
This is an observer data report prepared for the Orange Roughy Assessment of the Environmental Effects of Fishing Workshop August 2013 by Deepwater Group and the Ministry for Primary Industries.

1. Introduction

This report provides a summary of fish and invertebrate non-target catch data (including both retained and discarded species) collected by the Ministry for Primary Industries (MPI) observer programme from four bottom trawl target orange roughy fisheries over the five fishing years 1 October 2007 to 30 September 2012. The raw data are held in MPI's Conservation Observer Database (COD). Observers record vessel effort and catch information independent of vessel reporting as well as recording the catch of benthic material and collecting biological data. Observer data provides a much greater level of detail on everything brought aboard in the catch.

In this report, the term non-target catch refers to all species caught, whether retained or discarded from vessels target fishing for orange roughy unless indicated otherwise.

2. Methods

MPI observers are placed on commercial fishing vessels to collect data on catch and effort that is independent of vessel reporting. This report presents a summary of the most recent five years of observer data (2007-08 to 2011-12 fishing years) from four target orange roughy fisheries. These are ORH MEC (ORH2A, 2B and 3A combined), ORH7A (including Westpac Bank), ORH3B NW Rise and ORH3B E&S Rise. No data grooming has been undertaken to identify or correct any errors in the data. However non-biological material that may have been identified in the catch, such as rocks and plastics, is excluded from this report. Wood debris is also not included. However anything that has a marine biological origin, such as coral rubble is included in the report.

There may be errors as a result of miscoding, misidentification or other factors. The summaries provided here are in the form of sorted tables that list the MPI species code, scientific name, basic information on scientific classification (some species) and the legal status of each species observed together with the total observed catch weight and the number of years in the five years of observer data that a catch of that species was identified in the observed catch. The percentage of the total observed catch weight that the observed weight of each category or species comprises is also given.

Observers are present on only a proportion of fishing vessels. Thus, the non-target retained and discarded species data presented in this report represents a sample of the total catch from each orange roughy fishery. No attempt has been made to either scale up or to weight the data to correct for any sampling bias in the data set as a result of any variation between the distribution of observer coverage and the distribution or seasonality of commercial fishing effort. The tables may therefore not represent the true relative non-target retained and discarded species levels in the overall commercial fishery and should be considered as indicative only. However, where observer coverage is high, the data are likely to be more representative of the overall fishery than where observer coverage is low.

The primary value of the observer data presented here is to provide an indication of the relative level of non-target catch in each of the four individual orange roughy fisheries. To date, the published literature on non-target catch in orange roughy fisheries (see Anderson 2013, Anderson 2011, Anderson 2009, Anderson et al. 2001 and Clark et al. 2000) does not provide separate estimates of non-target catches by fishery and instead gives estimates on a New Zealand-wide basis. While the above published reports generally provide appropriate stratification to scale up the non-target catch and so give

more reliable estimates, they do not provide the level of detail required to determine the main non-target species in each of the four separate orange roughy fisheries. The published reports above may provide more accurate estimates of non-target catches overall but the tables in this data report are potentially more informative in identifying the main non-target species in the individual orange roughy fisheries. The two sources of information complement each other.

A series of tables is provided in this report for each of the four orange roughy fisheries that give the overall non-target retained and discarded species by fishery and type of organism to more detailed tables that list the individual species in each phylum or category. The observer data in the tables is also available by individual year in four Excel files that are available on request.

Protected species and species managed under the QMS are listed first in each table where relevant, followed by other species that are not protected or managed under the QMS. Within each category, species or kinds of organisms are listed in descending order of total observed weight.

All catch weights by species or type of organism are of raw data. Information on scientific classification and legal status has been added to the original observer data assist in interpretation of the information. This supplementary information may not be error free.

3. Results

3.1 ORH MEC

The total observed catch in the ORH MEC fishery (ORH2A, 2B and 3A combined) was 737.3 t for the five fishing years ending 30 September 2012. This was 9% of the total commercial catch (7,775.2 t) of all species caught by the target orange roughy fishery over the same period.

Table 1 gives the total observed catch and the non-target retained and discarded species catch by phyla or type of organism. Total observed non-target catch comprised 146 species or kinds of organisms totalling 168 t equal to 22.8% of the total observed catch (737.3 t).

Tables 2–9 give the observed non-target catch for each phylum respectively by species or by kind of organism where identification was not to species level.

3.2. ORH7A (including Westpac Bank)

There was no observed target orange roughy catch in 2007-08. The total observed catch in the target ORH7A was 1,165,656 t over the four fishing years from 1 October 2008 to 30 September 2012. This was 38% of the total commercial catch of all species (3,060,106 t) of all species caught by the target orange roughy fishery in the area over the same period.

Table 10 gives the total observed catch and the non-target retained and discarded species catch (kg) by phyla or type of organism. Total observed non-target catch comprised 191 species or kinds of organisms totalling 44.6 tonnes equal to 3.8% of the total observed catch of 1,165.6 tonnes.

Tables 11–18 give the observed non-target catch for each phylum respectively by species or by kind of organism where identification was not to species level.

3.3. ORH3B (NW Rise)

The total observed catch in the ORH3B (NW Rise) fishery was 1,152,109 t for the five fishing years ending 30 September 2012. This was 48% of the total commercial catch (2,409,561 t) of all species caught by the target orange roughy fishery in the area over the same period.

Table 19 gives the total observed catch and the non-target retained and discarded species catch by phyla or type of organism. Total observed non-target catch comprised 177 species or kinds of organisms totalling 244.5 t equal to 21.2% of the total observed catch (1,152.1 t).

Tables 20–27 give the observed non-target catch for each phylum respectively by species or by kind of organism where identification was not to species level.

3.4. ORH3B (E&S Rise)

The total observed catch in the ORH3B (E&S Rise) fishery was 18,102,001 t for the five fishing years ending 30 September 2012. This was 58% of the total commercial catch (31,333,310 t) of all species caught by the target orange roughy fishery in the area over the same period.

Table 28 gives the total observed catch and the non-target retained and discarded species catch by phyla or type of organism. Total observed non-target catch comprised 351 species or kinds of organisms totalling 4,491,294 t equal to 24.8% of the total observed catch (2,409.6 t).

Tables 29–36 give the observed non-target catch for each phylum respectively by species or by kind of organism where identification was not to species level.

4. References

Anderson, O.F. (2013). Fish and invertebrate bycatch in New Zealand deepwater fisheries from 1990–91 until 2010–11. New Zealand Aquatic Environment and Biodiversity Report No. 113. 57 p.

Anderson, O.F. (2011). Fish and invertebrate bycatch and discards in orange roughy and oreo fisheries from 1990–91 until 2008–09. New Zealand Aquatic Environment and Biodiversity Report No. 67. 60p.

Anderson, O.F. (2009). Fish discards and non-target fish catch in the New Zealand orange roughy trawl fishery, 1999–2000 to 2004–05. New Zealand Aquatic Environment and Biodiversity Report No.39. 40 p.

Anderson, O.F.; Gilbert, D.J.; Clark, M.R. (2001). Fish discards and non-target catch in the trawl fisheries for orange roughy and hoki in New Zealand waters for the fishing years 1990–91 to 1998–99. New Zealand Fisheries Assessment Report 2001/16. 57 p.

Clark, M.R.; Anderson, O.F.; Gilbert, D.J. (2000). Discards in trawl fisheries for southern blue whiting, orange roughy, hoki, and oreos in New Zealand waters. NIWA Technical Report 71. 73 p.

Table 1: ORH MEC - Observed non-target catch of target ORH fishery 2007-08 to 2011-12 fishing years by type of organism (total observed catch also given)

Type of organism	Number of species or kinds of organisms	kg	Non-target catch as % of total observed catch
Total observed catch		737,333	
<i>Observed non-target catch</i>			
Cnidaria	12	16	0.002%
Crustacea	13	246	0.033%
Echinoderms	14	82	0.011%
Teleosts (excluding ORH)	62	147,473	20.000%
Chondrichthyes	32	19,567	2.654%
Molluscs	8	626	0.085%
Porifera	3	3	0.000%
Other (unknown organism)	2	7	0.001%
Total	146	168,014	22.8%

Table 2: ORH MEC - Observed catch of Cnidaria in the target ORH fishery 2007-08 to 2011-12 fishing years

Species code	Order	Latin name	Common name	Family name	Legal status	Observed catch from target ORH tows (kg)	% by weight of total observed catch	Number of years species is present in observed catch
COU	Anthozoa (Class)	<i>Orders Alcyonacea, Gorgonacea, Scleractinia, Antipatharia & Family Stylasteridae</i>	Coral (Unidentified)		Protected	2.5	0.0003%	3
COB	Antipatharia	Antipatharia (Order)	Black corals	Antipathidae	Protected	2.3	0.0003%	2
BOO	Alcyonacea	<i>Keratoisis spp.</i>	Bamboo coral	Isididae	Protected	2.3	0.0003%	1
GOC	Gorgonacea	Gorgonacea (Order)	Gorgonian coral		Protected	2.1	0.0003%	2
GDU	Scleractinia	<i>Goniocorella dumosa</i>	Bushy hard coral	Caryophylliidae	Protected	1.7	0.0002%	2
LSE	Antipatharia	<i>Leiopathes secunda</i>	Leiopathes black coral	Leiopathidae	Protected	1.1	0.0001%	1
LLE	Alcyonacea	<i>Lepidisis spp.</i>	Bamboo coral	Isiidae	Protected	0.2	0.0000%	1
MTL	Alcyonacea	<i>Metallogorgia spp.</i>	Metallic coral	Chrysogorgiidae	Protected	0.2	0.0000%	1
HMT	Actiniaria	Hormathiidae (Family)	Warty deepsea anemones	Hormathiidae		2.1	0.0003%	2
ACS	Actiniaria	Actinostolidae (Family)	Smooth deepsea anemones	Actinostolidae		1.0	0.0001%	1
EPZ	Zoanthidea	<i>Epizoanthus spp.</i>	Epizoanthus spp.			0.2	0.0000%	2
JFI			Jellyfish (Unspecified)			0.1	0.0000%	1
Total observed catch 2007-08 to 2011-12						15.8	0.0021%	

