

INT2019-04 Identification and storage of cold-water coral bycatch specimens

1 July 2021 – 31 December 2021

Milestone 7. Six monthly progress update

Prepared for: Conservation Services Programme, Department of Conservation
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Report date: December 2022
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Project: DOC20303 - INT2019-04



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*Cover image: At-sea digital image of the gorgonian octocoral sea fan *Acanthogorgia* sp. collected from TRIP6485 by bottom trawl [Observer, FNZ].*

Report reference:

Mills, S.; Macpherson, D.; Connell, A.; Tracey, D. (2022). INT2019-04 Identification and storage of cold-water coral bycatch specimens 1 July 2021 – 31 December 2021. Milestone 7. Six monthly progress update prepared by NIWA for the Conservation Services Programme, Department of Conservation. DOC20303 - INT2019-04. 23 p.

Executive summary

Many protected coral species occur as bycatch in commercial fisheries around New Zealand. The Conservation Services Programme (CSP) of the Department of Conservation (DOC) recognise that Government Fisheries Observers on commercial fishing vessels are not always able to identify this bycatch at sea with high precision (especially to species level), with the confirmation of species requiring identification from a coral taxonomist in many cases. An understanding of deepsea coral bycatch is required to help determine how vulnerable protected corals might be to various anthropogenic impacts such as fishing, and thus help manage and conserve populations.

This project facilitates, through the examination of returned coral specimens and specimen digital images, the taxon and the provenance of corals bycaught in New Zealand fisheries. Summarised are the sample and image identifications of all observed coral bycatch that were returned during the period 1 July 2021 to 31 December 2021, including a count of the sub-samples collected for genetic analysis, and an update on the progress of other objectives such as the preparation of an updated and revised coral identification guide training resource.

A total of eight specimen samples were collected and returned for identification during the reporting period: six collected by observers on commercial fishing vessels; and two collected by researchers on fisheries research trawl surveys. Sub-samples from each live specimen (n=5) were taken for future genetic studies. A total of 119 specimens were identified from 149 digital images during the reporting period; 79 of these were protected coral taxa, all images were georeferenced. Specimen and image data are presented by Fisheries Management Areas (FMA), fishing method, and targeted fishery. Highest specimen counts came from the Auckland region (FMA 9) and the Southland and Chatham Rise areas (FMAs 3, 4 and 5). Most samples were taken by bottom trawl targeting orange roughy and arrow squid.

1 Background

Protected cold-water deep-sea coral (referred to as coral throughout) specimens bycaught in commercial fishery operations are sampled or photographed by government observers on commercial fishing vessels. The specific objectives for this project are:

1. To determine, through examination of returned protected cold-water coral specimens and images, 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.
3. To assist with observer training and the development/improvement of observer training resources.

There are several milestones for this project, Milestones 1–6 have been completed (e.g., see Macpherson et al. 2021, 2022) and here we report on Milestone 7: Six monthly progress update with a “Summary of coral specimens identified by samples and digital images, bycaught during the period 1 July 2021 – 31 December 2021.” We briefly summarise progress made on the on the revised and updated Coral Identification Guide being published by CSP with NIWA authors.

2 Objective 1

Determine, through examination of returned protected cold-water coral specimens and images, the taxon, and where possible the provenance of cold-water corals killed in New Zealand fisheries (for returned dead specimens).

2.1 Identification of returned protected coral specimens

During the reporting period 1 July 2021 to 31 December 2021, NIWA received, processed, and identified six observer-collected protected coral specimens in six sample lots. Five of the physical specimens returned to NIWA were collected by bottom trawl, with four specimens from fisheries targeting hake, and one specimen from a fishery targeting hoki. One specimen was collected by midwater trawl from a fishery targeting rubyfish. As part of Objective 2, sub-samples from each live specimen were taken for future genetic studies (n=5).

The NIWA experts identifying samples collected during this reporting period were:

Di Tracey - Scleractinia (stony corals); Jaret Bilewitch - Alcyonacea (gorgonian octocorals); Rob Stewart - Antipatharia (black corals); Peter Marriott (hydrocorals). International experts Phil Alderslade (CSIRO, Australia) and Marcelo Kitahara (University of São Paulo, Brazil) were consulted for bamboo coral and a stony coral respectively.

Species identified by Observers as corals that were non-corals were identified by Sadie Mills (sponges, basket stars and snake stars), Dennis Gordon (bryozoans) and Geoff Read (tubeworms).

A summary of protected coral bycatch specimens collected between 1 July 2021 to 31 December 2021 and identified by experts are provided in the NIWA Invertebrate Collection (NIC) *Specify* Database *niwainvert* extract (Appendix A(a)) and presented in Table 1.

Table 1. Summary of protected coral species with a count of number of specimens collected by Observers from each Fisheries Management Area (FMA) and target fishery between 1 July–31 December 2021. Refer to Figure 1 for FMA location. RBY = rubyfish, HAK = hake, HOK = hoki.

Order	Family	Genus	Species	FMA (target fishery)			Total no. of specimens
				CEE (RBY)	SUB (HAK)	SEC (HOK)	
Alcyonacea	Acanthogorgiidae	<i>Acanthogorgia</i>		1	2		3
	Primnoidae	<i>Metafannyella</i>			1		1
Antipatharia	Schizopathidae	<i>cf. Dendropathes</i>				1	1
Scleractinia	Caryophylliidae	<i>Desmophyllum</i>	<i>dianthus</i>		1		1
Total no. of specimens				1	4	1	6

Two research trawl survey-collected coral specimens were returned for identification from the TAN2107 West Coast South Island Trawl Survey inside this reporting period (August 2021). The two specimens were:

- a confirmed identification of the solitary bowl coral *Stephanocyathus platypus* (STP)
- a changed identification from *Lepidisis* (LLE) onboard to expert ID *Isidella* (ISP).

Both specimens were collected in FMA 7 Challenger (Central Plateau, CHA) (Figure 1). A summary of the research trawl survey specimens is provided in Appendix A (b).

