.23330326	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	15000 ADV
Weyburn Review	8-Jun-18	http://www.weyburnreview.com/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c-1.23330326	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	34870 ETUV
Windsor Star	8-Jun-18	http://windsorstar.com/pmn/news-pmn/canada-news-pmn/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c/wcm/496b95fd-9140-4783-bad2-03af2d7d37aa	Four groups join forces to study seamounts near Haida Gwaii in B.C	Online	National	200000 TUV
Winnipeg Free Press	8-Jun-18	https://www.winnipegfreepress.com/arts-and-life/life/greenpage/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-bc-485004483.html	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	381000 TUV
Yorkton This Week	8-Jun-18	http://www.yorktonthisweek.com/news/national-news/four-groups-join-forces-to-study-seamounts-near-haida-gwaii-in-b-c-1.23330326	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	5000 TUV
The Prince George Citizen	9-Jun-18		Groups to study Seamonuts near Hiada Gwaii	Print	Prince George Bc	27000 TR
Times Colonist (Victoria)	9-Jun-18		Four groups join to study underwater mountains near Haida Gwaii	Print	Victoria Bc	118000 TR
The Province	10-Jun-18		Four groups join to study underwater mountains near Haida Gwaii	Print	National	302000 TUV
BC Local News	14-Jun-18	https://www.bclocalnews.com/news/research-expedition-to-explore-seamounts-off-haida-gwaii/	Research expedition to explore seamounts off Haida Gwaii	Online	National	19000 TUV
The Northern View	14-Jun-18	https://www.thenorthernview.com/news/research-expedition-to-explore-underwater-volcano-off-north-coast-b-c/	Research expedition to explore underwater volcano off North Coast B.C.	Online	National	10774 ETUV
CP24 - Breakfast	28-Jun-18	https://mms.tveyes.com/mediaview/?U3RhdGlvbj0xMzkxMCZTdGFydERhdGVUaW1lPTA3JTJGMjglMkYyMDE4JTIwMTUlM0E1MCUzQTUzJkVuZERhdGVUaW1lPTA3JTJGMjglMkYyMDE4JTIwMTYlM0EwMC	City Pulse 24 (CP24) — CP24	Online	National	454500 TPR

		UzQTQwJlBsYXlTdGFydFJlZ2V4PSU1Q2JzZWFtb3VudCU1Q2ImUGxheVN0YXJ0UmVnZXhQcmVyb2xsPTE1JkR1cmF0aW9uPTIyNzA5MiZQYXJ0bmVySUQ9NzMxMyZFeHBpcmF0aW9uPTA4JTJGMDklMkYyMDE4JTIwMTglM0E0OCUzQTE3JkhpZ2hsaWdodFJlZ2V4PSU1Q2JzZWFtb3VudCU1Q2ImTW9kRWRpdG9yRW5hYmxlPXRydWUmTW9kRWRpdG9yRGVzdGluYXRpb25zPTQmc2lnbmF0dXJlPTE0YTYyNTE2YzE0NTNkYTVlYjRmMTZhNGM0ZjlkNjEw				
CTV News Vancouver at 11:30	28-Jun-18		Expedition Coverage	TV	Vancouver Bc	323900 TPR
Canadian Insider	5-Jul-18	https://www.canadianinsider.com/new-science-mission-launched-to-study-unique-seamounts-in-the-northeast-pacific-ocean	New science mission launched to study unique seamounts in the northeast Pacific Ocean	Online	National	15000 TUV
CEO.ca	5-Jul-18	https://ceo.ca/@newswire/new-science-mission-launched-to-study-unique-seamounts	New science mission launched to study unique seamounts in the northeast Pacific Ocean	Online	National	13000 TUV
CFAX 1070	5-Jul-18		Expedition Coverage - CFAx 1070	Radio	British Columbia	1100 ERPR
CKNW- AM	5-Jul-18		Expedition Coverage	Radio	Vancouver Bc	354800 ERPR
CTV Vancouver Island	5-Jul-18		CTV 2 News at 5	TV	Victoria Bc	165000 ETUV
CTV Vancouver Island	5-Jul-18		CTV 2 at 6	TV	Victoria Bc	165000 ETUV
Global News At noon BC	5-Jul-18		Ocean Frontier	TV	Vancouver Bc	365000 TPR
Global News Hour (CHAN) (CHAN)	5-Jul-18		Ocean Frontier	TV	British Columbia	611500 TPR
Government of Canada	5-Jul-18	https://www.canada.ca/fr/peches-oceans/nouvelles/2018/07/nouvelle-mission-scientifique-lancee-dans-le-but-detudier-les-monts-sous-marins-uniques-dans-le-nord-est-de-locean-pacifique.html	Nouvelle mission scientifique lancée dans le but d'étudier les monts sous-marins uniques dans le nord-est de l'océan Pacifique	Online	National	10000 ETUV
Government of Canada	5-Jul-18	https://www.canada.ca/en/fisheries-oceans/news/2018/07/new-science-mission-launched-to-study-unique-seamounts-in-the-northeast-pacific-ocean.html	New science mission launched to study unique seamounts in the northeast Pacific Ocean	Online	National	10000 ETUV
Government of Canada	5-Jul-18	https://www.canada.ca/en/fisheries-oceans/news/2018/07/new-science-mission-launched-to-	New science mission launched to study unique seamounts in the northeast Pacific Ocean	Online	National	10000 ETUV