Table 3: ORH MEC - Observed catch of Crustacea in the target ORH fishery 2007-08 to 2011-12 fishing years

Species code	Latin name	Common name	Common family name	Legal status	Observed catch from target ORH tows (kg)	% by weight of total observed catch	Number of years species is present in observed catch
KIC	<i>Lithodes murrayi</i> , <i>Neolithodes brodiei</i>	King crab	Deepwater king or stone crabs	QMS	120	0.0163%	5
NEB	<i>Neolithodes brodiei</i>	Brodie's king crab	Deepwater king or stone crabs	QMS	44	0.0060%	4
CHC	<i>Chaceon bicolour</i>	Red crab	Red crabs	QMS	19	0.0026%	2
LMU	<i>Lithodes murrayi</i>	Murray's king crab	Deepwater king or stone crabs	QMS	9	0.0012%	1
GSC	<i>Jacquiniotia edwardsii</i>	Giant spider crab	Spider crabs	QMS	3	0.0004%	1
PED	<i>Aristaeopsis edwardsiana</i>	Scarlet prawn	N/a	Non-QMS	5	0.0007%	1
VIT	<i>Vitjazmaia latidactyla</i>	Deep-sea spider crab	Spider crabs	Non-QMS	5	0.0007%	3
CRB		Crab (Unspecified)	N/a	Non-QMS	3	0.0004%	2
LLT	<i>Lithodes cf. longispinus</i>	Long-spined king crab	Deepwater king or stone crabs	Non-QMS	2	0.0003%	2
AFO	<i>Aristaeomorpha foliacea</i>	Royal red prawn	N/a	Non-QMS	1	0.0001%	1
PLY	<i>Polycheles spp.</i>	Deep-sea blind lobster	N/a	Non-QMS	1	0.0001%	1
PRA		Prawn (Unspecified)	N/a	Non-QMS	1	0.0001%	1
SPI		Spider crabs (Unspecified)	N/a	Non-QMS	1	0.0001%	1
Total observed catch 2007-08 to 2011-12					214	0.0290%	

Table 4: ORH MEC - Observed catch of Echinodermata in the target ORH fishery 2007-08 to 2011-12 fishing years

Species code	Latin name	Common name	Legal status	Observed catch from target ORH tows (kg)	% by weight of total observed catch	Number of years species is present in observed catch
SCC	<i>Stichopus mollis</i>	Sea cucumber	QMS	10	0.0014%	1
TAM	Echinothuriidae and Phormosomatidae (Families)	Tam O'Shanter urchins	Non-QMS	27	0.0036%	4
SFI	Asteroidea and Ophiuroidea (Classes)	Starfish	Non-QMS	15	0.0020%	3
HTH	Holothuroidea (Class)	Sea cucumber (other than <i>Stichopus mollis</i>)	Non-QMS	9	0.0012%	3
PKN	<i>Plutonaster knoxi</i>	Abyssal star	Non-QMS	6	0.0007%	1
ZOR	<i>Zoroaster spp.</i>	Rat-tail star	Non-QMS	5	0.0007%	3
ECT	Echinothuriidae (Family)	Echinothuriidae (family)	Non-QMS	2	0.0003%	1
GOU	<i>Goniocidaris umbraculum</i>	Umbrella urchin	Non-QMS	2	0.0003%	1
PSI	<i>Psilaster acuminatus</i>	Geometric star	Non-QMS	2	0.0003%	1
URO		Sea urchin other (except SUR - Kina)	Non-QMS	2	0.0003%	1
ECN		Echinoid (Sea Urchin)	Non-QMS	1	0.0001%	1
PNE	<i>Proserpinaster neozelanicus</i>	Proserpinaster neozelanicus	Non-QMS	1	0.0001%	1
DHO	<i>Dermechinus horridus</i>	Deepsea urchin	Non-QMS	0	0.0000%	1
GOR	<i>Gorgonocephalus spp.</i>	Gorgon's head basket-stars	Non-QMS	0	0.0000%	1
Total observed catch 2007-08 to 2011-12				82	0.0111%	

Table 5: ORH MEC - Observed catch of Teleost fishes in the target ORH fishery 2007-08 to 2011-12 fishing years

Species code	Latin name	Common name	Family name	Legal status	Observed catch from target ORH tows (kg)	% by weight of total observed catch	Number of years species is present in observed catch
BYS	<i>Beryx splendens</i>	Alfonsino	Berycidae	QMS	46,619	6.3227%	4
SSO	<i>Pseudocyttus maculatus</i>	Smooth oreo	Oreosomatidae	QMS	29,911	4.0566%	5
HOK	<i>Macruronus novaezelandiae</i>	Hoki	Merlucciidae	QMS	22,490	3.0502%	5
CDL	<i>Epigonus telescopus</i>	Cardinal fish	Apogonidae	QMS	8,743	1.1858%	5
BOE	<i>Allocyttus niger</i>	Black oreo	Oreosomatidae	QMS	8,291	1.1245%	4
SOR	<i>Neocyttus rhomboidalis</i>	Spiky oreo	Oreosomatidae	QMS	3,781	0.5128%	5
HAK	<i>Merluccius australis</i>	Hake	Merlucciidae	QMS	1,796	0.2436%	4
RIB	<i>Mora moro</i>	Ribaldo	Moridae	QMS	1,711	0.2321%	5
LIN	<i>Genypterus blacodes</i>	Ling	Ophidiidae	QMS	150	0.0203%	3
WOE	<i>Allocyttus verrucosus</i>	Warty oreo	Oreosomatidae	QMS	90	0.0122%	2
BNS	<i>Hyperoglyphe Antarctica</i>	Bluenose	Centrolophidae	QMS	88	0.0119%	2
SPE	<i>Helicolenus spp.</i>	Sea perch	Scorpaenidae	QMS	86	0.0117%	4
SKI	<i>Rexea spp.</i>	Gemfish	Gempylidae	QMS	49	0.0066%	2
LDO	<i>Cyttus traverse</i>	Lookdown dory	Zeidae	QMS	18	0.0024%	2

RBM	<i>Brama brama</i>	Ray's bream	Bramidae	QMS	10	0.0014%	2
BAS	<i>Polyprion americanus</i>	Bass	Polyprionidae	QMS	5	0.0007%	1
STA	<i>Kathetostoma spp.</i>	Giant stargazer	Uranoscopidae	QMS	5	0.0007%	1
RBY	<i>Plagiogeneion rubiginosum</i>	Rubyfish	Emmelichthyidae	QMS	5	0.0007%	1
SLK	Alepocephalidae (Family)	Slickhead	Alepocephalidae	Non-QMS	9,151	1.2411%	5
RAT	Macrouridae (Family)	Rattails	Macrouridae	Non-QMS	5,816	0.7888%	5
HJO	<i>Halargyreus johnsonii</i>	Johnson's cod	Moridae	Non-QMS	3,368	0.4568%	5
MOD	Moridae (Family)	Morids	Moridae	Non-QMS	2,148	0.2913%	4
BEE	<i>Diastobranchus capensis</i>	Basketwork eel	Synphobranchidae	Non-QMS	1,438	0.1950%	5
JAV	<i>Lepidorhynchus denticulatus</i>	Javelinfish	Macrouridae	Non-QMS	683	0.0926%	4
DWE		Deepwater eel (Unspecified)		Non-QMS	262	0.0355%	2
OFH	<i>Ruvettus pretiosus</i>	Oilfish	Gempylidae	Non-QMS	130	0.0176%	2
COD		Cod (Unspecified)		Non-QMS	113	0.0153%	1
CON	<i>Conger spp.</i>	Conger eel	Congridae	Non-QMS	93	0.0126%	2
SMC	<i>Lepidion microcephalus</i>	Small-headed cod	Moridae	Non-QMS	86	0.0117%	2
WGR	<i>Macrourus whitsoni</i>	Macrourus whitsoni	Macrouridae	Non-QMS	50	0.0068%	1
WHX	<i>Trachyrincus sp.</i>	Unicorn rattail	Macrouridae	Non-QMS	34	0.0046%	1
LAE	<i>Laemonema spp.</i>	Laemonema spp.	Moridae	Non-QMS	33	0.0045%	1

LEG	<i>Lepidion schmidti, L. inosimae</i>	Giant lepidion	Moridae	Non-QMS	25	0.0034%	1
TOA	<i>Neophrynichthys spp.</i>	Toadfish	Psychrolutidae	Non-QMS	23	0.0031%	3
VCO	<i>Antimora rostrate</i>	Violet cod	Moridae	Non-QMS	20	0.0027%	1
BBE	<i>Centriscops humerosus</i>	Banded bellowsfish	Macroramphosidae	Non-QMS	18	0.0024%	3
RHY	<i>Paratrachichthys trailli</i>	Common roughy	Trachichthyidae	Non-QMS	18	0.0024%	4
BEL	<i>Centriscops spp.</i>	Bellowsfish	Macroramphosidae	Non-QMS	16	0.0022%	1
PSY	<i>Psychrolutes sp.</i>	Blobfish	Psychrolutidae	Non-QMS	16	0.0022%	2
SBK	<i>Notacanthus sexspinis</i>	Spineback	Notacanthidae	Non-QMS	11	0.0015%	3
CAN	<i>Cataetyx niki</i>	Brown brotula	Bythitidae	Non-QMS	8	0.0011%	1
RUD	<i>Centrolophus niger</i>	Rudderfish	Centrolophidae	Non-QMS	6	0.0008%	2
SRH	<i>Hoplostethus mediterraneus</i>	Silver roughy	Trachichthyidae	Non-QMS	6	0.0008%	2
OSE	<i>Ophisurus serpens</i>	Snake eel	Ophichthidae	Non-QMS	5	0.0007%	1
SDL	<i>Scorpaena cardinalis</i>	Red rock cod	Scorpaenidae	Non-QMS	5	0.0007%	1
MDO	<i>Zenopsis nebulosa</i>	Mirror dory	Zeidae	Non-QMS	5	0.0007%	1
CHX	<i>Chaunax pictus</i>	Pink frogmouth	Chaunacidae	Non-QMS	4	0.0005%	3
BFE	<i>Bathysaurus ferox</i>	Deepsea lizardfish	Bathysauridae	Non-QMS	3	0.0004%	1
DIS	<i>Diretmus argenteus</i>	Discfish	Diretmidae	Non-QMS	3	0.0004%	1
FHD	<i>Hoplichthys haswelli</i>	Deepsea flathead	Hoplichthyidae	Non-QMS	3	0.0004%	2
PHO	<i>Photichthys argenteus</i>	Lighthouse fish	Photichthyidae	Non-QMS	3	0.0004%	2