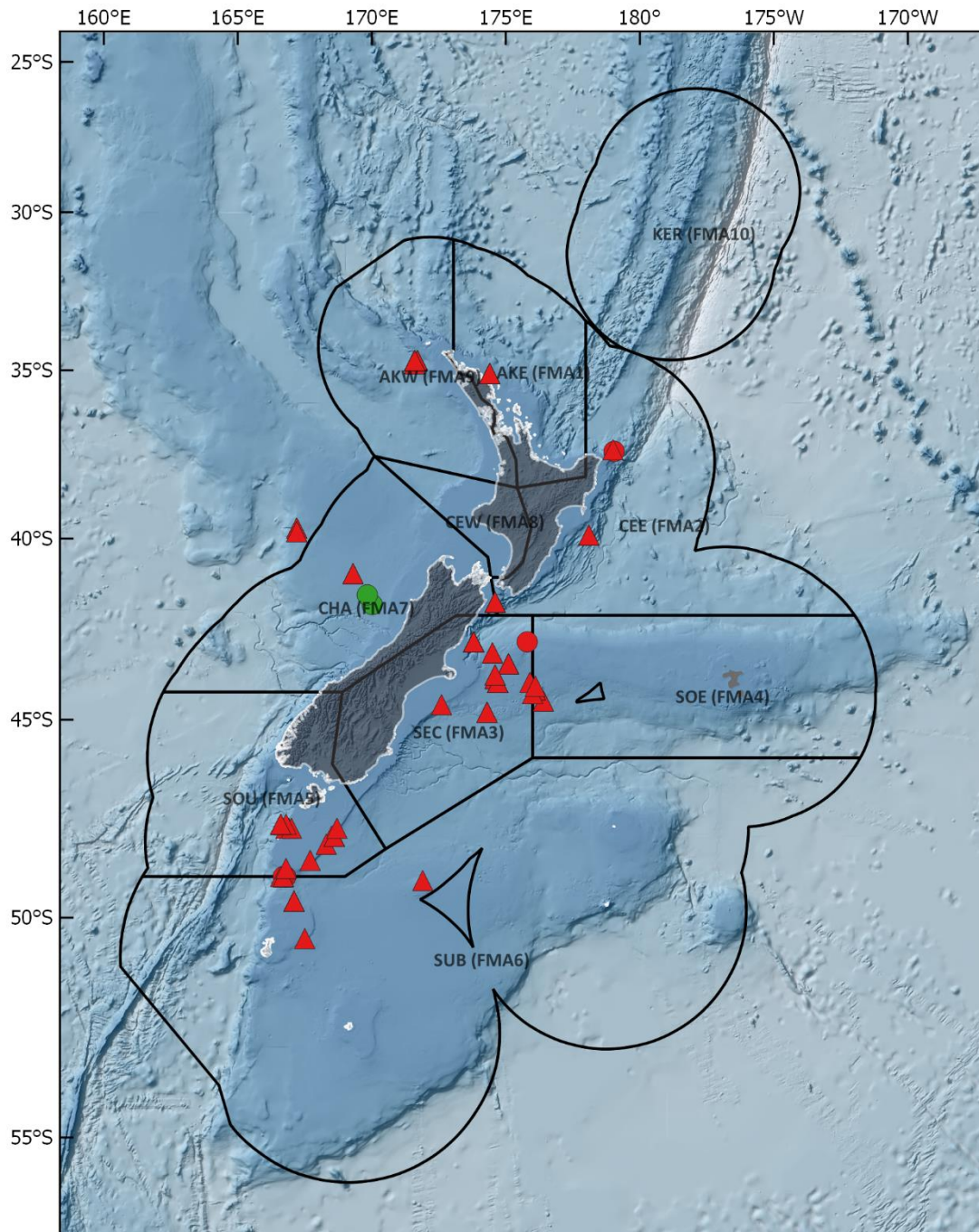


Figure 1. Observer collected bycatch coral specimens (red circles), specimens from images (red triangles), and research trawl survey specimens (green circles) collected 1 July–31 December 2021.

2.2 Processing and identification of specimens from images

During the reporting period 1 July 2021 to 31 December 2021, NIWA received 315 digital images and 149 of these were processed. These images were prioritised for identification because the accompanying label had trip_number and tow_number details, thus allowing for easy retrieval of fishing data from the Central Observer Database (COD). The remaining 166 images will be processed for the final report. Efforts to match georeferenced data with the images that had missing tow numbers (i.e., no label and / or label missing the actual tow number), will be carried out where possible, by the next reporting period covering the full year 1 July 2021-30 June 2022.

In total, 119 specimens were identified from the 149 selected images (noting that at times there were multiple images of the same specimen). Of the 119 identified specimens, 79 were protected coral taxa, and nine were non-protected corals (three soft corals, five hydroids and one corallimorpharian); all samples were able to be georeferenced. A further 31 images were identified as corals by observers, but were found to be non-coral taxa (e.g. sponges, bryozoans, echinoderms). Dead coral rubble was present in a few images and was able to be identified to species – in these images were *S. variabilis* (SVA) and in some a long dead octocoral skeleton attached to the SVA colony. In some instances, dead and live coral rubble were present in the tow. There were several images labelled as CBR (coral rubble) that were identified as clumps of the bryozoan (*Tetrocycloecia neozelanica*, TNE) (see left image Figure 2), with benthic fauna attached. Some specimens identified by observers as hydroids were found to be black coral and or the primnoid octocoral *Metafannyella* (MEF). Numerous *Flabellum* spp. cup corals (COF, see right images Figure 2), species which are associated with a soft sediment environment, were photographed as bycatch from a bottom trawl targeting hoki in FMA3. All processed images were photographed within New Zealand’s Exclusive Economic Zone (EEZ) except for nine photographed from the High Seas (ET or CET). All remaining digital images to be identified will be presented on in the Final Report and will include ET images.



Figure 2. A clump of the bryozoan *Tetrocycloecia neozelanica* TNE (left); Numerous *Flabellum* spp. COF cup corals (centre & right).

The highest number of photographed specimens were from the Auckland region (FMA 9), and the Southland and Chatham Rise area (FMAs 3, 4 and 5) (Table 2). The highest number of tows with bycatch identified as coral by observers were recorded from bottom trawls targeting orange roughy and arrow squid (Table 3).

One of the fishing methods initially retrieved from COD for trip 6560 was Bottom Pair Trawl (BPT), which is an unusual gear code for current fishing practices. This code was double checked with

Ministry for Primary Industries (MPI) and it was confirmed that BPT was an incorrectly reported code. COD was updated with the correct fishing method of Bottom Trawl (BT) for this trip.

Table 2. Summary of number of all specimens identified by observers as corals in specimen images by Fisheries Management Area (FMA).

Area	Description	Total no. of specimens
AKE	Auckland East (FMA1)	2
AKW	Auckland West (FMA9)	20
CEE	Central East (FMA2)	5
CET	Challenger Plateau, beyond the EEZ (FMA)	6
CHA	Challenger (FMA7)	1
ET	Beyond the EEZ	2
SEC	South-East Coast (FMA3)	21
SOE	South East (Chatham Rise) (FMA4)	24
SOI	Southern Offshore Islands - Auckland & Campbell Is. (FMA6A)	2
SOU	Southland (FMA5)	28
SUB	Subantarctic (FMA6)	8
Total		119

Table 3. Count of tows and specimens in images identified by observers as corals by fishing method and target fishery. BLL = Bottom Longlining, BT = Bottom Trawl, PRB = Precision Seafood Harvesting Bottom Trawl, MW = Midwater Trawl

Target Fishery (common name)	FNZ code	Fishing Method	Count of Tows	Total no. of specimens
Antarctic Toothfish	ATO	BLL	2	2
Alfonsino	BYX	BT	1	1
Hake	HAK	BT	4	6
Hoki	HOK	BT	5	17
		PRB	1	1
Orange roughy	ORH	BT	20	46
Rubyfish	RBY	MW	1	1
Snapper	SNA	BLL	1	2
Arrow Squid	SQU	BT	19	37
		MW	1	1
Smooth oreo	SSO	BT	2	4
Silver Warehou	SWA	BT	1	1
Total			58	119

A composite of some of the images identified for this reporting period are shown in Figure 3. Included is an image of the branching stony coral *Oculina virgosa* OVI, previously thought to be a New Zealand endemic species but now known to be found in New Caledonian waters (Kitahara &

Cairns 2021). This specimen was identified by the Observer as a *Stylaster* hydrocoral, which it could be readily confused with, thus highlighting the need for additional information being provided for OVI descriptions in the revised and updated coral identification guide. Also shown in the composite are images of two bamboo coral genera – one branching from the white calcareous internodes (*Keratoisis* spp., BOO) and the second image showing branching from the dark node *Isidella* spp (ISP).