		study-unique-seamounts-in-the-northeast-pacific-ocean.html				
Kelowna Daily Courier	5-Jul-18	http://markets.kelownadailycourier.ca/kelownadailycourier/news/read/36574553/new_science_mission_launched_to_study_unique_seamounts_in_the_northeast_pacific_ocean	New science mission launched to study unique seamounts in the northeast Pacific Ocean	Online	National	10000 ETUV
Le Lezard.com	5-Jul-18	http://www.lelezard.com/communique-17473122.html	Nouvelle mission scientifique lancée dans le but d'étudier les monts sous-marins uniques dans le nord-est de l'océan Pacifique En lire plus: http://www.lelezard.com/communique-17473122.html	Online	National	6000 ETUV
Le Lezard.com	5-Jul-18	http://www.lelezard.com/en/news-17473032.html	New science mission launched to study unique seamounts in the northeast Pacific Ocean	Online	National	6000 ETUV
Our Windsor	5-Jul-18	https://www.ourwindsor.ca/news-story/8725172-scientists-launch-expedition-to-map-coral-covered-underwater-volcanoes/	Scientists launch expedition to map coral-covered underwater volcanoes	Online	National	5000 ETUV
Penticton Herald	5-Jul-18	http://markets.pentictonherald.ca/pentictonherald/news/read/36574553/new_science_mission_launched_to_study_unique_seamounts_in_the_northeast_pacific_ocean	New science mission launched to study unique seamounts in the northeast Pacific Ocean	Online	National	19000 TUV
Toronto Star Vancouver	5-Jul-18	https://www.thestar.com/vancouver/2018/07/05/scientists-launch-expedition-to-map-coral-covered-underwater-volcanoes.html	Scientists launch expedition to map coral-covered underwater volcanoes	Online	National	91000 ETUV
ca.news.yahoo.com	6-Jul-18	https://ca.news.yahoo.com/underwater-volcanoes-revealed-live-streamed-025033656.html	Underwater volcanoes revealed through live-streamed B.C. research expedition	Online	National	8580000 TUV
CBC All Points West	6-Jul-18		Full Episode for Thursday July 5, 2018: Daybreak North	Radio	British Columbia	150000 TPR
CBC British Columbia	6-Jul-18	http://www.cbc.ca/news/canada/british-columbia/underwater-volcanos-1.4736851	Underwater volcanoes revealed through live-streamed B.C. research expedition	Online	National	75000 ETUV
CBC Radio West	6-Jul-18		On the Coast	Radio	British Columbia	275000 TPR
CFAX - CTV - Live	6-Jul-18		Expedition Coverage - CFAX	TV	Vancouver Bc	175000 ERPR
CJBX-FM (BX93)	6-Jul-18		Expedition Coverage - CJBX - AM	Radio	London On	154000 ERPR
CJKB AM	6-Jul-18		Expedition Coverage	Radio	London On	15400 ERPR
Global News BC 1 - AM	6-Jul-18		Expedition Coverage	TV	Victoria Bc	150000 TPR