WIT	<i>Arnoglossus scapha</i>	Witch	Bothidae	Non-QMS	2	0.0003%	1
TRI	<i>Bathypterois spp.</i>	Tripod fish	Chlorophthalmidae	Non-QMS	2	0.0003%	1
BCR	<i>Brotulotaenia crassa</i>	Blue cusk eel	Ophidiidae	Non-QMS	2	0.0003%	1
TOP	<i>Neophrynichthys angustus</i>	Pale toadfish	Psychrolutidae	Non-QMS	2	0.0003%	1
ZEL	<i>Zu elongatus</i>	Scalloped dealfish	Trachipteridae	Non-QMS	2	0.0003%	1
EPL	<i>Epigonus lenimen</i>	Cardinal fish, bigeye	Apogonidae	Non-QMS	1	0.0001%	1
EPT	<i>Epigonus telescopus</i>	Deepsea cardinalfish	Apogonidae	Non-QMS	1	0.0001%	1
CHF	<i>Cheimarrichthys fosteri</i>	Torrentfish	Cheimarrichthyidae	Non-QMS	1	0.0001%	1
SCO	<i>Bassanago bulbiceps</i>	Swollenhead conger	Congridae	Non-QMS	1	0.0001%	1
RSC	<i>Scorpaena papillosus</i>	Red scorpion fish	Scorpaenidae	Non-QMS	1	0.0001%	1
TRS	<i>Trachyscorpia capensis</i>	Cape scorpionfish	Scorpaenidae	Non-QMS	1	0.0001%	1
Total observed catch 2007-08 to 2011-12					147,467	20.0000%	

Table 6: ORH MEC - Observed catch of Chondrichthyes (sharks, skates, rays) in the target ORH fishery 2007-08 to 2011-12 fishing years

Species code	Latin name	Common name	Family name	Legal status	Observed catch from target ORH tows (kg)	% by weight of total observed catch	Number of years species is present in observed catch
GSP	<i>Hydrolagus bemisi</i>	Pale ghost shark	Chimaeridae	QMS	695	0.0943%	5
GSH	<i>Hydrolagus novaezealandiae</i>	Ghost shark	Chimaeridae	QMS	216	0.0293%	3
SSK	<i>Dipturus innominatus</i>	Smooth skate	Rajidae	QMS	32	0.0043%	2
SPD	<i>Squalus acanthias</i>	Spiny dogfish	Squalidae	QMS	2	0.0003%	1
SND	<i>Deania calcea</i>	Shovelnose dogfish	Centrophoridae	Non-QMS	5,893	0.7992%	5
BSH	<i>Dalatias licha</i>	Seal shark	Dalatiidae	Non-QMS	3,632	0.4926%	5
OSD	Selachii (Order)	Sharks & Dogfish not otherwise specified in Sch3,		Non-QMS	2,875	0.3899%	5
ETB	<i>Etmopterus baxteri</i>	Baxter's lantern dogfish	Squalidae	Non-QMS	2,117	0.2871%	5
LCH	<i>Harriotta raleighana</i>	Long-nosed chimaera	Rhinochimaeridae	Non-QMS	1,273	0.1726%	5
PLS	<i>Centroscyrnus plunketi</i>	Plunket's shark	Somniosidae	Non-QMS	1,045	0.1417%	3
DWD		Deepwater dogfish (Unspecified)		Non-QMS	531	0.0720%	2
ETL	<i>Etmopterus lucifer</i>	Lucifer dogfish	Squalidae	Non-QMS	322	0.0437%	3
CSQ	<i>Centrophorus squamosus</i>	Leafscale gulper shark	Centrophoridae	Non-QMS	167	0.0226%	3
CYP	<i>Centroscyrnus crepidater</i>	Longnose velvet dogfish	Squalidae	Non-QMS	155	0.0210%	4

CYO	<i>Centroscymnus owstoni</i>	Smooth skin dogfish	Squalidae	Non-QMS	150	0.0203%	3
SNR	<i>Deania hystrix</i>	Rough shovelnose dogfish	Centrophoridae	Non-QMS	111	0.0151%	1
CHI	<i>Chimaera spp.</i>	Chimaera spp.	Chimaeridae	Non-QMS	108	0.0146%	3
PSK	<i>Bathyraja shuntovi</i>	Longnosed deepsea skate	Rajidae	Non-QMS	56	0.0076%	3
IBR	<i>Isistius brasiliensis</i>	Cookiecutter shark	Dalatiidae	Non-QMS	45	0.0061%	2
RCH	<i>Rhinochimaera pacifica</i>	Widenosed chimaera	Rhinochimaeridae	Non-QMS	42	0.0057%	1
CHG	<i>Chimaera lignaria</i>	Purple chimaera	Chimaeridae	Non-QMS	28	0.0038%	1
OSK	Rajidae (Family)	Skate, Other	Rajidae	Non-QMS	17	0.0023%	3
PDG	<i>Oxynotus bruniensis</i>	Prickly dogfish	Oxynotidae	Non-QMS	10	0.0014%	1
APR	<i>Apristurus spp.</i>	Cat shark	Scyliorhinidae	Non-QMS	8	0.0011%	2
BTH	<i>Notoraja spp.</i>	Deepsea skates	Rajidae	Non-QMS	7	0.0009%	1
DSK	<i>Amblyraja hyperborea</i>	Deepwater spiny skate	Rajidae	Non-QMS	7	0.0009%	3
CHP	<i>Chimaera sp.</i>	Chimaera, purple	Chimaeridae	Non-QMS	6	0.0008%	1
ERA	<i>Torpedo fairchildi</i>	Electric ray	Torpedinidae	Non-QMS	6	0.0008%	1
CSH	Other than <i>Apristurus spp.</i>	Cat shark	Scyliorhinidae	Non-QMS	4	0.0005%	1
BTS	<i>Notoraja spinifera</i>	Notoraja spinifera	Rajidae	Non-QMS	3	0.0004%	1
RIS	<i>Bathyraja richardsoni</i>	Richardson's skate	Rajidae	Non-QMS	3	0.0004%	1
LSK	<i>Arhynchobatis asperimus</i>	Long-tailed skate	Rajidae	Non-QMS	1	0.0001%	1
Total observed catch 2007-08 to 2011-12					19,567	2.6538%	

Table 7: ORH MEC - Observed catch of Mollusca in the target ORH fishery 2007-08 to 2011-12 fishing years

Species code	Latin name	Common name	Legal status	Observed catch from target ORH tows (kg)	% by weight of total observed catch	Number of years species is present in observed catch
SQU	<i>Nototodarus sloanii, N. gouldi</i>	Arrow squid	QMS	7	0.0009%	3
WSQ	<i>Onykia spp.</i>	Warty squid	Non-QMS	562	0.0762%	5
GSQ	<i>Architeuthis sp.</i>	Giant squid	Non-QMS	30	0.0041%	1
VSQ	<i>Histioteuthis spp.</i>	Violet squid	Non-QMS	11	0.0015%	1
TSQ	<i>Todarodes filippovae</i>	Todarodes filippovae	Non-QMS	8	0.0011%	2
DWO	<i>Graneledone spp.</i>	Deepwater octopus	Non-QMS	6	0.0008%	2
NUD	Nudibranchia (Order)	Sea slug, Nudibranch	Non-QMS	1	0.0001%	1
SQX		Squid (Unspecified)	Non-QMS	1	0.0001%	1
Total observed catch 2007-08 to 2011-12				626	0.0849%	

Table 8: ORH MEC - Observed catch of Porifera in the target ORH fishery 2007-08 to 2011-12 fishing years

Species code	Latin name	Common name	Legal status	Observed catch from target ORH tows (kg)	% by weight of total observed catch	Number of years species is present in observed catch
ONG	Porifera (Phylum)	Sponges	Non-QMS	1.9	0.0003%	2
GLS	Hexactinellida (Class)	Glass sponges	Non-QMS	1.0	0.0001%	1
HYA	<i>Hyalascus sp.</i>	Floppy tubular sponge	Non-QMS	0.3	0.0000%	1
Total observed catch 2007-08 to 2011-12				3.2	0.0004%	

Table 9: ORH MEC - Other organisms observed in the target ORH fishery 2007-08 to 2011-12 fishing years

Species code	Latin name	Common name	Legal status	Observed catch from target ORH tows (kg)	% by weight of total observed catch	Number of years species is present in observed catch
UNI	<i>Unidentified fish</i>	Unidentified fish	Non-QMS	6	0.0008%	1
UNX	<i>All and any unidentified species</i>	All and any unidentified species	Non-QMS	1	0.0001%	1
Total observed catch 2007-08 to 2011-12				7.0	0.0009%	

Table 10: ORH7A - Observed non-target catch of target ORH fishery 2007-08 to 2011-12 fishing years by type of organism (total observed catch also given)

Type of organism	Number species or kinds of organisms	kg	Non-target catch as % of total observed catch
Total observed catch		1,165,656	
<i>Observed non-target catch</i>			
Cnidaria	9	141	0.012%
Crustacea	9	53	0.005%
Echinoderms	18	115	0.010%
Teleosts (excluding ORH)	102	22,395	1.922%
Chondrichthyes	31	21,238	1.822%
Molluscs	17	610	0.052%
Porifera	2	8	0.001%
Other	3	35	0.003%
Total (excluding non biological and non marine material)	191	44,595	3.8%

Table 11: ORH7A - Observed catch of Cnidaria in the target ORH fishery 2007-08 to 2011-12 fishing years