The most photographed protected coral taxa were from the family Flabellidae (stony cup corals; n=20 specimens), followed by family Keratoisididae (bamboo corals; n=13 specimens) (Table 4 and Figure 3).

Table 4. Count of specimens of each species identified by experts from images.

Phylum	Class	Order	Family	Genus	Species	Total no. of specimens
Cnidaria	Anthozoa	Alcyonacea	Acanthogorgiidae	<i>Acanthogorgia</i>		2
				<i>Chrysogorgia</i>		4
			Chrysogorgiidae	<i>Chrysogorgia</i>		5
				<i>Iridogorgia</i>		3
				<i>Metallogorgia</i>		1
			Clavulariidae	<i>Telesto</i>		3
			Isididae			2
			Keratoisididae	<i>Acanella</i>		1
				<i>Isidella</i>		5
				<i>Keratoisis</i>		5
				<i>Lepidisis</i>		2
			Paragorgiidae	<i>Paragorgia</i>		2
			Primnoidae	<i>Calyptrophora</i>		2
				<i>Metafannyella</i>		2
				<i>Primnoa</i>		3
				<i>Thouarella</i>		2
			Cnidaria	Anthozoa	Antipatharia	Leiopathidae
Myriopathidae	<i>Antipathella</i>					2
Schizopathidae	<i>Dendrobathypathes</i>					1
	<i>Dendropathes</i>					2
	<i>Lillipathes</i>					1
	<i>Parantipathes</i>					1
Cnidaria	Anthozoa	Corallimorpharia				
Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Desmophyllum</i>	<i>dianthus</i>	1
				<i>Goniocorella</i>	<i>dumosa</i>	1
				<i>Solenosmilia</i>	<i>variabilis</i>	5
			Flabellidae	<i>Flabellum</i>		18
				<i>Flabellum</i>	<i>knoxii</i>	1
				<i>Truncatoflabellum</i>	<i>angiosomum</i>	1
			Oculinidae	<i>Madrepora</i>	<i>oculata</i>	1
				<i>Oculina</i>	<i>virgosa</i>	1
Cnidaria	Hydrozoa	Leptothecata	Plumulariidae	<i>Nemertesia</i>	<i>pinnatifida</i>	1
			Zygophylacidae	<i>Cryptolaria</i>		1
		Leptothecata	Zygophylacidae	<i>Cryptolaria</i>	<i>prima</i>	2
Porifera						7

Phylum	Class	Order	Family	Genus	Species	Total no. of specimens
	Hexactinellida	Sceptrulophora	Farreidae	<i>Farrea</i>		2
Bryozoa	Stenolaemata	Cyclostomatida	Cerioporidae	<i>Tetrocycloecia</i>	<i>neozelanica</i>	1
			Horneridae	<i>Hornera</i>	<i>foliacea</i>	5
Annelida	Polychaeta	Sabellida	Serpulidae	<i>Salmacina</i>	<i>australis</i>	1
						6
Echinodermata	Ophiuroidea	Euryalida	Euryalidae	<i>Ophiocreas</i>		1
			Gorgonocephalidae	<i>Gorgonocephalus</i>	<i>chilensis</i>	1
Rock						6
Total no. of specimens						119



Figure 3. Example observer specimen images: a. *Oculina virgosa* (OVI); b. bamboo coral branching from the white calcareous internodes (*Keratoisis* spp. BOO); c. *Antipathella* spp. (AHL), a large black coral colony with the colonial orange ‘sea anemones’ zoanthids attached; d. large bamboo coral branching from the nodes *Isidella* spp. (ISP); e. Primnoid sea fan *Primnoa* (PMN); f. *Stylaster* hydrocoral – image shown to highlight how this species could be confused with an *Oculina* colony [Observer, FNZ].

2.3 COD database uploads

Expert identifications of physical specimens will be uploaded into the Centralised Observer Database (COD) and reported on in the draft Final Report. NIWA database managers have requested direction from MPI/RDM on their requirement for database design modifications to better handle and adequately store the digital image data. It is expected that expert identifications of specimens from images will also be loaded into COD table t_coral_images, after discussions with FNZ and NIWA COD database managers have taken place

3 Objective 3

Assist with observer training and the development/improvement of observer training resources.

A key activity of this project has been to assist with the development and improvement of Observer training resources to continue to improve the accuracy of at-sea identification, and thus continually provide higher-quality data for downstream usage.

The focus this reporting period has been on the production of a revised and updated Coral Identification Guide for use at-sea by Observers. Most of the final editing of the Guide has now taken place. Some additional input is suggested – e.g., around the description of the stony coral *Oculina* (see above).

Preparation of Identification sheets – NIWA Fisheries Centre

Funding from the Ministry of Business, Innovation and Employment (MBIE) Strategic Science Investment Fund (SSIF) via NIWA's National Fisheries Centre 2021/22 budget, has supported revisions to the content of the guide. With this complementary funding, 16 new or revised identification sheets have been produced for protected corals, or taxa that can be easily confused with corals, with a focus on shallower water species. These sheets are formatted to match those in the black coral identification guide (Opresko et al. 2014) and the deepsea invertebrate guide (Tracey et al. 2011), and they have now been made available as a pdf file to MPI Observers (Tracey et al. 2021).



Figure 3. Cover sheet of the newly prepared coral identification sheets (Tracey et al. 2021). Additional sheets for deep-sea prawns are included in the document pdf and sponge species will be added in 2023.

4 Acknowledgements

Our thanks to the FNZ observers for their on-going efforts at sea and to the various coral experts who provided identifications for this reporting period. These include Di Tracey, Peter Marriott, Rob Stewart and Jaret Bilewitch (all of NIWA) as well as international experts Phil Alderslade (CSIRO, Hobart Australia) and Marcelo Kitahara (University of São Paulo, Brazil). We acknowledge Dean Stotter for processing the Observer samples and the NIC team (NIWA) for providing curatorial support for the specimens. Our thanks to Caroline Wood (NIWA) for COD data extracts and Dennis Gordon (Emeritus, NIWA) and Geoff Read (Emeritus, NIWA) for identifying non- coral taxa – bryozoans and tubeworms. Author Sadie Mills identified additional non-coral taxa. Finally, we thank CSP Group particularly Hollie McGovern for providing coral images, and Marine Science Advisor, Lyndsey Holland.

5 References

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Appendices

Appendix A (a): Summary output from NIWA Invertebrate Collection (NIC) *Specify* Database *niwainvert* updated with revised expert identifications of six bycatch specimens (in six sample lots) collected by observers between 1 July 2021 to 31 December 2021

This publicly accessible website can be used to search the target species, initial observer and expert ID species codes: https://marlin.niwa.co.nz/species_codes/ and FMA codes: https://marlin.niwa.co.nz/area_codes/. The fishing method codes are as follows: BT = Bottom Trawl, MW = Midwater Trawl. OSD = Observer samples database used in NIWA to record all incoming observer collected samples (including fish, invertebrates, seabirds and mammals).

