

Identification of Protected Corals DRAFT Final Report



*Prepared for Marine Species & Threats Team, Department of
Conservation*

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Photo credit here as follows: At-sea digital image taken by MPI Observer of the branching and cup forms of scleractinian stony corals. Identified by expert Di Tracey (NIWA) as *Goniocorella dumosa* (GDU) and *Desmophyllum dianthus* (DDI), Family Caryophylliidae. [Myk Rushton, MPI]

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Executive summary

The Conservation Services Programme of the Department of Conservation Marine Species and Threats team recognise that Government Fisheries Observers on commercial fishing vessels are not always able to identify protected cold-water corals at sea with high precision (especially to species level), with the confirmation of bycaught species requiring identification from a coral taxonomist in most cases.

Building on the account of the protected coral specimens identified in year 1 of this project, presented in the February 2018 and July 2018 Progress Reports, this Final Report for year 2 of the project summarises the sample identifications for the period 1 July 2017 to 30 June 2018. A total of 206 specimen samples, those collected during the reporting period as well as historical Observer and research trawl survey specimen identifications, were identified to the lowest taxonomic level. Updates were then made to the Centralised Observer Database (*COD*).

The report highlights new discoveries made by visiting coral experts, Marcelo Kitahara (Universidade de São Paulo), and Stephen Cairns and Dennis Opresko (Smithsonian Institution). Golden corals (Family Chrysogorgiidae) and plexaurid octocorals (Family Plexauridae), identifications, which were provided at no cost to the project, are also reported on.

While priority has been given to Observer collected protected corals, as per the Project requirements, research trawl coral samples have also been processed during this reporting period. The final identification data for these samples (using MPI codes), will be loaded onto the MPI Research Trawl Database (*trawl*) in the final year of the project.

To meet the second project objective, a sub-sample of each live specimen is taken for future genetic analysis. Forty-nine coral tissue samples are now held in storage for future genetic studies.

Interactions between protected corals collected and fishing gear are summarised. Several coral samples have been returned from both within the New Zealand Exclusive Economic Zone as well as the High Seas Fisheries Management Areas. Of the specimen samples received, and digital images processed, bottom trawling targeting deep-sea fish species has contributed to the highest counts of coral mortality. Coral by-catch samples were also returned from bottom long-line tows but in lower numbers.

The identification of protected corals from digital images provided by Observers are also described. Identifications were possible for 277 protected coral images, 214 of which were able to be georeferenced. Efforts were made to use trip number and image properties (date, time), to help populate the data poor images with georeferenced information. The instructions to Government Observers on methods to capture images at-sea (Tracey et al. 2017) will once again be stressed via the MPI Observer Programme, with emphasis on including a station number in the image. Recommendations made in this report focus on the collection of digital images at sea and a meeting to discuss the issues with via the MPI Observer Programme, CSP, and NIWA to improve on this process would be useful.

1 Background

Identifying coral bycatch that was unable to be fully identified by Observers is seen as a priority for conservation managers as it provides:

- vital baseline information that can help to better inform research and marine protection such as habitat suitability modelling (Anderson et al. 2014; 2018), benthic risk assessments (Clark et al. 2014), and management of benthic marine protected species
- information on the interaction between commercial fishing vessels and protected cold-water corals in New Zealand waters (Tracey et al. 2011), and
- information to help develop a comprehensive mitigation framework to be implemented in future in order to protect cold-water corals in New Zealand waters.

An additional benefit of the collection is an increase in the number of protected cold-water coral species samples housed in the NIWA Invertebrate Collection (NIC), one of New Zealand's National taxonomic collections. This allows for more robust studies on cold-water corals in future such as those to support morphological and molecular descriptions, determination of age and growth, and age validation to assess recovery potential (e.g., see Marriott et al. submitted)

Progress on the Conservation Services Programme requirements for Project DOC16307 - INT2015-03 were summarised in Tracey et al. (2017a; 2017b; 2017c; Macpherson et al. (2018); Mills et al. (2018). Methods were prepared and presented, and instructions were provided to Observers on deep-sea commercial fishing vessels for dealing with cold-water coral specimens bycaught in commercial fishery operations – i.e., the required data recording, sub-sampling or image collection (Tracey et al. 2018). Also presented were the number of protected coral samples provided, the number identified, and the number of coral tissue samples that have been taken and held in storage for future genetic studies. The Contract states that up to 200 protected coral samples and up to 200 specimen images should be identified per annum. Priority is given to Observer collected samples, then research survey samples, followed by historical samples held in the NIC. High Seas samples are not differentiated from within New Zealand's Exclusive Economic Zone (EEZ), samples at the time of arrival at NIWA for processing and as such are regularly included in the list of identified samples. MPI database updates are carried out by NIWA who manages the *COD* and *trawl* databases. The databases are updated with revised identifications when corals are returned from sea (Tracey & Mills 2016a).

This Report presents results for Year 2 of the Coral identification Project.

2 Objectives

2.1 CSP Service Requirements

The Conservation Services Programme (CSP) service requirements are:

1. Identify cold-water coral bycatch that cannot be identified by Government fisheries observers to the finest taxonomic level (assign codes to coral specimens to the species level wherever possible; when this is not possible, identify specimens to genus or family level).

To the extent possible, the contractor will identify potential interactions between corals collected and fishing gear and identify factors that may have contributed to coral mortality. Data

will be reported by fishery stratum (fishing method, fishery area, and where possible, target species).

2. Record all identified coral specimens and store in an appropriate taxonomic collection.
3. Ensure a sub-sample of each specimen is taken for future genetic analysis.
4. Bring international cold-water coral taxonomic expertise to New Zealand for identification of specific coral groups.

2.2 Specific objectives

In Schedule 1 of Contract INT2015-03 the specific objectives are:

1. To determine, through examination of returned cold-water coral specimens and photos, the taxon, and where possible the provenance of cold-water corals killed in New Zealand fisheries (for returned dead specimens).
2. To collect sub-samples of all protected cold-water coral specimens for genetic analysis in future.

There are several milestones for this project; here we report on Milestone 8 which is to produce a DRAFT Final Report “Summary of identified corals, and photographs assessed for the 1 July 2017 to 30 June 2018 period.” Deliverable due 10 December, 2018.

3 Methods

3.1 Objective 1: To determine, through examination of returned cold-water coral specimens and photos, the taxon, and where possible the provenance of cold-water corals killed in New Zealand fisheries (for returned dead specimens)

There are three key activities carried out under Objective 1:

- the identification of protected coral specimens
- loading data into the MPI Observer database COD, and
- digital photo processing of protected coral images.

The project focus since the July 2018 report (Mills et al. 2018) has been on sorting and processing Observer-collected coral samples, taking tissue samples for molecular analyses, processing digital images, and hosting visitors supported by the project in the NIWA Invertebrate Collection (NIC).

For identification input into the final year of the project, a visit from a black coral (Order Antipatharia) taxonomist Dr Marzia Bo, Università degli Studi di Genova, Italy, has been arranged during this reporting period, for January / February 2019. Dr Bo is a worldwide expert in the black coral genus *Stichopathes*. The project will fund part of Dr Bo’s visit and she will provide identifications of several black coral groups, not solely *Stichopathes*, but all species of black corals.

3.1.1 Identification of corals returned to NIWA

The cold-water coral bycatch that could not be identified by Observers at-sea (whole specimens or sub-samples of the specimens), were delivered to NIWA for identification. A similar method used to process by-catch collected by Government fisheries Observers under MPI Project DAE2015-05, (Tracey & Mills, 2016a), was followed.

The corals were thawed, sorted into main groups and initially identified to coarse taxonomic level (mostly to order and family level). The tasks of fixing and preserving samples, providing containment, documenting samples (station numbering, labelling), sorting (dividing samples into major or minor taxonomic groups – ‘taxa’ – in the laboratory), were all carried out under the MPI Data Management Project DAT2016-01P. Data were entered into the web-interfaced NIWA Observer Samples Database (OSD), then returned to frozen storage, fixed in ethanol, or dried where appropriate.

A catalogue of all samples/specimens received in NIWA was provided to the NIWA Invertebrate Collection (NIC) Manager. Data from OSD were uploaded into the NIC *Specify* database *niwainvert* and the specimens were curated and examined at NIWA to determine their taxonomic identification.

Experts then identified all corals to the species level wherever possible and when this was not possible, to genus or family level. The identification methods followed NIWA procedures for identifying fauna and biological specimens housed in the NIC. NIWA currently manages specimens according to the: “Guidelines for the care of natural history collections”. NIWA also has its own collection policy document: “NIWA Marine Invertebrate Collection Policy and Procedures”, which also guided the process. Specimens retained are held in stewardship for DOC.

NIWA coral experts Di Tracey, Rob Stewart, and Dr Jaret Bilewitch, along with Drs Stephen Cairns, Dennis Opresko (Smithsonian Institution), Marcelo Kitahara (Universidade Federal de São Paulo) and Candice Untiedt (PhD student based in Tasmania at CSIRO), carried out the identifications of the coral samples, and the updated species names and counts were entered into *Specify* database *niwainvert*. Often identifications of Observer collected coral samples are made incidentally by visiting experts not funded by the Project.

Funding for the international taxonomic experts, Drs Stephen Cairns and Marcelo Kitahara to visit the NIC to identify specimens, was provided in part by this project (DOC16307) (flights, accommodation, per diem). Funding to support their visit was also provided by the Ministry for Business, Innovation & Employment (MBIE) Strategic Science Investment Fund Enhancing Collections SSIF NIC project COBR1803 and MPI Project ANT201702 managed by Steve Parker as experts were able to identify a portion of Antarctic fauna stored at NIWA.

3.1.2 Loading data into COD

To help identify potential interactions between corals collected and fishing gear and identify factors that may have contributed to coral mortality, identified coral catch data was used to update the MPI COD database managed by NIWA.

Sample information for the 120 newly-identified observed coral records extracted from *Specify* database *niwainvert* were provided to the COD database manager for loading and table updates. Updating catch records follow the procedure described in Tracey & Sanders (2010). In brief, sample data are loaded into the COD database ‘load’ table, *z_invertebrate_samples*. The data is then used to update catch records in the stage and report tables, *y_benthic*, *y_trw_new_observer_greenweight*, *y_ifs_catch*, *y_ctn_catch* and *x_fishing_event_catch*.

High Seas samples were not differentiated from within EEZ samples at the time of arrival at NIWA for processing. Trip data are provided on sacks of frozen material but no information on general location is given. As such, High Seas samples were processed as part of this project.

While priority has been given to Observer-collected protected corals, some research trawl coral samples have been processed during this reporting period (see Progress Report Mills et al. 2018). The updated identifications for these samples (using MPI codes), will be loaded onto the MPI Research Trawl Database (*trawl*) in the final year of the project.

3.1.3 Photographing corals at-sea

The at-sea instructions to Observers document (Tracey & Mills, 2016b) was prepared and provided to CSP and, following their approval, forwarded to the Observer Services Unit of the MPI Observer Programme in early 2017. The section on the digital collection of photographic images at-sea instructions were emphasised and expanded on in the instructions document. Specifically, it was emphasised that images were to be captured in good light using a plain grey background, if possible, and a size scale, with the specimen label showing trip and tow numbers included in the image. The name of the Observer taking the image was to be retained as this is important for feedback, training, and acknowledgement (particularly if the images are used for other purposes, e.g., guide production, Client Reports).

3.1.4 Digital photo processing

The digital photo images and associated details collected by Observers for this reporting period were obtained from the MPI Observer Programme by a CSP Group representative (Freya Hjorvarsdottir now at MPI / Shannon Weaver), and then uploaded to NIWA's FTP site as they were made available - in November 2017, March 2018, May 2018, and October 2018.

The identification of protected coral digital images was carried out by NIWA coral experts with input from Drs Cairns and Kitahara, as well as by Dr Phil Alderslade and Candice Untiedt (CSIRO).

The images were then georeferenced to show provenance (where possible). Some image metadata was provided via a handwritten label the Observer is required to include in their photograph. Metadata were then assembled manually in a spreadsheet before being embedded into each image file. The metadata includes: the taxonomic name (species, genus or family level); trip and tow number; three-letter MPI species code; keywords relevant to the subject of the image; the NIWA Invertebrate Collection catalogue number (where applicable); the Observer name (photographer); and image rating (where the best rating is 1 – very good quality and the worst is 5 – very bad quality). Image rating classification is defined by the user as there is no universal standard (International Press Telecommunications Council 2018). Table 3-1 shows the image rating classification used for this Project and outlines the factors taken into consideration when assigning a rating to an image.

Table 3-1: The classification system used to assign a rating to an image.

Image Rating	Classification
1	Very good quality. The specimen is in focus and the whole specimen has been photographed. Good lighting and background. The image includes a label with complete data. There may also be a scale present. The specimen weight may also be shown in the image.
2	Good quality. All the specimen, or part of the specimen, is in focus. The lighting and background is sufficient. The image includes a label with some or complete data. May include more than one coral specimen. There may also be a scale present. The specimen weight may also be shown in the image.
3	Average quality. All the specimen, or part of the specimen, is in focus. The image may include a label with some data, and a specimen weight may be shown. Insufficient lighting and background. May include more than one coral specimen.
4	Bad quality. All the specimen, or part of the specimen, may be in focus, or in focus enough to be able to determine what it is. There is no label in the image. It is not photographed against a good background with a scale and good lighting, and/or photographed at an unhelpful angle. The image is of an aggregated group of corals and other specimens, so it is not clear what the subject of the image is. The image is of a non-coral.
5	Very bad quality. The specimen, or part of the specimen, is out of focus and is not able to be identified to a sufficient taxonomic level as a result. There is no label in the image. It is not photographed against a good background with a scale and good lighting, and/or photographed at an unhelpful angle. The image is of an aggregated group of corals and other specimens, so it is not clear what the subject of the image is. The image is of a non-coral.

Using the ACDSee Pro 3 (version 3.0) software the metadata information for each image was added manually into the relevant field or by assigning a value from a drop down ‘picklist’, and then embedded in the image file.

3.1.5 Georeferencing digital image data using *COD*

A descriptive data output for the images was produced with appended location data and other required information sourced from *COD* - e.g., position (the start and end coordinates of the tow that sampled the photographed coral), depth, along with the collected date, fishing method, target species, and Observer Fisheries Management Area in which the coral was caught.

When the tow number was not shown on a label in the image, efforts were made to obtain these details using the trip number and the date and the time stamp of image (extracted from the digital image properties) to then enable location details to be extracted from the *COD* database, MPI photographic logs, and ‘Benthic Materials’ forms. The data interrogation process to georeference the station data for unlabelled Observer images was as follows:

- obtain the image timestamp from the digital image
- reconstruct image station number information

- interrogate *COD* database and Observer return forms (photographic logs and Benthic Materials forms), using information such as the trip number, the date and the time stamp of image capture to help obtain tow details.

By applying these methods, we were, with a reasonable degree of confidence, able to assign a station number to several digital images. We noted that some cameras time-date stamps were not set correctly which complicated the task; see below.

3.2 Objective 2: To collect sub-samples of all protected cold-water coral specimens for genetic analysis in the future.

Tissue samples were taken from all live protected coral samples provided to NIWA by Observers. The samples were stored with a unique label in standard vials in 99% high grade absolute ethanol. The genetic samples are currently held in the NIC -20°C freezer.

4 Results

4.1 Objective 1: Identification of corals returned to NIWA

4.1.1 Physical specimens

The NIWA Invertebrate Collection (NIC) Specify Database *niwainvert* extract (Appendix 1) provided in this draft Final Report includes identifications of physical specimens carried out by the coral experts visiting the NIC in January and March 2018. To ensure the target of 200 was met, recently collected protected coral identifications and historical Observer and research trawl survey specimen identifications were included, the extract (n= 206). These encompass the period from 1 July 2017–30 June 2018.

During the milestone reporting period 1 October 2017–31 December 2017, NIWA received and processed ten Observer collected protected coral specimens. Of these one gorgonian octocoral is awaiting identification and two black corals will be provided to expert Marzia Bo, for identification in early next year. The remaining specimens were identified in March 2018 and are also summarised in the *niwainvert* extract.

Jaret Bilewitch, (NIWA) was funded by a Ministry for Business, Innovation & Employment Strategic Science Investment Fund Enhancing Collections project to review and summarise the diversity and taxonomic status of members of the plexaurid (Family Plexauridae) octocoral family held in the NIC. All representative genera were studied and documented, with further grouping into morpho-species to assist with any future efforts to describe material to species-level. One new genus and several new species were discovered and the NIC has enough material to provide a full description of these with future funding. Jaret's identifications have provided updates for three Observer collected specimens included in the extracts and his identifications were at no cost to the project.

4.2 Input from international coral experts

One historical Observer sample of a black coral was identified during this reporting period by Dennis Opresko (Smithsonian Institution), species *Lillipathes* cf. *ritamariae*. The specimen will be described

shortly and is believed to be a new species *Lillipathes* n. sp. close to *Lillipathes ritamariae*, however results from the genetic analyses are still required (Dennis Opresko, pers. comm.).

New identifications by Drs Cairns and Kitahara for New Zealand's key protected coral fauna Primnoidea octocorals and Scleractinia stony corals respectively were described in the progress report (Mills et al. 2018) and are again summarised here. The coral specimens identified were both by-catch samples and images collected by Observers and by researchers on trawl surveys. When time allowed, additional non-project samples e.g., those collected from various NIWA led biodiversity surveys were also identified by the experts and in total about 1400 samples lots were able to be examined and the NIC database *niwainvert* records were updated. At least 5 undescribed species and about 23 new records for the New Zealand region were found during their visit.

Following on from his visit, Dr Cairns will prepare a third NIWA Memoir on the abundant primnoid octocoral genus *Thouarella*. His examination of our *Thouarella* collection thus far has revealed that most of the samples initially thought to be *Thouarella* are actually *Metafannyella*, particularly *Metafannyella chathamensis*, or *Dasystenella* or *Fanellia histoclados*, and that the remaining *Thouarella* samples could be split into 10–12 morphotypes. This will be a valuable output and Stephen's 5th Memoir on the region's corals.

Dr Kitahara will use coral tissue samples for his global phylogenetic study of shallow and deep water scleractinians. From his recent work for the French National Museum of Natural History, he was able to confirm that the branching stony coral *Oculina virgosa* is not endemic to our region, as initially believed, but is also found in other parts of the Pacific.

The NIC hosted Candice Untiedt, a PhD student based in Tasmania at CSIRO for three weeks from 8 to 25 January 2018. The visit from Candice was part of an informal Australia-New Zealand Deepsea collaboration (ANZDeep) that has a key activity to improve our knowledge of the regions' protected deepsea corals, with funding from CSIRO. Candice is studying the taxonomy and ecology of the Chrysogorgiidae, (golden corals). Thirty-three samples were from observed commercial trips (n = 29) and research surveys (n = 4) and were possible to be included at no cost to this Project. Candice isolated at least 10 species amongst these specimens, some of which are undescribed. Candice took subsamples of coral polyps from these specimens for further analysis, including genetic sequencing, so we may expect the diversity of this group in our region to be expanded once these samples have been examined in more detail.

4.2.1 Loading into COD

The *niwainvert* summary extract was provided for uploading into COD. The COD extract summary is provided in Appendix B (see also Tables 4-1 and 4-2). The Observer samples for updating in COD included:

- 24 records where the initial Observer identification and the expert identification differed.
- 21 records in COD catch did not require updating as the MPI species code matched the expert identification MPI code.
- 88 new records were inserted into the catch tables. New records occur when no data was entered by the Observer and this usually occurs with the historical samples or when more than one species is associated with a coral record (e.g., a coral associate on a coral specimen).

- No samples were unusable due to missing or invalid trip number/tow numbers or lack of available catch effort data recorded in COD.

Table 4-1: Summary of protected coral samples by Fisheries Management Area (FMA).

Area	Description	Count of Samples
SOE	South-East (FMA4)	21
SUB	Sub-Antarctic (FMA6)	17
SOU	Southland (FMA5)	13
CET	Challenger Plateau, beyond EEZ (ET)	13
WANB	Wanganella Bank (ET)	11
AKW	Auckland West (FMA9)	11
AKE	Auckland East (FMA1)	8
HOWE	Lord Howe Rise (ET)	8
TMAR	Tasmanian Ridge (ET)	6
CEE	Central East (FMA2)	4
KER	Kermadec (FMA10)	3
SOI	Southern Offshore Islands (SQU6T)	3
SEC	South-East Coast (FMA3)	2

Table 4-2: Summary of protected coral samples by fishing method and target fishery. TWL, trawl; BLL, Bottom Longline.

Target Fishery (common name)	MPI code	Fishing Method	Count of Tows
Orange roughy	ORH	TWL	64
Oreos	OEO	TWL	15
Smooth oreo	SSO	TWL	8
Patagonian toothfish	PTO	BLL	6
Scampi	SCI	TWL	5
Hoki	HOK	TWL	4
Black oreo	BOE	TWL	4
Cardinalfish	CDL	TWL	3
Tarakihi	TAR	TWL	3
Bass groper	BAS	BLL	3
Alfonsino & long-finned beryx	BYX	TWL	2
Alfonsino	BYS	TWL	2
Hake	HAK	TWL	1

The location of Observer Fisheries Management Areas (FMA) as referred to in the text are shown in Figure 4-1. FMA's South-East, Sub-Antarctic, and Southland had the highest count of protected coral samples, numbers are also high in the High Seas regions, a total of 38 overall. Of note, three samples were taken by bottom long-line (BLL) from the Kermadec FMA. These were samples from a historical trip, (trip – 1099) in Mar-Apr 1998. One sample in this area came from a tow targeting orange roughy, two samples from a tow targeting tarakihi.

Of the samples received for identification, there were 111 taken by bottom trawls (TWL) and 9 by (BLL) sets targeting key fish species. Most tows that recorded protected corals as by-catch were from vessels targeting the key deep-sea species orange roughy and oreos (black oreo, smooth oreo, and spiky oreo).

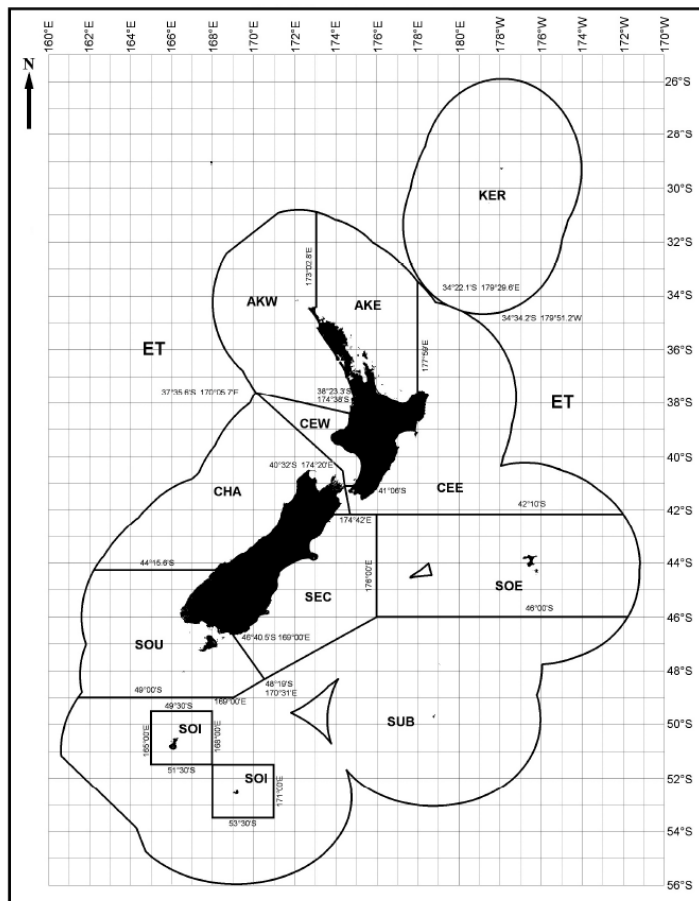


Figure 4-1: Location of Observer Fisheries Management Area (FMA). Taken from the MPI Observer Manual.

4.2.2 Digital image data

The digital images and associated details collected by Observers for this reporting period were obtained from a CSP Group representative from the MPI Observer Programme and uploaded to NIWA’s FTP site as they were made available in November 2017 (representing images photographed from 1 July 2017 to October 2017), March 2018 (October 2017 to 31 December 2017), May 2018 (January 2018 to April 2018) and October 2018 (April 2018 to June 2018) (Table 4-3).

Table 4-3: The number of images received in each period during the reporting period 1 July 2017 - 30 June 2018.

Period	Received	Count of Images
1 July 2017 to October 2017	Nov 2017	185
October 2017 to 31 December 2017	Mar 2018	17
January 2018 to April 2018	May 2018	31
April 2018 to June 2018	Oct 2018	508
Total		741

1 July 2017 to October 2017

During the period 1 July 2017 to October 2017, NIWA received 185 digital images. Of these, 153 were processed by the cut-off date (beginning of February 2018). Of the 153 images, 140 were of protected corals (Figure 4-2) and were identified to the finest taxon level possible, and 95 were georeferenced to show provenance. That left 45 protected coral and three non-coral images unable to be georeferenced due to missing station number or incomplete MPI photographic logs and 'Benthic Materials Form' data. The remaining images were of non-protected coral taxa, that is hydroids, sponges, a kelp holdfast and a disc from a basket star (n = 13) (Macpherson et al. 2018).

During the visits from Drs Kitahara and Cairns to NIWA in March 2018, the opportunity was taken to show them previously unidentified specimen photos and they were able to contribute an additional 13 protected coral identifications (seven of which were unable to be georeferenced) and revise eight identifications already made by NIWA staff (Mills et al. 2018). This report includes an additional four new identifications (one of which was not able to be georeferenced) of black coral specimens that were not reported on in Macpherson et al. (2018) or Mills et al. (2018).



Figure 4-2: Protected scleractinian coral *Enallopsammia rostrata* (left) was photographed 19 times, and protected black coral *Leiopathes* sp. was photographed 15 times (right) by Observers from 1 July 2017 to October 2017. [Observer, MPI].

October 2017 to 31 December 2017

During the period October 2017 to 31 December 2017 NIWA received 17 digital images in March 2018, 12 of which were photographed outside of the EEZ, therefore the remaining five images only were processed and identified, and all of them were georeferenced despite all the images lacking labels. Three of the five images were of protected corals *Goniocorella dumosa* (Figure 4-3) and *Desmophyllum dianthus*, and the remaining two were of several non-protected Bryozoa species (Mills et al. 2018).