huffingtonpost.ca	6-Jul-18	https://www.huffingtonpost.ca/2018/07/06/pacific-seamounts-expedition-to-unravel-canadas-underwater-mountain-mysteries_a_23476539/	Pacific Seamounts Expedition To Unravel Canada's Underwater Mountain Mysteries	Online	National	2887000 TUV
iheartradio.ca/580-cfra	6-Jul-18		Expedition Coverage	Radio	National	65000 TUV
Radio Canada International	6-Jul-18	http://www.rcinet.ca/en/2018/07/06/expedition-sets-sail-to-study-seamounts-off-british-columbia-coast/	Expedition sets sail to study seamounts off British Columbia coast	Online	National	141291 TUV
Global News Morning	7-Jul-18		Expedition Coverage	TV	Vancouver Bc	530400 TPR
ca.news.yahoo.com	8-Jul-18	https://ca.news.yahoo.com/four-groups-join-forces-study-224910491.html	Four groups join forces to study seamounts near Haida Gwaii in B.C.	Online	National	8580000 TUV
BC Local News	11-Jul-18	https://www.bclocalnews.com/news/live-streaming-ancient-undersea-volcanoes-in-hd/	Live-streaming ancient undersea volcanoes in HD	Online	British Columbia	19000 TUV
BC Local News	11-Jul-18	https://www.bclocalnews.com/news/live-streaming-ancient-undersea-volcanoes-in-hd-2/	Live-streaming ancient undersea volcanoes in HD	Online	British Columbia	19000 TUV
CTV Vancouver Island	11-Jul-18	https://vancouverisland.ctvnews.ca/expedition-gives-live-look-at-underwater-mountains-off-b-c-s-coast-1.4009326	Expedition gives live look at underwater mountains off B.C.'s coast	Online	National	150000 ETUV
Oak Bay News	11-Jul-18	https://www.oakbaynews.com/news/live-streaming-underwater-volcanoes-in-hd/	Live-streaming ancient undersea volcanoes in HD	Online	National	50000 ETUV
peninsulanewsreview.com	11-Jul-18	https://www.peninsulanewsreview.com/news/live-streaming-underwater-volcanoes-in-hd/	Live-streaming ancient undersea volcanoes in HD	Online	National	20000 ETUV
Saanich News	11-Jul-18	https://www.saanichnews.com/news/live-streaming-underwater-volcanoes-in-hd/	Live-streaming ancient undersea volcanoes in HD	Online	National	50000 ETUV
sookenewsmirror.com	11-Jul-18	https://www.sookenewsmirror.com/news/live-streaming-underwater-volcanoes-in-hd/	Live-streaming ancient undersea volcanoes in HD	Online	National	15000 ETUV
The Northern View	11-Jul-18	https://www.thenorthernview.com/news/live-streaming-ancient-undersea-volcanoes-in-hd/	Live-streaming ancient undersea volcanoes in HD	Online	National	10774 ETUV
Victoria News	11-Jul-18	https://www.vicnews.com/news/live-streaming-underwater-volcanoes-in-hd/	Live-streaming ancient undersea volcanoes in HD	Online	National	80000 ETUV
http://nationtalk.ca	12-Jul-18	http://nationtalk.ca/story/haida-nation-wants-shipping-traffic-banned-from-culturally-significant-underwater-volcano-cbc	Haida Nation wants shipping traffic banned from culturally significant underwater volcano – CBC	Online	National	15000 ETUV
ilrtoday.ca	12-Jul-18	http://www.ilrtoday.ca/haida-nation-wants-shipping-traffic-banned-from-culturally-significant-underwater-volcano-cbc/	Haida Nation wants shipping traffic banned from culturally significant underwater volcano – CBC	Online	National	15000 ETUV
CBC News	13-Jul-18	https://www.cbc.ca/news/indigenous/haida-sgann-kinghlas-bowie-seamounts-protected-1.4743418	Haida Nation wants shipping traffic banned from culturally significant underwater volcano	Online	National	450000 ETUV