NIWA Cat. Num.	TRIP	Tow	OSD Num.	Initial ID Code	Phylum	Class	Order	Family	Genus	Species	Expert ID code	Date	Latitude1	Longitude1	Depth 1	FMA	Gear	Target Species	Count
146541	6333	104	5389	COU	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	cf. <i>Dendropathes</i>		DDP	15/07/2021	-42.9	175.8	587	SEC	BT	HOK	1
147208	6485	29	6137	GOC	Cnidaria	Anthozoa	Alcyonacea	Acanthogorgiidae	<i>Acanthogorgia</i>		ACC	12/12/2021	-37.5	179.0	260	CEE	MW	RBY	1
147080	6497	10	5979	THO	Cnidaria	Anthozoa	Alcyonacea	Primnoidae	<i>Metafannyella</i>		MEF	29/12/2021	-49.0	166.8	445	SUB	BT	HAK	1
147090	6497	10	5992	HDF	Cnidaria	Anthozoa	Alcyonacea	Acanthogorgiidae	<i>Acanthogorgia</i>		ACC	29/12/2021	-49.0	166.8	445	SUB	BT	HAK	1
147092	6497	10	5994	MTL	Cnidaria	Anthozoa	Alcyonacea	Acanthogorgiidae	<i>Acanthogorgia</i>		ACC	29/12/2021	-49.0	166.8	445	SUB	BT	HAK	1
147083	6497	12	5982	ERO	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Desmophyllum</i>	<i>dianthus</i>	DDI	30/12/2021	-49.0	166.7	560	SUB	BT	HAK	1

Appendix A (b): Summary output from NIWA Invertebrate Collection (NIC) Specify Database *niwainvert* updated with revised expert identifications of two bycatch specimens (in two sample lots) collected on fisheries research trawl surveys between 1 July 2020 to 31 December 2020.

This publicly accessible website can be used to search the target species, initial observer and expert ID species codes: https://marlin.niwa.co.nz/species_codes/ and FMA codes: https://marlin.niwa.co.nz/area_codes/. The fishing method codes are as follows: TB = bottom trawl.

NIWA Cat. Num.	TRIP	Stn	Lot Num.	Initial ID Code	Phylum	Class	Order	Family	Genus	Species	Expert ID	Date	Latitude1	Longitude1	Depth 1	FMA	Gear	Count
157820	TAN2107	49	I322	STP	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Stephanocyathus</i>	<i>platypus</i>	STP	14/08/2021	-41.867	170.016	891	CHA	TB	1
157765	TAN2107	54	I390	LLE	Cnidaria	Anthozoa	Alcyonacea	Keratoisididae	<i>Isidella</i>		ISP	16/08/2021	-41.598	169.830	933	CHA	TB	1

Appendix B: Spreadsheet summary of digital images processed, and identified for the reporting period 1 July 2021 to 31 December 2021

Only a portion of the photographed specimens were also returned from sea as physical specimens. Where a physical specimen was also returned to NIWA the NIWA Invertebrate Collection catalogue number has been provided for reference. Duplicate rows in this appendix indicate where multiple images were taken of the same specimens, and in these cases the specimen count is reduced to zero to avoid double counting of the same specimens. This publicly accessible website can be used to search the target species, initial and expert ID species codes: https://marlin.niwa.co.nz/species_codes/ and FMA codes: https://marlin.niwa.co.nz/area_codes/. Where there is a zero specimen count this indicates that this is a second image of the same specimen to avoid double counting the total number of specimens. The fishing method codes are as follows: BLL = Bottom Longlining, BT = Bottom Trawl, PRB = Precision Seafood Harvesting Bottom Trawl, MW = Midwater Trawl.

trip_number	station_number	fishing_method	target_species	event_start_date	start_obs_fma	trunc_start_latitude	trunc_start_longitude	start_seabed_depth	Phylum	Class	Order	Family	Genus	Species	NIWA Cat. No.	OSD No.	Initial OBS ID Code	Specimen count	Expert ID Code
6505	54	BT	SQU	12/02/2022	SOU	-47.7	166.8	169	Annelida	Polychaeta	Sabellida	Serpulidae	<i>Salmacina</i>	<i>australis</i>			COU	1	POL /ONG
6497	65	BT	SQU	10/02/2022	SOU	-47.8	167	145	Annelida	Polychaeta					NIWA 147074	5973	UNI	1	POL
6505	60	BT	SQU	15/02/2022	SOU	-47.7	166.6	174	Annelida	Polychaeta							COU	4	ROK/ONG/ POL
6505	60	BT	SQU	15/02/2022	SOU	-47.7	166.6	174	Annelida	Polychaeta							COU	0	ROK/ONG/ POL
6557	7	BT	SQU	25/03/2022	SOE	-44.2	176.1		Annelida	Polychaeta								1	POL on Rok
6557	7	BT	SQU	25/03/2022	SOE	-44.2	176.1		Annelida	Polychaeta								0	POL on Rok
6578	25	BT	SQU	7/05/2022	SOI	-49.6	167.1	240	Annelida	Polychaeta							CBB	0	TNE / POL
6578	25	BT	SQU	7/05/2022	SOI	-49.6	167.1	240	Annelida	Polychaeta							CBB	0	TNE/POL
6497	63	BT	SQU	9/02/2022	SOU	-47.8	166.9	150	Bryozoa	Stenolaemata	Cyclomatida	Ceriporidae	<i>Tetrocycloecia</i>	<i>neozelanica</i>				1	TNE
6557	2	BT	SQU	21/03/2022	SOU	-48.2	168.3	138	Bryozoa	Stenolaemata	Cyclomatida	Ceriporidae	<i>Tetrocycloecia</i>	<i>neozelanica</i>			COU	1	TNE
6557	4	BT	SQU	22/03/2022	SOU	-48	168.6	208	Bryozoa	Stenolaemata	Cyclomatida	Ceriporidae	<i>Tetrocycloecia</i>	<i>neozelanica</i>			CBB	1	TNE
6557	6	BT	SQU	23/03/2022	SOU	-47.8	168.7		Bryozoa	Stenolaemata	Cyclomatida	Ceriporidae	<i>Tetrocycloecia</i>	<i>neozelanica</i>			CBD	1	TNE
6578	25	BT	SQU	7/05/2022	SOI	-49.6	167.1	240	Bryozoa	Stenolaemata	Cyclomatida	Ceriporidae	<i>Tetrocycloecia</i>	<i>neozelanica</i>			CBB	1	TNE
6578	25	BT	SQU	7/05/2022	SOI	-49.6	167.1	240	Bryozoa	Stenolaemata	Cyclomatida	Ceriporidae	<i>Tetrocycloecia</i>	<i>neozelanica</i>			CBB	0	TNE / POL
6578	25	BT	SQU	7/05/2022	SOI	-49.6	167.1	240	Bryozoa	Stenolaemata	Cyclomatida	Ceriporidae	<i>Tetrocycloecia</i>	<i>neozelanica</i>			CBB	0	TNE /BIV
6578	25	BT	SQU	7/05/2022	SOI	-49.6	167.1	240	Bryozoa	Stenolaemata	Cyclomatida	Ceriporidae	<i>Tetrocycloecia</i>	<i>neozelanica</i>			CBB	0	TNE