Figure 4-3: Protected scleractinian coral *Goniocorella dumosa* [Observer, MPI].

January 2018 to April 2018

During the period January 2018 to April 2018 NIWA received 31 digital images in May 2018, 11 of which were photographed outside of EEZ, therefore the remaining 20 images only were processed and identified, and all of them were georeferenced despite the majority of the protected coral images lacking labels. Of these 20 images, six were of protected hydrocoral *Crypthelia* sp (Figure 4-4), two were of protected black corals cf. *Lillipathes* sp (Figure 4-4) and possibly *Antipathella* and one of protected stony coral *Desmophyllum dianthus*. The remaining 11 were of non-protected coral taxa, that is hydroid *Cryptolaria* sp, a sponge, possibly *Dendrilla*, and possibly seaweed.

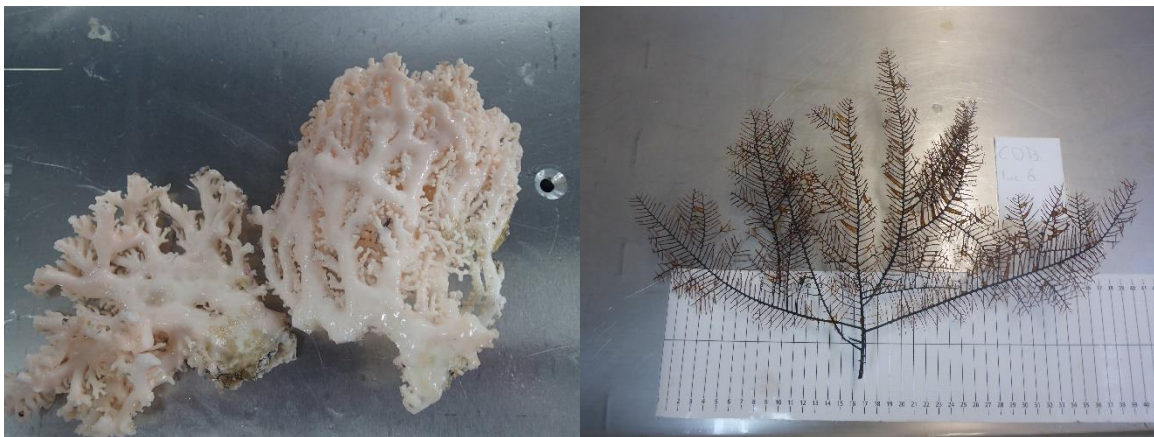


Figure 4-4: Protected stylasterid hydrocoral *Crypthelia* sp. (left) and an intriguing protected black coral specimen (right) that closely resembles *Lillipathes* sp. but taxonomically appears different [Observer, MPI].

April 2018 to June 2018

For the April 2018 to June 2018 period, NIWA received 508 digital images in October 2018. This number comprised of: 157 images already received in previous deliveries, photographed between May 2017 and September 2017 (currently these are a mix of processed, identified and unprocessed, unidentified images); 237 non-protected coral taxa images, photographed between April 2017 and April 2018; and

114 protected coral images and of species that look similar to protected corals, photographed between May 2017 and June 2018, not already received in previous deliveries. Additionally, of the 114 coral images, 33 were photographed during the reporting period 1 July 2016 – 30 June 2017. These 114 images were prioritised and chosen for processing.

Of the 114 images, 108 were of protected corals (Figure 4-5) and were identified to the finest taxon level possible, and 98 of these were georeferenced to show provenance, leaving 10 protected coral images and three non-coral images unable to be georeferenced due to missing station number or incomplete MPI photographic logs and 'Benthic Materials Form' data. The remaining images were of non-protected coral taxa, that is a sea pen, soft corals, bryozoan, sponge and kelp (n=6).

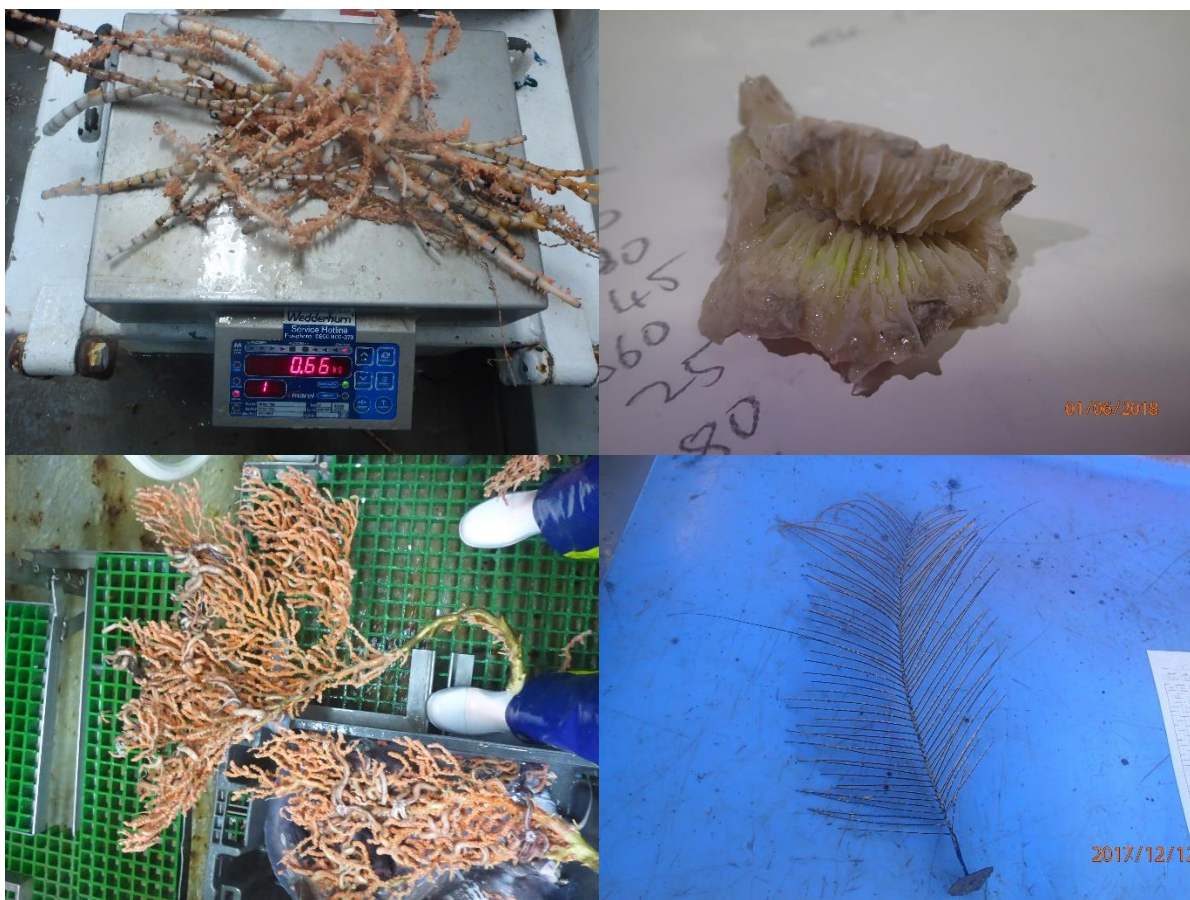


Figure 4-5: Protected bamboo coral *Keratoisis* sp. (top left), protected scleractinian cup coral *Flabellum* sp. (top right), large colonies of protected primnoid sea fan coral *Primnoa* sp. (bottom left) and an intact protected black coral colony *Bathypathes* sp. (bottom right) [Observer, MPI].

In total, during the reporting period 1 July 2017 to 30 June 2018, NIWA received 741 digital images (Table 4-3) and 309 of these were processed by the cut-off date (beginning of December 2018). Of the 309 images, 277 were of protected corals and were identified to the finest taxon level possible (Table 4-4), and 214 of these were georeferenced to show provenance, leaving 63 protected coral (Table 4-5) and six non-coral images unable to be georeferenced due to missing station number or incomplete MPI photographic logs and 'Benthic Materials Form' data. The remaining images were of non-protected coral taxa, that is hydroids, sponges, bryozoans, kelp and soft corals (n = 32) (Appendix C).

Table 4-4: The count of processed images that were of protected coral taxa and that were not of protected coral taxa, received during the reporting period 1 July 2017 - 30 June 2018.

Period	Protected coral images	Non-protected coral images	Total images processed
1 July 2017 to October 2017	157	13	170
October 2017 to 31 December 2017	3	2	5
January 2018 to April 2018	9	11	20
April 2018 to June 2018	108	6	114
Total	277	32	309

Table 4-5: The count of processed images of protected coral taxa that were georeferenced and the count that were unable to be georeferenced, received during the reporting period 1 July 2017 - 30 June 2018.

Period	Georeferenced protected coral images	Unable to be georeferenced protected coral images	Total protected coral images
1 July 2017 to October 2017	104	53	157
October 2017 to 31 December 2017	3	0	3
January 2018 to April 2018	9	0	9
April 2018 to June 2018	98	10	108
Total	214	63	277

Since commencing this project, an overall total of 1197 images have been received by NIWA and 513 have been processed to date. Of the processed images, 432 were of protected corals, and 361 of these were georeferenced.

Table 4-6: A summary of the count of images received and processed, and the number of those that were identified as protected coral taxa and were able to be georeferenced, since this project commenced.

Reporting Year	Images received	Images processed	Processed and identified protected coral images	Georeferenced processed and identified protected coral images
1 (1 July 2016 – 30 June 2017)	456	204	155	147
2 (1 July 2017 - 30 June 2018)	741	309	277	214
Total	1197	513	432	361

Data summaries for the images for the reporting period 1 July 2017 - 30 June 2018 are provided below and include a count by Observer Fisheries Management Areas (FMA) (Table 4-3, also see Figure 4-1) and a count of tows by fishing method and target fishery (Table 4-4).

Table 4-7: Summary of protected coral images by Fisheries Management Area (FMA).

Area	Description	Count of Images
HOWE	Lord Howe Rise (ET)	55
SUB	Sub-Antarctic (FMA6)	49
SOU	Southland (FMA5)	28
CET	Challenger Plateau (ET)	24
LOUR	Louisville Ridge (ET)	22
AKE	Auckland East (FMA1)	20
SOE	South-East (FMA4)	19
AKW	Auckland West (FMA9)	18
SOI	Southern Offshore Islands (FMA 6A/QMA SQU6T)	9
SEC	South-East Coast (FMA3)	7
CHA	Challenger Plateau (FMA7)	5
SOET	Southern Ocean (ET)	3

Table 4-8: Summary of protected coral images by fishing method and target fishery.

Target Fishery (common name)	MPI code	Fishing Method	Count of Tows
Orange roughy	ORH	Trawl	66
Arrow squid	SQU	Trawl	19
Smooth oreo	SSO	Trawl	18
White warehou	WWA	Trawl	13
Ling	LIN	Trawl	8
Snapper	SNA	Bottom Longline	7
Hoki	HOK	Trawl	7
Scampi	SCI	Trawl	6
Alfonsino	BYS	Trawl	5
Alfonsino & long-finned beryx	BYX	Trawl	4
Tarakihi	TAR	Trawl	4
Ling	LIN	Bottom Longline	3
Antarctic toothfish	ATO	Bottom Longline	3
Barracouta	BAR	Trawl	3
Trevally	TRE	Trawl	3
Silver warehou	SWA	Trawl	2
Ling	LIN	Setnet	2
Rig	SPO	Setnet	2
Hapuku	HAP	Bottom Longline	1
Bluenose	BNS	Bottom Longline	1
Hake	HAK	Trawl	1
Hapuku & bass	HPB	Trawl	1
School shark	SCH	Setnet	1
Patagonian toothfish	PTO	Bottom Lining	1

Of the images that were able to be georeferenced, there were 104 samples photographed from the High Seas (ET) areas (LOUR, HOWE, CET and SOET), and the majority of the digital images of protected corals were photographed in the High Seas area HOWE (n=55). Within the EEZ most of the digital images of protected corals were photographed in the Sub-Antarctic area (n=49), followed by the Southland area (n=28). Bottom trawls targeting orange roughy collected the majority of digital images of protected corals (n=66). Other trawl fisheries providing protected coral images from trawl by-catch included those targeting arrow squid (n=19), smooth oreo (n=18), white warehou (n = 13), ling (n=8), hoki (n=7) and scampi (n=6). Bottom long lining targeting snapper (n=7), ling (n=3) and Antarctic toothfish (n=3) took corals as by-catch, along with hapuku, bluenose and Patagonian toothfish.

Instructions to Observers (Tracey et al. 2018) include statements such as “the image is to include the specimen label showing trip and tow numbers”, and we noted that in several of the images provided to NIWA, some included non-corals and the majority lacked tow data information. It is essential to have trip and tow numbers to determine the provenance of the photographed coral and determine the circumstances surrounding its capture (e.g., the Fishery Management Area it was caught in, the target fishery and the fishing method). For some images however, the provenance data was still able to be determined to a reasonable degree of confidence by using information such as the trip number, the date and the time stamp of image capture (extracted from the digital image properties), examining the MPI photographic logs, and the ‘Benthic Materials’ forms to help obtain tow details from the *COD* database. Although this was a time-consuming task, we were mostly successful in obtaining the required provenance information from *COD*.

Furthermore, trip and tow numbers help to determine whether the photographed coral was caught within New Zealand’s EEZ as this Project does not currently fund the identification of corals captured in the High Sea. In some cases, trip number alone was sufficient to be able to determine whether fishing was conducted within the EEZ, and in those cases an initial screen of the images using the trip number to determine their general provenance was done before processing began to ensure High Sea images were not processed. However, in many cases trip number alone was not sufficient to determine whether the sample was from the High Seas as fishing was conducted both within and outside the EEZ during the same trip. As a result, 104 High Seas images were processed.

The image data are currently held in spreadsheet form and in a secure drive at NIWA. Image data for the reporting period 1 July 2016 – 30 June 2017 was presented in Appendix C in Tracey et al. (2017c). Image data for the reporting period 1 July 2017 – 30 June 2018 are presented in this report (Appendix C). A final repository for these images is expected to be the NIWA public image database Atlas [<https://atlas.niwa.co.nzpublic.jsp/>]. Further discussion with DOC and MPI will take place to progress the future storage of images.

4.3 Specific objective 2: Sub-samples of protected coral specimens for genetic analysis

Tissue sub-samples taken from Observer collected corals during the sample sorting process is on-going. There are now 49 samples held in storage in readiness for molecular studies and representing various coral groups.

5 Summary conclusions

The objective to identify the protected coral specimen samples was met, with the process being reasonably efficient as the identification methods have been on-going and standardised for several years. The difficulty in matching several digital images with trip data is however an ongoing issue, see below. Tissue samples continue to be collected for future research.

The identified samples have been collected opportunistically from commercial fishing activity and received by NIWA when Observers are uncertain of their identification of the coral specimen, the specimen has been caught outside the given depth range or distribution, or if it the specimen was rare or unusual. The data are very valuable and are regularly being used to highlight interactions between fishing and protected corals and factors such as bottom trawling have been identified as impacting corals and causing mortality (e.g., see Clark & Rowden 2009; Clark et al. 2010; Williams et al. 2010; Anderson et al. 2018).

A total of 206 specimens and 277 digital images were identified. The numbers of Observer specimens returned for identification from within the EEZ have been low however we have been able to meet the required number by identifying historical and also High Seas samples. The number of identified images was exceeded and as such less digital images of protected corals will be identified next financial year.

Some taxonomic highlights, such as new species and genera, are described. These include at least 5 undescribed species and about 23 new records for the region e.g., a new black coral species *Lillipathes* n. sp. for which we are awaiting confirmation from genetic results, and new species of golden coral. As a result of the visit from experts Cairns and Kitahara a Memoir on the region's *Thouarella* primnoid octocorals will be prepared and our branching stony coral *Oculina virgosa* has been confirmed to not be endemic to our region but found in other parts of the Pacific.

Of the specimen samples received, there were 111 bottom trawls targeting key deepsea species that recorded protected corals as by-catch and bottom long-line activity also caught corals (n=9). The accuracy of the Observer identifications at sea have not been analysed in detail but there were 24 records that did not require an update of the original Observer identification in COD.

Very few digital images supplied to NIWA included a label in the image showing station number, nor an indication of station number. Factors outlined below in the Recommendation Section highlight how the digital image identification task was made onerous. Nevertheless, a large number of Observer-collected digital coral photographs were able to be identified (n=277). More confidence in data quality and significant gains in efficiency could be achieved if station number information was able to be logged and passed on through the process upon receipt of photographs, rather than the bulk of these being reconstructed from qualitative examination of Observer data. The image timestamp field is somewhat unreliable in this process, as it was apparent that some cameras deployed did not have their internal clocks set correctly.

6 Recommendations

To ensure a greater degree of confidence in data quality and for significant gains in efficiency we recommend:

- that the instructions to Government Observers on methods to capture images at-sea (Tracey et al. 2017) need to be stressed via the MPI Observer Programme, with emphasis on including a label in the image when photographing the specimen with details of the station number/ tow number and if possible, that the station number be included in the image file name.
- the Observer programme provide the Observer with specimen labels and that they are consistently used when photographing the specimen.
- the Observer consistently highlight or tick 'image taken' on the benthic materials form.
- a discussion with CSP and MPI to improve the process of logging of station number information upon receipt of the digital images take place early 2019 to avoid having to reconstruct information from qualitative examination of Observer data.
- that the camera's time stamp be set correctly. This detail could be added to the Instructions to Observers document.
- Observers be given GPS-enabled cameras.

We do note that it can be difficult to reflect the time period accurately to match a station when photographs are taken. This is because the Observers may not always be able to take photos of the samples until after their shift ends or after some period of storage e.g., in a fridge or freezer, rather than immediately upon the collection of the specimen. If the time clock is set correctly however, then this will save time when interrogating databases and forms.

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Appendix A Specify database summary of sample data provided by species for the Observer collected data

TRIP	Tow	NIWA Cat. No.	OSD No.	Initial OBS ID	Phylum	Class	Order	Family	Genus	Species	Determiner	Determined Date	Sample Count	Date	Latitude	Longitude	Depth 1	Depth 2	Observer
2506	95	44360			Cnidaria	Anthozoa	Alcyonacea	Acanthogorgiidae	<i>Acanthogorgia</i>		Phil Alderslade	17/05/2017	1	11/10/2007	-46.7	170.5	855	940	
2653	47	42486	92		Cnidaria	Anthozoa	Alcyonacea	Acanthogorgiidae	<i>Acanthogorgia</i>		Phil Alderslade	17/05/2017	1	17/07/2008	-49.9	175.6	900		
3933	8	88639	2703		Cnidaria	Anthozoa	Alcyonacea	Acanthogorgiidae	<i>Acanthogorgia</i>		Phil Alderslade	18/05/2017	1	9/11/2013	-32.5	167.5	104	94	S. Town
2714	80	62915			Cnidaria	Anthozoa	Alcyonacea	Anthothelidae	<i>?Anthothela</i>		Phil Alderslade	16/05/2017	1	12/11/2008	-44.5	-178.6	785	880	
3155	11	65905	1058	CHR	Cnidaria	Anthozoa	Alcyonacea	Chrysogorgiidae	<i>Chrysogorgia</i>		Phil Alderslade	22/05/2017	1	10/07/2010	-34.4	174.2	918	1077	
3235	23	69540	1264		Cnidaria	Anthozoa	Alcyonacea	Chrysogorgiidae	<i>Chrysogorgia</i>		Phil Alderslade	22/05/2017	1	5/12/2010	-42.9	177.6	465	437	
3252	6	69533	1257		Cnidaria	Anthozoa	Alcyonacea	Chrysogorgiidae	<i>Chrysogorgia</i>		Phil Alderslade	22/05/2017	1	29/12/2010	-34	168.1	912	997	
4546	101	95226	3267		Cnidaria	Anthozoa	Alcyonacea	Chrysogorgiidae	<i>Chrysogorgia</i>		Phil Alderslade	16/05/2017	1	14/12/2015	-35.9	165.6	686	1090	Luc Ettema
3246	5	121481	1273		Cnidaria	Anthozoa	Alcyonacea	Chrysogorgiidae	<i>Chrysogorgia</i>	<i>?curvata</i>	Phil Alderslade	22/05/2017	1	24/12/2010	-33.6	167.8	1104	959	
3246	5	69549	1273		Cnidaria	Anthozoa	Alcyonacea	Chrysogorgiidae	<i>Chrysogorgia</i>	<i>?tetrasticha</i>	Phil Alderslade	22/05/2017	1	24/12/2010	-33.6	167.8	1104	959	
4823	56	106525	3501	LEI	Cnidaria	Anthozoa	Alcyonacea	Chrysogorgiidae	<i>Metallagorgia</i>	<i>macrospina</i>	Phil Alderslade	16/05/2017	1	21/10/2016	-34.1	162.5	493	864	J.HOU.
3246	22	69550	1274		Cnidaria	Anthozoa	Alcyonacea	Chrysogorgiidae	<i>Metallagorgia</i>	<i>melanotrichos</i>	Phil Alderslade	22/05/2017	1	31/12/2010	-35.6	166	851	1141	
3155	11	65904	1057	MTL	Cnidaria	Anthozoa	Alcyonacea	Chrysogorgiidae	<i>Pseudochrysogorgia</i>	n. sp.	Phil Alderslade	22/05/2017	1	10/07/2010	-34.4	174.2	918	1077	
TAN1614	28	121413	116	RAD	Cnidaria	Anthozoa	Alcyonacea	Chrysogorgiidae	<i>Radicipes</i>		Phil Alderslade	24/05/2017	4	6/12/2016	-51.85783333	173.0833333	612	621	
4459	32	95179	3201	SIA	Cnidaria	Anthozoa	Alcyonacea	Coralliidae	<i>Corallium</i>		Peter Marriott	23/03/2017	1	30/07/2015	-48.8	166.4	503		
1137	14	14394			Cnidaria	Anthozoa	Alcyonacea	Isididae			Phil Alderslade	17/05/2017	1	15/08/1998	-47.2	148.7	936		
1137	3	14396			Cnidaria	Anthozoa	Alcyonacea	Isididae			Phil Alderslade	17/05/2017	1	7/08/1998	-47.5	148.9	1031		
1137	14	14397			Cnidaria	Anthozoa	Alcyonacea	Isididae			Phil Alderslade	17/05/2017	1	15/08/1998	-47.2	148.7	936		
1152	4	14392			Cnidaria	Anthozoa	Alcyonacea	Isididae			Phil Alderslade	17/05/2017	1	4/09/1998	-47.5	148.9	1086		
1153	32	14393			Cnidaria	Anthozoa	Alcyonacea	Isididae			Phil Alderslade	17/05/2017	1	6/09/1998	-47.5	148.8	890		
1164	5	14389			Cnidaria	Anthozoa	Alcyonacea	Isididae			Phil Alderslade	17/05/2017	1	9/10/1998	-47.2	148.7	1022		
1164	16	14412			Cnidaria	Anthozoa	Alcyonacea	Isididae			Phil Alderslade	17/05/2017	1	11/10/1998	-47.5	148.8	911		
1171	112	14390			Cnidaria	Anthozoa	Alcyonacea	Isididae			Phil Alderslade	17/05/2017	1	11/12/1998	-48.6	165	1056		
1171	112	14400			Cnidaria	Anthozoa	Alcyonacea	Isididae			Phil Alderslade	17/05/2017	1	11/12/1998	-48.6	165	1056		
1218	10	14403			Cnidaria	Anthozoa	Alcyonacea	Isididae			Phil Alderslade	17/05/2017	1	28/03/1999	-34.8	171.7	1007		