Species code	Order	Latin name	Common name	Family name	Legal status	Observed catch from target ORH tows (kg)	% by weight of total observed catch	Number of years species is present in observed catch
PMN	Anthozoa	<i>Primnoa spp.</i>	Primnoa spp.	Primnoidae	Protected	1.0	0.0001%	1
GOC	Gorgonacea	Gorgonacea (Order)	Gorgonian coral	Gorgonacea (Order)	Protected	0.2	0.0000%	1
COB	Antipatharia	Antipatharia (Order)	Black corals	Antipatharia (Order)	Protected	0.1	0.0000%	1
ISI	Gorgonacea	Isididae (Family)	Bamboo corals	Gorgonacea, Isididae	Protected	0.1	0.0000%	1
JFI	Scyphozoa (Class)	N/A	Jellyfish (Unspecified)	N/A		128.0	0.0110%	1
EPZ	Anthozoa (Class)	<i>Epizoanthus spp.</i>	Epizoanthus spp.	Epizoanthidae		7.6	0.0007%	3
COE	N/A	<i>Coelenterata</i>	Coelenterata	N/A		2.4	0.0002%	1
HMT	Anthozoa	Hormathiidae (Family)	Warty deepsea anemones	Hormathiidae		1.0	0.0001%	1
ACS	Actiniaria	Actinostolidae (Family)	Smooth deepsea anemones	Actinostolidae		0.6	0.0001%	1
Total observed catch 2007-08 to 2011-12						15.8	0.0121%	

Table 12: ORH7A - Observed catch of Crustacea in the target ORH fishery 2007-08 to 2011-12 fishing years

Species code	Latin name	Common name	Common family name	Legal status	Observed catch from target ORH tows (kg)	% by weight of total observed catch	Number of years species is present in observed catch
LMU	<i>Lithodes murrayi</i>	Murray's king crab	Deepwater king or stone crabs	QMS	3	0.0003%	1
NEB	<i>Neolithodes brodiei</i>	Brodie's king crab	Deepwater king or stone crabs	QMS	2	0.0002%	1
SPI	N/A	Spider crabs (Unspecified)		Non-QMS	26	0.0022%	1
LHO	<i>Lipkius holthuisi</i>	Omega prawn		Non-QMS	16	0.0014%	2
PRA	N/A	Prawn (Unspecified)		Non-QMS	2	0.0002%	2
PED	<i>Aristaeopsis edwardsiana</i>	Scarlet prawn		Non-QMS	1	0.0001%	1
PLY	<i>Polycheles spp.</i>	Deep-sea blind lobster		Non-QMS	1	0.0001%	1
SDM	<i>Sympagurus dimorphus</i>	Hermit crab		Non-QMS	1	0.0001%	1
VIT	<i>Vitjazmaia latidactyla</i>	Deep-sea spider crab	Spider crabs	Non-QMS	1	0.0001%	1
Total observed catch 2007-08 to 2011-12					53	0.0045%	

Table 13: ORH7A - Observed catch of Echinodermata in the target ORH fishery 2007-08 to 2011-12 fishing years

Species code	Latin name	Common name	Legal status	Observed catch from target ORH tows (kg)	% by weight of total observed catch	Number of years species is present in observed catch
EEX	<i>Enypniastes eximia</i>	Enypniastes eximia	Non-QMS	40	0.0034%	1
TAM	Echinothuriidae and Phormosomatidae (Families)	Tam O'Shanter urchins	Non-QMS	32	0.0027%	3
ZOR	<i>Zoroaster spp.</i>	Rat-tail star	Non-QMS	12	0.0010%	2
HTH	Holothuroidea (Class)	Sea cucumber (other than <i>Stichopus mollis</i>)	Non-QMS	7	0.0006%	3
PAO	<i>Pillsburiaster aoteanus</i>	Pillsburiaster aoteanus	Non-QMS	5	0.0004%	2
GOR	<i>Gorgonocephalus spp.</i>	Gorgon's head basket-stars	Non-QMS	2	0.0002%	2
BRG	Brisingida (Order)	Armless stars	Non-QMS	2	0.0002%	1
CJA	<i>Crossaster multispinus</i>	Sun-star	Non-QMS	2	0.0002%	1
HEC	<i>Henricia compacta</i>	Henricia compacta	Non-QMS	2	0.0002%	2
PKN	<i>Plutonaster knoxi</i>	Abyssal star	Non-QMS	2	0.0002%	2
PSI	<i>Psilaster acuminatus</i>	Geometric star	Non-QMS	2	0.0002%	2
DHO	<i>Dermechinus horridus</i>	Deepsea urchin	Non-QMS	1	0.0001%	1
DMG	<i>Dipsacaster magnificus</i>	Magnificent sea-star	Non-QMS	1	0.0001%	1
GRM	<i>Gracilechinus multidentatus</i>	Deepsea kina	Non-QMS	1	0.0001%	1

MSL	<i>Mediaster sladeni</i>	Sladen's star	Non-QMS	1	0.0001%	1
PAM	<i>Pannychia moseleyi</i>	Pannychia moseleyi	Non-QMS	1	0.0001%	1
SFI	<i>Astroidea and Ophiuroidea (Classes)</i>	Starfish	Non-QMS	1	0.0001%	1
SOT	<i>Solaster torulatus</i>	Chubby sun-star	Non-QMS	1	0.0001%	1
Total observed catch 2007-08 to 2011-12				115	0.0099%	

Table 14: ORH7A - Observed catch of Teleost fishes in the target ORH fishery 2007-08 to 2011-12 fishing years

Species code	Latin name	Common name	Family name	Legal status	Observed catch from target ORH tows (kg)	% by weight of total observed catch	Number of years species is present in observed catch
SOR	<i>Neocyttus rhomboidalis</i>	Spiky oreo	Oreosomatidae	QMS	12,936	1.1098%	4
RIB	<i>Mora moro</i>	Ribaldo	Moridae	QMS	2,757	0.2365%	4
HAK	<i>Merluccius australis</i>	Hake	Merlucciidae	QMS	1,056	0.0906%	4
HOK	<i>Macruronus novaezelandiae</i>	Hoki	Merlucciidae	QMS	784	0.0673%	4
CDL	<i>Epigonus telescopus</i>	Cardinal fish	Apogonidae	QMS	261	0.0224%	4
SPE	<i>Helicolenus spp.</i>	Sea perch	Scorpaenidae	QMS	70	0.0060%	2
SSO	<i>Pseudocyttus maculatus</i>	Smooth oreo	Oreosomatidae	QMS	66	0.0057%	4
SWA	<i>Seriolella punctata</i>	Silver warehou	Centrolophidae	QMS	27	0.0023%	4
LIN	<i>Genypterus blacodes</i>	Ling	Ophidiidae	QMS	6	0.0005%	1
WOE	<i>Allocyttus verrucosus</i>	Warty oreo	Oreosomatidae	QMS	5	0.0004%	1
BYS	<i>Beryx splendens</i>	Alfonsino	Berycidae	QMS	4	0.0003%	2
RBM	<i>Brama brama</i>	Ray's bream	Bramidae	QMS	4	0.0003%	2
STA	<i>Kathetostoma spp.</i>	Giant stargazer	Uranoscopidae	QMS	2	0.0002%	3
BOE	<i>Allocyttus niger</i>	Black oreo	Oreosomatidae	QMS	2	0.0002%	1
KIN	<i>Seriola lalandi</i>	Kingfish	Carangidae	QMS	1	0.0001%	2

HJO	<i>Halargyreus johnsonii</i>	Johnson's cod	Moridae	Non-QMS	881	0.0756%	1
WHX	<i>Trachyrincus sp.</i>	Unicorn rattail	Macrouridae	Non-QMS	847	0.0727%	4
RAT	Macrouridae (Family)	Rattails	Macrouridae	Non-QMS	630	0.0540%	4
BSL	<i>Xenodermichthys spp.</i>	Black slickhead	Alepocephalidae	Non-QMS	264	0.0226%	4
SBI	<i>Alepocephalus australis</i>	Bigscaled brown slickhead	Alepocephalidae	Non-QMS	206	0.0177%	4
EPT	<i>Epigonus telescopus</i>	Deepsea cardinalfish	Apogonidae	Non-QMS	194	0.0166%	3
SLK	Alepocephalidae (Family)	Slickhead	Alepocephalidae	Non-QMS	138	0.0118%	4
CSE	<i>Coryphaenoides serrulatus</i>	Serrulate rattail	Macrouridae	Non-QMS	118	0.0101%	3
TRS	<i>Trachyscorpia capensis</i>	Cape scorpionfish	Scorpaenidae	Non-QMS	118	0.0101%	3
CMA	<i>Coelorinchus matamua</i>	Mahia rattail	Macrouridae	Non-QMS	103	0.0088%	4
CSU	<i>Coryphaenoides subserrulatus</i>	Four-rayed rattail	Macrouridae	Non-QMS	86	0.0074%	3
SSM	<i>Alepocephalus antipodanus</i>	Smallscaled brown slickhead	Alepocephalidae	Non-QMS	79	0.0068%	3
BEE	<i>Diastobranchus capensis</i>	Basketwork eel	Synphobranchidae	Non-QMS	77	0.0066%	3
CIN	<i>Coelorinchus innotabilis</i>	Notable rattail	Macrouridae	Non-QMS	66	0.0057%	4
RUD	<i>Centrolophus niger</i>	Rudderfish	Centrolophidae	Non-QMS	52	0.0045%	3
JAV	<i>Lepidorhynchus denticulatus</i>	Javelinfish	Macrouridae	Non-QMS	52	0.0045%	4
MOD	Moridae (Family)	Morids	Moridae	Non-QMS	38	0.0033%	4