trip_number	station_number	fishing_method	target_species	event_start_date	start_obs_fma	trunc_start_latitude	trunc_start_longitude	start_seabed_depth	Phylum	Class	Order	Family	Genus	Species	NIWA Cat. No.	OSD No.	Initial OBS ID Code	Specimen count	Expert ID Code
6578	25	BT	SQU	7/05/2022	SOI	-49.6	167.1	240	Bryozoa	Stenolaemata	Cyclotomatida	Ceroporidae	<i>Tetrocycloecia</i>	<i>neozelanica</i>			CBB	0	TNE / ECN
6578	25	BT	SQU	7/05/2022	SOI	-49.6	167.1	240	Bryozoa	Stenolaemata	Cyclotomatida	Ceroporidae	<i>Tetrocycloecia</i>	<i>neozelanica</i>			CBB	0	TNE / ECN
6578	25	BT	SQU	7/05/2022	SOI	-49.6	167.1	240	Bryozoa	Stenolaemata	Cyclotomatida	Ceroporidae	<i>Tetrocycloecia</i>	<i>neozelanica</i>			CBB	0	TNE/POL
6557	4	BT	SQU	22/03/2022	SOU	-48	168.6	208	Bryozoa	Stenolaemata	Cyclotomatida	Horneridae	<i>Hornera</i>	<i>foliacea</i>			COZ	1	HFO
6557	4	BT	SQU	22/03/2022	SOU	-48	168.6	208	Bryozoa									1	COZ on ROK
6485	29	MW	RBY	12/12/2021	CEE	-37.4	179	260	Cnidaria	Anthozoa	Alcyonacea	Acanthogorgiidae	<i>Acanthogorgia</i>		NIWA 147208	6137	GOC	1	ACC
6497	10	BT	HAK	29/12/2021	SUB	-49	166.7	445	Cnidaria	Anthozoa	Alcyonacea	Acanthogorgiidae	<i>Acanthogorgia</i>		NIWA 147092	5994	MTL	1	ACC
6497	10	BT	HAK	29/12/2021	SUB	-49	166.7	445	Cnidaria	Anthozoa	Alcyonacea	Acanthogorgiidae	<i>Acanthogorgia</i>		NIWA 147090	5992	HDR	1	ACC
6497	20	BT	HAK	3/01/2022	SUB	-49	166.7	550	Cnidaria	Anthozoa	Alcyonacea	Acanthogorgiidae	<i>Acanthogorgia</i>		NIWA 147091	5993	MTL	1	ACC
6543	10	BT	ORH	20/03/2022	AKW	-34.7	171.7	924	Cnidaria	Anthozoa	Alcyonacea	Chrysogorgiidae	<i>Chrysogorgia</i>				CHR	1	CHR
6543	19	BT	ORH	21/03/2022	AKW	-34.7	171.6	920	Cnidaria	Anthozoa	Alcyonacea	Chrysogorgiidae	<i>Chrysogorgia</i>					1	CHR
6543	19	BT	ORH	21/03/2022	AKW	-34.7	171.6	920	Cnidaria	Anthozoa	Alcyonacea	Chrysogorgiidae	<i>Chrysogorgia</i>					2	CHR
6543	19	BT	ORH	21/03/2022	AKW	-34.7	171.6	920	Cnidaria	Anthozoa	Alcyonacea	Chrysogorgiidae	<i>Chrysogorgia</i>					1	CHR
6543	5	BT	ORH	19/03/2022	AKW	-34.7	171.7	988	Cnidaria	Anthozoa	Alcyonacea	Chrysogorgiidae	<i>Iridogorgia</i>		NIWA 147243	6218	IRI	1	IRI
6543	5	BT	ORH	19/03/2022	AKW	-34.7	171.7	988	Cnidaria	Anthozoa	Alcyonacea	Chrysogorgiidae	<i>Iridogorgia</i>				CHR	1	IRI
6543	19	BT	ORH	21/03/2022	AKW	-34.7	171.6	920	Cnidaria	Anthozoa	Alcyonacea	Chrysogorgiidae	<i>Iridogorgia</i>					1	IRI
6543	15	BT	ORH	21/03/2022	AKW	-34.7	171.6	940	Cnidaria	Anthozoa	Alcyonacea	Chrysogorgiidae	<i>Metallogorgia</i>		NIWA 147248	6223	MTL	1	MTL
6543	15	BT	ORH	21/03/2022	AKW	-34.7	171.6	940	Cnidaria	Anthozoa	Alcyonacea	Chrysogorgiidae	<i>Metallogorgia</i>		NIWA 147248	6223	MTL	0	MTL
6530	1	BT	SSO	20/02/2022	SOE	-44.5	176.4	700	Cnidaria	Anthozoa	Alcyonacea	Clavulariidae	<i>Telesto</i>				CBR	1	ISI/TLO
6530	1	BT	SSO	20/02/2022	SOE	-44.5	176.4	700	Cnidaria	Anthozoa	Alcyonacea	Clavulariidae	<i>Telesto</i>				CBR	0	ISI/TLO
6530	26	BT	ORH	2/03/2022	SOE	-44.4	184.9	650	Cnidaria	Anthozoa	Alcyonacea	Clavulariidae	<i>Telesto</i>				ISI	1	BOO/TLO
6530	26	BT	ORH	2/03/2022	SOE	-44.4	184.9	650	Cnidaria	Anthozoa	Alcyonacea	Clavulariidae	<i>Telesto</i>				ISI	0	BOO/TLO
6530	26	BT	ORH	2/03/2022	SOE	-44.4	184.9	650	Cnidaria	Anthozoa	Alcyonacea	Clavulariidae	<i>Telesto</i>				ISI	1	BOO/TLO
6406	47	BT	SQU	9/10/2021	SUB	-49.1	171.9	149	Cnidaria	Anthozoa	Alcyonacea	Isididae					COU	1	ISI/ONG
6530	1	BT	SSO	20/02/2022	SOE	-44.5	176.4	700	Cnidaria	Anthozoa	Alcyonacea	Isididae					CBR	1	ISI/TLO
6530	1	BT	SSO	20/02/2022	SOE	-44.5	176.4	700	Cnidaria	Anthozoa	Alcyonacea	Isididae					CBR	0	ISI/TLO
6458	53	BT	ORH	3/12/2021	CHA	-41	169.3	918	Cnidaria	Anthozoa	Alcyonacea	Keratoisididae	<i>Acanella</i>					1	ACN