TRIP	Tow	NIWA Cat. No.	OSD No.	Initial OBS ID	Phylum	Class	Order	Family	Genus	Species	Determiner	Determined Date	Sample Count	Date	Latitude	Longitude	Depth 1	Depth 2	Observer
1218	10	14405			Cnidaria	Anthozoa	Alcyonacea	Isididae			Phil Alderslade	17/05/2017	1	28/03/1999	-34.8	171.7	1007		
1218	10	14414			Cnidaria	Anthozoa	Alcyonacea	Isididae			Phil Alderslade	17/05/2017	1	28/03/1999	-34.8	171.7	1007		
1828	7	121552			Cnidaria	Anthozoa	Alcyonacea	Isididae			Phil Alderslade	26/05/2017	1	2/10/2003	-34.7	171.8	1204		
2889	57	66241	34		Cnidaria	Anthozoa	Alcyonacea	Isididae			Phil Alderslade	18/05/2017	1	13/07/2009	-37.3	167.4	782	782	
2920	4	66246	358		Cnidaria	Anthozoa	Alcyonacea	Isididae			Phil Alderslade	18/05/2017	1	12/09/2009	-45.3	171.8	883	1074	
2970	53	66312	386		Cnidaria	Anthozoa	Alcyonacea	Isididae			Phil Alderslade	18/05/2017	1	23/11/2009	-48.7	175.3	836	822	
2718	7	65918	1071	LLE	Cnidaria	Anthozoa	Alcyonacea	Isididae	?Isidella		Phil Alderslade	19/05/2017	1	10/11/2008	-46.4	171.2	1050	1151	
3028	128	66214	539		Cnidaria	Anthozoa	Alcyonacea	Isididae	?Isidella		Phil Alderslade	19/05/2017	1	9/01/2010	-44.5	-178.7	670	920	
3219	45	69519	1238		Cnidaria	Anthozoa	Alcyonacea	Isididae	?Keratoisis		Phil Alderslade	19/05/2017	1	2/11/2010	-37.4	176.4	370		
3223	20	65993	1209		Cnidaria	Anthozoa	Alcyonacea	Isididae	?Keratoisis		Phil Alderslade	18/05/2017	1	5/11/2010	-45	174.2	1024	1030	
3802	24	88593	2603		Cnidaria	Anthozoa	Alcyonacea	Isididae	?Keratoisis		Phil Alderslade	19/05/2017	1	16/07/2013	-47	165.7	484	721	
4448	41	95183	3205		Cnidaria	Anthozoa	Alcyonacea	Isididae	?Keratoisis		Phil Alderslade	16/05/2017	1	16/07/2015	-38.4	-168.1	263	298	C.Morrish
4364	36	95129	3118		Cnidaria	Anthozoa	Alcyonacea	Isididae	Acanella		Phil Alderslade	16/05/2017	1						
4546	4	95240	3281		Cnidaria	Anthozoa	Alcyonacea	Isididae	Acanella		Phil Alderslade	16/05/2017	1	16/11/2015	-37.4	169	1046	1039	
1171	46	14399			Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratoisis		Phil Alderslade	17/05/2017	1	30/11/1998	-48.6	165	940	1180	
2938	6	66201	441		Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratoisis		Phil Alderslade	17/05/2017	1	25/09/2009	-53.5	140	1274	998	
3028	18	66212	537		Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratoisis		Phil Alderslade	19/05/2017	1	24/12/2009	-48.7	164.8	431	363	
3028	11	66213	538		Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratoisis		Phil Alderslade	19/05/2017	1	23/12/2009	-46.8	170.6			
3136	46	88588	2598		Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratoisis		Phil Alderslade	19/05/2017	1	15/06/2010	-34	167.5	746	938	
3246	11	69552	1276		Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratoisis		Phil Alderslade	19/05/2017	1	27/12/2010	-34.2	162.6	431	645	
3252	9	69580	1311		Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratoisis		Phil Alderslade	19/05/2017	1	30/12/2010	-33.6	167.8	841	1049	Obs S.YEO
4546	101	95223	3264		Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratoisis		Phil Alderslade	16/05/2017	1	14/12/2015	-35.9	165.6	686	1090	
4815	10	106530	3509	BOO	Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratoisis		Phil Alderslade	16/05/2017	1	10/10/2016	-47.3	178.8	787		J.MAD
TAN1609	51	121403	37	LLE	Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratoisis	hikurangiensis	Phil Alderslade	24/05/2017	1	16/08/2016	-41.85766667	169.834	965	963	
3155	11	65903	1056	BOO	Cnidaria	Anthozoa	Alcyonacea	Isididae	Lepidisis	solitaria	Phil Alderslade	19/05/2017	1	10/07/2010	-34.4	174.2	918	1077	
2718	53	65917	1070	PAB	Cnidaria	Anthozoa	Alcyonacea	Paragorgiidae	Paragorgia	alisonae	Phil Alderslade	18/05/2017	1	16/11/2008	-50	175	884	970	
2718	47	65926	1079	PAB	Cnidaria	Anthozoa	Alcyonacea	Paragorgiidae	Paragorgia	alisonae	Phil Alderslade	17/05/2017	1	16/11/2008	-50	175.1		916	
2718	47	65926	1079	PAB	Cnidaria	Anthozoa	Alcyonacea	Paragorgiidae	Paragorgia	alisonae	Phil Alderslade	17/05/2017	1	16/11/2008	-50	175.1		916	
3004	37	66270	477		Cnidaria	Anthozoa	Alcyonacea	Paragorgiidae	Paragorgia	arborea	Phil Alderslade	17/05/2017	1	24/11/2009	-44.6	-177.6	996		

TRIP	Tow	NIWA Cat. No.	OSD No.	Initial OBS ID	Phylum	Class	Order	Family	Genus	Species	Determiner	Determined Date	Sample Count	Date	Latitude	Longitude	Depth 1	Depth 2	Observer
3223	74	65991	1207		Cnidaria	Anthozoa	Alcyonacea	Paragorgiidae	<i>Paragorgia</i>	<i>arborea</i>	Phil Alderslade	19/05/2017	1	18/11/2010	-44.3	179.3	1036		
4815	38	106531	3510	COU	Cnidaria	Anthozoa	Alcyonacea	Paragorgiidae	<i>Paragorgia</i>	<i>cf. alisonae</i>	Phil Alderslade	16/05/2017	1	15/10/2016	-47.4	178.8	930	918	J.MAD
3140	45	65896	1049	PAB	Cnidaria	Anthozoa	Alcyonacea	Paragorgiidae	<i>Paragorgia</i>	<i>coralloides</i>	Phil Alderslade	18/05/2017	1	29/06/2010	-34	168.2	836	955	
3177	37	65949	1124	PAB	Cnidaria	Anthozoa	Alcyonacea	Paragorgiidae	<i>Paragorgia</i>	<i>coralloides</i>	Phil Alderslade	18/05/2017	1	1/09/2010	-34.1	162.7	541	596	J.Houston
3252	10	69538	1262		Cnidaria	Anthozoa	Alcyonacea	Paragorgiidae	<i>Paragorgia</i>	n. sp. α	Phil Alderslade	19/05/2017	1	30/12/2010	-33.6	167.8	776	998	
3136	46	88589	2599		Cnidaria	Anthozoa	Alcyonacea	Paragorgiidae	<i>Paragorgia</i>	n. sp. β	Phil Alderslade	18/05/2017	1	15/06/2010	-34	167.5	746	938	
4546	101	95221	3262	COB	Cnidaria	Anthozoa	Alcyonacea	Plexauridae	<i>Anthomoricea</i>		Phil Alderslade	16/05/2017	1	14/12/2015	-35.9	165.6	686	1090	
4448	41	95184	3206		Cnidaria	Anthozoa	Alcyonacea	Plexauridae	<i>Clematissa</i>	sp. A	Phil Alderslade	16/05/2017	1	16/07/2015	-38.4	-168.1	263	298	C.Morrish
3248	27	69602	1335		Cnidaria	Anthozoa	Alcyonacea	Plexauridae	<i>Clematissa</i>	sp. B	Phil Alderslade	17/05/2017	1	17/12/2010	-32.7	167.6	354	385	
1024	39	11305			Cnidaria	Anthozoa	Alcyonacea	Primnoidae			Phil Alderslade	17/05/2017	1	1/08/1997	-37	176.7	976		
2324	21	67863			Cnidaria	Anthozoa	Alcyonacea	Primnoidae	<i>?Paranarella</i>		Phil Alderslade	19/05/2017	1	14/11/2006	-49.3	176.3	1192	1300	
2718	28	65916	1069	CHR	Cnidaria	Anthozoa	Alcyonacea	Primnoidae	<i>?Thouarella</i>		Phil Alderslade	24/05/2017	1	14/11/2008	-49.5	175.7	702	1060	
4546	17	95235	3276		Cnidaria	Anthozoa	Alcyonacea	Primnoidae	<i>Calyptrophora</i>	<i>inornata</i>	Phil Alderslade	16/05/2017	1	27/11/2015	-37.4	167.5	730	946	Luc Ettema
TAN9511	18	113999			Cnidaria	Anthozoa	Alcyonacea	Primnoidae	<i>Dasystenella</i>	<i>acanthina</i>	Phil Alderslade	23/05/2017	2	8/10/1995	-44.664667	174.892833	818	800	
4823	57	106505	3493	GOC	Cnidaria	Anthozoa	Alcyonacea	Primnoidae	<i>Narella</i>		Phil Alderslade	23/05/2017	1	21/10/2016	-34	162.6	504	703	
4823	39	106527	3503	COB	Cnidaria	Anthozoa	Alcyonacea	Primnoidae	<i>Narella</i>		Phil Alderslade	23/05/2017	1	19/10/2016	-34	162.6	505	743	J.CO
2324	21	67863			Cnidaria	Anthozoa	Alcyonacea	Primnoidae	<i>?Paranarella</i>		Phil Alderslade	19/05/2017	1	14/11/2006	-49.3	176.3	1192	1300	
4815	20	106532	3511	COU	Cnidaria	Anthozoa	Alcyonacea	Primnoidae	<i>Primnoa</i>	<i>notialis</i>	Phil Alderslade	23/05/2017	1	11/10/2016	-47.3	178.9	911		J.MAD
2718	26	65921	1074	CHR	Cnidaria	Anthozoa	Alcyonacea	Primnoidae	<i>Thouarella</i>		Phil Alderslade	24/05/2017	1	13/11/2008	-49.3	176.3	1300	1278	
2920	95	66318	457		Cnidaria	Anthozoa	Alcyonacea	Subergorgiidae	<i>Rosgorgia</i>		Phil Alderslade	22/05/2017	1	28/09/2009	-50.1	174.9	996	1011	
4823	43	106524	3500	LEI	Cnidaria	Anthozoa	Antipatharia	Leiopathidae	<i>Leiopathes</i>		Rob Stewart	15/03/2017	1	19/10/2016	-34	162.6	503	726	
4448	41	95182	3204	LSE	Cnidaria	Anthozoa	Antipatharia	Leiopathidae	<i>Leiopathes</i>	<i>acanthophora</i>	Rob Stewart	20/03/2017	1	16/07/2015	-38.4	-168.1	263	298	
4546	17	95231	3272	COB	Cnidaria	Anthozoa	Antipatharia	Leiopathidae	<i>Leiopathes</i>	<i>acanthophora</i>	Rob Stewart	20/03/2017	1	27/11/2015	-37.4	167.5	730	946	
4546	4	95239	3280	COB	Cnidaria	Anthozoa	Antipatharia	Leiopathidae	<i>Leiopathes</i>	<i>cf. bullosa</i>	Rob Stewart	20/03/2017	1	16/11/2015	-37.4	169	1046	1039	
3248	17	69596	1329	HDR	Cnidaria	Anthozoa	Antipatharia	Myriopathidae	<i>Antipathella</i>		Rob Stewart	27/03/2017	1	15/12/2010	-32.5	166.8	367	356	
4907	76	106533	3514	AHL	Cnidaria	Anthozoa	Antipatharia	Myriopathidae	<i>Antipathella</i>		Rob Stewart	15/03/2017	1						
4823	43	106520	3496	BTP	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	<i>?Bathypathes</i>		Rob Stewart	15/03/2017	1	19/10/2016	-34	162.6	503	726	
3136	6	88591	2601	COB	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	<i>Bathypathes</i>		Rob Stewart	27/03/2017	1	24/05/2010	-37.5	169.3	987		
4448	41	95181	3203	COB	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	<i>Bathypathes</i>		Rob Stewart	20/03/2017	1	16/07/2015	-38.4	-168.1	263	298	

TRIP	Tow	NIWA Cat. No.	OSD No.	Initial OBS ID	Phylum	Class	Order	Family	Genus	Species	Determiner	Determined Date	Sample Count	Date	Latitude	Longitude	Depth 1	Depth 2	Observer
4546	17	95232	3273	COB	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	<i>Bathypathes</i>		Rob Stewart	20/03/2017	1	27/11/2015	-37.4	167.5	730	946	
4823	1	106519	3495	COB	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	<i>Bathypathes</i>		Rob Stewart	15/03/2017	1	7/10/2016	-37.6	169.6	959	1066	
4823	51	106521	3497	COB	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	<i>Bathypathes</i>		Rob Stewart	15/03/2017	1	20/10/2016	-34.2	162.7	420	772	
4823	44	106522	3498	COB	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	<i>Bathypathes</i>		Rob Stewart	15/03/2017	1	19/10/2016	-34	162.6	499	733	
4823	57	106523	3499	BTP	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	<i>Bathypathes</i>		Rob Stewart	15/03/2017	1	21/10/2016	-34	162.6	504	703	
4823	52	106518	3494	COB	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	<i>Bathypathes</i>	<i>cf. alternata</i>	Rob Stewart	15/03/2017	1	20/10/2016	-34.2	162.6	419	770	
3169	65	88592	2602	COB	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	<i>Lillipathes</i>		Rob Stewart	27/03/2017	1						
3883	55	88617	2665	COB	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	<i>Lillipathes</i>	<i>cf. ritamariae</i>	Dennis Opreško	26/09/2017	1	20/10/2013	-34.2	162.7	478	685	
2744	149	69647	1431	COB	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	<i>Parantipathes</i>		Rob Stewart	27/03/2017	1	10/01/2009	-42.7	-177.5	1251	1265	
4546	17	95234	3275	COB	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	<i>Parantipathes</i>		Rob Stewart	20/03/2017	1	27/11/2015	-37.4	167.5	730	946	
3812	16	88612	2611		Cnidaria	Anthozoa	Antipatharia	Schizopathidae	<i>Stauropathes</i>		Rob Stewart	27/03/2017	1	11/07/2013	-35.4	165.3	931	935	
4465	33	95177	3194	COU	Cnidaria	Anthozoa	Antipatharia	Stylopathidae	<i>?Tylopathes</i>		Rob Stewart	20/03/2017	1	11/08/2015	-34.6	169	566	419	
4546	101	95227	3268		Cnidaria	Anthozoa	Antipatharia	Stylopathidae	<i>Triadopathes</i>		Rob Stewart	20/03/2017	1	14/12/2015	-35.9	165.6	686	1090	J. COU
4546	17	95237	3278	COB	Cnidaria	Anthozoa	Antipatharia	Stylopathidae	<i>Triadopathes</i>		Rob Stewart	20/03/2017	1	27/11/2015	-37.4	167.5	730	946	
3077	13	61979	653	SVA	Cnidaria	Anthozoa	Scleractinia				Di Tracey	1/05/2017	1	22/02/2010	-49.2	164.3	820	1107	
2955	33	66445	272		Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Caryophyllia</i>		Di Tracey	1/05/2017	1	8/10/2009	-44.5	-174.9	1006	1081	
4917	6	106534	3519		Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Caryophyllia</i>		Di Tracey	7/03/2017	1	28/01/2017	-35.6	175.8			
4359	80	95153	3150	COU	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Caryophyllia</i>	<i>lamellifera</i>	Di Tracey	1/05/2017	6	4/05/2015	-37	176.2			
4917	6	119690	3525	HDR	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Caryophyllia</i>	<i>lamellifera</i>	Di Tracey	1/05/2017	1	28/01/2017	-35.6	175.8			L. Ettema
4359	60	95152	3149	COU	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Caryophyllia</i>	<i>profunda</i>	Di Tracey	1/05/2017	1	26/04/2015	-37.7	176.9			
4717	30	106482	3401	CAY	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Caryophyllia</i>	<i>profunda</i>	Di Tracey	1/05/2017	1	14/06/2016	-44.1	175.9	210	215	
2918	17	66439	32	DDI	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Desmophyllum</i>	<i>dianthus</i>	Di Tracey	May-17	1	29/07/2009	-33.7	167.1	633	836	G. Dyer
2955	111	66443	230		Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Desmophyllum</i>	<i>dianthus</i>	Di Tracey	May-17	5	19/10/2009	-44.5	-178.6	730	936	L. Ettema.
2955	34	66444	264		Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Desmophyllum</i>	<i>dianthus</i>	Di Tracey	1/05/2017	1	8/10/2009	-44.5	-174.9	1040	1048	H. Brown-Hayem
2931	31	66446	288	DDI	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Desmophyllum</i>	<i>dianthus</i>	Di Tracey	1/05/2017	1	24/08/2009	-43.4	176.1	374	389	L. Ettema.
2955	153	66448	353	SIA	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Desmophyllum</i>	<i>dianthus</i>	Di Tracey	1/05/2017	1	24/10/2009	-44.3	-174.6	1263	1316	J. COU
3028	131	66451	545	DDI	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Desmophyllum</i>	<i>dianthus</i>	Di Tracey	May-17	3	10/01/2010	-44.5	-178.6		944	C. Reich
3028	140	66452	546	DDI	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Desmophyllum</i>	<i>dianthus</i>	Di Tracey	Apr-17	3	10/01/2010	-44.5	-178.7	660	940	
4459	32	95180	3202	COU	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Desmophyllum</i>	<i>dianthus</i>	Di Tracey	1/05/2017	6	30/07/2015	-48.8	166.4	503		

TRIP	Tow	NIWA Cat. No.	OSD No.	Initial OBS ID	Phylum	Class	Order	Family	Genus	Species	Determiner	Determined Date	Sample Count	Date	Latitude	Longitude	Depth 1	Depth 2	Observer
4448	24	95186	3208	SIA	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Desmophyllum</i>	<i>dianthus</i>	Di Tracey	1/05/2017	1	12/07/2015	-41.9	-163.7	909	883	C. Morrish
4827	17	106502	3490	DDI	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Desmophyllum</i>	<i>dianthus</i>	Di Tracey	7/03/2017	4	18/10/2016	-49	166.6	560	558	
4919	103	106541	3532	SIA	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Desmophyllum</i>	<i>dianthus</i>	Di Tracey	1/05/2017	1						
4997	17	106555	3557	SIA	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Desmophyllum</i>	<i>dianthus</i>	Di Tracey	18/05/2017	1						J. Morton
AEX1601	OP84	113819		GDU	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Goniocorella</i>	<i>dumosa</i>	Di Tracey	3/08/2016	1	21/06/2016	-42.83833333	-176.9216667	745	920	
AEX1601	OP53	113821		GDU	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Goniocorella</i>	<i>dumosa</i>	Di Tracey	30/06/2016	1	30/06/2016	-42.63666667	-179.865	1043	1230	
3219	45	69625	1395	GDU	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Goniocorella</i>	<i>dumosa</i>	Di Tracey	1/05/2017	1	2/11/2010	-37.4	176.4	370		
2955	132	66377	232	GDU	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Solenosmilia</i>	<i>variabilis</i>	Di Tracey	Apr-17	1	22/10/2009	-44.7	-175.4	1090	1303	
2955	153	66387	354	SIA	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Solenosmilia</i>	<i>variabilis</i>	Di Tracey	Apr-17	1	24/10/2009	-44.3	-174.6	1263	1316	J. HOU
2955	40	66391	368	ERO	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Solenosmilia</i>	<i>variabilis</i>	Di Tracey	Apr-17	1	9/10/2009	-44.2	-174.5	745	1197	M. Messina
2938	3	65596	374	SIA	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Solenosmilia</i>	<i>variabilis</i>	Di Tracey	1/05/2017	1						
2970	12	66394	400	SIA	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Solenosmilia</i>	<i>variabilis</i>	Di Tracey	Apr-17	1	17/11/2009	-50.1	163.5	1075	1210	L. Ettema
3004	73	66397	501	ERO	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Solenosmilia</i>	<i>variabilis</i>	Di Tracey	Apr-17	1	30/11/2009	-44.6	-175.1	1007		
3028	45	66398	518	GDU	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Solenosmilia</i>	<i>variabilis</i>	Di Tracey	Apr-17	1	28/12/2009	-50.2	165.8	695		
3028	39	66399	519	GDU	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Solenosmilia</i>	<i>variabilis</i>	Di Tracey	Apr-17	1	27/12/2009	-50.2	163.7	1000		
3028	40	66400	520	GDU	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Solenosmilia</i>	<i>variabilis</i>	Di Tracey	1/05/2017	1	27/12/2009	-50.3	163.6	617		
3028	188	66401	521	GDU	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Solenosmilia</i>	<i>variabilis</i>	Di Tracey	Apr-17	1	16/01/2010	-44.2	-174.5	1220	1400	
3028	38	66402	524	GDU	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Solenosmilia</i>	<i>variabilis</i>	Di Tracey	Apr-17	1	27/12/2009	-50	163.7	930	1123	L. Ettema
3185	48	65996	1214	GDU	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Solenosmilia</i>	<i>variabilis</i>	Di Tracey	Apr-17	1	28/09/2010	-40.6	176.9			G. Dyer
3238	56	69508	1227	GDU	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Solenosmilia</i>	<i>variabilis</i>	Di Tracey	Apr-17	1	27/11/2010	-37.7	179.3	1064	1201	C. Morrish
4448	24	95185	3207	SIA	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Solenosmilia</i>	<i>variabilis</i>	Di Tracey	1/05/2017	1	12/07/2015	-41.9	-163.7	909	883	
4823	14	106526	3502	STP	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Stephanocyathus</i>		Di Tracey	7/03/2017	1	10/10/2016	-37.2	167.2	1027	985	
2955	138	65470	262	GDU	Cnidaria	Anthozoa	Scleractinia	Dendrophylliidae	<i>Enallopsammia</i>	<i>rostrata</i>	Di Tracey	Apr-17	1	23/10/2009	-44.5	-174.9	1020	1091	
2955	153	65473	352	SIA	Cnidaria	Anthozoa	Scleractinia	Dendrophylliidae	<i>Enallopsammia</i>	<i>rostrata</i>	Di Tracey	Apr-17	1	24/10/2009	-44.3	-174.6	1263	1316	J. COU
3004	33	120561	488	MOC	Cnidaria	Anthozoa	Scleractinia	Dendrophylliidae	<i>Enallopsammia</i>	<i>rostrata</i>	Di Tracey	1/05/2017	1	24/11/2009	-44.5	-178.6	710		
3062	36	61900	552	ERO	Cnidaria	Anthozoa	Scleractinia	Dendrophylliidae	<i>Enallopsammia</i>	<i>rostrata</i>	Di Tracey	Apr-17	1	12/02/2010	-37.3	168.1		922	
2718	121	65657	1015	GDU	Cnidaria	Anthozoa	Scleractinia	Dendrophylliidae	<i>Enallopsammia</i>	<i>rostrata</i>	Di Tracey	Apr-17	1	25/11/2008	-47.5	177.9	606	942	
3239	1	65986	1202	ERO	Cnidaria	Anthozoa	Scleractinia	Dendrophylliidae	<i>Enallopsammia</i>	<i>rostrata</i>	Di Tracey	1/05/2017	1	23/11/2010	-38.3	168.4	293	303	
4823	51	106528	3504	MOC	Cnidaria	Anthozoa	Scleractinia	Dendrophylliidae	<i>Enallopsammia</i>	<i>rostrata</i>	Di Tracey	7/03/2017	1	20/10/2016	-34.2	162.7	420	772	

TRIP	Tow	NIWA Cat. No.	OSD No.	Initial OBS ID	Phylum	Class	Order	Family	Genus	Species	Determiner	Determined Date	Sample Count	Date	Latitude	Longitude	Depth 1	Depth 2	Observer
4823	10	106529	3505	ERO	Cnidaria	Anthozoa	Scleractinia	Dendrophylliidae	<i>Enallopsammia</i>	<i>rostrata</i>	Di Tracey	7/03/2017	1	9/10/2016	-37.1	167	960	1114	
4822	19	106504	3492	COF	Cnidaria	Anthozoa	Scleractinia	Flabellidae	<i>Flabellum</i>		Di Tracey	7/03/2017	1	19/10/2016	-50.9	167.7			
4254	41	95112	3069	COU	Cnidaria	Anthozoa	Scleractinia	Flabellidae	<i>Flabellum</i>	<i>knoxii</i>	Di Tracey	1/05/2017	1	8/12/2014	-44.2	173.5	300	292	
4686	45	106475	3392	COF	Cnidaria	Anthozoa	Scleractinia	Flabellidae	<i>Flabellum</i>	<i>knoxii</i>	Di Tracey	1/05/2017	1	14/05/2016	-43.3	174.2	580	570	
4717	32	106476	3395	COF	Cnidaria	Anthozoa	Scleractinia	Flabellidae	<i>Flabellum</i>	<i>knoxii</i>	Di Tracey	1/05/2017	5	15/06/2016	-44.6	172.7	323	110	
4919	85	106542	3533	COF	Cnidaria	Anthozoa	Scleractinia	Flabellidae	<i>Flabellum</i>	<i>knoxii</i>	Di Tracey	1/05/2017	1						L. Ettema
2955	165	65494	212	GDU	Cnidaria	Anthozoa	Scleractinia	Oculinidae	<i>Madrepora</i>	<i>oculata</i>	Di Tracey	Apr-17	2	26/10/2009	-44.5	178.6	730	913	J. COU
2955	140	65495	216	GDU	Cnidaria	Anthozoa	Scleractinia	Oculinidae	<i>Madrepora</i>	<i>oculata</i>	Di Tracey	Apr-17	1	23/10/2009	-44.3	-174.6	1067	1067	C. Morrish
2955	165	65498	276	GDU	Cnidaria	Anthozoa	Scleractinia	Oculinidae	<i>Madrepora</i>	<i>oculata</i>	Di Tracey	Apr-17	1	26/10/2009	-44.5	178.6	730	913	C. Morrish
2920	44	65499	301	MOC	Cnidaria	Anthozoa	Scleractinia	Oculinidae	<i>Madrepora</i>	<i>oculata</i>	Di Tracey	Apr-17	1	21/09/2009	-47.3	178.8	770	870	J. COU
2920	32	65501	363	CRE	Cnidaria	Anthozoa	Scleractinia	Oculinidae	<i>Madrepora</i>	<i>oculata</i>	Di Tracey	Apr-17	1	18/09/2009	-44.6	173.3	746	740	J. COU
3004	33	65502	488	MOC	Cnidaria	Anthozoa	Scleractinia	Oculinidae	<i>Madrepora</i>	<i>oculata</i>	Di Tracey	1/05/2017	1	24/11/2009	-44.5	-178.6	710		
3028	166	65505	517	HDR	Cnidaria	Anthozoa	Scleractinia	Oculinidae	<i>Madrepora</i>	<i>oculata</i>	Di Tracey	Apr-17	1	14/01/2010	-43.8	-174.3	800	1062	L. Ettema
3028	140	65507	526	GDU	Cnidaria	Anthozoa	Scleractinia	Oculinidae	<i>Madrepora</i>	<i>oculata</i>	Di Tracey	1/05/2017	1	10/01/2010	-44.5	-178.7	660	940	N. McA
2718	105	65648	1024	GDU	Cnidaria	Anthozoa	Scleractinia	Oculinidae	<i>Madrepora</i>	<i>oculata</i>	Di Tracey	1/05/2017	1	23/11/2008	-47.6	177.9	981	969	
3223	16	65994	1210	ERO	Cnidaria	Anthozoa	Scleractinia	Oculinidae	<i>Madrepora</i>	<i>oculata</i>	Di Tracey	Apr-17	1	5/11/2010	-44.8	172.5	929	1008	
3235	12	69541	1265	SIA	Cnidaria	Anthozoa	Scleractinia	Oculinidae	<i>Madrepora</i>	<i>oculata</i>	Di Tracey	Apr-17	1	30/11/2010	-42.9	178.4	481	479	C. CUN
4561	40	95243	3290	CRY	Cnidaria	Hydrozoa	Anthoathecata	Stylasteridae	<i>Conopora</i>	<i>laevis</i>	Peter Marriott	20/03/2017	1	25/12/2015	-49.1	166.6	570		J. COU
4827	17	106503	3491	CRE	Cnidaria	Hydrozoa	Anthoathecata	Stylasteridae	<i>Conopora</i>	<i>verrucosa</i>	Peter Marriott	4/04/2017	1	18/10/2016	-49	166.6	560	558	C. Reich
4917	6	106536	3521	HDR	Cnidaria	Hydrozoa	Anthoathecata	Stylasteridae	<i>Crypthella</i>	<i>polypoma</i>	Peter Marriott	17/03/2017	1	28/01/2017	-35.6	175.8			L. Ettema
4917	6	119714	3525	HDR	Cnidaria	Hydrozoa	Anthoathecata	Stylasteridae	<i>Crypthella</i>	<i>polypoma</i>	Peter Marriott	4/04/2017	1	28/01/2017	-35.6	175.8			L. Ettema
4917	6	106535	3520	HDR	Cnidaria	Hydrozoa	Anthoathecata	Stylasteridae	<i>Errina</i>	<i>chathamensis</i>	Peter Marriott	17/03/2017	1	28/01/2017	-35.6	175.8			C. CUN
2955	33	65562	268		Cnidaria	Hydrozoa	Anthoathecata	Stylasteridae	<i>Errina</i>	<i>cheilopora</i>	Peter Marriott	17/03/2017	3	8/10/2009	-44.5	-174.9	1006	1081	J. COU
4627	52	95252	3322	CBR	Cnidaria	Hydrozoa	Anthoathecata	Stylasteridae	<i>Errina</i>	<i>laevigata</i>	Peter Marriott	23/03/2017	1	8/03/2016	-49.9	166.2	202		
4917	6	119713	3525	HDR	Cnidaria	Hydrozoa	Anthoathecata	Stylasteridae	<i>Errina</i>	<i>novaezealandiae</i>	Peter Marriott	4/04/2017	1	28/01/2017	-35.6	175.8			S. LIN
4917	6	106537	3525	HDR	Cnidaria	Hydrozoa	Anthoathecata	Stylasteridae	<i>Lepidopora</i>	<i>polystichopora</i>	Peter Marriott	4/04/2017	1	28/01/2017	-35.6	175.8			
4917	6	106538	3529	HDR	Cnidaria	Hydrozoa	Anthoathecata	Stylasteridae	<i>Stylaster</i>	<i>eguchii</i>	Peter Marriott	17/03/2017	1	28/01/2017	-35.6	175.8			L. Ettema
4917	6	119712	3525	HDR	Cnidaria	Hydrozoa	Anthoathecata	Stylasteridae	<i>Stylaster</i>	<i>horologium</i>	Peter Marriott	4/04/2017	1	28/01/2017	-35.6	175.8			