LEG	<i>Lepidion schmidti, L. inosimae</i>	Giant lepidion	Moridae	Non-QMS	30	0.0026%	1
DIS	<i>Diretmus argenteus</i>	Discfish	Diretmidae	Non-QMS	27	0.0023%	1
HPE	<i>Halosaurus pectoralis</i>	Common halosaur	Halosauridae	Non-QMS	26	0.0022%	3
TAL	<i>Talismania longifilis</i>	Talismania longifilis	Alepocephalidae	Non-QMS	24	0.0021%	3
CBA	<i>Coryphaenoides sp. b</i>	Coryphaenoides sp. b	Macrouridae	Non-QMS	24	0.0021%	4
SFN	<i>Diretmichthys parini</i>	Spinyfin	Diretmidae	Non-QMS	20	0.0017%	3
ROC	<i>Lotella rhacina</i>	Rock cod	Moridae	Non-QMS	17	0.0015%	2
WIT	<i>Arnoglossus scapha</i>	Witch	Bothidae	Non-QMS	16	0.0014%	1
SBK	<i>Notacanthus sexspinis</i>	Spineback	Notacanthidae	Non-QMS	15	0.0013%	1
SUH	<i>Schedophilus huttoni</i>	Schedophilus huttoni	Centrolophidae	Non-QMS	14	0.0012%	4
CHA	<i>Chauliodus sloani</i>	Viper fish	Chauliodontidae	Non-QMS	13	0.0011%	2
SCO	<i>Bassanago bulbiceps</i>	Swollenhead conger	Congridae	Non-QMS	13	0.0011%	2
TOP	<i>Neophrynichthys angustus</i>	Pale toadfish	Psychrolutidae	Non-QMS	13	0.0011%	3
CBO	<i>Coelorinchus bollonsi</i>	Bollons rattail	Macrouridae	Non-QMS	12	0.0010%	2
CMU	<i>Coryphaenoides murrayi</i>	Abyssal rattail	Macrouridae	Non-QMS	12	0.0010%	3
TUB	<i>Tubbia tasmanica</i>	Tubbia tasmanica	Centrolophidae	Non-QMS	12	0.0010%	3
WHR	<i>Trachyrincus longirostris</i>	White rattail	Macrouridae	Non-QMS	10	0.0009%	1
NBU	<i>Nezumia bubonis</i>	Bulbous rattail	Macrouridae	Non-QMS	8	0.0007%	1

SMC	<i>Lepidion microcephalus</i>	Small-headed cod	Moridae	Non-QMS	8	0.0007%	1
OAR	<i>Regalecus glesne</i>	Oarfish	Regalecidae	Non-QMS	8	0.0007%	3
DEA	<i>Trachipterus trachipterus</i>	Dealfish	Trachipteridae	Non-QMS	8	0.0007%	1
BAT	<i>Rouleina spp.</i>	Slickheads	Alepocephalidae	Non-QMS	7	0.0006%	2
CHX	<i>Chaunax pictus</i>	Pink frogmouth	Chaunacidae	Non-QMS	7	0.0006%	3
LPI	<i>Lepidion inosimae</i>	Giant lepidion	Moridae	Non-QMS	7	0.0006%	2
MST	Melanostomiidae (Family)	Scaleless black dragonfishes	Melanostomiidae	Non-QMS	7	0.0006%	2
HCO	<i>Bassanago hirsutus</i>	Hairy conger	Congridae	Non-QMS	6	0.0005%	2
HAL	<i>Halosaurus macrochir</i>	Abyssal halosaur	Halosauridae	Non-QMS	6	0.0005%	3
TRX	<i>Trachonurus sp.</i>	Velvet rattail	Macrouridae	Non-QMS	6	0.0005%	2
BCR	<i>Brotulotaenia crassa</i>	Blue cusk eel	Ophidiidae	Non-QMS	6	0.0005%	3
PHO	<i>Photichthys argenteus</i>	Lighthouse fish	Photichthyidae	Non-QMS	6	0.0005%	1
CFA	<i>Coelorinchus fasciatus</i>	Banded rattail	Macrouridae	Non-QMS	5	0.0004%	1
CHY	<i>Coelorinchus trachycarus</i>	Roughhead rattail	Macrouridae	Non-QMS	5	0.0004%	2
ABR	<i>Alepisaurus brevirostris</i>	Shortsnouted lancetfish	Alepisauridae	Non-QMS	4	0.0003%	2
SDE	<i>Cryptopsaras couesi</i>	Seadevil	Ceratiidae	Non-QMS	4	0.0003%	3
CON	<i>Conger spp.</i>	Conger eel	Congridae	Non-QMS	4	0.0003%	2
HIA	<i>Himantolophus appellii</i>	Prickly anglerfish	Himantolophidae	Non-QMS	4	0.0003%	1

CJX	<i>Coelorinchus mycterismus</i>	Upturned snout rattail	Macrouridae	Non-QMS	3	0.0003%	2
MAL	Malacosteidae (Family)	Loosejaws	Malacosteidae	Non-QMS	3	0.0003%	1
PSY	<i>Psychrolutes sp.</i>	Blobfish	Psychrolutidae	Non-QMS	3	0.0003%	2
RSC	<i>Scorpaena papillosus</i>	Red scorpion fish	Scorpaenidae	Non-QMS	3	0.0003%	3
MEN	<i>Melanostomias spp.</i>	Melanostomias spp.	Melanostomiidae	Non-QMS	3	0.0003%	2
FHD	<i>Hoplichthys haswelli</i>	Deepsea flathead	Hoplichthyidae	Non-QMS	2	0.0002%	1
BJA	<i>Mesobius antipodum</i>	Black javelinfish	Macrouridae	Non-QMS	2	0.0002%	1
CDX	<i>Coelorinchus maurofasciatus</i>	Dark banded rattail	Macrouridae	Non-QMS	2	0.0002%	1
LYC	<i>Lyconus sp.</i>	Lyconus sp.	Merlucciidae	Non-QMS	2	0.0002%	2
DCO	<i>Austrophycis marginata</i>	Dwarf cod	Moridae	Non-QMS	2	0.0002%	2
LAN	Myctophidae (Family)	Lanternfish	Myctophidae	Non-QMS	2	0.0002%	2
SUS	<i>Schedophilus sp.</i>	Schedophilus sp.	Centrolophidae	Non-QMS	2	0.0002%	1
AST	Astronesthinae (subfamily)	Snaggletooths	Astronesthinae	Non-QMS	1	0.0001%	1
BAN	<i>Borostomias antarcticus</i>	Borostomias antarcticus	Astronesthinae	Non-QMS	1	0.0001%	1
BFE	<i>Bathysaurus ferox</i>	Deepsea lizardfish	Bathysauridae	Non-QMS	1	0.0001%	1
FAN	<i>Pterycombus petersii</i>	Fanfish	Bramidae	Non-QMS	1	0.0001%	1
TAS	<i>Taractes asper</i>	Rough pomfret	Bramidae	Non-QMS	1	0.0001%	1
LLL	<i>Lophotus lacepede</i>	Crested oarfish, Crestfish	Lophotidae	Non-QMS	1	0.0001%	1
CCR	<i>Cetonurus crassiceps</i>	Globosehead rattail	Macrouridae	Non-QMS	1	0.0001%	1

CKA	<i>Coelorinchus kaiyomaru</i>	Kaiyomaru rattail	Macrouridae	Non-QMS	1	0.0001%	1
CTR	<i>Coryphaenoides striatura</i>	Abyssal rattail	Macrouridae	Non-QMS	1	0.0001%	1
CXH	<i>Coelorinchus horribilis</i>	Horrible rattail	Macrouridae	Non-QMS	1	0.0001%	1
GAO	<i>Gadomus aoteanus</i>	Filamentous rattail	Macrouridae	Non-QMS	1	0.0001%	1
NPU	<i>Kuronezumia leonis</i>	Kuronezumia leonis	Macrouridae	Non-QMS	1	0.0001%	1
MEL	<i>Melanonus gracilis</i>	Melanonus gracilis	Melanonidae	Non-QMS	1	0.0001%	1
AVO	<i>Avocettina spp.</i>	Black snipe eel	Nemichthyidae	Non-QMS	1	0.0001%	1
NET	<i>Nettastoma parviceps</i>	Duckbill eel	Nettastomatidae	Non-QMS	1	0.0001%	1
BCA	<i>Magnisudis prionosa</i>	Barracudina	Paralepididae	Non-QMS	1	0.0001%	1
SAW	<i>Serrivomer spp.</i>	Sawtooth eels	Serrivomeridae	Non-QMS	1	0.0001%	1
AGI	<i>Argyropelecus gigas</i>	Giant hatchetfish	Sternoptychidae	Non-QMS	1	0.0001%	1
SYN	Synphobranchidae (Family)	Cutthroat eels (except Basketwork eels)	Synphobranchidae	Non-QMS	1	0.0001%	1
SRH	<i>Hoplostethus mediterraneus</i>	Silver roughy	Trachichthyidae	Non-QMS	1	0.0001%	1
RAG	<i>Icichthys australis</i>	Ragfish	Centrolophidae	Non-QMS	1	0.0001%	1
OMI	<i>Opostomias micripnus</i>	Opostomias micripnus	Melanostomiidae	Non-QMS	1	0.0001%	1
Total observed catch 2007-08 to 2011-12					22,395	1.9212%	

Table 15: ORH7A - Observed catch of Chondrichthyes (sharks, skates, rays) in the target ORH fishery 2007-08 to 2011-12 fishing years

Species code	Latin name	Common name	Family name	Legal status	Observed catch from target ORH tows (kg)	% by weight of total observed catch	Number of years species is present in observed catch
GSP	<i>Hydrolagus bemisi</i>	Pale ghost shark	Chimaeridae	QMS	146	0.0125%	4
GSH	<i>Hydrolagus novaezealandiae</i>	Ghost shark	Chimaeridae	QMS	16	0.0014%	3
BWS	<i>Prionace glauca</i>	Blue shark	Carcharhinidae	QMS	11	0.0009%	1
SSK	<i>Dipturus innominatus</i>	Smooth skate	Rajidae	QMS	7	0.0006%	1
SPD	<i>Squalus acanthias</i>	Spiny dogfish	Squalidae	QMS	3	0.0003%	1
RSK	<i>Zearaja nasuta</i>	Rough skate	Rajidae	QMS	1	0.0001%	1
OSD	Selachii (Order)	Sharks & Dogfish not otherwise specified in Sch3, Part2 Reporting Regs 2001		Non-QMS	9,059	0.7772%	2
CSQ	<i>Centrophorus squamosus</i>	Leafscale gulper shark	Centrophoridae	Non-QMS	4,659	0.3997%	4
SND	<i>Deania calcea</i>	Shovelnose dogfish	Centrophoridae	Non-QMS	1,761	0.1511%	4
CYO	<i>Centroscymnus owstoni</i>	Smooth skin dogfish	Squalidae	Non-QMS	1,656	0.1421%	4
PLS	<i>Centroscymnus plunketi</i>	Plunket's shark	Somniosidae	Non-QMS	1,109	0.0951%	3
BSH	<i>Dalatias licha</i>	Seal shark	Dalatiidae	Non-QMS	984	0.0844%	4
CYP	<i>Centroscymnus crepidater</i>	Longnose velvet dogfish	Squalidae	Non-QMS	594	0.0510%	4
RCH	<i>Rhinochimaera pacifica</i>	Widenosed chimaera	Rhinochimaeridae	Non-QMS	521	0.0447%	4