trip_number	station_number	fishing_method	target_species	event_start_date	start_obs_fma	trunc_start_latitude	trunc_start_longitude	start_seabed_depth	Phylum	Class	Order	Family	Genus	Species	NIWA Cat. No.	OSD No.	Initial OBS ID Code	Specimen count	Expert ID Code
6458	53	BT	ORH	3/12/2021	CHA	-41	169.3	918	Cnidaria	Anthozoa	Alcyonacea	Keratoisididae	<i>Acanella</i>				0	ACN	
6458	53	BT	ORH	3/12/2021	CHA	-41	169.3	918	Cnidaria	Anthozoa	Alcyonacea	Keratoisididae	<i>Acanella</i>				0	ACN	
6543	19	BT	ORH	21/03/2022	AKW	-34.7	171.6	920	Cnidaria	Anthozoa	Alcyonacea	Keratoisididae	<i>Isidella</i>				1	ISP	
6543	19	BT	ORH	21/03/2022	AKW	-34.7	171.6	920	Cnidaria	Anthozoa	Alcyonacea	Keratoisididae	<i>Isidella</i>				0	ISP	
6543	19	BT	ORH	21/03/2022	AKW	-34.7	171.6	920	Cnidaria	Anthozoa	Alcyonacea	Keratoisididae	<i>Isidella</i>				1	ISP	
6543	19	BT	ORH	21/03/2022	AKW	-34.7	171.6	920	Cnidaria	Anthozoa	Alcyonacea	Keratoisididae	<i>Isidella</i>				0	ISP	
6543	19	BT	ORH	21/03/2022	AKW	-34.7	171.6	920	Cnidaria	Anthozoa	Alcyonacea	Keratoisididae	<i>Isidella</i>				1	ISP	
6543	19	BT	ORH	21/03/2022	AKW	-34.7	171.6	920	Cnidaria	Anthozoa	Alcyonacea	Keratoisididae	<i>Isidella</i>				1	ISP	
6543	19	BT	ORH	21/03/2022	AKW	-34.7	171.6	920	Cnidaria	Anthozoa	Alcyonacea	Keratoisididae	<i>Isidella</i>				1	ISP	
6530	26	BT	ORH	2/03/2022	SOE	-44.4	184.9	650	Cnidaria	Anthozoa	Alcyonacea	Keratoisididae	<i>Keratoisis</i>			ISI	1	BOO /TLO	
6530	26	BT	ORH	2/03/2022	SOE	-44.4	184.9	650	Cnidaria	Anthozoa	Alcyonacea	Keratoisididae	<i>Keratoisis</i>			ISI	0	BOO /TLO	
6530	26	BT	ORH	2/03/2022	SOE	-44.4	184.9	650	Cnidaria	Anthozoa	Alcyonacea	Keratoisididae	<i>Keratoisis</i>			ISI	1	BOO /TLO	
6543	3	BT	ORH	18/03/2022	AKW	-34.8	171.6	946	Cnidaria	Anthozoa	Alcyonacea	Keratoisididae	<i>Keratoisis</i>			BOO	1	BOO	
6543	19	BT	ORH	21/03/2022	AKW	-34.7	171.6	920	Cnidaria	Anthozoa	Alcyonacea	Keratoisididae	<i>Keratoisis</i>				1	BOO	
6543	19	BT	ORH	21/03/2022	AKW	-34.7	171.6	920	Cnidaria	Anthozoa	Alcyonacea	Keratoisididae	<i>Keratoisis</i>				0	BOO	
6543	19	BT	ORH	21/03/2022	AKW	-34.7	171.6	920	Cnidaria	Anthozoa	Alcyonacea	Keratoisididae	<i>Keratoisis</i>				1	BOO	
6385	14	BT	ORH	11/08/2021	CET	-39.7	167.2	927	Cnidaria	Anthozoa	Alcyonacea	Keratoisididae	<i>Lepidisis</i>			GOC	1	LLE	
6385	14	BT	ORH	11/08/2021	CET	-39.7	167.2	927	Cnidaria	Anthozoa	Alcyonacea	Keratoisididae	<i>Lepidisis</i>			GOC	1	LLE	
6580	63	BT	SSO	3/06/2022	SEC	-44.8	174.3	915	Cnidaria	Anthozoa	Alcyonacea	Paragorgiidae	<i>Paragorgia</i>	NIWA 147216	6146	PAB	1	PAB	
6580	63	BT	SSO	3/06/2022	SEC	-44.8	174.3	915	Cnidaria	Anthozoa	Alcyonacea	Paragorgiidae	<i>Paragorgia</i>	NIWA 147216	6146	PAB	0	PAB	
6495	38	BT	ORH	2/01/2022	SOE	-42.8	184.7		Cnidaria	Anthozoa	Alcyonacea	Paragorgiidae	<i>Paragorgia</i>			PAB	1	PAB	
6495	38	BT	ORH	2/01/2022	SOE	-42.8	184.7		Cnidaria	Anthozoa	Alcyonacea	Paragorgiidae	<i>Paragorgia</i>			PAB	0	PAB	
6340	46	BT	ORH	14/07/2021	SOE	-42.7	182.1	843	Cnidaria	Anthozoa	Alcyonacea	Primnoidae	<i>Metafannyella</i>			HDF	1	MEF	
6340	46	BT	ORH	14/07/2021	SOE	-42.7	182.1	843	Cnidaria	Anthozoa	Alcyonacea	Primnoidae	<i>Metafannyella</i>			HDF	0	MEF	
6497	10	BT	HAK	29/12/2021	SUB	-49	166.7	445	Cnidaria	Anthozoa	Alcyonacea	Primnoidae	<i>Metafannyella</i>	NIWA 147080	5979	THO	1	MEF	
6567	37	BT	ORH	17/04/2022	CEE	-41.8	174.6	693	Cnidaria	Anthozoa	Alcyonacea	Primnoidae	<i>Primnoa</i>	NIWA 147183	6102	GOC	0	PMN	
6567	37	BT	ORH	17/04/2022	CEE	-41.8	174.6	693	Cnidaria	Anthozoa	Alcyonacea	Primnoidae	<i>Primnoa</i>	NIWA 147183	6102	GOC	0	PMN	

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6567	37	BT	ORH	17/04/2022	CEE	-41.8	174.6	693	Cnidaria	Anthozoa	Alcyonacea	Primnoidae	<i>Primnoa</i>		NIWA 147183	6102	GOC	3	PMN
6567	37	BT	ORH	17/04/2022	CEE	-41.8	174.6	693	Cnidaria	Anthozoa	Alcyonacea	Primnoidae	<i>Primnoa</i>		NIWA 147183	6102	GOC	0	PMN
6567	37	BT	ORH	17/04/2022	CEE	-41.8	174.6	693	Cnidaria	Anthozoa	Alcyonacea	Primnoidae	<i>Primnoa</i>		NIWA 147183	6102	GOC	0	PMN
6385	11	BT	ORH	11/08/2021	CET	-39.7	167.2	840	Cnidaria	Anthozoa	Alcyonacea	Primnoidae	<i>Thouarella</i>				GOC	1	THO
6567	88	BT	BYX	5/05/2022	CEE	-39.9	178.1	494	Cnidaria	Anthozoa	Alcyonacea	Primnoidae	<i>Thouarella</i>		NIWA 147180	6096	COB	1	THO
6567	88	BT	BYX	5/05/2022	CEE	-39.9	178.1	494	Cnidaria	Anthozoa	Alcyonacea	Primnoidae	<i>Thouarella</i>		NIWA 147180	6096	COB	0	THO
6557	14	BT	SQU	6/04/2022	SEC	-44	175.9		Cnidaria	Anthozoa	Alcyonacea	Primnoidae					GOR	1	PRI
6543	5	BT	ORH	19/03/2022	AKW	-34.7	171.7	988	Cnidaria	Anthozoa	Alcyonacea	Primnoidae	<i>Calyptrophora</i>				CTP	1	CTP
6543	10	BT	ORH	20/03/2022	AKW	-34.7	171.7	924	Cnidaria	Anthozoa	Alcyonacea	Primnoidae	<i>Calyptrophora</i>				CHR	1	CTP
6567	25	BT	ORH	14/04/2022	SEC	-42.9	173.8	1064	Cnidaria	Anthozoa	Alcyonacea						CBR	0	GOC
6567	26	BT	ORH	14/04/2022	SEC	-42.9	173.8	1121	Cnidaria	Anthozoa	Alcyonacea						CBR	1	SVA/GOC
6567	26	BT	ORH	14/04/2022	SEC	-42.9	173.8	1121	Cnidaria	Anthozoa	Alcyonacea						CBR	0	SVA/GOC
6567	26	BT	ORH	14/04/2022	SEC	-42.9	173.8	1121	Cnidaria	Anthozoa	Alcyonacea						CBR	1	GOC
6543	19	BT	ORH	21/03/2022	AKW	-34.7	171.6	920	Cnidaria	Anthozoa	Antipatharia	Leiopathidae	<i>Leiopathes</i>					1	LEI
6520	11	BLL	SNA	19/02/2022	AKE	-35.1	174.4	128	Cnidaria	Anthozoa	Antipatharia	Myriopathidae	<i>Antipathella</i>				DEN	1	AHL
6520	11	BLL	SNA	19/02/2022	AKE	-35.1	174.4	128	Cnidaria	Anthozoa	Antipatharia	Myriopathidae	<i>Antipathella</i>				DEN	0	AHL
6520	11	BLL	SNA	19/02/2022	AKE	-35.1	174.4	128	Cnidaria	Anthozoa	Antipatharia	Myriopathidae	<i>Antipathella</i>				DEN	0	AHL
6534	13	MW	SQU	20/02/2022	SEC	-43.5	175.1	181	Cnidaria	Anthozoa	Antipatharia	Myriopathidae	<i>Antipathella</i>				COB	1	AHL
6534	13	MW	SQU	20/02/2022	SEC	-43.5	175.1	181	Cnidaria	Anthozoa	Antipatharia	Myriopathidae	<i>Antipathella</i>				COB	0	AHL
6534	13	MW	SQU	20/02/2022	SEC	-43.5	175.1	181	Cnidaria	Anthozoa	Antipatharia	Myriopathidae	<i>Antipathella</i>				COB	0	AHL
6534	13	MW	SQU	20/02/2022	SEC	-43.5	175.1	181	Cnidaria	Anthozoa	Antipatharia	Myriopathidae	<i>Antipathella</i>				COB	0	AHL
6534	13	MW	SQU	20/02/2022	SEC	-43.5	175.1	181	Cnidaria	Anthozoa	Antipatharia	Myriopathidae	<i>Antipathella</i>				COB	0	AHL
6534	13	MW	SQU	20/02/2022	SEC	-43.5	175.1	181	Cnidaria	Anthozoa	Antipatharia	Myriopathidae	<i>Antipathella</i>				COB	0	AHL
6529	20	BLL	ATO	19/03/2022	ET	-55.1	234.3	1077	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	<i>Dendrobathypathes</i>				AQZ	1	DEN
6529	20	BLL	ATO	19/03/2022	ET	-55.1	234.3	1077	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	<i>Dendrobathypathes</i>				AQZ	0	DEN
6385	1	BT	ORH	10/08/2021	CET	-39.7	167.2	927	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	<i>Dendropathes</i>				COB	1	DDP
6385	15	BT	ORH	12/08/2021	CET	-39.7	167.2	930	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	<i>Dendropathes</i>				COB	1	DDP