Appendix B COD extract spreadsheet produced after data loading

TRIP	Tow	NIWA Cat. no.	MPI species Code	Target species	FMA	Phylum	Class	Order	Family	Genus	Species	Determiner	Sample count	Event End Date
1024	39	11305	PRI	ORH	AKE	Cnidaria	Anthozoa	Alcyonacea	Primnoidae indet.			Phil Alderslade	1	
1137	3	14396	ISI	ORH	TMAR	Cnidaria	Anthozoa	Alcyonacea	Isididae indet.			Phil Alderslade	1	
1137	14	14394	ISI	ORH	TMAR	Cnidaria	Anthozoa	Alcyonacea	Isididae indet.			Phil Alderslade	1	
1137	14	14397	ISI	ORH	TMAR	Cnidaria	Anthozoa	Alcyonacea	Isididae indet.			Phil Alderslade	1	
1152	4	14392	ISI	ORH	TMAR	Cnidaria	Anthozoa	Alcyonacea	Isididae indet.			Phil Alderslade	1	
1153	32	14393	ISI	ORH	TMAR	Cnidaria	Anthozoa	Alcyonacea	Isididae indet.			Phil Alderslade	1	
1164	5	14389	ISI	SSO	TMAR	Cnidaria	Anthozoa	Alcyonacea	Isididae indet.			Phil Alderslade	1	
1164	16	14412	ISI	ORH	TMAR	Cnidaria	Anthozoa	Alcyonacea	Isididae indet.			Phil Alderslade	1	
1171	46	14399	BOO	OEO	SOU	Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratoisis		Phil Alderslade	1	
1171	112	14390	ISI	OEO	SOU	Cnidaria	Anthozoa	Alcyonacea	Isididae indet.			Phil Alderslade	1	
1171	112	14400	ISI	OEO	SOU	Cnidaria	Anthozoa	Alcyonacea	Isididae indet.			Phil Alderslade	1	
1218	10	14414	ISI	ORH	AKW	Cnidaria	Anthozoa	Alcyonacea	Isididae indet.			Phil Alderslade	1	
1218	10	14403	ISI	ORH	AKW	Cnidaria	Anthozoa	Alcyonacea	Isididae indet.			Phil Alderslade	1	
1218	10	14405	ISI	ORH	AKW	Cnidaria	Anthozoa	Alcyonacea	Isididae indet.			Phil Alderslade	1	
1828		121552	ISI			Cnidaria	Anthozoa	Alcyonacea	Isididae indet.			Phil Alderslade	1	
2324	21	67863	PRI	OEO	SUB	Cnidaria	Anthozoa	Alcyonacea	Primnoidae	Paranarella		Phil Alderslade	1	
2506	95	44360	SOC	SSO	SEC	Cnidaria	Anthozoa	Alcyonacea	Acanthogorgiidae	Acanthogorgia		Phil Alderslade	1	11/10/2007
2653	47	42486	SOC	BOE	SUB	Cnidaria	Anthozoa	Alcyonacea	Acanthogorgiidae	Acanthogorgia		Phil Alderslade	1	17/07/2008
2714	80	62915	SOC	ORH	SOE	Cnidaria	Anthozoa	Alcyonacea	Anthothelidae	Anthothela		Phil Alderslade	1	12/11/2008
2718	7	65918	ISI	SSO	SEC	Cnidaria	Anthozoa	Alcyonacea	Isididae	Isidella		Phil Alderslade	1	10/11/2008
2718	26	65921	THO	BOE	SUB	Cnidaria	Anthozoa	Alcyonacea	Primnoidae	Thouarella		Phil Alderslade	1	13/11/2008
2718	28	65916	THO	BOE	SUB	Cnidaria	Anthozoa	Alcyonacea	Primnoidae	Thouarella		Phil Alderslade	1	14/11/2008
2718	47	65926	PAB	BOE	SUB	Cnidaria	Anthozoa	Alcyonacea	Paragorgiidae	Paragorgia	alisonae	Phil Alderslade	1	16/11/2008
2718	53	65917	PAB	BOE	SUB	Cnidaria	Anthozoa	Alcyonacea	Paragorgiidae	Paragorgia	alisonae	Phil Alderslade	1	16/11/2008
2718	105	65648	MOC	SSO	SUB	Cnidaria	Anthozoa	Scleractinia	Oculinidae	Madrepora	oculata	Di Tracey	1	23/11/2008
2718	121	65657	ERO	SSO	SUB	Cnidaria	Anthozoa	Scleractinia	Dendrophylliidae	Enallopsammia	rostrata	Di Tracey	1	25/11/2008

TRIP	Tow	NIWA Cat. no.	MPI species Code	Target species	FMA	Phylum	Class	Order	Family	Genus	Species	Determiner	Sample count	Event End Date
2744	149	69647	PTP	ORH	SOE	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	Parantipathes		Rob Stewart	1	10/01/2009
2889	57	66241	ISI	ORH	CET	Cnidaria	Anthozoa	Alcyonacea	Isididae indet.			Phil Alderslade	1	13/07/2009
2918	17	66439	DDI	ORH	WANB	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	Desmophyllum	dianthus	Di Tracey	1	29/07/2009
2920	4	66246	ISI	SSO	SEC	Cnidaria	Anthozoa	Alcyonacea	Isididae indet.			Phil Alderslade	1	12/09/2009
2920	32	65501	MOC	BOE	SEC	Cnidaria	Anthozoa	Scleractinia	Oculinidae	Madrepora	oculata	Di Tracey	1	18/09/2009
2920	44	65499	MOC	SSO	SUB	Cnidaria	Anthozoa	Scleractinia	Oculinidae	Madrepora	oculata	Di Tracey	1	21/09/2009
2920	95	66318	SOC	BOE	SUB	Cnidaria	Anthozoa	Alcyonacea	Subergorgiidae	Rosgorgia		Phil Alderslade	1	28/09/2009
2931	31	66446	DDI	SCI	SOE	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	Desmophyllum	dianthus	Di Tracey	1	24/08/2009
2938	3	65596	SVA			Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	Solenosmilia	variabilis	Di Tracey	1	
2938	6	66201	BOO			Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratoisis		Phil Alderslade	1	
2955	33	66445	CAY	ORH	SOE	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	Caryophyllia		Di Tracey	1	8/10/2009
2955	33	65562	ERR	ORH	SOE	Cnidaria	Hydrozoa	Anthoathecata	Stylasteridae	Errina	cheilopora	Peter Marriott	3	8/10/2009
2955	34	66444	DDI	ORH	SOE	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	Desmophyllum	dianthus	Di Tracey	1	8/10/2009
2955	40	66391	SVA	ORH	SOE	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	Solenosmilia	variabilis	Di Tracey	1	9/10/2009
2955	111	66443	DDI	SSO	SOE	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	Desmophyllum	dianthus	Di Tracey	5	19/10/2009
2955	132	66377	SVA	ORH	SOE	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	Solenosmilia	variabilis	Di Tracey	1	22/10/2009
2955	138	65470	ERO	ORH	SOE	Cnidaria	Anthozoa	Scleractinia	Dendrophylliidae	Enallopsammia	rostrata	Di Tracey	1	23/10/2009
2955	140	65495	MOC	ORH	SOE	Cnidaria	Anthozoa	Scleractinia	Oculinidae	Madrepora	oculata	Di Tracey	1	23/10/2009
2955	153	66448	DDI	ORH	SOE	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	Desmophyllum	dianthus	Di Tracey	1	24/10/2009
2955	153	65473	ERO	ORH	SOE	Cnidaria	Anthozoa	Scleractinia	Dendrophylliidae	Enallopsammia	rostrata	Di Tracey	1	24/10/2009
2955	153	66387	SVA	ORH	SOE	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	Solenosmilia	variabilis	Di Tracey	1	24/10/2009
2955	165	65494	MOC	SSO	SOE	Cnidaria	Anthozoa	Scleractinia	Oculinidae	Madrepora	oculata	Di Tracey	2	26/10/2009
2955	165	65498	MOC	SSO	SOE	Cnidaria	Anthozoa	Scleractinia	Oculinidae	Madrepora	oculata	Di Tracey	1	26/10/2009
2970	12	66394	SVA	OEO	SUB	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	Solenosmilia	variabilis	Di Tracey	1	17/11/2009
2970	53	66312	ISI	ORH	SUB	Cnidaria	Anthozoa	Alcyonacea	Isididae indet.			Phil Alderslade	1	23/11/2009
3004	33	120561	ERO	ORH	SOE	Cnidaria	Anthozoa	Scleractinia	Dendrophylliidae	Enallopsammia	rostrata	Di Tracey	1	24/11/2009
3004	33	65502	MOC	ORH	SOE	Cnidaria	Anthozoa	Scleractinia	Oculinidae	Madrepora	oculata	Di Tracey	1	24/11/2009
3004	37	66270	PAB	SSO	SOE	Cnidaria	Anthozoa	Alcyonacea	Paragorgiidae	Paragorgia	arborea	Phil Alderslade	1	24/11/2009
3004	73	66397	SVA	ORH	SOE	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	Solenosmilia	variabilis	Di Tracey	1	30/11/2009

TRIP	Tow	NIWA Cat. no.	MPI species Code	Target species	FMA	Phylum	Class	Order	Family	Genus	Species	Determiner	Sample count	Event End Date
3028	11	66213	BOO	SSO	SEC	Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratoisis		Phil Alderslade	1	23/12/2009
3028	18	66212	BOO	WWA	SOU	Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratoisis		Phil Alderslade	1	24/12/2009
3028	38	66402	SVA	SSO	SUB	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	Solenosmilia	variabilis	Di Tracey	1	27/12/2009
3028	39	66399	SVA	SSO	SUB	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	Solenosmilia	variabilis	Di Tracey	1	27/12/2009
3028	40	66400	SVA	SSO	SUB	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	Solenosmilia	variabilis	Di Tracey	1	27/12/2009
3028	45	66398	SVA	SSO	SOI	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	Solenosmilia	variabilis	Di Tracey	1	28/12/2009
3028	128	66214	ISI	BOE	SOE	Cnidaria	Anthozoa	Alcyonacea	Isididae	Isidella		Phil Alderslade	1	9/01/2010
3028	131	66451	DDI	ORH	SOE	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	Desmophyllum	dianthus	Di Tracey	3	10/01/2010
3028	140	66452	DDI	BOE	SOE	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	Desmophyllum	dianthus	Di Tracey	3	10/01/2010
3028	140	65507	MOC	BOE	SOE	Cnidaria	Anthozoa	Scleractinia	Oculinidae	Madrepora	oculata	Di Tracey	1	10/01/2010
3028	166	65505	MOC	ORH	SOE	Cnidaria	Anthozoa	Scleractinia	Oculinidae	Madrepora	oculata	Di Tracey	1	14/01/2010
3028	188	66401	SVA	ORH	SOE	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	Solenosmilia	variabilis	Di Tracey	1	16/01/2010
3062	36	61900	ERO	ORH	CET	Cnidaria	Anthozoa	Scleractinia	Dendrophylliidae	Enallopsammia	rostrata	Di Tracey	1	12/02/2010
3077	13	61979	SIA	BOE	SUB	Cnidaria	Anthozoa	Scleractinia				Di Tracey	1	22/02/2010
3136	6	88591	BTP	ORH	CET	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	Bathypathes		Rob Stewart	1	24/05/2010
3136	46	88588	BOO	ORH	WANB	Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratoisis		Phil Alderslade	1	15/06/2010
3136	46	88589	PAB	ORH	WANB	Cnidaria	Anthozoa	Alcyonacea	Paragorgiidae	Paragorgia	n. sp. B	Phil Alderslade	1	15/06/2010
3140	45	65896	PAB	ORH	AKW	Cnidaria	Anthozoa	Alcyonacea	Paragorgiidae	Paragorgia	coralloides	Phil Alderslade	1	29/06/2010
3155	11	65905	CHR	ORH	AKE	Cnidaria	Anthozoa	Alcyonacea	Chrysogorgiidae	Chrysogorgia		Phil Alderslade	1	10/07/2010
3155	11	65903	LLE	ORH	AKE	Cnidaria	Anthozoa	Alcyonacea	Isididae	Lepidisis	solitaria	Phil Alderslade	1	10/07/2010
3155	11	65904	SOC	ORH	AKE	Cnidaria	Anthozoa	Alcyonacea	Chrysogorgiidae	Pseudochrysogorgia	n. sp.	Phil Alderslade	1	10/07/2010
3169	65	88592	LIL			Cnidaria	Anthozoa	Antipatharia	Schizopathidae	Lillipathes		Rob Stewart	1	
3177	37	65949	PAB	BYX	HOWE	Cnidaria	Anthozoa	Alcyonacea	Paragorgiidae	Paragorgia	coralloides	Phil Alderslade	1	1/09/2010
3185	48	65996	SVA	SCI	CEE	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	Solenosmilia	variabilis	Di Tracey	1	28/09/2010
3219	45	69519	BOO	SCI	AKE	Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratoisis		Phil Alderslade	1	2/11/2010
3219	45	69625	GDU	SCI	AKE	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	Goniocorella	dumosa	Di Tracey	1	2/11/2010
3223	16	65994	MOC	SSO	SEC	Cnidaria	Anthozoa	Scleractinia	Oculinidae	Madrepora	oculata	Di Tracey	1	5/11/2010
3223	20	65993	BOO	BOE	SEC	Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratoisis		Phil Alderslade	1	5/11/2010
3223	74	65991	PAB	SSO	SOE	Cnidaria	Anthozoa	Alcyonacea	Paragorgiidae	Paragorgia	arborea	Phil Alderslade	1	18/11/2010

TRIP	Tow	NIWA Cat. no.	MPI species Code	Target species	FMA	Phylum	Class	Order	Family	Genus	Species	Determiner	Sample count	Event End Date
3235	12	69541	MOC	HOK	SOE	Cnidaria	Anthozoa	Scleractinia	Oculinidae	Madrepora	oculata	Di Tracey	1	30/11/2010
3235	23	69540	CHR	HOK	SOE	Cnidaria	Anthozoa	Alcyonacea	Chrysogorgiidae	Chrysogorgia		Phil Alderslade	1	6/12/2010
3238	56	69508	SVA	ORH	CEE	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	Solenosmilia	variabilis	Di Tracey	1	27/11/2010
3239	1	65986	ERO	BNS	CET	Cnidaria	Anthozoa	Scleractinia	Dendrophylliidae	Enallopsammia	rostrata	Di Tracey	1	24/11/2010
3246	5	121481	CHR	ORH	WANB	Cnidaria	Anthozoa	Alcyonacea	Chrysogorgiidae	Chrysogorgia	curvata	Phil Alderslade	1	24/12/2010
3246	5	69549	CHR	ORH	WANB	Cnidaria	Anthozoa	Alcyonacea	Chrysogorgiidae	Chrysogorgia	tetrasticha	Phil Alderslade	1	24/12/2010
3246	11	69552	BOO	BYS	HOWE	Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratoisis		Phil Alderslade	1	27/12/2010
3246	22	69550	MTL	ORH	HOWE	Cnidaria	Anthozoa	Alcyonacea	Chrysogorgiidae	Metallogorgia	melanotrichos	Phil Alderslade	1	31/12/2010
3248	17	69596	AHL	BNS	WANB	Cnidaria	Anthozoa	Antipatharia	Myriopathidae	Antipathella		Rob Stewart	1	15/12/2010
3248	27	69602	PLE	BNS	WANB	Cnidaria	Anthozoa	Alcyonacea	Plexauridae	Clematissa	sp. B	Phil Alderslade	1	17/12/2010
3252	6	69533	CHR	ORH	AKW	Cnidaria	Anthozoa	Alcyonacea	Chrysogorgiidae	Chrysogorgia		Phil Alderslade	1	29/12/2010
3252	9	69580	BOO	ORH	WANB	Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratoisis		Phil Alderslade	1	30/12/2010
3252	10	69538	PAB	ORH	WANB	Cnidaria	Anthozoa	Alcyonacea	Paragorgiidae	Paragorgia	n. sp.	Phil Alderslade	1	30/12/2010
3802	24	88593	BOO	WWA	SOU	Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratoisis		Phil Alderslade	1	16/07/2013
3812	16	88612	COB	ORH	HOWE	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	Stauropathes		Rob Stewart	1	11/07/2013
3933	8	88639	SOC	BAS	WANB	Cnidaria	Anthozoa	Alcyonacea	Acanthogorgiidae	Acanthogorgia		Phil Alderslade	1	9/11/2013
4254	41	95112	COF	SWA	SEC	Cnidaria	Anthozoa	Scleractinia	Flabellidae	Flabellum	knoxii	Di Tracey	1	9/12/2014
4359	60	95152	CAY	TAR	AKE	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	Caryophyllia	profunda	Di Tracey	1	26/04/2015
4359	80	95153	CAY	TAR	AKE	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	Caryophyllia	lamellifera	Di Tracey	6	4/05/2015
4364	36	95129	ACN	ORH	CET	Cnidaria	Anthozoa	Alcyonacea	Isididae	Acanella		Phil Alderslade	1	10/04/2015
4448	24	95186	DDI	ORH	LOUR	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	Desmophyllum	dianthus	Di Tracey	1	12/07/2015
4448	24	95185	SVA	ORH	LOUR	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	Solenosmilia	variabilis	Di Tracey	1	12/07/2015
4448	41	95183	BOO	HPB	LOUR	Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratoisis		Phil Alderslade	1	16/07/2015
4448	41	95181	BTP	HPB	LOUR	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	Bathypathes		Rob Stewart	1	16/07/2015
4448	41	95182	LEI	HPB	LOUR	Cnidaria	Anthozoa	Antipatharia	Leiopathidae	Leiopathes	acanthophora	Rob Stewart	1	16/07/2015
4448	41	95184	PLE	HPB	LOUR	Cnidaria	Anthozoa	Alcyonacea	Plexauridae	Clematissa	sp. A	Phil Alderslade	1	16/07/2015
4459	32	95179	CLL	WWA	SOU	Cnidaria	Anthozoa	Alcyonacea	Coralliidae	Corallium		Peter Marriott	1	30/07/2015
4459	32	95180	DDI	WWA	SOU	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	Desmophyllum	dianthus	Di Tracey	6	30/07/2015
4465	33	95177	COB	BYX	AKW	Cnidaria	Anthozoa	Antipatharia	Stylopathidae	Tylopathes		Rob Stewart	1	11/08/2015

TRIP	Tow	NIWA Cat. no.	MPI species Code	Target species	FMA	Phylum	Class	Order	Family	Genus	Species	Determiner	Sample count	Event End Date
4546	4	95240	ACN	ORH	CET	Cnidaria	Anthozoa	Alcyonacea	Isididae	Acanella		Phil Alderslade	1	16/11/2015
4546	4	95239	LEI	ORH	CET	Cnidaria	Anthozoa	Antipatharia	Leiopathidae	Leiopathes	cf. bullosa	Rob Stewart	1	16/11/2015
4546	17	95232	BTP	ORH	CET	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	Bathypathes		Rob Stewart	1	27/11/2015
4546	17	95235	CTP	ORH	CET	Cnidaria	Anthozoa	Alcyonacea	Primnoidae	Calyptrophora	inornata	Phil Alderslade	1	27/11/2015
4546	17	95231	LEI	ORH	CET	Cnidaria	Anthozoa	Antipatharia	Leiopathidae	Leiopathes	acanthophora	Rob Stewart	1	27/11/2015
4546	17	95234	PTP	ORH	CET	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	Parantipathes		Rob Stewart	1	27/11/2015
4546	17	95237	TDP	ORH	CET	Cnidaria	Anthozoa	Antipatharia	Stylopathidae	Triadopathes		Rob Stewart	1	27/11/2015
4546	101	95223	BOO	ORH	HOWE	Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratoisis		Phil Alderslade	1	14/12/2015
4546	101	95226	CHR	ORH	HOWE	Cnidaria	Anthozoa	Alcyonacea	Chrysogorgiidae	Chrysogorgia		Phil Alderslade	1	14/12/2015
4546	101	95221	PLE	ORH	HOWE	Cnidaria	Anthozoa	Alcyonacea	Plexauridae	Anthomoricea		Phil Alderslade	1	14/12/2015
4546	101	95227	TDP	ORH	HOWE	Cnidaria	Anthozoa	Antipatharia	Stylopathidae	Triadopathes		Rob Stewart	1	14/12/2015
4561	40	95243	COO	HAK	SUB	Cnidaria	Hydrozoa	Anthoathecata	Stylasteridae	Conopora	laevis	Peter Marriott	1	25/12/2015
4627	52	95252	ERR	SQU	SOI	Cnidaria	Hydrozoa	Anthoathecata	Stylasteridae	Errina	laevigata	Peter Marriott	1	8/03/2016
4686	45	106475	COF	HOK	SEC	Cnidaria	Anthozoa	Scleractinia	Flabellidae	Flabellum	knoxii	Di Tracey	1	15/05/2016
4717	30	106482	CAY	SQU	SEC	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	Caryophyllia	profunda	Di Tracey	1	14/06/2016
4717	32	106476	COF	SQU	SEC	Cnidaria	Anthozoa	Scleractinia	Flabellidae	Flabellum	knoxii	Di Tracey	5	15/06/2016
4815	10	106530	BOO	ORH	SUB	Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratoisis		Phil Alderslade	1	10/10/2016
4815	20	106532	PMN	SSO	SUB	Cnidaria	Anthozoa	Alcyonacea	Primnoidae	Primnoa	notialis	Phil Alderslade	1	11/10/2016
4815	38	106531	PAB	SSO	SUB	Cnidaria	Anthozoa	Alcyonacea	Paragorgiidae	Paragorgia	cf. alisonae	Phil Alderslade	1	15/10/2016
4822	19	106504	COF	SCI	SOI	Cnidaria	Anthozoa	Scleractinia	Flabellidae	Flabellum		Di Tracey	1	19/10/2016
4823	1	106519	BTP	ORH	CET	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	Bathypathes		Rob Stewart	1	7/10/2016
4823	10	106529	ERO	ORH	CET	Cnidaria	Anthozoa	Scleractinia	Dendrophylliidae	Enallopsammia	rostrata	Di Tracey	1	9/10/2016
4823	14	106526	SIA	ORH	CET	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	Stephanocyathus		Di Tracey	1	10/10/2016
4823	39	106527	NAR	BYS	HOWE	Cnidaria	Anthozoa	Alcyonacea	Primnoidae	Narella		Phil Alderslade	1	19/10/2016
4823	43	106520	BTP	BYS	HOWE	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	Bathypathes		Rob Stewart	1	19/10/2016
4823	43	106524	LEI	BYS	HOWE	Cnidaria	Anthozoa	Antipatharia	Leiopathidae	Leiopathes		Rob Stewart	1	19/10/2016
4823	44	106522	BTP	BYS	HOWE	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	Bathypathes		Rob Stewart	1	19/10/2016
4823	51	106521	BTP	BYS	HOWE	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	Bathypathes		Rob Stewart	1	20/10/2016
4823	51	106528	ERO	BYS	HOWE	Cnidaria	Anthozoa	Scleractinia	Dendrophylliidae	Enallopsammia	rostrata	Di Tracey	1	20/10/2016