ETB	<i>Etmopterus baxteri</i>	Baxter's lantern dogfish	Squalidae	Non-QMS	263	0.0226%	4
CYL	<i>Centroscymnus coelolepis</i>	Potuguese dogfish	Squalidae	Non-QMS	261	0.0224%	4
LCH	<i>Harriotta raleighana</i>	Long-nosed chimaera	Rhinochimaeridae	Non-QMS	81	0.0069%	4
DSK	<i>Amblyraja hyperborea</i>	Deepwater spiny skate	Rajidae	Non-QMS	30	0.0026%	1
SSH	<i>Gollum attenuatus</i>	Slender smooth-hound	Pseudotriakidae	Non-QMS	22	0.0019%	1
PSK	<i>Bathyraja shuntovi</i>	Longnosed deepsea skate	Rajidae	Non-QMS	11	0.0009%	1
ETL	<i>Etmopterus lucifer</i>	Lucifer dogfish	Squalidae	Non-QMS	10	0.0009%	3
APR	<i>Apristurus spp.</i>	Cat shark	Scyliorhinidae	Non-QMS	8	0.0007%	3
CHI	<i>Chimaera spp.</i>	Chimaera spp.	Chimaeridae	Non-QMS	5	0.0004%	1
ERA	<i>Torpedo fairchildi</i>	Electric ray	Torpedinidae	Non-QMS	5	0.0004%	1
ETP	<i>Etmopterus pusillus</i>	Etmopterus pusillus	Squalidae	Non-QMS	4	0.0003%	1
BTH	<i>Notoraja spp.</i>	Deepsea skates	Rajidae	Non-QMS	3	0.0003%	1
CHP	<i>Chimaera sp.</i>	Chimaera, purple	Chimaeridae	Non-QMS	2	0.0002%	1
FRS	<i>Chlamydoselachus anguineus</i>	Frill shark	Chlamydoselachidae	Non-QMS	2	0.0002%	1
BTS	<i>Notoraja spinifera</i>	Notoraja spinifera	Rajidae	Non-QMS	2	0.0002%	2
CSH	<i>Other than Apristurus spp.</i>	Cat shark	Scyliorhinidae	Non-QMS	1	0.0001%	1
BTA	<i>Notoraja asperula</i>	Notoraja asperula	Rajidae	Non-QMS	1	0.0001%	1
Total observed catch 2007-08 to 2011-12					21,238	1.8220%	



Table 16: ORH7A - Observed catch of Mollusca in the target ORH fishery 2007-08 to 2011-12 fishing years

Species code	Latin name	Common name	Legal status	Observed catch from target ORH tows (kg)	% by weight of total observed catch	Number of years species is present in observed catch
NOS	<i>Nototodarus sloanii</i>	NZ Southern arrow squid	QMS	1	0.0001%	1
SQX	N/A	Squid (Unspecified)	Non-QMS	168	0.0144%	4
PSQ	<i>Pholidoteuthis boschmai</i>	Pholidoteuthis boschmai	Non-QMS	146	0.0125%	4
VSQ	<i>Histioteuthis spp.</i>	Violet squid	Non-QMS	138	0.0118%	4
OSQ	Octopoteuthiidae (Family)	Octopoteuthiidae	Non-QMS	37	0.0032%	1
TSQ	<i>Todarodes filippovae</i>	Todarodes filippovae	Non-QMS	33	0.0028%	4
MRQ	<i>Onykia robsoni</i>	Warty squid	Non-QMS	29	0.0025%	2
MIQ	<i>Onykia ingens</i>	Warty squid	Non-QMS	16	0.0014%	3
WSQ	<i>Onykia spp.</i>	Warty squid	Non-QMS	13	0.0011%	2
OCT	<i>Pinnoctopus cordiformis</i>	Octopus	Non-QMS	9	0.0008%	1
LSQ	<i>Lycoteuthis lorigera</i>	Lycoteuthis lorigera	Non-QMS	6	0.0005%	1
BNO	<i>Benthoctopus spp.</i>	Benthoctopus spp.	Non-QMS	5	0.0004%	2
OPI	<i>Opisthoteuthis spp.</i>	Umbrella octopus	Non-QMS	4	0.0003%	2
OCP	N/A	Octopod	Non-QMS	2	0.0002%	1

GAS	Gastropoda (Class)	Gastropods	Non-QMS	1	0.0001%	1
RSQ	<i>Ommastrephes bartrami</i>	Ommastrephes bartrami	Non-QMS	1	0.0001%	1
CHQ	Cranchiidae (Family)	Cranchiid squid	Non-QMS	1	0.0001%	1
Total observed catch 2007-08 to 2011-12				610	0.0523%	

Table 17: ORH7A - Observed catch of Porifera in the target ORH fishery 2007-08 to 2011-12 fishing years

Species code	Latin name	Common name	Legal status	Observed catch from target ORH tows (kg)	% by weight of total observed catch	Number of years species is present in observed catch
GLS	Hexactinellida (Class)	Glass sponges	Non-QMS	5.0	0.0004%	1
ONG	Porifera (Phylum)	Sponges	Non-QMS	3.0	0.0003%	1
Total observed catch 2007-08 to 2011-12				8	0.0007%	

Table 18: ORH7A - Other organisms observed in the target ORH fishery 2007-08 to 2011-12 fishing years

Species code	Latin name	Common name	Legal status	Observed catch from target ORH tows (kg)	% by weight of total observed catch	Number of years species is present in observed catch
UNI	<i>Unidentified fish</i>	Unidentified fish	Non-QMS	24.0	0.0021%	3
SAL	<i>Zoo & Phytoplankton</i>	Salps	Non-QMS	10.0	0.0009%	2
PDL	<i>Priapulida</i>	Penis worm	Non-QMS	1.0	0.0001%	1
Total observed catch 2007-08 to 2011-12				35	0.0030%	

Table 19: ORH3B (NW Rise) - Observed non-target catch of target ORH fishery 2007-08 to 2011-12 fishing years by type of organism (total observed catch also given)

Type of organism	Number of species or kinds of organisms	kg	Non-target catch as % of total observed catch
Total observed catch		1,152,109	
<i>Observed non-target catch</i>			
Cnidaria	20	2,242	0.247%
Crustacea	13	118	0.013%
Echinoderms	26	2,098	0.231%
Teleosts (excluding ORH)	64	186,251	20.522%
Chondrichthyes	31	49,609	5.466%
Molluscs	14	4,155	0.458%
Porifera	3	27	0.003%
Other	6	45	0.005%
Total (excluding non biological and non marine material)	177	244,545	21.2%

Table 20: ORH3B (NW Rise) - Observed catch of Cnidaria in the target ORH fishery 2007-08 to 2011-12 fishing years

Species code	Order	Latin name	Common name	Family name	Legal status	Observed catch from target ORH tows (kg)	% by weight of total observed catch	Number of years species is present in observed catch
SIA	Scleratinia	Scleractinia (Order)	Stony corals		Protected	514.0	0.0446%	1
STP	Scleratinia	<i>Stephanocyathus platypus</i>	Solitary bowl coral	Caryophylliidae	Protected	9.1	0.0008%	2
GDU	Scleratinia	<i>Goniocorella dumosa</i>	Bushy hard coral	Caryophylliidae	Protected	7.0	0.0006%	2
COU	Anthozoa (Class)	Orders Alcyonacea, Gorgonacea, Scleractinia, Antipatharia & Family Stylasteridae	Coral (Unidentified)		Protected	6.0	0.0005%	1
SVA	Scleratinia	<i>Solenosmilia variabilis</i>	Deepwater branching coral	Caryophylliidae	Protected	5.8	0.0005%	3
LSE	Antipatharia	<i>Leiopathes secunda</i>	Leiopathes black coral	Leiopathidae	Protected	4.0	0.0003%	1
CAY	Scleratinia	<i>Caryophyllia spp.</i>	Caryophyllia spp.	Caryophylliidae	Protected	2.0	0.0002%	1
COB	Antipatharia	Antipatharia (Order)	Black corals		Protected	1.0	0.0002%	1
MOC	Scleratinia	<i>Madrepora oculata</i>	Madrepora coral	Oculinidae	Protected	1.0	0.0001%	1
THO	Alcyonacea	<i>Thouarella spp.</i>	Bottlebrush coral	Primnoidae	Protected	1.0	0.0001%	1
DDI	Scleratinia	<i>Desmophyllum dianthus</i>	Crested cup coral	Caryophylliidae	Protected	2.0	0.0001%	2
JFI		N/A	Jellyfish (Unspecified)			1,414.0	0.1227%	3

ACS	Actiniaria	Actinostolidae (Family)	Smooth deepsea anemones	Actinostolidae		211.0	0.0183%	2
ANT	Anthozoa (Class)	Actiniaria, Ceriantharia, Corallimorpharia & Zoanthidea (Orders)	Anemones			35.3	0.0031%	3
EPZ		<i>Epizoanthus spp.</i>	Epizoanthus spp.			14.4	0.0012%	1
CBB		N/A	Coral rubble			5.0	0.0004%	1
CBD		N/A	Coral rubble - dead			5.0	0.0004%	2
HMT		Hormathiidae (Family)	Warty deepsea anemones			2.5	0.0002%	1
HDF		Order Leptomeduseae & Order Anthoathecatae excluding family Stylasteridae.	Feathery hydroids			1.0	0.0001%	1
SPN		N/A	Sea pen			0.7	0.0001%	1
Total observed catch 2007-08 to 2011-12						2,241.8	0.1946%	