Forbes	13-Jul-18	https://www.forbes.com/sites/priyashukla/2018/07/13/what-does-this-deep-sea-expedition-mean-for-the-indigenous-haida-nation/#739d3f327256	What Does This Deep-Sea Expedition Mean For The Indigenous Haida Nation?	Online	National	1868000 TUV
ca.pressfrom.com	23-Jul-18	http://ca.pressfrom.com/news/canada/-85193-scientists-discover-wonderland-of-life-on-deep-sea-mountains-off-b-c-coast/	Scientists discover 'wonderland' of life on deep-sea mountains off B.C. coast	Online	National	5000 ADV
CBC British Columbia	23-Jul-18	https://www.cbc.ca/news/canada/british-columbia/scientists-discover-wonderland-of-life-on-deep-sea-mountains-off-b-c-coast-1.4760033	Scientists discover 'wonderland' of life on deep-sea mountains off B.C. coast	Online	National	75000 ETUV
CBC Radio 1	23-Jul-18		Expedition Coverage - CBC Radio 1	Radio	British Columbia	275000 ERPR
Cfox.com	23-Jul-18	https://cfox.com/news/4351412/b-c-underwater-expedition-returns-with-stunning-video-of-unknown-species/	B.C. underwater expedition returns with stunning video of unknown species	Online	National	1000 ADV
Digital Journal	23-Jul-18	http://www.digitaljournal.com/pr/3868326	Oceana Canada calls for permanent closure of all Canadian seamounts to bottom contact fishing based on new findings Read more: http://www.digitaljournal.com/pr/3868326#ixzz5MI422BRW	Online	National	123000 TUV
Global News	23-Jul-18	https://globalnews.ca/news/4351412/b-c-underwater-expedition-returns-with-stunning-video-of-unknown-species/	B.C. underwater expedition returns with stunning video of unknown species	Online	National	800000 ETUV
Global Vancouver News At Six	23-Jul-18		GLOBAL NEWS HOUR AT 6 July 24 2018 11:01pm 30:57 Global News Hour at 6: Jul 24 24:30 minutes mark	TV	Vancouver Bc	611500 ADV
Global Vancouver News At Six	23-Jul-18	https://globalnews.ca/video/4351457/global-news-hour-at-6-jul-24	Global News Hour at 6: Jul 24- Web video	Online	National	350000 ADV
Vancouver is Awesome	23-Jul-18	https://www.vancouverisawesome.com/2018/07/24/seamounts-bc-expedition/	Researchers map ‘awe-inspiring’ underwater mountains off B.C. coast	Online	National	11000 TUV
Yahoo Finance	23-Jul-18	https://ca.news.yahoo.com/scientists-discover-apos-wonderland-apos-220750043.html	Scientists discover 'wonderland' of life on deep-sea mountains off B.C. coast	Online	National	1927000 TUV
CJBX - Radio	24-Jul-18		Expedition Coverage	Radio	London On	20000 ERPR
Global News BC 1	24-Jul-18		Expedition Coverage	TV	British Columbia	175000 TPR
Global News	24-Jul-18		Expedition Coverage	TV	British Columbia	175000 TPR