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6530	25	BT	ORH	2/03/2022	SOE	-44.5	184.6	720	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	<i>Lillipathes</i>			COB	1	LIL	
6530	25	BT	ORH	2/03/2022	SOE	-44.5	184.6	720	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	<i>Lillipathes</i>			COB	0	LIL	
6385	16	BT	ORH	12/08/2021	CET	-39.8	167.2	963	Cnidaria	Anthozoa	Antipatharia	Schizopathidae	<i>Parantipathes</i>			COB	1	PTP	
6497	11	BT	HAK	30/12/2021	SUB	-49	166.6	540	Cnidaria	Anthozoa	Corallimorpharia				NIWA 147082	5981	CLM	1	CLM
6497	12	BT	HAK	30/12/2021	SUB	-49	166.7	560	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Desmophyllum</i>	<i>dianthus</i>	NIWA 147083	5982	ERO	1	DDI
6580	63	BT	SSO	3/06/2022	SEC	-44.8	174.3	915	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Goniocorella</i>	<i>dumosa</i>			GDU	1	GDU
6567	25	BT	ORH	14/04/2022	SEC	-42.9	173.8	1064	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Solenosmilia</i>	<i>variabilis</i>			CBR	1	SVA/GOC
6567	25	BT	ORH	14/04/2022	SEC	-42.9	173.8	1064	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Solenosmilia</i>	<i>variabilis</i>			CBR	0	SVA
6567	25	BT	ORH	14/04/2022	SEC	-42.9	173.8	1064	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Solenosmilia</i>	<i>variabilis</i>			CBR	1	SVA
6567	25	BT	ORH	14/04/2022	SEC	-42.9	173.8	1064	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Solenosmilia</i>	<i>variabilis</i>			CBR	1	SVA
6567	25	BT	ORH	14/04/2022	SEC	-42.9	173.8	1064	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Solenosmilia</i>	<i>variabilis</i>			CBR	1	SVA
6567	26	BT	ORH	14/04/2022	SEC	-42.9	173.8	1121	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Solenosmilia</i>	<i>variabilis</i>			CBR	1	SVA/GOC
6567	26	BT	ORH	14/04/2022	SEC	-42.9	173.8	1121	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Solenosmilia</i>	<i>variabilis</i>			CBR	0	SVA/GOC
6567	26	BT	ORH	14/04/2022	SEC	-42.9	173.8	1121	Cnidaria	Anthozoa	Scleractinia	Caryophylliidae	<i>Solenosmilia</i>	<i>variabilis</i>			CBR	0	SVA dead
6560	33	BT	HOK	6/04/2022	SOE	-44.3	182.4	530	Cnidaria	Anthozoa	Scleractinia	Flabellidae	<i>Flabellum</i>				COF	9	COF
6560	33	BT	HOK	6/04/2022	SOE	-44.3	182.4	530	Cnidaria	Anthozoa	Scleractinia	Flabellidae	<i>Flabellum</i>				COF	0	COF
6560	54	BT	HOK	12/04/2022	SEC	-43.2	174.5	515	Cnidaria	Anthozoa	Scleractinia	Flabellidae	<i>Flabellum</i>				COF	0	COF
6560	54	BT	HOK	12/04/2022	SEC	-43.2	174.5	515	Cnidaria	Anthozoa	Scleractinia	Flabellidae	<i>Flabellum</i>				COF	1	COF
6560	89	BT	HOK	23/04/2022	SEC	-43.9	174.6	508	Cnidaria	Anthozoa	Scleractinia	Flabellidae	<i>Flabellum</i>				COF	1	COF
6560	89	BT	HOK	23/04/2022	SEC	-43.9	174.6	508	Cnidaria	Anthozoa	Scleractinia	Flabellidae	<i>Flabellum</i>				COF	1	COF
6560	92	BT	HOK	24/04/2022	SEC	-44	174.7	504	Cnidaria	Anthozoa	Scleractinia	Flabellidae	<i>Flabellum</i>				COF	1	COF
6560	92	BT	HOK	24/04/2022	SEC	-44	174.7	504	Cnidaria	Anthozoa	Scleractinia	Flabellidae	<i>Flabellum</i>				COF	0	COF
6560	92	BT	HOK	24/04/2022	SEC	-44	174.7	504	Cnidaria	Anthozoa	Scleractinia	Flabellidae	<i>Flabellum</i>				COF	1	COF
6560	92	BT	HOK	24/04/2022	SEC	-44	174.7	504	Cnidaria	Anthozoa	Scleractinia	Flabellidae	<i>Flabellum</i>				COF	1	COF
6560	92	BT	HOK	24/04/2022	SEC	-44	174.7	504	Cnidaria	Anthozoa	Scleractinia	Flabellidae	<i>Flabellum</i>				COF	0	COF
6560	95	BT	HOK	24/04/2022	SEC	-43.8	174.6	512	Cnidaria	Anthozoa	Scleractinia	Flabellidae	<i>Flabellum</i>				COF	1	COF
6560	95	BT	HOK	24/04/2022	SEC	-43.8	174.6	512	Cnidaria	Anthozoa	Scleractinia	Flabellidae	<i>Flabellum</i>				COF	1	COF