Table 21: ORH3B (NW Rise) - Observed catch of Crustacea in the target ORH fishery 2007-08 to 2011-12 fishing years

Species code	Latin name	Common name	Common family name	Legal status	Observed catch from target ORH tows (kg)	% by weight of total observed catch	Number of years species is present in observed catch
KIC	<i>Lithodes murrayi</i> , <i>Neolithodes brodiei</i>	King crab	Deepwater king or stone crabs	QMS	66	0.0058%	3
NEB	<i>Neolithodes brodiei</i>	Brodie's king crab	Deepwater king or stone crabs	QMS	18	0.0016%	3
LMU	<i>Lithodes murrayi</i>	Murray's king crab	Deepwater king or stone crabs	QMS	7	0.0007%	1
CRA	<i>Jasus edwardsii</i>	Spiny red rock lobster		QMS	1	0.0007%	1
PRA	N/A	Prawn (Unspecified)		Non-QMS	8	0.0006%	2
PLY	<i>Polycheles spp.</i>	Deep-sea blind lobster		Non-QMS	8	0.0003%	2
PTA	<i>Pasiphaea aff. tarda</i>	Deepwater prawn		Non-QMS	3	0.0002%	2
SPI	N/A	Spider crabs (Unspecified)		Non-QMS	2	0.0001%	1
CRB	N/A	Crab (Unspecified)		Non-QMS	1	0.0001%	1
VIT	<i>Vitjazmaia latidactyla</i>	Deep-sea spider crab		Non-QMS	1	0.0001%	1
PED	<i>Aristaeopsis edwardsiana</i>	Scarlet prawn		Non-QMS	1	0.0001%	1
MYS	N/A	Mysid		Non-QMS	1	0.0001%	1
NAU	<i>Notostomus auriculatus</i>	Notostomus auriculatus		Non-QMS	1	0.0001%	1
Total observed catch 2007-08 to 2011-12					118	0.0103%	

Table 22: ORH3B (NW Rise) - Observed catch of Echinodermata in the target ORH fishery 2007-08 to 2011-12 fishing years

Species code	Latin name	Common name	Legal status	Observed catch from target ORH tows (kg)	% by weight of total observed catch	Number of years species is present in observed catch
SFI	Asteroidea and Ophiuroidea (Classes)	Starfish	Non-QMS	532	0.0462%	3
HTH	Holothuroidea (Class)	Sea cucumber (other than Stichopus mollis)	Non-QMS	492	0.0427%	3
TAM	Echinothuriidae and Phormosomatidae (Families)	Tam O'Shanter urchins	Non-QMS	417	0.0362%	4
BRG	Brisingida (Order)	Armless stars	Non-QMS	162	0.0141%	3
OPH	Ophiuroidea (Class)	Brittle stars, basket stars	Non-QMS	160	0.0139%	3
EEX	<i>Enypniastes eximia</i>	Enypniastes eximia	Non-QMS	127	0.0110%	2
GRM	<i>Gracilechinus multidentatus</i>	Deepsea kina	Non-QMS	121	0.0105%	3
PMO	<i>Pseudostichopus mollis</i>	Pseudostichopus mollis	Non-QMS	19	0.0016%	1
ASR	Asteroidea (Class)	Sea stars	Non-QMS	12	0.0010%	1
ZOR	<i>Zoroaster spp.</i>	Rat-tail star	Non-QMS	12	0.0010%	2
HTR	<i>Hippasteria phrygiana</i>	Trojan star	Non-QMS	11	0.0010%	1
BHE	<i>Bathypectinura heros</i>	Deepsea brittle star	Non-QMS	6	0.0005%	1
ECN	N/A	Echinoid (Sea Urchin)	Non-QMS	5	0.0004%	1
PSI	<i>Psilaster acuminatus</i>	Geometric star	Non-QMS	3	0.0003%	2

DHO	<i>Dermechinus horridus</i>	Deepsea urchin	Non-QMS	3	0.0003%	2
PAO	<i>Pillsburiaster aoteanus</i>	Pillsburiaster aoteanus	Non-QMS	3	0.0003%	1
PKN	<i>Plutonaster knoxi</i>	Abyssal star	Non-QMS	2	0.0002%	1
GPA	<i>Goniocidaris parasol</i>	Parasol urchin	Non-QMS	2	0.0002%	1
CPA	<i>Ceramaster patagonicus</i>	Pentagon star	Non-QMS	2	0.0002%	1
SPT	<i>Spatangus multispinus</i>	Purple-heart urchin	Non-QMS	1	0.0001%	1
ECT	Echinothuriidae (family)	Echinothuriidae (family)	Non-QMS	1	0.0001%	1
AWA	<i>Astrothorax waitei</i>	Waite's snake-star	Non-QMS	1	0.0001%	1
CRN	N/A	Sea lily, Stalked crinoid	Non-QMS	1	0.0001%	1
DMG	<i>Dipsacaster magnificus</i>	Magnificent sea-star	Non-QMS	1	0.0001%	1
GOR	<i>Gorgonocephalus spp.</i>	Gorgon's head basket-stars	Non-QMS	1	0.0001%	1
RGR	<i>Radiaster gracilis</i>	Radiaster gracilis	Non-QMS	1	0.0001%	1
Total observed catch 2007-08 to 2011-12				2,098	0.1821%	

Table 23: ORH3B (NW Rise) - Observed catch of Teleost fishes in the target ORH fishery 2007-08 to 2011-12 fishing years

Species code	Latin name	Common name	Family name	Legal status	Observed catch from target ORH tows (kg)	% by weight of total observed catch	Number of years species is present in observed catch
HOK	<i>Macruronus novaezelandiae</i>	Hoki	Merlucciidae	QMS	56,203	4.8783%	4
SSO	<i>Pseudocyttus maculatus</i>	Smooth oreo	Oreosomatidae	QMS	30,214	3.4468%	4
HAK	<i>Merluccius australis</i>	Hake	Merlucciidae	QMS	6,410	2.6225%	3
CDL	<i>Epigonus telescopus</i>	Cardinal fish	Apogonidae	QMS	1,097	1.8878%	4
RIB	<i>Mora moro</i>	Ribaldo	Moridae	QMS	426	1.1894%	3
BOE	<i>Allocyttus niger</i>	Black oreo	Oreosomatidae	QMS	248	0.5564%	4
WOE	<i>Allocyttus verrucosus</i>	Warty oreo	Oreosomatidae	QMS	136	0.5426%	2
SOR	<i>Neocyttus rhomboidalis</i>	Spiky oreo	Oreosomatidae	QMS	65	0.4300%	3
SPE	<i>Helicolenus spp.</i>	Sea perch	Scorpaenidae	QMS	13	0.2376%	2
BYS	<i>Beryx splendens</i>	Alfonsino	Berycidae	QMS	10	0.0952%	2
LDO	<i>Cyttus traversi</i>	Lookdown dory	Zeidae	QMS	7	0.0753%	3
FLA	N/A	Flatfish		QMS	7	0.0370%	2
STA	<i>Kathetostoma spp.</i>	Giant stargazer	Uranoscopidae	QMS	5	0.0292%	1
BYX	<i>Beryx splendens, B. decadactylus</i>	Alfonsino & Long-finned beryx	Berycidae	QMS	1	0.0281%	1

RAT	Macrouridae (Family)	Rattails	Macrouridae	Non-QMS	39,711	0.0215%	4
SLK	Alepocephalidae (Family)	Slickhead	Alepocephalidae	Non-QMS	21,750	0.0139%	4
MOD	Moridae (Family)	Morids	Moridae	Non-QMS	13,703	0.0118%	4
HJO	<i>Halargyreus johnsonii</i>	Johnson's cod	Moridae	Non-QMS	6,251	0.0087%	4
BEE	<i>Diastobranchus capensis</i>	Basketwork eel	Synphobranchidae	Non-QMS	4,954	0.0078%	4
CSU	<i>Coryphaenoides subserrulatus</i>	Four-rayed rattail	Macrouridae	Non-QMS	2,737	0.0077%	2
VCO	<i>Antimora rostrata</i>	Violet cod	Moridae	Non-QMS	868	0.0069%	3
TOA	<i>Neophrynichthys spp.</i>	Toadfish	Psychrolutidae	Non-QMS	336	0.0056%	2
JAV	<i>Lepidorhynchus denticulatus</i>	Javelinfish	Macrouridae	Non-QMS	324	0.0049%	3
EEL	N/A	Eels, Marine (Unspecified)		Non-QMS	160	0.0043%	1
LFI	<i>Lissocampus filum</i>	Shortsnout pipefish	Syngnathidae	Non-QMS	100	0.0028%	1
DWE	N/A	Deepwater eel (Unspecified)		Non-QMS	90	0.0017%	1
CON	<i>Conger spp.</i>	Conger eel	Congridae	Non-QMS	89	0.0011%	3
SBK	<i>Notacanthus sexspinis</i>	Spineback	Notacanthidae	Non-QMS	80	0.0009%	3
WIT	<i>Arnoglossus scapha</i>	Witch	Bothidae	Non-QMS	56	0.0009%	2
LAE	<i>Laemonema spp.</i>	Laemonema spp.	Moridae	Non-QMS	50	0.0008%	1
GGL	<i>Guttigadus globosus</i>	Tadpole cod	Moridae	Non-QMS	32	0.0006%	1