TRIP	Tow	NIWA Cat. no.	MPI species Code	Target species	FMA	Phylum	Class	Order	Family	Genus	Species	Determiner	Sample count	Event End Date
4823	52	106518	BTP	BYS	HOWE	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	Bathypathes	cf. alternata	Rob Stewart	1	21/10/2016
4823	56	106525	MTL	BYS	HOWE	Cnidaria	Anthozoa	Alcyonacea	Chrysogorgiidae	Metallogorgia	macrospina	Phil Alderslade	1	21/10/2016
4823	57	106523	BTP	BYS	HOWE	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	Bathypathes		Rob Stewart	1	21/10/2016
4823	57	106505	NAR	BYS	HOWE	Cnidaria	Anthozoa	Alcyonacea	Primnoidae	Narella		Phil Alderslade	1	21/10/2016
4827	17	106503	COO	LIN	SUB	Cnidaria	Hydrozoa	Anthoathecata	Stylasteridae	Conopora	verrucosa	Peter Marriott	1	19/10/2016
4827	17	106502	DDI	LIN	SUB	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	Desmophyllum	dianthus	Di Tracey	4	19/10/2016
4907	76	106533	AHL	TRE	AKE	Cnidaria	Anthozoa	Antipatharia	Myriopathidae	Antipathella		Rob Stewart	1	20/02/2017
4917	6	106534	CAY	BAS	AKE	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	Caryophyllia		Di Tracey	1	29/01/2017
4917	6	119690	CAY	BAS	AKE	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	Caryophyllia	lamellifera	Di Tracey	1	29/01/2017
4917	6	106536	CRY	BAS	AKE	Cnidaria	Hydrozoa	Anthoathecata	Stylasteridae	Crypthelia	polypoma	Peter Marriott	1	29/01/2017
4917	6	119714	CRY	BAS	AKE	Cnidaria	Hydrozoa	Anthoathecata	Stylasteridae	Crypthelia	polypoma	Peter Marriott	1	29/01/2017
4917	6	119713	ERR	BAS	AKE	Cnidaria	Hydrozoa	Anthoathecata	Stylasteridae	Errina	novaezelandiae	Peter Marriott	1	29/01/2017
4917	6	106535	ERR	BAS	AKE	Cnidaria	Hydrozoa	Anthoathecata	Stylasteridae	Errina	chathamensis	Peter Marriott	1	29/01/2017
4917	6	106537	LPP	BAS	AKE	Cnidaria	Hydrozoa	Anthoathecata	Stylasteridae	Lepidopora	polystichopora	Peter Marriott	1	29/01/2017
4917	6	119712	STL	BAS	AKE	Cnidaria	Hydrozoa	Anthoathecata	Stylasteridae	Stylaster	horologium	Peter Marriott	1	29/01/2017
4917	6	106538	STL	BAS	AKE	Cnidaria	Hydrozoa	Anthoathecata	Stylasteridae	Stylaster	eguchii	Peter Marriott	1	29/01/2017
4919	85	106542	COF	HOK	SOE	Cnidaria	Anthozoa	Scleractinia	Flabellidae	Flabellum	knoxii	Di Tracey	1	20/02/2017
4919	103	106541	DDI	HOK	SOE	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	Desmophyllum	dianthus	Di Tracey	1	24/02/2017

Appendix C Spreadsheet summary of digital images processed for the reporting period 1 July 2017 – 30 June 2018

Reporting Year (Period)	Images received	TRIP	Tow	NIWA Cat. No.	OSD No.	Initial OBS ID	Target species	Start FMA	End FMA	Fishing method	Phylum	Class	Order	Family	Genus	Species	Determiner	Determined Date	Event start	Event end	Start latitude	Start longitude	End latitude	End longitude	Start depth	End depth	Observer	Image title	Image timestamp	Image rating
2 (Jul - Oct 2017)	Nov-17	5013	33			ROC	SCH	SO U	SO U	SN	Cnidaria	Hydrozoa	Anthothecata	Stylasteridae	Errina		Di Tracey	17/01/2018	2/08/2017 12:06	2/08/2017 12:06	-47.3	167.3	167.3	-47.3				TRIP5013_033_Errina.JPG	2/08/2017 16:51	2
2 (Jul - Oct 2017)	Nov-17	5014					LIN				Cnidaria	Anthozoa	Scleractinia	Oculinidae	Madrepora	oculata	Di Tracey	17/01/2018										TRIP5014_Madrepora-oculata_a.JPG	31/07/2017 11:25	3
2 (Jul - Oct 2017)	Nov-17	5014					LIN				Cnidaria	Anthozoa	Scleractinia	Oculinidae	Madrepora	oculata	Di Tracey	17/01/2018										TRIP5014_Madrepora-oculata_b.JPG	31/07/2017 11:26	3
2 (Jul - Oct 2017)	Nov-17	5018	37			COB	HPB	LO UR	LO UR	TWL	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	Bathypathes		Rob Stewart	14/02/2018	6/06/2017 8:35	6/06/2017 8:35	-38.4	191.9	191.8	-38.4	247	300		TRIP5018_037_Bathypathes_Leiopathes.JPG	6/06/2017 9:48	2
2 (Jul - Oct 2017)	Nov-17	5018	37			COB	HPB	LO UR	LO UR	TWL	Cnidaria	Anthozoa	Antipatharia	Leiopathidae	Leiopathes		Rob Stewart	14/02/2018	6/06/2017 8:35	6/06/2017 8:35	-38.4	191.9	191.8	-38.4	247	300		TRIP5018_037_Bathypathes_Leiopathes.JPG	6/06/2017 9:48	2
2 (Jul - Oct 2017)	Nov-17	5018	37			GOC	HPB	LO UR	LO UR	TWL	Cnidaria	Anthozoa	Alcyonacea	Plexauridae	Paracis		Jaret Bilewitch	23/01/2018	6/06/2017 8:35	6/06/2017 8:35	-38.4	191.9	191.8	-38.4	247	300		TRIP5018_037_Paracis.JPG	6/06/2017 9:49	2
2 (Jul - Oct 2017)	Nov-17	5018	37			BOO	HPB	LO UR	LO UR	TWL	Cnidaria	Anthozoa	Alcyonacea	Isididae			Di Tracey	17/01/2018	6/06/2017 8:35	6/06/2017 8:35	-38.4	191.9	191.8	-38.4	247	300		TRIP5018_037_Isididae.JPG	6/06/2017 9:50	1
2 (Jul - Oct 2017)	Nov-17	5018	38			GOC	ORH	LO UR	LO UR	TWL	Cnidaria	Anthozoa	Alcyonacea	Plexauridae	Paracis		Jaret Bilewitch	23/01/2018	6/06/2017 17:20	6/06/2017 17:20	-38.4	192.3	192.3	-38.4	1260	1400		TRIP5018_038_Paracis.JPG	6/06/2017 18:31	1
2 (Jul - Oct 2017)	Nov-17	5018	38			GDU	ORH	LO UR	LO UR	TWL	Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Goniocorella	dumosa	Di Tracey	17/01/2018	6/06/2017 17:20	6/06/2017 17:20	-38.4	192.3	192.3	-38.4	1260	1400		TRIP5018_038_Goniocorella-dumosa.JPG	6/06/2017 18:41	1
2 (Jul - Oct 2017)	Nov-17	5018	39			GOC	ORH	LO UR	LO UR	TWL	Cnidaria	Anthozoa	Alcyonacea	Plexauridae	Paracis		Jaret Bilewitch	23/01/2018	6/06/2017 19:03	6/06/2017 19:03	-38.4	192.3	192.3	-38.4	1147	1145		TRIP5018_039_Paracis_Acanthogorgia.JPG	6/06/2017 19:47	2
2 (Jul - Oct 2017)	Nov-17	5018	39			GOC	ORH	LO UR	LO UR	TWL	Cnidaria	Anthozoa	Alcyonacea	Acanthogorgiidae	Acanthogorgia		Jaret Bilewitch	23/01/2018	6/06/2017 19:03	6/06/2017 19:03	-38.4	192.3	192.3	-38.4	1147	1145		TRIP5018_039_Paracis_Acanthogorgia.JPG	6/06/2017 19:47	2
2 (Jul - Oct 2017)	Nov-17	5018	52			BOO	ORH	CET	CE T	TWL	Cnidaria	Anthozoa	Alcyonacea	Isididae		Keratosis	Di Tracey	17/01/2018	16/06/2017 5:05	16/06/2017 5:05	-37.3	168	168	-37.3	996	971		TRIP5018_052_Keratosis.JPG	16/06/2017 6:03	1
2 (Jul - Oct 2017)	Nov-17	5018	52			CRY	ORH	CET	CE T	TWL	Cnidaria	Anthozoa	Scleractinia	Dendrophyllidae	Enallopsammia		Di Tracey	17/01/2018	16/06/2017 5:05	16/06/2017 5:05	-37.3	168	168	-37.3	996	971		TRIP5018_052_Enallopsammia.JPG	16/06/2017 6:04	1
2 (Jul - Oct 2017)	Nov-17	5018	52			GOC	ORH	CET	CE T	TWL	Cnidaria	Anthozoa	Alcyonacea	Chrysogorgiidae	Chrysogorgia		Candice Untiedt	24/01/2018	16/06/2017 5:05	16/06/2017 5:05	-37.3	168	168	-37.3	996	971		TRIP5018_052_Chrysogorgia.JPG	16/06/2017 6:04	1
2 (Jul - Oct 2017)	Nov-17	5018	53			BOO	ORH	CET	CE T	TWL	Cnidaria	Anthozoa	Alcyonacea	Isididae		Keratosis	Di Tracey	17/01/2018	16/06/2017 9:44	16/06/2017 9:44	-37.3	168	168	-37.2	1080	1105		TRIP5018_053_Keratosis_Enallopsammia.JPG	16/06/2017 12:09	2
2 (Jul - Oct 2017)	Nov-17	5018	53			CRY	ORH	CET	CE T	TWL	Cnidaria	Anthozoa	Scleractinia	Dendrophyllidae	Enallopsammia		Di Tracey	17/01/2018	16/06/2017 9:44	16/06/2017 9:44	-37.3	168	168	-37.2	1080	1105		TRIP5018_053_Keratosis_Enallopsammia.JPG	16/06/2017 12:09	2
2 (Jul - Oct 2017)	Nov-17	5018	57			COB	ORH	CET	CE T	TWL	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	Bathypathes		Rob Stewart	14/02/2018	17/06/2017 9:28	17/06/2017 9:28	-37.3	168	168	-37.3	1077	1090		TRIP5018_057_Bathypathes_Leiopathes.JPG	17/06/2017 10:22	2
2 (Jul - Oct 2017)	Nov-17	5018	57			COB	ORH	CET	CE T	TWL	Cnidaria	Anthozoa	Antipatharia	Leiopathidae	Leiopathes		Rob Stewart	14/02/2018	17/06/2017 9:28	17/06/2017 9:28	-37.3	168	168	-37.3	1077	1090		TRIP5018_057_Bathypathes_Leiopathes.JPG	17/06/2017 10:22	2
2 (Jul - Oct 2017)	Nov-17	5018	57			GOC	ORH	CET	CE T	TWL	Cnidaria	Anthozoa	Alcyonacea	Primnoidae	Calyptrophora	ucullata	Stephen Cairns	22/03/2018	17/06/2017 9:28	17/06/2017 9:28	-37.3	168	-37.3	168	1077	1090		TRIP5018_057_Calyptrophora-ucullata.JPG	17/06/2017 10:25	1
2 (Jul - Oct 2017)	Nov-17	5018	58			THO	ORH	CET	CE T	TWL	Cnidaria	Anthozoa	Alcyonacea	Primnoidae	Narella	hypocalyx	Stephen Cairns	22/03/2018	17/06/2017 11:37	17/06/2017 11:37	-37.3	168	-37.3	168	1000	1037		TRIP5018_058_Narella-hypocalyx_Thouarella-or-Metafannyella.JPG	17/06/2017 12:56	2
2 (Jul - Oct 2017)	Nov-17	5018	58			THO	ORH	CET	CE T	TWL	Cnidaria	Anthozoa	Alcyonacea	Primnoidae	Thouarella or Metafannyella		Stephen Cairns	23/03/2018	17/06/2017 11:37	17/06/2017 11:37	-37.3	168	-37.3	168	1000	1037		TRIP5018_058_Narella-hypocalyx_Thouarella-or-Metafannyella.JPG	17/06/2017 12:56	2
2 (Jul - Oct 2017)	Nov-17	5018	65			GOC	ORH	CET	CE T	TWL	Cnidaria	Anthozoa	Alcyonacea	Primnoidae	Calyptrophora	inornata	Stephen Cairns	23/03/2018	19/06/2017 6:23	19/06/2017 6:23	-37.3	168	-37.3	168	959	977		TRIP5018_065_Calyptrophora-inornata.JPG	19/06/2017 7:27	1
2 (Jul - Oct 2017)	Nov-17	5018	85			LEI	ORH	CET	CE T	TWL	Cnidaria	Anthozoa	Antipatharia	Leiopathidae	Leiopathes		Rob Stewart	14/02/2018	24/06/2017 10:31	24/06/2017 10:31	-37.3	168	168	-37.3	983	982		TRIP5018_085_Leiopathes.JPG	24/06/2017 11:35	1
2 (Jul - Oct 2017)	Nov-17	5045					SCI				Cnidaria	Anthozoa	Alcyonacea	Isididae	?Jansonis		Di Tracey	17/01/2018										TRIP5045_Jansonis.JPG	2/07/2017 17:31	3
2 (Jul - Oct 2017)	Nov-17	5049	45			UNI	ORH	LO UR	LO UR	TWL	Cnidaria	Anthozoa	Alcyonacea	Primnoidae	Thouarella		Stephen Cairns	22/03/2018	5/07/2017 5:59	5/07/2017 5:59	-41.4	195.7	-41.4	195.6		D. Ger	TRIP5049_045_Thouarella_a.JPG	5/07/2017 7:50	1	
2 (Jul - Oct 2017)	Nov-17	5049	45			UNI	ORH	LO UR	LO UR	TWL	Cnidaria	Anthozoa	Alcyonacea	Primnoidae	Thouarella		Stephen Cairns	22/03/2018	5/07/2017 5:59	5/07/2017 5:59	-41.4	195.7	-41.4	195.6		D. Ger	TRIP5049_045_Thouarella_b.JPG	5/07/2017 7:51	1	
2 (Jul - Oct 2017)	Nov-17	5049	59			UNI	ORH	HO WE	HO WE	TWL	Cnidaria	Anthozoa	Antipatharia	Stylopathidae	Triadopathes		Rob Stewart	14/02/2018	17/07/2017 7:56	17/07/2017 7:56	-35.6	165.2	165.2	-35.6	923	918	D. Ger	TRIP5049_059_Triadopathes_a.JPG	17/07/2017 9:17	2

Reporting Year (Period)	Images received	TRIP	Tow	NIWA Cat. No.	OSD No.	Initial OBS ID	Target species	Start FMA	End FMA	Fishing method	Phylum	Class	Order	Family	Genus	Species	Determiner	Determined Date	Event start	Event end	Start latitude	Start longitude	End latitude	End longitude	Start depth	End depth	Observer	Image title	Image timestamp	Image rating	
2 (Jul - Oct 2017)	Nov-17	5058	37	106564	3606	LIL	ORH	AKE	AK E	TWL	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	Lillipathes		Rob Stewart	14/02/2018	16/07/2017	16/07/2017	-35.7	176.3	176.3	-35.6	772	1454	N. Bro	TRIP5058_037_Lillipathes_NIWA106564_b.JPG	16/07/2017 13:25	2	
2 (Jul - Oct 2017)	Nov-17	5058	39	NIWA 106564	3613	LEI	ORH	AKE	AK E	TWL	Cnidaria	Anthozoa	Alcyonacea	Chrysogorgiae	Metallogorgia	melanotrichos	Candice Untiedt	24/01/2018	16/07/2017	16/07/2017	-35.7	176.3	176.3	-35.7	731		N. Bro	TRIP5058_039_Metallogorgia-melanotrichos_NIWA106568_a.JPG	16/07/2017 20:22	1	
2 (Jul - Oct 2017)	Nov-17	5058	39	NIWA 106568	3613	LEI	ORH	AKE	AK E	TWL	Cnidaria	Anthozoa	Alcyonacea	Chrysogorgiae	Metallogorgia	melanotrichos	Candice Untiedt	24/01/2018	16/07/2017	16/07/2017	-35.7	176.3	176.3	-35.7	731		N. Bro	TRIP5058_039_Metallogorgia-melanotrichos_NIWA106568_b.JPG	16/07/2017 20:23	2	
2 (Jul - Oct 2017)	Nov-17	5062					ORH				Cnidaria	Anthozoa	Antipatharia	Leiopatheidae	Leiopathes		Rob Stewart	14/02/2018											TRIP5062_Leiopathes.JPG	14/07/2017 11:49	4
2 (Jul - Oct 2017)	Nov-17	5062					ORH				Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Stephanocyathus		Di Tracey	17/01/2018											TRIP5062_Stephanocyathus_1.JPG	15/07/2017 23:33	4
2 (Jul - Oct 2017)	Nov-17	5062					ORH				Cnidaria	Anthozoa	Scleractinia	Flabellidae	Flabellum	messum	Marcelo Kitahara	22/03/2018											TRIP5062_Flabellum-messum_a.JPG	17/07/2017 14:00	4
2 (Jul - Oct 2017)	Nov-17	5062					ORH				Cnidaria	Anthozoa	Scleractinia	Flabellidae	Flabellum	messum	Marcelo Kitahara	22/03/2018											TRIP5062_Flabellum-messum_b.JPG	17/07/2017 14:01	4
2 (Jul - Oct 2017)	Nov-17	5062					ORH				Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Stephanocyathus		Di Tracey	17/01/2018											TRIP5062_Stephanocyathus_a.JPG	18/07/2017 15:53	4
2 (Jul - Oct 2017)	Nov-17	5062					ORH				Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Stephanocyathus		Di Tracey	17/01/2018											TRIP5062_Stephanocyathus_b.JPG	18/07/2017 15:53	4
2 (Jul - Oct 2017)	Nov-17	5062					ORH				Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Stephanocyathus		Di Tracey	17/01/2018											TRIP5062_Stephanocyathus_2.JPG	18/07/2017 15:54	4
2 (Jul - Oct 2017)	Nov-17	5062					ORH				Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Stephanocyathus		Di Tracey	17/01/2018											TRIP5062_Stephanocyathus_3.JPG	18/07/2017 15:57	4
2 (Jul - Oct 2017)	Nov-17	5066					LIN				Ochrophyta	Phaeococcales	Laminariales				Diana Macpherson	25/01/2018											TRIP5066_Kelp.JPG	26/07/2017 15:40	4
2 (Jul - Oct 2017)	Nov-17	5066					LIN				Cnidaria	Anthozoa	Alcyonacea	Isididae	Isidella		Di Tracey	17/01/2018											TRIP5066_Isidella.JPG	31/08/2017 12:53	4
2 (Jul - Oct 2017)	Nov-17	5066					LIN				Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Goniocorella	dumosa	Di Tracey	17/01/2018											TRIP5066_Goniocorella-dumosa.JPG	31/08/2017 12:54	4
2 (Jul - Oct 2017)	Nov-17	5066					LIN				Cnidaria	Hydrozoa	Anthothecata	Stylasteridae	Lepidotheca		Di Tracey	17/01/2018											TRIP5066_Lepidotheca.JPG	31/08/2017 12:54	4
2 (Jul - Oct 2017)	Nov-17	5068	81			GOC	HAK	CH A	CH A	TWL	Cnidaria	Anthozoa	Alcyonacea	Primnoidea	Callorgorgia		Di Tracey	17/01/2018	29/08/2017 6:35	29/08/2017 6:35	-42.1	170.4	170.4	-42	537	543		TRIP5068_081_Callorgorgia.JPG	29/08/2017 21:20	1	
2 (Jul - Oct 2017)	Nov-17	5069					ORH				Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Stephanocyathus		Di Tracey	17/01/2018											TRIP5069_Stephanocyathus_a.JPG	19/07/2017 19:10	4
2 (Jul - Oct 2017)	Nov-17	5069					ORH				Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Stephanocyathus		Di Tracey	17/01/2018											TRIP5069_Stephanocyathus_b.JPG	19/07/2017 19:10	4
2 (Jul - Oct 2017)	Nov-17	5069					ORH				Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Stephanocyathus		Di Tracey	17/01/2018											TRIP5069_Stephanocyathus_1.JPG	20/07/2017 10:12	4
2 (Jul - Oct 2017)	Nov-17	5069					ORH				Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Stephanocyathus		Di Tracey	17/01/2018											TRIP5069_Stephanocyathus_2.JPG	20/07/2017 23:38	4
2 (Jul - Oct 2017)	Nov-17	5069					ORH				Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratopsis		Di Tracey	17/01/2018											TRIP5069_Keratopsis.JPG	25/07/2017 23:40	4
2 (Jul - Oct 2017)	Nov-17	5069					ORH				Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Stephanocyathus		Di Tracey	17/01/2018											TRIP5069_Stephanocyathus_3.JPG	29/07/2017 13:04	4
2 (Jul - Oct 2017)	Nov-17	5069					ORH				Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Stephanocyathus		Di Tracey	17/01/2018											TRIP5069_Stephanocyathus_4.JPG	30/07/2017 15:25	4
2 (Jul - Oct 2017)	Nov-17	5069					ORH				Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Stephanocyathus		Di Tracey	17/01/2018											TRIP5069_Stephanocyathus_5.JPG	31/07/2017 5:42	4
2 (Jul - Oct 2017)	Nov-17	5069					ORH				Echinodermata	Ophiuroidea	Euryalida	Gorgonocephalidae			Diana Macpherson	25/01/2018											TRIP5069_Gorgonocephalidae_a.JPG	31/07/2017 5:43	4
2 (Jul - Oct 2017)	Nov-17	5069					ORH				Echinodermata	Ophiuroidea	Euryalida	Gorgonocephalidae			Diana Macpherson	25/01/2018											TRIP5069_Gorgonocephalidae_b.JPG	31/07/2017 19:32	4
2 (Jul - Oct 2017)	Nov-17	5069					ORH				Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Stephanocyathus		Di Tracey	17/01/2018											TRIP5069_Stephanocyathus_6.JPG	31/07/2017 19:33	4
2 (Jul - Oct 2017)	Nov-17	5069					ORH				Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Stephanocyathus		Di Tracey	17/01/2018											TRIP5069_Stephanocyathus_7.JPG	2/08/2017 9:08	4
2 (Jul - Oct 2017)	Nov-17	5069					ORH				Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Stephanocyathus		Di Tracey	17/01/2018											TRIP5069_Stephanocyathus_8.JPG	2/08/2017 15:40	4
2 (Jul - Oct 2017)	Nov-17	5072	9	NIWA 125114	3710	HDR	ATO	SOE T	SO ET	BLL	Cnidaria	Anthozoa	Alcyonacea	Plexauridae	75wiftia		Jaret Bilewicz	23/01/2018	18/09/2017 5:11	18/09/2017 5:11	-59.6	216.2	216.2	-59.7	1675	1518	Jeff Dolan	TRIP5072_009_Swiftia_NIWA125114.JPG	19/09/2017 6:37	1	