MSN	24-Jul-18	https://www.msn.com/en-ca/news/canada/bc-underwater-expedition-returns-with-stunning-video-of-unknown-species/ar-BBL1AGo	B.C. underwater expedition returns with stunning video of unknown species	Online	National	4172000 ETUV
MSN	24-Jul-18	https://www.msn.com/en-ca/news/canada/scientists-discover-wonderland-of-life-on-deep-sea-mountains-off-bc-coast/ar-AAAmx94	Scientists discover 'wonderland' of life on deep-sea mountains off B.C. coast	Online	National	4172000 ETUV
thedrivefm.ca	24-Jul-18	http://www.thedrivefm.ca/rss/b-c-underwater-expedition-returns-with-stunning-video-of-unknown-species/	B.C. underwater expedition returns with stunning video of unknown species	Online	National	10000 ETUV
604 News Now	25-Jul-18	https://604now.com/underwater-volcanoes-bc-expedition/	SCIENTISTS DISCOVER STUNNING UNDERWATER VOLCANOES OFF BC COAST FULL OF LIFE	Online	National	8000 TUV
Canadian Geographic	25-Jul-18	https://www.canadiangeographic.ca/article/bc-coast-scientists-discover-extinct-volcanoes-teem-life	Off B.C. coast scientists discover extinct volcanoes teem with life	Online	National	47000 ADV
CBC Radio 1	25-Jul-18		Expedition Coverage - CBC Radio 1	Radio	British Columbia	275000 ERPR
CKNW- AM	25-Jul-18		Expedition Coverage- CKNW - AM	Radio	Vancouver Bc	354800 ERPR
Global BC	25-Jul-18		Expedition Coverage	TV	British Columbia	150000 TPR
Global News	25-Jul-18		Expedition Coverage	TV	British Columbia	175000 TPR
Global Okanagan	25-Jul-18		Expedition Coverage	TV	British Columbia	15000 TPR
Radio Canada International	25-Jul-18	http://www.rcinet.ca/en/2018/07/25/scientists-discover-new-species-and-deep-sea-mountains-off-b-c-coast-call-for-more-protection/	Scientists discover new species and deep-sea mountains off B.C. coast call for more protection	Online	National	141291 TUV
Radio- Canada-science	25-Jul-18	https://ici.radio-canada.ca/nouvelle/1114672/peche-especes-marines-volcans-ocean-mer-science-decouvertes	Un « monde de merveilles » sous l'océan au large de la Colombie-Britannique	Online	National	350000 TUV
CFAX - CTV - Live	26-Jul-18		Expedition Coverage	TV	Vancouver Bc	175000 ERPR
CTV News Vancouver Island	26-Jul-18		Expedition Coverage	TV	Vancouver Bc	164000 TPR
CFAX - CTV Live	27-Jul-18		Seafacts -Expedition Coverage	TV	Vancouver Bc	2600 ERPR
CFAX - CTV Live	27-Jul-18		Seafacts - Expedition Coverage	TV	Vancouver Bc	2600 ERPR

CP24 - Breakfast	28-Jul-18		City Pulse 24 (CP24) — CP24	Online	National	454500 TPR
CFRB Newstalk 1010	6-Aug-18		CTV Coverage Syndication	Radio	National	402000 ERPR
CTV National	6-Aug-18		CTV Coverage - Syndication	TV	National	1962700 ERPR
CTV News	6-Aug-18	https://www.ctvnews.ca/ctv-national-news	CTV National News for Monday August 6, 2018	Online	National	3316000 ETUV
CTV News National	6-Aug-18		CTV Coverage - Syndication	TV	National	1962700 ERPR
CTV News Network	6-Aug-18		CTV Coverage - Syndication	TV	National	1213500 ERPR
CTV Vancouver Island - Online	6-Aug-18	https://vancouverisland.ctvnews.ca/	CTV Coverage - Syndication	Online	National	150000 TPR
iheartradio.ca/580-cfra	6-Aug-18		CTV Coverage- Syndication	Online	National	65000 TUV
iheartradio.ca/580-cfra	6-Aug-18	http://www.iheartradio.ca/580-cfra	CTV Coverage - Syndication	Online	National	65000 TUV
iheartradio/cjad - Newstalk 800	6-Aug-18	http://www.iheartradio.ca/cjad	CTV Coverage- Syndication	Online	National	19000 TUV
ipolitics.ca	6-Aug-18	https://ipolitics.ca/article/deep-sea-expedition-drives-home-need-for-seamount-protection/	Deep sea expedition drives home need for seamount protection	Online	National	220000 TUV
Mother Nature Network	6-Aug-18	https://www.mnn.com/earth-matters/wilderness-resources/stories/seamounts-british-columbia-species-fishing	Researchers discover mesmerizing underwater world teeming with new life	Online	National	187000 TUV
Newstalk 1010	6-Aug-18	http://www.iheartradio.ca/newstalk-1010	CTV Coverage - Syndication	Online	National	4000 ETUV
Newstalk 800	6-Aug-18		CTV Coverage syndication	Radio	Quebec	105200 ERPR
CTV News Live	7-Aug-18	https://globalnews.ca/national/program/the-morning-show	Expedition Coverage	Online	National	45000 ETUV
CTV News Network	7-Aug-18		CTV Coverage Syndication	TV	National	1213500 ERPR
CTV Vancouver Island	7-Aug-18		CTV Coverage - Syndication	TV	Victoria Bc	165000 ETUV
CTV Your Morning	7-Aug-18		CTV Coverage Syndication	TV	National	530400 ERPR
CTV Your morning - online	7-Aug-18	https://www.ctv.ca/YourMorning	CTV Coverage - Syndication Online	Online	National	50000 ETUV