trip_number	station_number	fishing_method	target_species	event_start_date	start_obs_fma	trunc_start_latitude	trunc_start_longitude	start_seabed_depth	Phylum	Class	Order	Family	Genus	Species	NIWA Cat. No.	OSD No.	Initial OBS ID Code	Specimen count	Expert ID Code
6578	31	BT	SQU	12/05/2022	SEC	-44.6	172.6	325	Cnidaria	Anthozoa	Scleractinia	Flabellidae	<i>Flabellum</i>			COF	1	COF	
6557	16	BT	SQU	7/04/2022	SOE	-44.3	176		Cnidaria	Anthozoa	Scleractinia	Flabellidae	<i>Flabellum</i>	<i>knoxi</i>	NIWA 147182	6010	COU	1	COF
6333	55	PRB	HOK	28/06/2021	SEC	-44	174.7	511	Cnidaria	Anthozoa	Scleractinia	Flabellidae	<i>Truncatoflabellum</i>	<i>angiostomum</i>	NIWA 146540	5388	COF	1	no code
6333	55	PRB	HOK	28/06/2021	SEC	-44	174.7	511	Cnidaria	Anthozoa	Scleractinia	Flabellidae	<i>Truncatoflabellum</i>	<i>angiostomum</i>	NIWA 146540	5388	COF	0	no code
6340	41	BT	ORH	12/07/2021	SOE	-42.7	182.1	818	Cnidaria	Anthozoa	Scleractinia	Oculinidae	<i>Madrepora</i>	<i>oculata</i>			ERO	1	MOC
6520	11	BLL	SNA	19/02/2022	AKE	-35.1	174.4	128	Cnidaria	Anthozoa	Scleractinia	Oculinidae	<i>Oculina</i>	<i>virgosa</i>			STL	1	OVI
6520	11	BLL	SNA	19/02/2022	AKE	-35.1	174.4	128	Cnidaria	Anthozoa	Scleractinia	Oculinidae	<i>Oculina</i>	<i>virgosa</i>			STL	0	OVI
6520	11	BLL	SNA	19/02/2022	AKE	-35.1	174.4	128	Cnidaria	Anthozoa	Scleractinia	Oculinidae	<i>Oculina</i>	<i>virgosa</i>			STL	0	OVI
6520	11	BLL	SNA	19/02/2022	AKE	-35.1	174.4	128	Cnidaria	Anthozoa	Scleractinia	Oculinidae	<i>Oculina</i>	<i>virgosa</i>			STL	0	OVI
6497	70	BT	SQU	13/02/2022	SOU	-47.7	166.6	170	Cnidaria	Hydrozoa	Leptothecata	Plumulariidae	<i>Nemertesia</i>	<i>pinnatifida</i>	NIWA 147096	5998	GOC	1	HDF
6557	4	BT	SQU	22/03/2022	SOU	-48	168.6	208	Cnidaria	Hydrozoa	Leptothecata	Zygophylacidae	<i>Cryptolaria</i>				GOR	1	CRT
6497	38	BT	SQU	19/01/2022	SOU	-48.8	166.8	250	Cnidaria	Hydrozoa	Leptothecata	Zygophylacidae	<i>Cryptolaria</i>	<i>prima</i>	NIWA 147075	5974	THO	1	CRT
6497	60	BT	SWA	1/02/2022	SOU	-48.6	167.7	140	Cnidaria	Hydrozoa	Leptothecata	Zygophylacidae	<i>Cryptolaria</i>	<i>prima</i>	NIWA 147093	5995	THO	1	CRT
6557	1	BT	SQU	21/03/2022	SOU	-48	168.5		Cnidaria	Hydrozoa							COU	1	HDR
6578	25	BT	SQU	7/05/2022	SOI	-49.6	167.1	240	Echinodermata	Echinoidea							CBB	0	TNE / ECN
6578	25	BT	SQU	7/05/2022	SOI	-49.6	167.1	240	Echinodermata	Echinoidea							CBB	0	TNE / ECN
6529	23	BLL	ATO	20/03/2022	ET	-55.2	234.1	1038	Echinodermata	Ophiuroidea	Euryalida	Euryalidae	<i>Ophiocreas</i>					1	OPC
6557	35	BT	SQU	17/04/2022	SOE	-44.1	176.1		Echinodermata	Ophiuroidea	Euryalida	Gorgonocephalidae	<i>Gorgonocephalus</i>	<i>chilensis</i>	NIWA 147184	6103	GOR	1	GOR
6543	19	BT	ORH	21/03/2022	AKW	-34.7	171.6	920	Echinodermata	Ophiuroidea	Euryalida	Gorgonocephalidae	<i>Gorgonocephalus</i>					0	GOR
6543	19	BT	ORH	21/03/2022	AKW	-34.7	171.6	920	Echinodermata	Ophiuroidea	Euryalida	Gorgonocephalidae	<i>Gorgonocephalus</i>					0	GOR
6578	25	BT	SQU	7/05/2022	SOI	-49.6	167.1	240	Mollusca	Bivalvia							CBB	0	TNE / BIV
6495	44	BT	ORH	3/01/2022	SOE	-44.1	185.4		Porifera	Hexactinellida	Sceptrulophora	Farreidae	<i>Farrea</i>				COU	1	FAR
6497	64	BT	SQU	9/02/2022	SOU	-47.8	166.8	160	Porifera	Hexactinellida	Sceptrulophora	Farreidae	<i>Farrea</i>					1	FAR
6406	47	BT	SQU	9/10/2021	SUB	-49.1	171.9	149	Porifera								COU	1	ISI/ONG
6505	54	BT	SQU	12/02/2022	SOU	-47.7	166.8	169	Porifera								COU	1	POL/ONG
6505	60	BT	SQU	15/02/2022	SOU	-47.7	166.6	174	Porifera								COU	4	ROK/ONG/ POL

trip_number	station_number	fishing_method	target_species	event_start_date	start_obs_fma	trunc_start_latitude	trunc_start_longitude	start_seabed_depth	Phylum	Class	Order	Family	Genus	Species	NIWA Cat. No.	OSD No.	Initial OBS ID Code	Specimen count	Expert ID Code
6505	60	BT	SQU	15/02/2022	SOU	-47.7	166.6	174	Porifera								COU	0	ROK/ONG/ POL
6533	106	BT	SQU	8/05/2022	SOI	-50.5	167.5	161	Porifera						NIWA 147196	6115	COU	1	ONG
6505	60	BT	SQU	15/02/2022	SOU	-47.7	166.6	174	Rock								COU	4	ROK/ONG/ POL
6505	60	BT	SQU	15/02/2022	SOU	-47.7	166.6	174	Rock								COU	0	ROK/ONG/ POL
6557	4	BT	SQU	22/03/2022	SOU	-48	168.6	208	Rock									1	COZ on ROK
6557	7	BT	SQU	25/03/2022	SOE	-44.2	176.1		Rock									1	POL on Rok
6557	7	BT	SQU	25/03/2022	SOE	-44.2	176.1		Rock									0	POL on Rok