Reporting Year (Period)	Images received	TRIP	Tow	NIWA Cat. No.	OSD No.	Initial OBS ID	Target species	Start FMA	End FMA	Fishing method	Phylum	Class	Order	Family	Genus	Species	Determiner	Determined Date	Event start	Event end	Start latitude	Start longitude	End latitude	End longitude	Start depth	End depth	Observer	Image title	Image timestamp	Image rating
2 (Jul - Oct 2017)	Nov-17	5072	10			HDR	ATO	SOE T	SOE T	BLL	Cnidaria	Anthozoa	Alcyonacea	Plexauridae	Swiftia		Jaret Bilewicz	23/01/2018	19/09/2017	19/09/2017	-59.6	216.2	216.2	-59.6	1417	1293	Jeff Dolan	TRIP5072_010_Swiftia.JPG	20/09/2017 6:16:53	1
2 (Jul - Oct 2017)	Nov-17	5073	7				LIN	SUB	SUB	TWL	Cnidaria	Anthozoa	Alcyonacea				Phil Alderslade	24/01/2018	18/07/2017	19/07/2017	-49	166.5	166.5	-49	620	610	Acon	TRIP5073_007_Gorgonian.JPG	19/07/2017 9:26	1
2 (Jul - Oct 2017)	Nov-17	5073	8			GOC	LIN	SUB	SUB	TWL	Cnidaria	Anthozoa	Alcyonacea				Phil Alderslade	24/01/2018	19/07/2017	19/07/2017	-49	166.6	166.5	-49	532		Acon	TRIP5073_008_Gorgonian_1.JPG	19/07/2017 20:44	1
2 (Jul - Oct 2017)	Nov-17	5073	8			GOC	LIN	SUB	SUB	TWL	Cnidaria	Anthozoa	Alcyonacea				Phil Alderslade	24/01/2018	19/07/2017	19/07/2017	-49	166.6	166.5	-49	532		Acon	TRIP5073_008_Gorgonian_2.JPG	19/07/2017 20:45	1
2 (Jul - Oct 2017)	Nov-17	5073	9			GOC	LIN	SUB	SUB	TWL	Cnidaria	Hydrozoa	Leptothecata				Diana Macpherson	25/01/2018	19/07/2017	20/07/2017	-49	166.5	166.5	-49	620	646	Acon	TRIP5073_009_Leptothecata.JPG	20/07/2017 8:07	1
2 (Jul - Oct 2017)	Nov-17	5073	9			GOC	LIN	SUB	SUB	TWL	Cnidaria	Anthozoa	Alcyonacea				Phil Alderslade	24/01/2018	19/07/2017	19/07/2017	-49	166.5	166.5	-49	620	646	Acon	TRIP5073_009_Gorgonian.JPG	20/07/2017 8:19	1
2 (Jul - Oct 2017)	Nov-17	5073	13			GOC	WWA	SO	SO	TWL	Cnidaria	Anthozoa	Alcyonacea				Phil Alderslade	24/01/2018	22/07/2017	22/07/2017	-47	165.7	165.6	-47	508	510	Acon	TRIP5073_013_Gorgonian.JPG	22/07/2017 15:46	1
2 (Jul - Oct 2017)	Nov-17	5073	15			GOC	WWA	SO	SO	TWL	Cnidaria	Anthozoa	Alcyonacea				Phil Alderslade	24/01/2018	22/07/2017	22/07/2017	-47	165.6	165.7	-47	420	713	Acon	TRIP5073_015_Gorgonian_1.JPG	23/07/2017 16:51	1
2 (Jul - Oct 2017)	Nov-17	5073	15			GOC	WWA	SO	SO	TWL	Cnidaria	Anthozoa	Alcyonacea				Phil Alderslade	24/01/2018	22/07/2017	22/07/2017	-47	165.6	165.7	-47	420	713	Acon	TRIP5073_015_Gorgonian_2.JPG	23/07/2017 20:11	1
2 (Jul - Oct 2017)	Nov-17	5073	16			GOC	WWA	SO	SO	TWL	Cnidaria	Anthozoa	Alcyonacea				Phil Alderslade	24/01/2018	23/07/2017	23/07/2017	-48.8	166.4	166.6	-48.9	294		Acon	TRIP5073_016_Gorgonian.JPG	24/07/2017 7:45	1
2 (Jul - Oct 2017)	Nov-17	5073	17			THO	LIN	SUB	SUB	TWL	Cnidaria	Anthozoa	Alcyonacea	Primnoidea	Thouarella		Candice Untiedt	24/01/2018	23/07/2017	24/07/2017	-49	166.5	166.5	-49	600	589	Acon	TRIP5073_017_Thouarella_a.JPG	24/07/2017 7:47	1
2 (Jul - Oct 2017)	Nov-17	5073	17			THO	LIN	SUB	SUB	TWL	Cnidaria	Anthozoa	Alcyonacea	Primnoidea	Thouarella		Candice Untiedt	24/01/2018	23/07/2017	24/07/2017	-49	166.5	166.5	-49	600	589	Acon	TRIP5073_017_Thouarella_b.JPG	24/07/2017 7:47	1
2 (Jul - Oct 2017)	Nov-17	5073	17			GOC	LIN	SUB	SUB	TWL	Cnidaria	Anthozoa	Alcyonacea				Phil Alderslade	24/01/2018	23/07/2017	24/07/2017	-49	166.5	166.5	-49	600	589	Acon	TRIP5073_017_Gorgonian_a.JPG	24/07/2017 8:16	1
2 (Jul - Oct 2017)	Nov-17	5073	17			GOC	LIN	SUB	SUB	TWL	Cnidaria	Anthozoa	Alcyonacea				Phil Alderslade	24/01/2018	23/07/2017	24/07/2017	-49	166.5	166.5	-49	600	589	Acon	TRIP5073_017_Gorgonian_b.JPG	24/07/2017 8:16	3
2 (Jul - Oct 2017)	Nov-17	5073	18			THO	LIN	SUB	SUB	TWL	Cnidaria	Anthozoa	Alcyonacea	Primnoidea	Thouarella		Candice Untiedt	24/01/2018	24/07/2017	24/07/2017	-49	166.9	166.5	-49.1	436	505	Acon	TRIP5073_018_Thouarella_a.JPG	24/07/2017 19:44	1
2 (Jul - Oct 2017)	Nov-17	5073	18			THO	LIN	SUB	SUB	TWL	Cnidaria	Anthozoa	Alcyonacea	Primnoidea	Thouarella		Candice Untiedt	24/01/2018	24/07/2017	24/07/2017	-49	166.9	166.5	-49.1	436	505	Acon	TRIP5073_018_Thouarella_b.JPG	24/07/2017 19:44	1
2 (Jul - Oct 2017)	Nov-17	5073	18			THO	LIN	SUB	SUB	TWL	Cnidaria	Anthozoa	Alcyonacea	Primnoidea	Thouarella		Candice Untiedt	24/01/2018	24/07/2017	24/07/2017	-49	166.9	166.5	-49.1	436	505	Acon	TRIP5073_018_Thouarella.JPG	24/07/2017 20:11	1
2 (Jul - Oct 2017)	Nov-17	5073	21			GOC	WWA	SO	SO	TWL	Cnidaria	Anthozoa	Alcyonacea				Phil Alderslade	24/01/2018	26/07/2017	26/07/2017	-48.7	166.4	166.4	-48.7	450	488	Acon	TRIP5073_021_Gorgonian.JPG	26/07/2017 16:16	1
2 (Jul - Oct 2017)	Nov-17	5073	22			GOC	BAR	SO	SO	TWL	Cnidaria	Anthozoa	Alcyonacea				Phil Alderslade	24/01/2018	26/07/2017	26/07/2017	-48.8	166.4	166.3	-48.7	450	588	Acon	TRIP5073_022_Gorgonian.JPG	26/07/2017 22:08	1
2 (Jul - Oct 2017)	Nov-17	5073	25			GOC	LIN	SUB	SUB	TWL	Cnidaria	Anthozoa	Alcyonacea				Phil Alderslade	24/01/2018	27/07/2017	28/07/2017	-49	166.5	166.5	-49	200		Acon	TRIP5073_025_Gorgonian.JPG	28/07/2017 16:32	1
2 (Jul - Oct 2017)	Nov-17	5073	27			GOC	WWA	SO	SO	TWL	Cnidaria	Anthozoa	Alcyonacea				Phil Alderslade	24/01/2018	28/07/2017	28/07/2017	-48.8	166.4	166.3	-48.7	450	450	Acon	TRIP5073_027_Gorgonian.JPG	28/07/2017 19:40	1
2 (Jul - Oct 2017)	Nov-17	5073	30			THO	LIN	SUB	SUB	TWL	Cnidaria	Anthozoa	Alcyonacea	Primnoidea	Thouarella or Metafannyella		Stephen Cairns	22/03/2018	29/07/2017	30/07/2017	-49	166.6	-49	166.5	520	600	Acon	TRIP5073_030_Thouarella-or-Metafannyella.JPG	30/07/2017 7:30	1
2 (Jul - Oct 2017)	Nov-17	5073	31			GOC	WWA	SO	SO	TWL	Cnidaria	Anthozoa	Alcyonacea				Phil Alderslade	24/01/2018	30/07/2017	30/07/2017	-48.8	166.5	166.3	-48.6	390	505	Acon	TRIP5073_031_Gorgonian.JPG	30/07/2017 17:10	1
2 (Jul - Oct 2017)	Nov-17	5073	33			THO	WWA	SO	SO	TWL	Cnidaria	Hydrozoa	Leptothecata				Diana Macpherson	25/01/2018	31/07/2017	31/07/2017	-48.8	166.5	166.3	-48.6	410	563	Acon	TRIP5073_033_Leptothecata.JPG	31/07/2017 21:06	1
2 (Jul - Oct 2017)	Nov-17	5073	33			GOC	WWA	SO	SO	TWL	Cnidaria	Hydrozoa	Leptothecata	Lafoeidae	Cryptolaria		Diana Macpherson	25/01/2018	31/07/2017	31/07/2017	-48.8	166.5	166.3	-48.6	410	563	Acon	TRIP5073_033_Cryptolaria.JPG	31/07/2017 21:08	1
2 (Jul - Oct 2017)	Nov-17	5073	34			GOC & CHR	LIN	SUB	SUB	TWL	Cnidaria	Anthozoa	Alcyonacea				Phil Alderslade	24/01/2018	31/07/2017	1/08/2017	-49	166.5	166.5	-49.1	620		Acon	TRIP5073_034_Gorgonian_a.JPG	1/08/2017 7:32	1
2 (Jul - Oct 2017)	Nov-17	5073	34			GOC & CHR	LIN	SUB	SUB	TWL	Cnidaria	Anthozoa	Alcyonacea				Phil Alderslade	24/01/2018	31/07/2017	1/08/2017	-49	166.5	166.5	-49.1	620		Acon	TRIP5073_034_Gorgonian_b.JPG	1/08/2017 7:33	1
2 (Jul - Oct 2017)	Nov-17	5073	36			GOC	WWA	SO	SO	TWL	Cnidaria	Hydrozoa	Leptothecata	Lafoeidae	Cryptolaria		Diana Macpherson	25/01/2018	1/08/2017	1/08/2017	-48.7	166.4	166.4	-48.8	450		Acon	TRIP5073_036_Cryptolaria.JPG	1/08/2017 20:47	1
2 (Jul - Oct 2017)	Nov-17	5073				GOC	WWA LIN				Cnidaria	Anthozoa	Alcyonacea				Phil Alderslade	24/01/2018	15:00	15:00							Acon	TRIP5073_Gorgonian.JPG	24/07/2017 19:46	1

Reporting Year (Period)	Images received	TRIP	Tow	NIWA Cat. No.	OSD No.	Initial OBS ID	Target species	Start FM A	End FM A	Fishing method	Phylum	Class	Order	Family	Genus	Species	Determiner	Determined Date	Event start	Event end	Start latitude	Start longitude	End latitude	End longitude	Start depth	End depth	Observer	Image title	Image timestamp	Image rating	
2 (Jul - Oct 2017)	Nov-17	5097					ORH				Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Desmophyllum	dianthus	Marcelo Kitahara	22/03/2018									W. Din	TRIP5097_Desmophyllum-dianthus.JPG	13/08/2017 3:56	4	
2 (Jul - Oct 2017)	Nov-17	5097					ORH				Cnidaria	Anthozoa	Alcyonacea	Chrysozoidae	Metallogorgia	melanotrichos	Candice Untiedt	24/01/2018									W. Din	TRIP5097_Metallogorgia-melanotrichos.JPG	15/08/2017 7:21:44	4	
2 (Jul - Oct 2017)	Nov-17	5097					ORH				Cnidaria	Anthozoa	Antipatharia	Schizopathidae	Bathypathes		Rob Stewart	14/02/2018									W. Din	TRIP5097_Bathypathes_a.JPG	26/08/2017 2:12	4	
2 (Jul - Oct 2017)	Nov-17	5097					ORH				Cnidaria	Anthozoa	Antipatharia	Schizopathidae	Bathypathes		Rob Stewart	14/02/2018								W. Din	TRIP5097_Bathypathes_b.JPG	26/08/2017 2:12	4		
2 (Jul - Oct 2017)	Nov-17	5097					ORH				Cnidaria	Anthozoa	Antipatharia	Schizopathidae	Bathypathes		Rob Stewart	14/02/2018								W. Din	TRIP5097_Bathypathes_c.JPG	26/08/2017 2:12	4		
2 (Jul - Oct 2017)	Nov-17	5097					ORH				Cnidaria	Anthozoa	Alcyonacea	Primnoidea	Narella	?studerii	Stephen Cairns	22/03/2018									W. Din	TRIP5097_Narella-studerii.JPG	30/08/2017 6:38	4	
2 (Jul - Oct 2017)	Nov-17	5098									Cnidaria	Anthozoa	Scleractinia	Flabellidae	Flabellum		Di Tracey	17/01/2018										TRIP5098_Flabellum.JPG	6/08/2017 6:05	4	
2 (Jul - Oct 2017)	Nov-17	5102									Cnidaria	Anthozoa	Scleractinia	Flabellidae	Flabellum	knoxi	Di Tracey	17/01/2018										TRIP5102_Flabellum-knoxi.JPG	11/08/2017 7:19:07	4	
2 (Jul - Oct 2017)	Nov-17	5102									Cnidaria	Anthozoa	Alcyonacea	Plexauridae	?Muriceid		Jaret Bilewicz	23/01/2018										TRIP5102_Muriceid.JPG	7/19/07	4	
2 (Jul - Oct 2017)	Nov-17	5102									Cnidaria	Anthozoa	Antipatharia	Schizopathidae	Bathypathes		Rob Stewart	14/02/2018										TRIP5102_Bathypathes.JPG	12/08/2017 19:52	4	
2 (Jul - Oct 2017)	Nov-17	5112	28			GOC	BAR	CH A	CH A	TWL	Cnidaria	Hydrozoa	Leptothecata	Lafoeidae	Cryptolaria		Diana Macpherson	25/01/2018	17/09/2017	17/09/2017	-41	171.1	170.7	-41.7	201	228	Acon	TRIP5112_028_Cryptolaria_a.JPG	17/09/2017 20:14	2	
2 (Jul - Oct 2017)	Nov-17	5112	28			GOC	BAR	CH A	CH A	TWL	Cnidaria	Hydrozoa	Leptothecata	Lafoeidae	Cryptolaria		Diana Macpherson	25/01/2018	17/09/2017	17/09/2017	-41	171.1	170.7	-41.7	201	228	Acon	TRIP5112_028_Cryptolaria_b.JPG	17/09/2017 20:14	2	
2 (Jul - Oct 2017)	Nov-17	5117					BYS LIN				Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Goniocorella	dumosa	Marcelo Kitahara	22/03/2018										TRIP5117_Goniocorella-dumosa_a.JPG	2/09/2017 18:11	4	
2 (Jul - Oct 2017)	Nov-17	5117					BYS LIN				Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Goniocorella	dumosa	Marcelo Kitahara	22/03/2018										TRIP5117_Goniocorella-dumosa_b.JPG	2/09/2017 18:11	4	
2 (Jul - Oct 2017)	Nov-17	5117					BYS LIN				Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Goniocorella	dumosa	Marcelo Kitahara	22/03/2018										TRIP5117_Goniocorella-dumosa_c.JPG	2/09/2017 18:11	4	
2 (Jul - Oct 2017)	Nov-17	5117					BYS LIN				Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Desmophyllum	dianthus	Marcelo Kitahara	22/03/2018										TRIP5117_Desmophyllum-dianthus.JPG	2/09/2017 18:12	4	
2 (Jul - Oct 2017)	Nov-17	5117					BYS LIN				Cnidaria	Anthozoa	Alcyonacea	Plexauridae			Diana Macpherson	12/07/2018										TRIP5117_Thouarella_Plexauridae.JPG	2/09/2017 18:12	4	
2 (Jul - Oct 2017)	Nov-17	5117					BYS LIN				Cnidaria	Anthozoa	Alcyonacea	Primnoidea	Thouarella		Stephen Cairns	22/03/2018										TRIP5117_Thouarella_Plexauridae.JPG	2/09/2017 18:12	4	
2 (Jul - Oct 2017)	Nov-17	5117					BYS LIN				Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Goniocorella	dumosa	Marcelo Kitahara	22/03/2018										TRIP5117_Goniocorella-dumosa_d.JPG	2/09/2017 20:37	4	
2 (Jul - Oct 2017)	Nov-17	5117					BYS LIN				Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Goniocorella	dumosa	Marcelo Kitahara	22/03/2018										TRIP5117_Goniocorella-dumosa_e.JPG	2/09/2017 20:37	4	
2 (Jul - Oct 2017)	Nov-17	5118	17			COF	TRE	AK W	AK E	TWL	Cnidaria	Anthozoa	Scleractinia	Flabellidae	Flabellum	knoxi	Di Tracey	17/01/2018	3/09/2017	3/09/2017	-34.3	172.9	173	-34.3	105	72		TRIP5118_017_Flabellum-knoxi.JPG	3/09/2017 10:25	1	
2 (Jul - Oct 2017)	Nov-17	5118	48			GDU	TRE	AK W	AK W	TWL	Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Goniocorella	dumosa	Di Tracey	17/01/2018	13/09/2017	13/09/2017	-34.4	172.9	172.8	-34.3	30			TRIP5118_048_Goniocorella-dumosa_Porifera_a.JPG	13/09/2017 8:35	1	
2 (Jul - Oct 2017)	Nov-17	5118	48			GDU	TRE	AK W	AK W	TWL	Porifera							Di Tracey	17/01/2018	13/09/2017	13/09/2017	-34.4	172.9	172.8	-34.3	30			TRIP5118_048_Goniocorella-dumosa_Porifera_a.JPG	13/09/2017 8:35	1
2 (Jul - Oct 2017)	Nov-17	5118	48			GDU	TRE	AK W	AK W	TWL	Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Goniocorella	dumosa	Di Tracey	17/01/2018	13/09/2017	13/09/2017	-34.4	172.9	172.8	-34.3	30			TRIP5118_048_Goniocorella-dumosa_Porifera_b.JPG	13/09/2017 8:37	3	
2 (Jul - Oct 2017)	Nov-17	5118	48			GDU	TRE	AK W	AK W	TWL	Porifera							Di Tracey	17/01/2018	13/09/2017	13/09/2017	-34.4	172.9	172.8	-34.3	30			TRIP5118_048_Goniocorella-dumosa_Porifera_b.JPG	13/09/2017 8:37	3
2 (Jul - Oct 2017)	Nov-17	5118	48				UNI	TRE	AK W	AK W	TWL	Cnidaria	Hydrozoa	Leptothecata	Plumulidae	Nemertea		Caroline Chin	25/01/2018	13/09/2017	13/09/2017	-34.4	172.9	172.8	-34.3	30			TRIP5118_048_Nemertea_a.JPG	13/09/2017 8:56	2
2 (Jul - Oct 2017)	Nov-17	5118	48				UNI	TRE	AK W	AK W	TWL	Cnidaria	Hydrozoa	Leptothecata	Plumulidae	Nemertea		Caroline Chin	25/01/2018	13/09/2017	13/09/2017	-34.4	172.9	172.8	-34.3	30			TRIP5118_048_Nemertea_b.JPG	13/09/2017 8:58	3
2 (Jul - Oct 2017)	Nov-17	5118	48				UNX	TRE	AK W	AK W	TWL	Porifera						Sadie Mills	25/01/2018	13/09/2017	13/09/2017	-34.4	172.9	172.8	-34.3	30			TRIP5118_048_Porifera_a.JPG	13/09/2017 9:00	1
2 (Jul - Oct 2017)	Nov-17	5118	48				UNX	TRE	AK W	AK W	TWL	Porifera						Sadie Mills	25/01/2018	13/09/2017	13/09/2017	-34.4	172.9	172.8	-34.3	30			TRIP5118_048_Porifera_b.JPG	13/09/2017 9:01	3
2 (Jul - Oct 2017)	Nov-17	5118	48				ECB	TRE	AK W	AK W	TWL	Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Goniocorella	dumosa	Di Tracey	17/01/2018	13/09/2017	13/09/2017	-34.4	172.9	172.8	-34.3	30			TRIP5118_048_Goniocorella-dumosa.JPG	13/09/2017 9:06	1
2 (Jul - Oct 2017)	Nov-17	5118	53				LIL	TAR	AK W	AK W	TWL	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	Lillipathes		Rob Stewart	14/02/2018	14/09/2017	14/09/2017	-34.1	172.6	172.6	-34	97	98		TRIP5118_053_Lillipathes.JPG	14/09/2017 8:38	1

Reporting Year (Period)	Images received	TRIP	Tow	NIWA Cat. No.	OSD No.	Initial OBS ID	Target species	Start FM A	End FM A	Fishing method	Phylum	Class	Order	Family	Genus	Species	Determiner	Determined Date	Event start	Event end	Start latitude	Start longitude	End latitude	End longitude	Start depth	End depth	Observer	Image title	Image timestamp	Image rating	
2 (Jul - Oct 2017)	Nov-17	5118	56			CLG	TAR	AK W	AK W	TWL	Cnidaria	Anthozoa	Alcyonacea	Primnoidea	Metafannyella	ventilabrum?	Stephen Cairns	22/03/2018	14/09/2017	14/09/2017	-34	172.6	-34	172.6	118	109		TRIP5118_056_Metafannyella-ventilabrum_a.JPG	14/09/2017 21:25	1	
2 (Jul - Oct 2017)	Nov-17	5118	56			CLG	TAR	AK W	AK W	TWL	Cnidaria	Anthozoa	Alcyonacea	Primnoidea	Metafannyella	ventilabrum?	Stephen Cairns	22/03/2018	14/09/2017	14/09/2017	-34	172.6	-34	172.6	118	109		TRIP5118_056_Metafannyella-ventilabrum_b.JPG	14/09/2017 21:27	3	
2 (Jul - Oct 2017)	Nov-17	5118	56			COU	TAR	AK W	AK W	TWL	Cnidaria	Anthozoa	Alcyonacea	Plexauridae	?Euplexaura		Jaret Bilewitch	25/01/2018	14/09/2017	14/09/2017	-34	172.6	172.6	-34	118	109		TRIP5118_056_Euplexaura.JPG	14/09/2017 21:30	1	
2 (Jul - Oct 2017)	Nov-17	5118	80			LIL	TAR	AKE	AK W	TWL	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	Dendrobathypathes		Rob Stewart	14/02/2018	26/09/2017	26/09/2017	-34.3	173.1	173	-34.2	163			TRIP5118_080_Dendrobathypathes.JPG	26/09/2017 2:35	1	
2 (Jul - Oct 2017)	Nov-17	5118	80			TDP	TAR	AKE	AK W	TWL	Cnidaria	Anthozoa	Alcyonacea	Acanthogorgia	Acanthogorgia		Jaret Bilewitch	25/01/2018	26/09/2017	26/09/2017	-34.3	173.1	173	-34.2	163			TRIP5118_080_Acanthogorgia.JPG	26/09/2017 2:39	1	
2 (Jul - Oct 2017)	Nov-17	5118	80			COB	TAR	AKE	AK W	TWL	Cnidaria	Anthozoa	Alcyonacea	Plexauridae			Jaret Bilewitch	25/01/2018	26/09/2017	26/09/2017	-34.3	173.1	173	-34.2	163			TRIP5118_080_Plexauridae.JPG	26/09/2017 2:41	1	
2 (Jul - Oct 2017)	Nov-17	5126					HOK HAK				Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Desmophyllum	dianthus	Di Tracey	17/01/2018											TRIP5126_Desmophyllum-dianthus_a.JPG	21/09/2017 15:03	4
2 (Jul - Oct 2017)	Nov-17	5126					HOK HAK				Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Desmophyllum	dianthus	Di Tracey	17/01/2018											TRIP5126_Desmophyllum-dianthus_b.JPG	21/09/2017 15:03	4
2 (Jul - Oct 2017)	Nov-17	5130					ORH	ET			Cnidaria	Anthozoa	Antipatharia	Schizopathidae	Lillipathes		Rob Stewart	14/02/2018											TRIP5130_Lillipathes.JPG	25/09/2017 0:00	3
2 (Jul - Oct 2017)	Nov-17	5130					ORH	ET			Cnidaria	Anthozoa	Alcyonacea	Primnoidea	Paracalyptophora	hawaiiensis	Stephen Cairns	22/03/2018											TRIP5130_Paracalyptophora-hawaiiensis.JPG	25/09/2017 1:54	3
2 (Jul - Oct 2017)	Nov-17	5130					ORH	ET			Cnidaria	Anthozoa	Scleractinia	Dendrophyllidae	Enallopsammia		Di Tracey	17/01/2018											TRIP5130_Enallopsammia-Desmophyllum.JPG	12/10/2017 22:13	3
2 (Jul - Oct 2017)	Nov-17	5130					ORH	ET			Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Desmophyllum		Di Tracey	17/01/2018											TRIP5130_Enallopsammia-Desmophyllum.JPG	12/10/2017 22:13	3
2 (Oct - Dec 2017)	Mar-18	5145	48				SQU	SO U	SO U	TWL	Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Desmophyllum	dianthus	Di Tracey	13/07/2018	2/11/2017	2/11/2017	-48.7	166.5	-48.7	166.4	359	376		TRIP5145_048_Goniocorella-dumosa_Desmophyllum-dianthus_a.JPG	3/11/2017 7:48	3	
2 (Oct - Dec 2017)	Mar-18	5145	48				SQU	SO U	SO U	TWL	Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Desmophyllum	dianthus	Di Tracey	13/07/2018	2/11/2017	2/11/2017	-48.7	166.5	-48.7	166.4	359	376		TRIP5145_048_Goniocorella-dumosa_Desmophyllum-dianthus_b.JPG	3/11/2017 7:49	3	
2 (Oct - Dec 2017)	Mar-18	5145	48				SQU	SO U	SO U	TWL	Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Goniocorella	dumosa	Di Tracey	13/07/2018	2/11/2017	2/11/2017	-48.7	166.5	-48.7	166.4	359	376		TRIP5145_048_Goniocorella-dumosa_Desmophyllum-dianthus_a.JPG	3/11/2017 7:48	3	
2 (Oct - Dec 2017)	Mar-18	5145	48				SQU	SO U	SO U	TWL	Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Goniocorella	dumosa	Di Tracey	13/07/2018	2/11/2017	2/11/2017	-48.7	166.5	-48.7	166.4	359	376		TRIP5145_048_Goniocorella-dumosa_Desmophyllum-dianthus_b.JPG	3/11/2017 7:49	3	
2 (Oct - Dec 2017)	Mar-18	5162	18				LIN	SEC	SE C	BLL	Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Goniocorella	dumosa	Di Tracey	13/07/2018	25/10/2017	26/10/2017	-42.9	175.5	-43	175.4	571	392		TRIP5162_018_Goniocorella-dumosa.JPG	26/10/2017 13:30	3	
2 (Oct - Dec 2017)	Mar-18	5167	19				SPO	SEC	SE C	SN	Bryozoa	Gymnolemata	Cheilostomida	Eschariidae	Hippomenella	vellicata	Dennis Gordon	16/07/2018	18/11/2017	19/11/2017	-45.6	171.1	-45.7	171				TRIP5167_019_Hippomenella-vellicata.JPG	18/11/2017 9:52	4	
2 (Oct - Dec 2017)	Mar-18	5167	23				SPO	SEC	SE C	SN	Bryozoa	Gymnolemata	Cheilostomida	Cellariidae	Cellaria		Dennis Gordon	16/07/2018	22/11/2017	23/11/2017	-45.6	171.1	-45.7	171				TRIP5167_023_Cinctipora-elegans_Cellaria.JPG	20/11/2017 6:25	4	
2 (Oct - Dec 2017)	Mar-18	5167	23				SPO	SEC	SE C	SN	Bryozoa	Stenolaemata	Cyclostomatida	Cinctiporidae	Cinctipora	elegans	Dennis Gordon	16/07/2018	22/11/2017	23/11/2017	-45.6	171.1	-45.7	171				TRIP5167_023_Cinctipora-elegans_Cellaria.JPG	20/11/2017 6:25	4	
2 (Jan - Apr 2018)	May-18	5216	146				SQU	SOI	SOI	TWL	Cnidaria	Hydrozoa	Leptothecata	Zygophylloidea	Cryptolaria		Diana Macpherson	13/11/2018	12/02/2018	12/02/2018	-49.9	166.3	-50.2	166.2	182		C. Cunningham/M. Forsyth	TRIP5216_146_Cryptolaria_a	13/02/2018 0:08	4	
2 (Jan - Apr 2018)	May-18	5216	146				SQU	SOI	SOI	TWL	Cnidaria	Hydrozoa	Leptothecata	Zygophylloidea	Cryptolaria		Diana Macpherson	13/11/2018	12/02/2018	12/02/2018	-49.9	166.3	-50.2	166.2	182		C. Cunningham/M. Forsyth	TRIP5216_146_Cryptolaria_b	13/02/2018 0:09	4	
2 (Jan - Apr 2018)	May-18	5247	39				SQU	SOI	SOI	TWL	Porifera	Demospongiae	Dendroceratida	Dendroceratidae	Dendrillia?		Diana Macpherson	13/11/2018	14/02/2018	14/02/2018	-50	166.3	-50	166.3	171	172	S. Hart	TRIP5247_039_Porifera	14/02/2018 6:21	3	
2 (Jan - Apr 2018)	May-18	5252	34				SQU	SOI	SOI	TWL	Ochrophyta						Diana Macpherson	6/12/2018	20/02/2018	20/02/2018	-50.2	166.1	-50.1	166.1	189	188	S. Hart/K. Osborne/A. Connelly	TRIP5252_034_Seaweed_a	20/02/2018 22:09	4	
2 (Jan - Apr 2018)	May-18	5252	34				SQU	SOI	SOI	TWL	Ochrophyta						Diana Macpherson	6/12/2018	20/02/2018	20/02/2018	-50.2	166.1	-50.1	166.1	189	188	S. Hart/K. Osborne/A. Connelly	TRIP5252_034_Seaweed_b	20/02/2018 22:09	4	
2 (Jan - Apr 2018)	May-18	5274	8	NIWA 125193	3815		SQU	SOI	SOI	TWL	Cnidaria	Hydrozoa	Leptothecata	Zygophylloidea	Cryptolaria		Diana Macpherson	13/11/2018	2018	2018	-50.9	166.5	-50.6	167.2	160	317	H. Lane	TRIP5274_008_Cryptolaria_NIWA125193_a	27/02/2018 14:49	4	
2 (Jan - Apr 2018)	May-18	5274	8	NIWA 125193	3815		SQU	SOI	SOI	TWL	Cnidaria	Hydrozoa	Leptothecata	Zygophylloidea	Cryptolaria		Diana Macpherson	13/11/2018	2018	2018	-50.9	166.5	-50.6	167.2	160	317	H. Lane	TRIP5274_008_Cryptolaria_NIWA125193_b	27/02/2018 14:50	4	
2 (Jan - Apr 2018)	May-18	5247	9				UNI	SO U	SO U	TWL	Cnidaria	Hydrozoa	Leptothecata	Zygophylloidea	Cryptolaria		Diana Macpherson	13/11/2018	24/01/2018	24/01/2018	-48.7	167.4	-48.7	167.4	178	217	S. Hart	TRIP5247_009_Cryptolaria	24/01/2018 11:08	3	