Appendix 8.2 Additional media coverage compiled by Ocean's Network Canada for July 5-Aug 8, 2018

(1) VIDEO: Pacific Seamounts Expedition To Unravel Canada's Underwater Mountain Mysteries
Huffington Post, July 7, 2018

Canada's department of fisheries and oceans, Oceana Canada, and Ocean Networks Canada along with the Haida Nations have partnered up to unravel the mysteries behind Canada underwater sea mountains.

(2) Researchers map 'awe-inspiring' underwater mountains off B.C. coast
Vancouver is Awesome, July 24, 2018

By Melissa Shaw

A research team has returned from a 16-day expedition exploring the underwater mountains known as seamounts off the B.C. coast.

Scientists, communicators and educators from the Department of Fisheries and Oceans (DFO) Oceana Canada, Ocean Networks Canada and a biologist from the Haida Nation travelled aboard the Ocean Exploration Trust's EV Nautilus exploration vessel into the deep sea.

Seamounts are active or dormant underwater volcanoes. In Canada, they are only found in the Northeast Pacific Ocean and were formed from tectonic activity in the area. The SGaan Kinghlas-Bowie seamount off the coast of Haida Gwaii is considered to be the most iconic and is comparable in size to Mount Baker in Washington.

DFO marine biologist Dr. Cherisse Du Preez says they knew these seamounts would be a source of food and refuge for fish and whales "but we needed to go out there to collect the information to back up these predictions so that Canada can move forward with protecting them."

Researchers collected 150 specimens including corals, sponges, sea stars and juvenile fish that will be examined by experts at the Royal BC Museum. Du Preez says they expect to find many new species.

"The rule of thumb is that 95 per cent of animals in the deep sea are unknown to science."

Video footage from the vessel will be analyzed providing a chance for further discoveries.

Oceana Canada science director Dr. Robert Rangeley describes what they saw underwater as awe-inspiring. "When we reached a seamount, it was often like we were entering a forest, only of red tree corals and vase-shaped glass sponges. These areas were filled with a diversity of other animals including anemones, feather stars, octopuses, lobsters and rockfishes."

Seamounts attract an abundance of fish and are often targeted by fishing vessels. The team found lost fishing lines on the seafloor, which entangles marine life and destroys fragile and slow growing corals and sponges.

Oceana Canada is calling for seamounts to be protected from bottom contact fishing because they are “important biodiversity hotspots.”

The team travelled 2,500 km and mapped 13 seamounts including six new discoveries that have yet to be named.

A long-term water monitoring system was installed on the Dellwood seamount that will be used to understand how these habitats respond to changes in the environment over time.

(3) VIDEO: ‘Wonderland’ of life found off BC coast
CBC News Vancouver at 6, July 25, 2018

[Relevant coverage begins at 57:00]
(17) Un « monde de merveilles » sous l’océan au large de la Colombie-Britannique
Radio-Canada – Colombie-Britannique, 25 juillet 2018

Lors d'une expédition de 16 jours, une équipe de chercheurs a découvert des volcans sous-marins inexplorés, au large des côtes de la Colombie-Britannique, et pourrait même avoir découvert de nouvelles espèces.

L’équipe Northeast Pacific Seamount Expedition Partners, à bord du bateau Nautilus, a parcouru des yeux des fonds marins se trouvant à des milliers de mètres sous eux.

Deux véhicules sous-marins téléguidés ont exploré pour son compte des monts sous-marins, ces volcans actifs ou inactifs situés à des milliers de mètres sous la surface de l’eau, et la richesse qu’ils abritent. Les images filmées étaient transmises en direct sur les écrans des chercheurs.

« Nous étions rivés aux écrans. Nous plongions de 7 h à 19 h, et chaque excursion était différente », affirme Robert Rangeley, un des membres de l’équipe.

Plus de 150 spécimens recueillis

La mission était d’explorer trois monts sous-marins au large de l’archipel Haida Gwaii, dans le nord-ouest de la province, et un peu plus au sud, mais l’équipe en a découvert six de plus.

Plus de 150 spécimens d’espèces vivantes ont été recueillis pour des analyses génétiques. Robert Rangeley croit qu’il y a des espèces d’éponges et d’escargots de mer qui n’ont encore jamais été découvertes parmi ces spécimens.

« C’était comme un monde de merveilles pour un biologiste. »
-Robert Rangeley

Des représentants de Pêches et Océans Canada, de la Première Nation de Haïda, d'Oceana Canada et d'Ocean Networks Canada faisaient partie de l'expédition.

Des écosystèmes peu connus

L'objectif de l'expédition était d'en apprendre plus sur ces écosystèmes uniques qui se trouvent à plus de 2 kilomètres sous la surface de l'eau et qui restent assez peu connus par la science.

Seul un faible pourcentage des monts sous-marins a été cartographié jusqu'à présent. Des chercheurs estiment que l'océan Pacifique en contient environ 50 000 qui s'élèvent à 1000 mètres ou plus.

La Colombie-Britannique présente un intérêt pour ces montagnes sous-marines. Environ 87 % des monts sous-marins connus du Canada se trouvent dans ce que les scientifiques appellent le Site d'intérêt extracôtier du Pacifique, au large de l'île de Vancouver.

Appel à la protection de ces monts sous-marins

En raison de la grande biodiversité que les chercheurs ont observée à cet endroit, Robert Rangeley souhaite que les monts sous-marins soient protégés de la pêche qui entre en contact avec les fonds marins et d'autres industries potentiellement destructrices.

Il affirme que l'équipe de chercheurs a trouvé des équipements de pêche perdus sur les pentes des monts sous-marins, tels que des lignes de pêches emmêlées sur le sol océanique.

« Autour du monde, les monts sous-marins ont été ciblés pour la pêche parce qu'ils constituent des milieux très productifs », explique-t-il.

Pendant l'expédition, les véhicules téléguidés ont aussi installé du matériel de surveillance pour voir comment l'écosystème se transforme à plus long terme.

(4) Deep sea expedition drives home need for seamount protection
Ipolitics, August 3, 2018

By Holly Lake. Published on Aug 3, 2018 3:30pm
Imagine walking into Banff National Park and discovering there are more mountains there than previously known.
That was the experience of a team of scientists recently while exploring the Pacific Ocean off British Columbia's coast.
As part of the 16-day, 2,500 km expedition, Fisheries and Oceans Canada (DFO), the Haida Nation, Oceana Canada and Ocean Networks Canada partnered aboard the Ocean Exploration Trust's EV Nautilus. They took to the sea to map and increase the collective understanding of the 13 seamounts they knew were there, many near the islands of Haida Gwaii, including SGaan Kinghlas-Bowie, Dellwood and Explorer. That included putting down monitoring stations.
But while diving and exploring the sea floor with remote operated vehicles (ROVs), the team discovered six new seamounts. That was no small find as these are no small lumps. They're real mountains that all span more than a kilometre in height, with some reaching more than double that.
To get a sense of the size, consider what it would look like if Whistler Mountain was rising from the sea floor.
Some mounts reach within a few dozen metres of the surface, while the peak of others sit hundreds of feet down.

“What we discovered was phenomenal,” says Dr. Robert Rangeley, science director with Oceana Canada. “It was nothing short of awe-inspiring and exceeded everyone’s expectations, including the sea mount experts we had on board.