Reporting Year (Period)	Images received	TRIP	Tow	NIWA Cat. No.	OSD No.	Initial OBS ID	Target species	Start FM A	End FM A	Fishing method	Phylum	Class	Order	Family	Genus	Species	Determiner	Determined Date	Event start	Event end	Start latitude	Start longitude	End latitude	End longitude	Start depth	End depth	Observer	Image title	Image timestamp	Image rating
2 (Jan - Apr 2018)	May-18	5252	17				SQU	SO	SO	TWL	Cnidaria	Hydrozoa	Leptothecata	Zygophylloidea	Cryptolaria		Diana Macpherson	13/11/2018	8/02/2018	8/02/2018	-48.8	166.7	-48.8	166.9	238	243	K. Osborne/A. Connelly	TRIP5252_017_Cryptolaria	9/02/2018 10:14	4
2 (Jan - Apr 2018)	May-18	5254	32			HDF	SQU	SO	SO	TWL	Cnidaria	Hydrozoa	Leptothecata	Zygophylloidea	Cryptolaria		Diana Macpherson	13/11/2018	12/02/2018	12/02/2018	-48.8	166.6	-48.8	166.7	305	270	A. Connelly	TRIP5254_032_Cryptolaria_a	12/02/2018 13:44	3
2 (Jan - Apr 2018)	May-18	5254	32			HDF	SQU	SO	SO	TWL	Cnidaria	Hydrozoa	Leptothecata	Zygophylloidea	Cryptolaria		Diana Macpherson	13/11/2018	12/02/2018	12/02/2018	-48.8	166.6	-48.8	166.7	305	270	A. Connelly	TRIP5254_032_Cryptolaria_b	12/02/2018 13:44	3
2 (Jan - Apr 2018)	May-18	5274	15	NIWA 12519 6	3818		SQU	SO	SO	TWL	Cnidaria	Anthozoa	Anthipatharia	Myriophthidae	Antipathella		Rob Stewart	4/12/2018	12/56	18:21	-46.7	165.9	-46.7	165.9	220	219	H. Lane	TRIP5274_015_Antipathella_NIWA125196	4/03/2018 21:41	4
2 (Jan - Apr 2018)	May-18	5186	55			HOK	SUB	SU	B	TWL	Cnidaria	Hydrozoa	Anthipatharia	Stylasteridae	Cryptothelia		Di Tracey	13/11/2018	2/12/2017	2/12/2017	-52.7	173.7	-52.7	173.8	723	972	R. Guild/K. Taylor	TRIP5186_055_Cryptothelia_A	2/12/2017 8:36	3
2 (Jan - Apr 2018)	May-18	5186	55			HOK	SUB	SU	B	TWL	Cnidaria	Hydrozoa	Anthipatharia	Stylasteridae	Cryptothelia		Di Tracey	13/11/2018	2/12/2017	2/12/2017	-52.7	173.7	-52.7	173.8	723	972	R. Guild/K. Taylor	TRIP5186_055_Cryptothelia_B	2/12/2017 8:36	3
2 (Jan - Apr 2018)	May-18	5186	55			HOK	SUB	SU	B	TWL	Cnidaria	Hydrozoa	Anthipatharia	Stylasteridae	Cryptothelia		Di Tracey	13/11/2018	2/12/2017	2/12/2017	-52.7	173.7	-52.7	173.8	723	972	R. Guild/K. Taylor	TRIP5186_055_Cryptothelia_C	2/12/2017 8:36	3
2 (Jan - Apr 2018)	May-18	5186	55			HOK	SUB	SU	B	TWL	Cnidaria	Hydrozoa	Anthipatharia	Stylasteridae	Cryptothelia		Di Tracey	13/11/2018	2/12/2017	2/12/2017	-52.7	173.7	-52.7	173.8	723	972	R. Guild/K. Taylor	TRIP5186_055_Cryptothelia_D	2/12/2017 8:36	3
2 (Jan - Apr 2018)	May-18	5186	55			HOK	SUB	SU	B	TWL	Cnidaria	Hydrozoa	Anthipatharia	Stylasteridae	Cryptothelia		Di Tracey	13/11/2018	2/12/2017	2/12/2017	-52.7	173.7	-52.7	173.8	723	972	R. Guild/K. Taylor	TRIP5186_055_Cryptothelia_E	2/12/2017 8:52	3
2 (Jan - Apr 2018)	May-18	5186	55			HOK	SUB	SU	B	TWL	Cnidaria	Hydrozoa	Anthipatharia	Stylasteridae	Cryptothelia		Di Tracey	13/11/2018	2/12/2017	2/12/2017	-52.7	173.7	-52.7	173.8	723	972	R. Guild/K. Taylor	TRIP5186_055_Cryptothelia_F	2/12/2017 8:53	3
2 (Jan - Apr 2018)	May-18	5263	28			DDI	HOK	SUB	B	TWL	Cnidaria	Anthozoa	Scleractinia	Antipatharia	Chizoporidae		Dennis Oprseko	7/12/2018	21/02/2018	21/02/2018	-51	162	-51	162.1	1580	1670	F. Mayorga	TRIP5172_006_Lillipathes	25/01/2018 19:41	2
1 (Jul 2016 - Jun 2017)	Oct-18	5001	15			GDU	LIN	SEC	C	SN	Cnidaria	Anthozoa	Scleractinia	Caryophylloidea	Goniocorella	dumosa	Di Tracey	6/12/2018	6:02	13:45	-45.9	170.9	-45.9	170.9			J. Morton	TRIP5001_015_Goniocorella-dumosa	31/05/2017	2
1 (Jul 2016 - Jun 2017)	Oct-18	5001	15			CUP	LIN	SEC	C	SN	Cnidaria	Anthozoa	Scleractinia	Caryophylloidea	Desmophyllum	dianthus	Di Tracey	6/12/2018	6:02	13:45	-45.9	170.9	-45.9	170.9			J. Morton	TRIP5001_015_Desmophyllum-dianthus	31/05/2017 7:1406	2
1 (Jul 2016 - Jun 2017)	Oct-18	5014	4			LIN	SEC	C	BLL		Cnidaria	Alcyonacea	Primoidea	Thouarella			Di Tracey	6/12/2018	17:19	8:20	-42.7	173.5	-42.7	173.5	207	267	K. Owen	TRIP5014_004_Thouarella_a	12/06/2017 9:59	3
1 (Jul 2016 - Jun 2017)	Oct-18	5014	4			LIN	SEC	C	BLL		Cnidaria	Alcyonacea	Primoidea	Thouarella			Di Tracey	6/12/2018	17:19	8:20	-42.7	173.5	-42.7	173.5	207	267	K. Owen	TRIP5014_004_Thouarella_b	12/06/2017 9:59	3
1 (Jul 2016 - Jun 2017)	Oct-18	5045	2			ERO	ORH	CET	T	TWL	Cnidaria	Anthozoa	Scleractinia	Dendrophyllidae	Enallopsammia		Di Tracey	6/12/2018	19:52	8:00	-37.4	168.3	-37.4	169	990	888	S. Hodder	TRIP5045_002_Enallopsammia	17/06/2017 7:1102	1
1 (Jul 2016 - Jun 2017)	Oct-18	5030	107			ATP	BYS	UR	UR	TWL	Cnidaria	Anthozoa	Antipatharia	Leiopathidae	Leiopathes		Rob Stewart	4/12/2018	14:39	15:35	-38.4	191.9	-38.4	191.8			S. Beatson	TRIP5030_107_Leiopathes_1	17/06/2017 7:1635	3
1 (Jul 2016 - Jun 2017)	Oct-18	5030	107			LIL	BYS	UR	UR	TWL	Cnidaria	Anthozoa	Antipatharia	Bathypathes			Rob Stewart	4/12/2018	14:39	15:35	-38.4	191.9	-38.4	191.8			S. Beatson	TRIP5030_107_Bathypathes	17/06/2017 7:1636	2
1 (Jul 2016 - Jun 2017)	Oct-18	5030	107			LEI	BYS	UR	UR	TWL	Cnidaria	Anthozoa	Antipatharia	Leiopathidae	Leiopathes		Rob Stewart	4/12/2018	14:39	15:35	-38.4	191.9	-38.4	191.8			S. Beatson	TRIP5030_107_Leiopathes_2	17/06/2017 7:1636	3
1 (Jul 2016 - Jun 2017)	Oct-18	5030	107			BOD	BYS	UR	UR	TWL	Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratosis		Diana Macpherson	4/12/2018	14:39	15:35	-38.4	191.9	-38.4	191.8			S. Beatson	TRIP5030_107_Keratosis	17/06/2017 7:1638	3
1 (Jul 2016 - Jun 2017)	Oct-18	5030	110			GDU	ORH	UR	UR	TWL	Cnidaria	Anthozoa	Scleractinia	Caryophylloidea	Solenosmilina	variabilis	Di Tracey	6/12/2018	17/06	17/06	-38.4	192.3	-38.4	192.3			S. Beatson	TRIP5030_110_Solenosmilina-variabilis	17/06/2017 7:2352	2
1 (Jul 2016 - Jun 2017)	Oct-18	5045	3			ORH	CET	T	TWL		Cnidaria	Anthozoa	Scleractinia	Caryophylloidea	Stephanocyathus	platypus	Di Tracey	6/12/2018	9:57	21:57	-37.6	169	-37.4	168.4	900	995	S. Hodder	TRIP5045_003_Stephanocyathus-platypus	18/06/2017 0:31	3
1 (Jul 2016 - Jun 2017)	Oct-18	5042	19			CAY	ORH	CET	T	TWL	Cnidaria	Anthozoa	Scleractinia	Caryophylloidea	Caryophyllia		Di Tracey	6/12/2018	1:24	1:47	-37.3	168	-37.2	168	962	1070	E. Stuck	TRIP5042_019_Caryophyllia	18/06/2017 9:44	3
1 (Jul 2016 - Jun 2017)	Oct-18	5042	24			ERO	ORH	CET	T	TWL	Cnidaria	Anthozoa	Scleractinia	Dendrophyllidae	Enallopsammia		Di Tracey	6/12/2018	8:26	8:37	-37.3	168	-37.3	168	945	930	E. Stuck	TRIP5042_024_Enallopsammia	18/06/2017 7:1022	2
1 (Jul 2016 - Jun 2017)	Oct-18	5038									Cnidaria	Anthozoa	Alcyonacea	Paragorgia	Paragorgia		Di Tracey	6/12/2018									R. Guild	TRIP5038_Paragorgia	18/06/2017 7:1230	3
1 (Jul 2016 - Jun 2017)	Oct-18	5039	5			SCI	SOE	SO	E	TWL	Cnidaria	Anthozoa	Scleractinia	Caryophylloidea	Desmophyllum	dianthus	Di Tracey	6/12/2018	6:20	13:19	-43	176.9	-43	177.2	340	330	Williamson n/C. Baird	TRIP5039_005_Desmophyllum-dianthus_a	18/06/2017 7:1709	3
1 (Jul 2016 - Jun 2017)	Oct-18	5039	5			SCI	SOE	SO	E	TWL	Cnidaria	Anthozoa	Scleractinia	Caryophylloidea	Desmophyllum	dianthus	Di Tracey	6/12/2018	6:20	13:19	-43	176.9	-43	177.2	340	330	Williamson n/C. Baird	TRIP5039_005_Desmophyllum-dianthus_b	18/06/2017 7:1709	3
1 (Jul 2016 - Jun 2017)	Oct-18	5045	7			ORH	CET	T	TWL		Cnidaria	Alcyonacea					Jaret Bilewitch	3/12/2018	18:11	6:15	-37.6	168.9	-37.4	168.3	936	988	S. Hodder	TRIP5045_007_Gorgonian	20/06/2017 7:18	3

Reporting Year (Period)	Images received	TRIP	Tow	NIWA Cat. No.	OSD No.	Initial OBS ID	Target species	Start FMA	End FMA	Fishing method	Phylum	Class	Order	Family	Genus	Species	Determiner	Determined Date	Event start	Event end	Start latitude	Start longitude	End latitude	End longitude	Start depth	End depth	Observer	Image title	Image timestamp	Image rating
1 (Jul 2016 - Jun 2017)	Oct-18	5045	11				ORH	CET	CE T	TWL	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	Lillipathes		Rob Stewart	4/12/2018	22/06/2017	22/06/2017	-37.6	168.9	-37.4	168.2	916	983	S. Hodder	TRIP5045_011_Lillipathes_a	22/06/2017 18:42	3
1 (Jul 2016 - Jun 2017)	Oct-18	5045	11				ORH	CET	CE T	TWL	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	Lillipathes		Rob Stewart	4/12/2018	22/06/2017	22/06/2017	-37.6	168.9	-37.4	168.2	916	983	S. Hodder	TRIP5045_011_Lillipathes_b	22/06/2017 18:42	3
1 (Jul 2016 - Jun 2017)	Oct-18	5045	12				ORH	CET	CE T	TWL	Cnidaria	Anthozoa	Alcyonacea	Clavulariidae	Telesto?		Jaret Bilewitch	3/12/2018	17:20	24/06/2017	-37.5	168.2	-37.4	168.9	817	940	S. Hodder	TRIP5045_012_Telesto	24/06/2017 7:11	3
1 (Jul 2016 - Jun 2017)	Oct-18	5045	13				ORH	CET	CE T	TWL	Cnidaria	Anthozoa	Antipatharia	Cladopathidae	Cladopathes		Rob Stewart	4/12/2018	9:10	24/06/2017	-37.5	169.3	-37.4	169	1014	996	S. Hodder	TRIP5045_013_Cladopathes	24/06/2017 7:22:16	3
1 (Jul 2016 - Jun 2017)	Oct-18	5045	13				ORH	CET	CE T	TWL	Cnidaria	Anthozoa	Antipatharia	Leiopathidae	Leiopathes		Rob Stewart	4/12/2018	9:10	24/06/2017	-37.5	169.3	-37.4	169	1014	996	S. Hodder	TRIP5045_013_Leiopathes_a	24/06/2017 7:22:54	3
1 (Jul 2016 - Jun 2017)	Oct-18	5045	13				ORH	CET	CE T	TWL	Cnidaria	Anthozoa	Antipatharia	Leiopathidae	Leiopathes		Rob Stewart	4/12/2018	9:10	24/06/2017	-37.5	169.3	-37.4	169	1014	996	S. Hodder	TRIP5045_013_Leiopathes_b	24/06/2017 7:22:54	3
1 (Jul 2016 - Jun 2017)	Oct-18	5045	19				ORH	CET	CE T	TWL	Cnidaria	Anthozoa	Pennatulacea	Pennatulacea			Jaret Bilewitch	3/12/2018	22:30	24/06/2017	-37.5	168.4	-37.6	168.6	957	895	S. Hodder	TRIP5045_019_Pennatulacea_a	28/06/2017 7:11:49	3
1 (Jul 2016 - Jun 2017)	Oct-18	5045	19				ORH	CET	CE T	TWL	Cnidaria	Anthozoa	Pennatulacea	Pennatulacea			Jaret Bilewitch	3/12/2018	22:30	24/06/2017	-37.5	168.4	-37.6	168.6	957	895	S. Hodder	TRIP5045_019_Pennatulacea_b	28/06/2017 7:11:49	3
1 (Jul 2016 - Jun 2017)	Oct-18	5049	3			GDU	ORH	LO UR	LO UR	TWL	Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Solenosmilia	variabilis	Di Tracey	6/12/2018	12:26	24/06/2017	-40.7	194.6	-40.7	194.6	717		D. Gerber	TRIP5049_003_Solenosmilia-variabilis_a	28/06/2017 7:14:58	2
1 (Jul 2016 - Jun 2017)	Oct-18	5049	3			GDU	ORH	LO UR	LO UR	TWL	Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Solenosmilia	variabilis	Di Tracey	6/12/2018	12:26	24/06/2017	-40.7	194.6	-40.7	194.6	717		D. Gerber	TRIP5049_003_Solenosmilia-variabilis_b	28/06/2017 7:14:58	2
1 (Jul 2016 - Jun 2017)	Oct-18	5049	3			GDU	ORH	LO UR	LO UR	TWL	Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Solenosmilia	variabilis	Di Tracey	6/12/2018	12:26	24/06/2017	-40.7	194.6	-40.7	194.6	717		D. Gerber	TRIP5049_003_Solenosmilia-variabilis_c	28/06/2017 7:15:00	2
1 (Jul 2016 - Jun 2017)	Oct-18	5049	3			GDU	ORH	LO UR	LO UR	TWL	Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Solenosmilia	variabilis	Di Tracey	6/12/2018	12:26	24/06/2017	-40.7	194.6	-40.7	194.6	717		D. Gerber	TRIP5049_003_Solenosmilia-variabilis_d	28/06/2017 7:15:00	2
1 (Jul 2016 - Jun 2017)	Oct-18	5049	3			GDU	ORH	LO UR	LO UR	TWL	Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Solenosmilia	variabilis	Di Tracey	6/12/2018	12:26	24/06/2017	-40.7	194.6	-40.7	194.6	717		D. Gerber	TRIP5049_003_Solenosmilia-variabilis_e	28/06/2017 7:15:01	2
1 (Jul 2016 - Jun 2017)	Oct-18	5042	63			GOC	ORH	HO WE	HO WE	TWL	Cnidaria	Anthozoa	Alcyonacea	Clavulariidae	Carijoa?		Jaret Bilewitch	3/12/2018	9:45	29/06/2017	-35.6	165.2	-35.6	165.2	924	924	E. Stuck	TRIP5042_063_Carijoa_Isididae	29/06/2017 7:11:20	2
1 (Jul 2016 - Jun 2017)	Oct-18	5042	63			GOC	ORH	HO WE	HO WE	TWL	Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratosis		Jaret Bilewitch	3/12/2018	9:45	29/06/2017	-35.6	165.2	-35.6	165.2	924	924	E. Stuck	TRIP5042_063_Carijoa_Isididae	29/06/2017 7:11:20	2
1 (Jul 2016 - Jun 2017)	Oct-18	5042	63			DDI	ORH	HO WE	HO WE	TWL	Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Desmophyllum	dianthus	Di Tracey	6/12/2018	9:45	29/06/2017	-35.6	165.2	-35.6	165.2	924	924	E. Stuck	TRIP5042_063_Desmophyllum-dianthus	29/06/2017 7:11:24	2
1 (Jul 2016 - Jun 2017)	Oct-18	5042	63			GOC	ORH	HO WE	HO WE	TWL	Cnidaria	Anthozoa	Alcyonacea	Primnoidea			Di Tracey	6/12/2018	9:45	29/06/2017	-35.6	165.2	-35.6	165.2	924	924	E. Stuck	TRIP5042_063_Primnoidea	29/06/2017 7:11:29	2
1 (Jul 2016 - Jun 2017)	Oct-18	5073	13			PLE	WWA	SO U	SO U	TWL	Cnidaria	Anthozoa	Alcyonacea	Acanthogorgia (or similar)	Acanthogorgia (or similar)		Jaret Bilewitch	3/12/2018	8:36	22/07/2017	-47	165.7	-47	165.6	508	510	A. Connelly	TRIP5073_013_Acanthogorgia_a	22/07/2017 7:16:55	2
1 (Jul 2016 - Jun 2017)	Oct-18	5073	13			PLE	WWA	SO U	SO U	TWL	Cnidaria	Anthozoa	Alcyonacea	Acanthogorgia (or similar)	Acanthogorgia (or similar)		Jaret Bilewitch	3/12/2018	8:36	22/07/2017	-47	165.7	-47	165.6	508	510	A. Connelly	TRIP5073_013_Acanthogorgia_B	22/07/2017 7:16:56	3
1 (Jul 2016 - Jun 2017)	Oct-18	5073	13			PLE	WWA	SO U	SO U	TWL	Cnidaria	Anthozoa	Alcyonacea	Acanthogorgia (or similar)	Acanthogorgia (or similar)		Jaret Bilewitch	3/12/2018	8:36	22/07/2017	-47	165.7	-47	165.6	508	510	A. Connelly	TRIP5073_013_Acanthogorgia_C	22/07/2017 7:16:56	3
1 (Jul 2016 - Jun 2017)	Oct-18	5073	13			PLE	WWA	SO U	SO U	TWL	Cnidaria	Anthozoa	Alcyonacea	Acanthogorgia (or similar)	Acanthogorgia (or similar)		Jaret Bilewitch	3/12/2018	8:36	22/07/2017	-47	165.7	-47	165.6	508	510	A. Connelly	TRIP5073_013_Acanthogorgia_D	22/07/2017 7:16:56	2
1 (Jul 2016 - Jun 2017)	Oct-18	5073	19			THO	WWA	SO U	SO U	TWL	Cnidaria	Anthozoa	Alcyonacea	Primnoidea			Di Tracey	6/12/2018	8:50	25/07/2017	-48.8	166.5	-48.9	167	350	324	A. Connelly	TRIP5073_019_Primnoidea	25/07/2017 7:18:46	2
1 (Jul 2016 - Jun 2017)	Oct-18	5069					Cnidaria	Anthozoa	Scleractinia		Flabellum		Flabellum				Di Tracey	6/12/2018									H. Hokianga	TRIP5069_Flabellum	11/08/2017 23:31	3
1 (Jul 2016 - Jun 2017)	Oct-18	5102					Cnidaria	Anthozoa	Scleractinia		Flabellidae		Flabellum		knoxi		Di Tracey	6/12/2018									M. Prasad	TRIP5102_Flabellum-knoxi	7/19/2017 7:19:07	3
1 (Jul 2016 - Jun 2017)	Oct-18	5102					Cnidaria	Anthozoa	Alcyonacea		Plexauridae		Plexauridae				Jaret Bilewitch	3/12/2018									M. Prasad	TRIP5102_Eulexaura?	11/08/2017 7:19:07	3
1 (Jul 2016 - Jun 2017)	Oct-18	5102					Cnidaria	Anthozoa	Antipatharia		Schizopathidae		Parantipathes				Rob Stewart	4/12/2018									M. Prasad	TRIP5102_Parantipathes	12/08/2017 7:19:52	3
1 (Jul 2016 - Jun 2017)	Oct-18	5047					Cnidaria	Anthozoa	Scleractinia		Antipatharia		Antipatharia				Di Tracey	6/12/2018									M. Erskine	TRIP5047_Scleractinia	13/08/2017 7:8:42	3
1 (Jul 2016 - Jun 2017)	Oct-18	5118	80			SLP	TAR	AKW	AKW	TWL	Cnidaria	Anthozoa	Antipatharia	Stylopathidae	Stylopathes		Rob Stewart	4/12/2018	26/09	26/09	-34.3	173.1	-34.2	173	163		J. Houston	TRIP5118_080_Stylopathes	26/09/2017 7:2:38	3
1 (Jul 2016 - Jun 2017)	Oct-18	5132	29				ORH	SUB	SUB	TWL	Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratosis		Diana Macpherson	4/12/2018	2017	2017	-47.3	178.8	-47.3	178.8	845	810	Garbett/F. Beets	TRIP5132_029_Keratosis_A	6/10/2017 18:19	3
1 (Jul 2016 - Jun 2017)	Oct-18	5132	29				ORH	SUB	SUB	TWL	Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratosis		Diana Macpherson	4/12/2018	2017	2017	-47.3	178.8	-47.3	178.8	845	810	Garbett/F. Beets	TRIP5132_029_Keratosis_B	6/10/2017 18:20	3