“Everyone was just amazed by what we have in Canada along our Pacific Coast. There are a lot more seamounts there than we knew, that was known to science.”

And while the mounts themselves are important, it’s the incredible abundance and diversity of marine life surrounding them that’s really significant. In many areas, these extinct volcanoes, with their lava pillows and boulder fields, were densely covered in stunning corals that were much like ancient old-growth forests on land. The red tree coral among them can be hundreds of years old. These forests were teeming with biodiversity: fish, octopus, sea features, sea stars and anemones all making their home there.

Rangeley says they had no idea about the abundance of corals on the sea mounts.

“They were alive. It was pretty incredible,” he says.

And then there were the fields of glass sponges, taking all forms and shapes, with some rising more than a metre high. In amongst it all were species at risk, as well as species that are new to science.

And, as is the case on land, no two seamounts are the same. At every turn, the team came across a different community and a different composition.

“Everyone is really excited about what we’ve seen,” Rangeley says. “All of this life – it was really something to realize how fragile it all is.

“What we knew going into this expedition justified their protection,” but what the team learned along the way makes an even stronger case for protective measures.

“We discovered that the habitat is more complex than anyone thought, the biodiversity and level of abundance is more than anyone thought, and there are more seamounts there than anyone knew.”

Only a small percentage of seamounts have been mapped, but scientists estimate that the Pacific Ocean alone contains 30,000 to 50,000 seamounts above 1,000m tall.

There is some protection in place for the seamounts already, as 87 per cent of known seamounts are within a 140,000 sq km area off the coast of Vancouver Island that was deemed an ‘area of interest’ by DFO last year. That’s a step under the Oceans Act that will presumably lead to the creation of a new marine protected area, with restrictions on the kind of activity that can be carried out within its boundaries.

There is a fisheries closure there now, but that can be revoked. An MPA designation will give it a much more permanent status, which is what Oceana Canada is calling for. If it comes to be, it will be the country’s largest protected area.

Rangeley says they were disheartened to see lost fishing gear on some mounts. That poses a threat to marine life. Coupled with the delicate and slow-growing nature of sponges and corals, there’s no doubt in his mind that this is an area where bottom contact activities, including fishing, must be banned.

“They’re fragile,” he says.

Just outside of Canadian waters, seamounts adjacent to the ones explored in this expedition have been heavily impacted and are still being fished.

“This is like the discovery of a new oasis we never knew existed. While the discovery is important, the protection is what matters. You’ve got to know what’s there before you can manage and protect it. And as much as we learned, there’s still so much more to learn about seamounts in Canada, and other biological hotspots.”

Up until the 1980s, seamounts weren’t widely studied, so scientists are only starting to learn about their ecological importance. Research from this expedition will help foster a better understanding of these critical marine habitats.

There are still plenty of samples and endless hours of video to analyze, but to be able to walk away knowing what they already had was gratifying, Rangeley says.

“We didn’t have to wait for the analysis to say this is support for protection,” he says. “These are special places. They provide refuges and they contribute to the resilience of an ecosystem and to maintain biodiversity. They’re healthy spots in our oceans to help production, fisheries and cetaceans.”

What’s more, the world was along for the ride. With the Nautilus kitted out with the latest technology, high-definition video was captured by the ROVs and streamed in real time online during dives. The onboard scientists and educators provided commentary about the imagery and marine life on seamounts to online

viewers. They connected from ship-to-shore almost every day, talking with students, summer camps and the general public on Facebook Live to share what the science team was seeing.

People were excited by what they saw. Rangeley says they received questions from around the world the entire time they were diving.

“Given the trouble our oceans are in, it’s important that people care,” he says. “Not everyone can go out on a ship and see our undersea life, so it was great to be able to take them along this way.”

What he saw through the live camera also made him truly appreciate the special nature of seamounts — and spurred his curiosity about what else is waiting to be discovered.

“I wonder how many more of these fragile forests exist in the ocean, in unexplored regions?”

Weren’t able to follow along live? All the underwater footage lives at protectoceans.ca