Reporting Year (Period)	Images received	TRIP	Tow	NIWA Cat. No.	OSD No.	Initial OBS ID	Target species	Start FMA	End FMA	Fishin g method	Phylum	Class	Order	Family	Genus	Species	Determiner	Determined Date	Event start	Event end	Start latitude	Start longitude	End latitude	End longitude	Start depth	End depth	Observer	Image title	Image timestamp	Image rating
1 (Jul 2016 - Jun 2017)	Oct-18	5132	29				ORH	SUB	SU B	TWL	Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratopsis		Diana Macpherson	4/12/2018	6/10/2017	6/10/2017	-47.3	178.8	-47.3	178.8	845	810	M. Garbett/F. Beets	TRIP5132_029_Keratopsis_C	6/10/2017 18:20	3
1 (Jul 2016 - Jun 2017)	Oct-18	5132	29				ORH	SUB	SU B	TWL	Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Goniocorella	dumosa	Di Tracey	6/12/2018	6/10/2017	6/10/2017	-47.3	178.8	-47.3	178.8	845	810	M. Garbett/F. Beets	TRIP5132_029_Goniocorella-dumosa_a	6/10/2017 18:29	3
1 (Jul 2016 - Jun 2017)	Oct-18	5132	29				ORH	SUB	SU B	TWL	Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Goniocorella	dumosa	Di Tracey	6/12/2018	6/10/2017	6/10/2017	-47.3	178.8	-47.3	178.8	845	810	M. Garbett/F. Beets	TRIP5132_029_Goniocorella-dumosa_b	6/10/2017 18:30	3
1 (Jul 2016 - Jun 2017)	Oct-18	5132	29				ORH	SUB	SU B	TWL	Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Goniocorella	dumosa	Di Tracey	6/12/2018	6/10/2017	6/10/2017	-47.3	178.8	-47.3	178.8	845	810	M. Garbett/F. Beets	TRIP5132_029_Goniocorella-dumosa_c	6/10/2017 18:30	3
1 (Jul 2016 - Jun 2017)	Oct-18	5132	29				ORH	SUB	SU B	TWL	Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Goniocorella	dumosa	Di Tracey	6/12/2018	6/10/2017	6/10/2017	-47.3	178.8	-47.3	178.8	845	810	M. Garbett/F. Beets	TRIP5132_029_Goniocorella-dumosa_d	6/10/2017 18:30	3
1 (Jul 2016 - Jun 2017)	Oct-18	5132	29				ORH	SUB	SU B	TWL	Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Goniocorella	dumosa	Di Tracey	6/12/2018	6/10/2017	6/10/2017	-47.3	178.8	-47.3	178.8	845	810	M. Garbett/F. Beets	TRIP5132_029_Goniocorella-dumosa_e	6/10/2017 18:31	3
1 (Jul 2016 - Jun 2017)	Oct-18	5142															Diana Macpherson	4/12/2018									W. Dinwoodie	TRIP5142_Kelp	7/10/2017 19:27	4
1 (Jul 2016 - Jun 2017)	Oct-18	5132	40				SSO	SUB	SU B	TWL	Cnidaria	Anthozoa	Alcyonacea	Primnoidea	Primnoa		Diana Macpherson	4/12/2018	8/10/2017	8/10/2017	-47.2	178.7	-47.2	178.7	955		M. Garbett/F. Beets	TRIP5132_040_Primnoa_1	8/10/2017 23:44	3
1 (Jul 2016 - Jun 2017)	Oct-18	5132	58				SSO	SUB	SU B	TWL	Cnidaria	Anthozoa	Alcyonacea	Primnoidea	Primnoa		Diana Macpherson	4/12/2018	5:20	12/10	-47.3	178.6	-47.2	178.7	780	975	M. Garbett/F. Beets	TRIP5132_058_Primnoa_a	12/10/2017 17:50	4
1 (Jul 2016 - Jun 2017)	Oct-18	5132	58				SSO	SUB	SU B	TWL	Cnidaria	Anthozoa	Alcyonacea	Primnoidea	Primnoa		Diana Macpherson	4/12/2018	5:20	12/10	-47.3	178.6	-47.2	178.7	780	975	M. Garbett/F. Beets	TRIP5132_058_Primnoa_b	12/10/2017 17:59	4
1 (Jul 2016 - Jun 2017)	Oct-18	5132	58				SSO	SUB	SU B	TWL	Cnidaria	Anthozoa	Alcyonacea	Primnoidea	Primnoa		Diana Macpherson	4/12/2018	5:20	12/10	-47.3	178.6	-47.2	178.7	780	975	M. Garbett/F. Beets	TRIP5132_058_Primnoa_c	12/10/2017 17:59	4
1 (Jul 2016 - Jun 2017)	Oct-18	5132	61				SSO	SUB	SU B	TWL	Cnidaria	Anthozoa	Scleractinia	Oculinidae	Madrepora	oculata	Di Tracey	6/12/2018	9:00	13/10	-47.2	178.2	-47.2	178.3	989		M. Garbett/F. Beets	TRIP5132_061_Madrepora-oculata_a	13/10/2017 10:41	3
1 (Jul 2016 - Jun 2017)	Oct-18	5132	61				SSO	SUB	SU B	TWL	Cnidaria	Anthozoa	Scleractinia	Oculinidae	Madrepora	oculata	Di Tracey	6/12/2018	9:00	13/10	-47.2	178.2	-47.2	178.3	989		M. Garbett/F. Beets	TRIP5132_061_Madrepora-oculata_b	13/10/2017 10:41	3
1 (Jul 2016 - Jun 2017)	Oct-18	5132	61				SSO	SUB	SU B	TWL	Cnidaria	Anthozoa	Scleractinia	Oculinidae	Madrepora	oculata	Di Tracey	6/12/2018	9:00	13/10	-47.2	178.2	-47.2	178.3	989		M. Garbett/F. Beets	TRIP5132_061_Madrepora-oculata_c	13/10/2017 10:42	3
1 (Jul 2016 - Jun 2017)	Oct-18	5132	61				SSO	SUB	SU B	TWL	Cnidaria	Anthozoa	Scleractinia	Oculinidae	Madrepora	oculata	Di Tracey	6/12/2018	9:00	13/10	-47.2	178.2	-47.2	178.3	989		M. Garbett/F. Beets	TRIP5132_061_Bathypathes_a	13/10/2017 11:00	3
1 (Jul 2016 - Jun 2017)	Oct-18	5132	61				SSO	SUB	SU B	TWL	Cnidaria	Anthozoa	Scleractinia	Oculinidae	Madrepora	oculata	Di Tracey	6/12/2018	9:00	13/10	-47.2	178.2	-47.2	178.3	989		M. Garbett/F. Beets	TRIP5132_061_Bathypathes_b	13/10/2017 11:00	3
1 (Jul 2016 - Jun 2017)	Oct-18	5132	61				SSO	SUB	SU B	TWL	Cnidaria	Anthozoa	Scleractinia	Oculinidae	Madrepora	oculata	Di Tracey	6/12/2018	9:00	13/10	-47.2	178.2	-47.2	178.3	989		M. Garbett/F. Beets	TRIP5132_061_Bathypathes_c	13/10/2017 11:00	3
1 (Jul 2016 - Jun 2017)	Oct-18	5132	61				SSO	SUB	SU B	TWL	Cnidaria	Anthozoa	Scleractinia	Oculinidae	Madrepora	oculata	Di Tracey	6/12/2018	9:00	13/10	-47.2	178.2	-47.2	178.3	989		M. Garbett/F. Beets	TRIP5132_061_Bathypathes_d	13/10/2017 11:00	3
1 (Jul 2016 - Jun 2017)	Oct-18	5132	61				SSO	SUB	SU B	TWL	Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratopsis		Diana Macpherson	4/12/2018	9:00	9:50	-47.2	178.2	-47.2	178.3	989		M. Garbett/F. Beets	TRIP5132_061_Keratopsis	13/10/2017 11:18	3
1 (Jul 2016 - Jun 2017)	Oct-18	5156	11				ORH	AK W	AK W	TWL	Cnidaria	Anthozoa	Alcyonacea	Chrysogorgiidae			Di Tracey	6/12/2018	12:02	24/10	-34.7	171.6	-34.8	171.6	885	945	H. Hokianga	TRIP5156_011_Chrysogorgiidae	24/10/2017 13:00	3
1 (Jul 2016 - Jun 2017)	Oct-18	5156	14				ORH	AK W	AK W	TWL	Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratopsis		Diana Macpherson	4/12/2018	21:38	24:44	-34.8	171.6	-34.8	171.6	927	931	H. Hokianga	TRIP5156_014_Keratopsis	24/10/2017 22:14	3
1 (Jul 2016 - Jun 2017)	Oct-18	5156	18				ORH	AK W	AK W	TWL	Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratopsis		Diana Macpherson	4/12/2018	10:25	10:37	-34.7	171.6	-34.7	171.6	935	967	H. Hokianga	TRIP5156_018_Keratopsis	25/10/2017 7:11:31	3
1 (Jul 2016 - Jun 2017)	Oct-18	5156	85				BYS	HO WE	HO WE	TWL	Cnidaria	Anthozoa	Alcyonacea	Primnoidea	Primnoidea		Di Tracey	6/12/2018	21:28	21:40	-34	162.5	-34	162.6	528	710	H. Hokianga	TRIP5156_085_Primnoidea	9/11/2017 22:20	3
1 (Jul 2016 - Jun 2017)	Oct-18	5191	10				GOC	BYX WE	HO WE	TWL	Cnidaria	Anthozoa	Alcyonacea	Primnoidea	Primnoidea		Di Tracey	6/12/2018	8:25	8:46	-34	162.6	-34	162.6	520	760	Z. Duncan	TRIP5191_010_Primnoidea_a	17/11/2017 20:57	2
1 (Jul 2016 - Jun 2017)	Oct-18	5191	10				GOC	BYX WE	HO WE	TWL	Cnidaria	Anthozoa	Alcyonacea	Primnoidea	Primnoidea		Di Tracey	6/12/2018	8:25	8:46	-34	162.6	-34	162.6	520	760	Z. Duncan	TRIP5191_010_Primnoidea_b	17/11/2017 20:58	3
1 (Jul 2016 - Jun 2017)	Oct-18	5191	10				GOC	BYX WE	HO WE	TWL	Cnidaria	Anthozoa	Alcyonacea	Primnoidea	Primnoidea		Di Tracey	6/12/2018	8:25	8:46	-34	162.6	-34	162.6	520	760	Z. Duncan	TRIP5191_010_Primnoidea_c	17/11/2017 20:58	2
1 (Jul 2016 - Jun 2017)	Oct-18	5191	10				GOC	BYX WE	HO WE	TWL	Cnidaria	Anthozoa	Alcyonacea	Primnoidea	Primnoidea		Di Tracey	6/12/2018	8:25	8:46	-34	162.6	-34	162.6	520	760	Z. Duncan	TRIP5191_010_Primnoidea_d	17/11/2017 20:58	3
1 (Jul 2016 - Jun 2017)	Oct-18	5192															Di Tracey	6/12/2018									K. Walsh	TRIP5192_Bryozoa	18/11/2017 7:56	4
1 (Jul 2016 - Jun 2017)	Oct-18	5201	8				BNS	AKE	AK E	BLL	Cnidaria	Anthozoa	Scleractinia	Dendrophyllidae	Enallopsammia		Di Tracey	6/12/2018	2:00	6/12/2017	-36.1	176.3	-36.2	176.3			T. Nation	TRIP5201_008_Enallopsammia	6/12/2017 11:44	3

Reporting Year (Period)	Images received	TRIP	Tow	NIWA Cat. No.	OSD No.	Initial OBS ID	Target species	Start FMA	End FMA	Fishing method	Phylum	Class	Order	Family	Genus	Species	Determiner	Determined Date	Event start	Event end	Start latitude	Start longitude	End latitude	End longitude	Start depth	End depth	Observer	Image title	Image timestamp	Image rating
1 (Jul 2016 - Jun 2017)	Oct-18	5201	9				HAP	AKE	AK E	BLL	Cnidaria	Anthozoa	Anthipatharia	Schizopathidae	Bathypathes		Rob Stewart Diana Macpherson	4/12/2018	12/12/2017 7:52	12/12/2017 19:14	-35.7	175.6	-35.7	175.6			T. Nation	TRIP5201_009_Bathypathes	12/12/2017 18:33	3
1 (Jul 2016 - Jun 2017)	Oct-18	5192									Porifera							4/12/2018									K. Walsh	TRIP5192_Porifera	16/12/2017 8:00	3
1 (Jul 2016 - Jun 2017)	Oct-18	5265	48				SSO	SO U	SO U	TWL	Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Solenosmiliea	variabilis	Di Tracey Diana Macpherson	6/12/2018	12/04/2018	12:19	-47.3	165.8	-47.3	165.8	981	981	T. Mostert	TRIP5265_048_Solenosmiliea-variabilis	5/03/2018 13:18	3
1 (Jul 2016 - Jun 2017)	Oct-18	5268									Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratoisis		Diana Macpherson	4/12/2018									N. Gilligan	TRIP5268_Keratoisis	17/03/2018 14:58	3
1 (Jul 2016 - Jun 2017)	Oct-18	5265	89				SSO	SUB	SUB	TWL	Cnidaria	Anthozoa	Alcyonacea	Primoidea	Primoia		Diana Macpherson	4/12/2018	19/03/2018	19:03	-47.3	178.2	-47.3	178.1	913	1013	T. Mostert	TRIP5265_089_Primnoa	19/03/2018 14:32	3
1 (Jul 2016 - Jun 2017)	Oct-18	5265	96				SSO	SUB	SUB	TWL	Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratoisis		Diana Macpherson	4/12/2018	10/37/2018	10:49	-47.3	178.1	-47.3	178.1	928	1007	T. Mostert	TRIP5265_096_Keratoisis	20/03/2018 12:09	3
1 (Jul 2016 - Jun 2017)	Oct-18	5285	5				SNA	AKE	AKE	BLL	Cnidaria	Anthozoa	Anthipatharia	Myriopathidae	Antipathella		Rob Stewart	4/12/2018	4/25/2018	20:03	-35.1	174.3	-35.1	174.2			B. Leslie	TRIP5285_005_Antipathella_a	20/03/2018 13:09	3
1 (Jul 2016 - Jun 2017)	Oct-18	5285	5				SNA	AKE	AKE	BLL	Cnidaria	Anthozoa	Anthipatharia	Myriopathidae	Antipathella		Rob Stewart	4/12/2018	20/03/2018	20:03	-35.1	174.3	-35.1	174.2			B. Leslie	TRIP5285_005_Antipathella_b	20/03/2018 13:09	3
1 (Jul 2016 - Jun 2017)	Oct-18	5285	5				SNA	AKE	AKE	BLL	Cnidaria	Anthozoa	Scleractinia	Oculinidae	Oculina	virgosa	Di Tracey	6/12/2018	4/25/2018	13:30	-35.1	174.3	-35.1	174.2			B. Leslie	TRIP5285_005_Oculina-virgosa	20/03/2018 13:12	3
1 (Jul 2016 - Jun 2017)	Oct-18	5285	7				SNA	AKE	AKE	BLL	Cnidaria	Anthozoa	Anthipatharia	Myriopathidae	Antipathella		Rob Stewart	4/12/2018	22/03/2018	22:03	-35.6	174.6	-35.6	174.6			B. Leslie	TRIP5285_007_Antipathella_a	22/03/2018 11:10	3
1 (Jul 2016 - Jun 2017)	Oct-18	5285	7				SNA	AKE	AKE	BLL	Cnidaria	Anthozoa	Anthipatharia	Myriopathidae	Antipathella		Rob Stewart	4/12/2018	4/20/2018	13:42	-35.6	174.6	-35.6	174.6			B. Leslie	TRIP5285_007_Antipathella_b	22/03/2018 11:11	3
1 (Jul 2016 - Jun 2017)	Oct-18	5285	7				SNA	AKE	AKE	BLL	Cnidaria	Anthozoa	Anthipatharia	Myriopathidae	Antipathella		Rob Stewart	4/12/2018	4/20/2018	13:42	-35.6	174.6	-35.6	174.6			B. Leslie	TRIP5285_007_Antipathella_c	22/03/2018 11:11	3
1 (Jul 2016 - Jun 2017)	Oct-18	5285	7				SNA	AKE	AKE	BLL	Cnidaria	Anthozoa	Anthipatharia	Myriopathidae	Antipathella		Rob Stewart	4/12/2018	4/20/2018	13:42	-35.6	174.6	-35.6	174.6			B. Leslie	TRIP5285_007_Antipathella_d	22/03/2018 11:12	3
1 (Jul 2016 - Jun 2017)	Oct-18	5287	13	NIWA 12519 2	3813	COU	SQU	SOE	SOE	TWL	Cnidaria	Hydrozoa	Anthoathecata	Stylasteridae			Di Tracey	6/12/2018	23/03/2018	23:03	-44	176	-44.1	176	218	218	F. Beets	TRIP5287_013_Stylasteridae_NIWA125192_a	24/03/2018 8:19	3
1 (Jul 2016 - Jun 2017)	Oct-18	5287	13	NIWA 12519 2	3813	COU	SQU	SOE	SOE	TWL	Cnidaria	Hydrozoa	Anthoathecata	Stylasteridae			Di Tracey	6/12/2018	14/31/2018	19:28	-44	176	-44.1	176	218	218	F. Beets	TRIP5287_013_Stylasteridae_NIWA125192_b	24/03/2018 8:19	3
1 (Jul 2016 - Jun 2017)	Oct-18	5287	17				SQU	SOE	SOE	TWL	Cnidaria	Hydrozoa	Anthoathecata	Stylasteridae			Di Tracey	6/12/2018	11/27/2018	19:20	-44.1	176.1	-44.1	176.1	256	144	F. Beets	TRIP5287_017_Stylasteridae_a	26/03/2018 8:15	3
1 (Jul 2016 - Jun 2017)	Oct-18	5287	17				SQU	SOE	SOE	TWL	Cnidaria	Hydrozoa	Anthoathecata	Stylasteridae			Di Tracey	6/12/2018	11/27/2018	19:20	-44.1	176.1	-44.1	176.1	256	144	F. Beets	TRIP5287_017_Stylasteridae_b	26/03/2018 8:16	3
1 (Jul 2016 - Jun 2017)	Oct-18	5287	24				SQU	SO U	SO U	TWL	Cnidaria	Anthozoa	Scleractinia				Di Tracey	6/12/2018	13/55/2018	17:57	-46.5	165.8	-46.8	166	208	253	F. Beets	TRIP5287_024_Scleractinia	29/03/2018 20:44	3
1 (Jul 2016 - Jun 2017)	Oct-18	5265	176				SSO	SUB	SUB	TWL	Cnidaria	Anthozoa	Scleractinia				Di Tracey	6/12/2018	14/59/2018	15:01	-47.2	177.3	-47.2	177.3	860	923	T. Mostert	TRIP5265_176_Scleractinia	12/04/2018 16:41	4
1 (Jul 2016 - Jun 2017)	Oct-18	5265	176				SSO	SUB	SUB	TWL	Cnidaria	Anthozoa	Alcyonacea	Primoidea	Primoia		Diana Macpherson	4/12/2018	14/59/2018	15:01	-47.2	177.3	-47.2	177.3	860	923	T. Mostert	TRIP5265_176_Primnoa-Solenosmiliea-variabilis	12/04/2018 16:41	3
1 (Jul 2016 - Jun 2017)	Oct-18	5265	176				SSO	SUB	SUB	TWL	Cnidaria	Anthozoa	Scleractinia				Diana Macpherson	4/12/2018	14/59/2018	15:01	-47.2	177.3	-47.2	177.3	860	923	T. Mostert	TRIP5265_176_Primnoa-Solenosmiliea-variabilis	12/04/2018 16:41	3
1 (Jul 2016 - Jun 2017)	Oct-18	5271									Cnidaria	Anthozoa	Scleractinia	Flabellidae	Flabellum		Di Tracey	6/12/2018									T. McDonough	TRIP5271_Flabellum_a	16/04/2018 13:57	3
1 (Jul 2016 - Jun 2017)	Oct-18	5271									Cnidaria	Anthozoa	Scleractinia	Flabellidae	Flabellum		Di Tracey	6/12/2018									T. McDonough	TRIP5271_Flabellum_b	16/04/2018 14:00	3
1 (Jul 2016 - Jun 2017)	Oct-18	5271									Cnidaria	Anthozoa	Scleractinia	Flabellidae	Flabellum		Di Tracey	6/12/2018									T. McDonough	TRIP5271_Flabellum_c	16/04/2018 14:01	3
1 (Jul 2016 - Jun 2017)	Oct-18	5265	199				SSO	SUB	SUB	TWL	Cnidaria	Anthozoa	Alcyonacea	Primoidea	Primoia		Diana Macpherson	4/12/2018	14/31/2018	14:49	-47.3	178.2	-47.3	178.1	920	927	T. Mostert	TRIP5265_199_Primnoa_Keratoisis	17/04/2018 16:35	3
1 (Jul 2016 - Jun 2017)	Oct-18	5265	199				SSO	SUB	SUB	TWL	Cnidaria	Anthozoa	Alcyonacea	Isididae	Keratoisis		Diana Macpherson	4/12/2018	14/31/2018	14:49	-47.3	178.2	-47.3	178.1	920	927	T. Mostert	TRIP5265_199_Primnoa_Keratoisis	17/04/2018 16:35	3
1 (Jul 2016 - Jun 2017)	Oct-18	5323	17				ORH	SOE	SOE	BT	Cnidaria	Anthozoa	Scleractinia				Diana Macpherson	4/12/2018	8/33/2018	17:05	-42.8	179.2	-42.8	179.6			F. Beets	TRIP5323_017_Solenosmiliea-variabilis	17/05/2018 17:12	3
1 (Jul 2016 - Jun 2017)	Oct-18	5323	20			COU	ORH	SOE	SOE	BT	Cnidaria	Anthozoa	Alcyonacea	Primoidea	Primoia		Diana Macpherson	4/12/2018	5:38	11:51	-42.8	179.6	-42.8	179.2			F. Beets	TRIP5323_020_Primnoidea_a	18/05/2018 14:12	2

Reporting Year (Period)	Images received	TRIP	Tow	NIWA Cat. No.	OSD No.	Initial OBS ID	Target species	Start FMA	End FMA	Fishing method	Phylum	Class	Order	Family	Genus	Species	Determiner	Determined Date	Event start	Event end	Start latitude	Start longitude	End latitude	End longitude	Start depth	End depth	Observer	Image title	Image timestamp	Image rating
1 (Jul 2016 - Jun 2017)	Oct-18	5323	20			COU	ORH	SOE	SOE	BT	Cnidaria	Anthozoa	Alcyonacea	Primnoidea			Diana Macpherson	4/12/2018	18/05/2018	18/05/2018	-42.8	179.6	-42.8	179.2			F. Beets	TRIP5323_020_Primnoidea_b	18/05/2018 14:13	2
1 (Jul 2016 - Jun 2017)	Oct-18	5323	21			COU	ORH	SOE	SOE	BT	Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Stephanocyathus	platypus	Diana Macpherson	4/12/2018	18/05/2018	18/05/2018	-42.8	179.2	-42.7	179.7			F. Beets	TRIP5323_021_Stephanocyathus-platypus	18/05/2018 21:10	2
1 (Jul 2016 - Jun 2017)	Oct-18	5330	42			DDI	SWA	SOU	SOU	TWL	Cnidaria	Anthozoa	Scleractinia	Caryophyllidae	Desmophyllum	dianthus	Sadie Mills	6/12/2018	20/05/2018	22/05/2018	-48.5	167.6	-48.7	167.6	371	345	J. Houston	TRIP5330_042_Desmophyllum-dianthus	22/05/2018 9:32	2
1 (Jul 2016 - Jun 2017)	Oct-18	5330	42			ERR	SWA	SOU	SOU	TWL	Cnidaria	Anthozoa	Scleractinia	Oculinidae			Sadie Mills	6/12/2018	20/05/2018	22/05/2018	-48.5	167.6	-48.7	167.6	371	345	J. Houston	RIP5330_042_Oculinidae	22/05/2018 11:30	2
1 (Jul 2016 - Jun 2017)	Oct-18	5341	42	NIWA 13149 5	4109		ORH	SOE	SOE	TWL	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	Parantipathes		Rob Stewart	4/12/2018	2/05/2018	6/04/2018	-42.7	181.1	-42.7	181.1			J. Satele	TRIP5341_042_Parantipathes_NIWA131495_b	26/05/2018 8:04	3
1 (Jul 2016 - Jun 2017)	Oct-18	5341	42	NIWA 13149 4	4107		ORH	SOE	SOE	TWL	Cnidaria	Anthozoa	Antipatharia	Stylopathidae	Triadopathes		Rob Stewart	4/12/2018	2/05/2018	6/04/2018	-42.7	181.1	-42.7	181.1			J. Satele	TRIP5341_042_Triadopathes_NIWA131494_b	26/05/2018 8:08	3
1 (Jul 2016 - Jun 2017)	Oct-18	5341	42	NIWA 13149 4	4107		ORH	SOE	SOE	TWL	Cnidaria	Anthozoa	Antipatharia	Stylopathidae	Triadopathes		Rob Stewart	4/12/2018	2/05/2018	6/04/2018	-42.7	181.1	-42.7	181.1			J. Satele	TRIP5341_042_Triadopathes_NIWA131494_c	26/05/2018 8:08	3
1 (Jul 2016 - Jun 2017)	Oct-18	5341	42	NIWA 13149 6	4111		ORH	SOE	SOE	TWL	Cnidaria	Anthozoa	Antipatharia				Rob Stewart	4/12/2018	2/05/2018	6/04/2018	-42.7	181.1	-42.7	181.1		M. Erskine/J. Satele	TRIP5341_042_Antipatharia_NIWA131496	26/05/2018 8:10	3	
1 (Jul 2016 - Jun 2017)	Oct-18	5341	42	NIWA 13149 5	4109	PTP	ORH	SOE	SOE	TWL	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	Parantipathes		Rob Stewart	4/12/2018	2/05/2018	6/04/2018	-42.7	181.1	-42.7	181.1			J. Satele	TRIP5341_042_Parantipathes_NIWA131495_a	26/05/2018 13:53	2
1 (Jul 2016 - Jun 2017)	Oct-18	5341	42	NIWA 13149 4	4107	LEI	ORH	SOE	SOE	TWL	Cnidaria	Anthozoa	Antipatharia	Stylopathidae	Triadopathes		Rob Stewart	4/12/2018	2/05/2018	6/04/2018	-42.7	181.1	-42.7	181.1			J. Satele	TRIP5341_042_Triadopathes_NIWA131494_a	26/05/2018 13:56	2
1 (Jul 2016 - Jun 2017)	Oct-18	5335	27				SCI	SOI	SOI	TWL	Cnidaria	Anthozoa	Scleractinia	Flabellidae	Flabellum		Sadie Mills	6/12/2018	2018	2018	-51	167	-51	167.2	486	503	L. Ettema	TRIP5335_027_Flabellum_a	1/06/2018 14:38	3
1 (Jul 2016 - Jun 2017)	Oct-18	5335	27				SCI	SOI	SOI	TWL	Cnidaria	Anthozoa	Scleractinia	Flabellidae	Flabellum		Sadie Mills	6/12/2018	2018	2018	-51	167	-51	167.2	486	503	L. Ettema	TRIP5335_027_Flabellum_b	1/06/2018 14:38	3
1 (Jul 2016 - Jun 2017)	Oct-18	5360	11				ORH	HOWE	HOWE	TWL	Cnidaria	Anthozoa	Antipatharia	Leiopathidae	Leiopathes		Rob Stewart	4/12/2018	8:58	9:07	-35.6	165.1	-35.6	165.1			S. Darling	TRIP5360_011_Leiopathes_outsideNZEZ	14/06/2018 10:27	3