TOP	<i>Neophrynichthys angustus</i>	Pale toadfish	Psychrolutidae	Non-QMS	20	0.0006%	1
OFH	<i>Ruvettus pretiosus</i>	Oilfish	Gempylidae	Non-QMS	10	0.0006%	1
UNI	N/A	Unidentified fish		Non-QMS	9	0.0005%	3
MST	Melanostomiidae (Family)	Scaleless black dragonfishes	Melanostomiidae	Non-QMS	7	0.0005%	1
EPL	<i>Epigonus lenimen</i>	Cardinal fish, bigeye	Apogonidae	Non-QMS	6	0.0004%	3
BAC	<i>Bathygadus cottoides</i>	Codheaded rattail	Macrouridae	Non-QMS	6	0.0004%	1
BGR	<i>Bathysauropsis gracilis</i>	Black lizardfish	Chlorophthalmidae	Non-QMS	5	0.0004%	1
CHX	<i>Chaunax pictus</i>	Pink frogmouth	Chaunacidae	Non-QMS	5	0.0003%	2
DIS	<i>Diretmus argenteus</i>	Discfish	Diretmidae	Non-QMS	4	0.0003%	1
SDE	<i>Cryptopsaras couesi</i>	Seadevil	Ceratiidae	Non-QMS	4	0.0003%	1
SCO	<i>Bassanago bulbiceps</i>	Swollenhead conger	Congridae	Non-QMS	3	0.0003%	2
DEA	<i>Trachipterus trachipterus</i>	Dealfish	Trachipteridae	Non-QMS	3	0.0003%	1
PHO	<i>Photichthys argenteus</i>	Lighthouse fish	Photichthyidae	Non-QMS	3	0.0003%	1
RAG	<i>Icichthys australis</i>	Ragfish	Centrolophidae	Non-QMS	3	0.0003%	1
LAT	<i>Alepisaurus ferox</i>	Lancetfish	Alepisauridae	Non-QMS	3	0.0003%	1
BSL	<i>Xenodermichthys spp.</i>	Black slickhead	Alepocephalidae	Non-QMS	3	0.0002%	2
HCO	<i>Bassanago hirsutus</i>	Hairy conger	Congridae	Non-QMS	2	0.0002%	1
SFN	<i>Diretmichthys parini</i>	Spinyfin	Diretmidae	Non-QMS	2	0.0002%	1

ANO	<i>Anoplogaster cornuta</i>	Fangtooth	Anoplogastridae	Non-QMS	2	0.0002%	2
IDI	<i>Idiacanthus spp.</i>	Idiacanthus spp.	Stomiidae	Non-QMS	2	0.0002%	1
HAT	Sternoptychidae (Family)	Hatchetfish	Sternoptychidae	Non-QMS	2	0.0002%	1
SDR	<i>Solegnathus spinosissimus</i>	Spiny Seadragon	Syngnathidae	Non-QMS	2	0.0002%	1
CSE	<i>Coryphaenoides serrulatus</i>	Serrulate rattail	Macrouridae	Non-QMS	2	0.0001%	1
BCR	<i>Brotulotaenia crassa</i>	Blue cusk eel	Ophidiidae	Non-QMS	1	0.0001%	1
CCO	<i>Coelorinchus cookianus</i>	Cooks rattail	Macrouridae	Non-QMS	1	0.0001%	1
CST	<i>Caristius sp.</i>	Manefish	Caristiidae	Non-QMS	1	0.0001%	1
CHA	<i>Chauliodus sloani</i>	Viper fish	Chauliodontidae	Non-QMS	1	0.0001%	1
NET	<i>Nettastoma parviceps</i>	Duckbill eel	Nettastomatidae	Non-QMS	1	0.0001%	1
RUD	<i>Centrolophus niger</i>	Rudderfish	Centrolophidae	Non-QMS	1	0.0001%	1
NEX	Nemichthyidae (Family)	Snipe eels	Nemichthyidae	Non-QMS	1	0.0001%	1
PAL	Paralepididae (Family)	Barracudinas	Paralepididae	Non-QMS	1	0.0001%	1
SMC	<i>Lepidion microcephalus</i>	Small-headed cod	Moridae	Non-QMS	1	0.0001%	1
CMA	<i>Coelorinchus matamua</i>	Mahia rattail	Macrouridae	Non-QMS	1	0.0001%	1
Total observed catch 2007-08 to 2011-12					186,251	16.1661%	

Table 24: ORH3B (NW Rise) - Observed catch of Chondrichthyes (sharks, skates, rays) in the target ORH fishery 2007-08 to 2011-12 fishing years

Species code	Latin name	Common name	Family name	Legal status	Observed catch from target ORH tows (kg)	% by weight of total observed catch	Number of years species is present in observed catch
GSP	<i>Hydrolagus bemisi</i>	Pale ghost shark	Chimaeridae	QMS	1,464	1.1204%	4
GSH	<i>Hydrolagus novaezealandiae</i>	Ghost shark	Chimaeridae	QMS	991	0.7092%	3
RSK	<i>Zearaja nasuta</i>	Rough skate	Rajidae	QMS	29	0.5694%	2
SSK	<i>Dipturus innominatus</i>	Smooth skate	Rajidae	QMS	22	0.4819%	1
ETB	<i>Etmopterus baxteri</i>	Baxter's lantern dogfish	Squalidae	Non-QMS	12,908	0.2710%	4
DWD	N/A	Deepwater dogfish (Unspecified)		Non-QMS	8,171	0.1895%	3
LCH	<i>Harriotta raleighana</i>	Long-nosed chimaera	Rhinochimaeridae	Non-QMS	6,560	0.1568%	3
OSD	Selachii (Order)	Sharks & Dogfish not otherwise specified in Sch3, Part2 Reporting Regs 2001		Non-QMS	5,552	0.1443%	3
PLS	<i>Centroscyrnus plunketi</i>	Plunket's shark	Somniosidae	Non-QMS	3,122	0.1271%	4
CYO	<i>Centroscyrnus owstoni</i>	Smooth skin dogfish	Squalidae	Non-QMS	2,183	0.1076%	4
BSH	<i>Dalatias licha</i>	Seal shark	Dalatiidae	Non-QMS	1,807	0.0860%	4
SND	<i>Deania calcea</i>	Shovelnose dogfish	Centrophoridae	Non-QMS	1,662	0.0694%	3
CYP	<i>Centroscyrnus crepidater</i>	Longnose velvet dogfish	Squalidae	Non-QMS	1,240	0.0496%	4

SOM	<i>Somniosus rostratus</i>	Little sleeper shark	Somniosidae	Non-QMS	800	0.0340%	1
CSQ	<i>Centrophorus squamosus</i>	Leafscale gulper shark	Centrophoridae	Non-QMS	572	0.0310%	4
BTH	<i>Notoraja spp.</i>	Deepsea skates	Rajidae	Non-QMS	392	0.0288%	3
CHI	<i>Chimaera spp.</i>	Chimaera spp.	Chimaeridae	Non-QMS	357	0.0281%	3
CYL	<i>Centroscymnus coelolepis</i>	Potuguese dogfish	Squalidae	Non-QMS	332	0.0270%	1
OSK	Rajidae (Family)	Skate, Other	Rajidae	Non-QMS	324	0.0238%	2
SCM	<i>Scymnodon macracanthus</i>	Roughskin dogfish	Squalidae	Non-QMS	311	0.0209%	2
PSK	<i>Bathyraja shuntovi</i>	Longnosed deepsea skate	Rajidae	Non-QMS	274	0.0067%	3
RCH	<i>Rhinochimaera pacifica</i>	Widenosed chimaera	Rhinochimaeridae	Non-QMS	241	0.0036%	1
APR	<i>Apristurus spp.</i>	Cat shark	Scyliorhinidae	Non-QMS	77	0.0034%	4
CHP	<i>Chimaera sp.</i>	Chimaera, purple	Chimaeridae	Non-QMS	42	0.0030%	2
DSK	<i>Amblyraja hyperborea</i>	Deepwater spiny skate	Rajidae	Non-QMS	39	0.0030%	1
RAY	Torpedinidae, Narkidae, Dasyatidae, Myliobatidae, Mobulidae (Families)	Rays		Non-QMS	35	0.0025%	1
CHG	<i>Chimaera lignaria</i>	Purple chimaera	Chimaeridae	Non-QMS	35	0.0022%	2
FRS	<i>Chlamydoselachus anguineus</i>	Frill shark	Chlamydoselachidae	Non-QMS	25	0.0019%	2
PDG	<i>Oxynotus bruniensis</i>	Prickly dogfish	Oxynotidae	Non-QMS	19	0.0016%	2
LSK	<i>Arhynchobatis asperimus</i>	Long-tailed skate	Rajidae	Non-QMS	15	0.0013%	1

ERA	<i>Torpedo fairchildi</i>	Electric ray	Torpedinidae	Non-QMS	8	0.0007%	2
Total observed catch 2007-08 to 2011-12					49,609	4.3059%	

Table 25: ORH3B (NW Rise) - Observed catch of Mollusca in the target ORH fishery 2007-08 to 2011-12 fishing years

Species code	Latin name	Common name	Legal status	Observed catch from target ORH tows (kg)	% by weight of total observed catch	Number of years species is present in observed catch
SQU	<i>Nototodarus sloanii, N. gouldi</i>	Arrow squid	QMS	12	0.2606%	2
WSQ	<i>Onykia spp.</i>	Warty squid	Non-QMS	3,002	0.0885%	4
MIQ	<i>Onykia ingens</i>	Warty squid	Non-QMS	1,020	0.0044%	2
DWO	<i>Graneledone spp.</i>	Deepwater octopus	Non-QMS	51	0.0015%	2
FMA	<i>Fusitriton magellanicus</i>	Fusitriton magellanicus	Non-QMS	17	0.0011%	1
VSQ	<i>Histioteuthis spp.</i>	Violet squid	Non-QMS	13	0.0010%	2
SQX	N/A	Squid (Unspecified)	Non-QMS	8	0.0007%	2
PSQ	<i>Pholidoteuthis boschmai</i>	Pholidoteuthis boschmai	Non-QMS	8	0.0007%	1
WHE	N/A	Whelks	Non-QMS	7	0.0006%	1
RSQ	<i>Ommastrephes bartrami</i>	Ommastrephes bartrami	Non-QMS	6	0.0005%	1
GAS	Gastropoda (Class)	Gastropods	Non-QMS	5	0.0004%	1
BNO	<i>Benthoctopus spp.</i>	Benthoctopus spp.	Non-QMS	2	0.0002%	1
GVO	<i>Provocator mirabilis</i>	Golden volute	Non-QMS	2	0.0002%	1
TSQ	<i>Todarodes filippovae</i>	Todarodes filippovae	Non-QMS	2	0.0002%	1
Total observed catch 2007-08 to 2011-12				4,155	0.3606%	

Table 26: ORH3B (NW Rise) - Observed catch of Porifera in the target ORH fishery 2007-08 to 2011-12 fishing years

Species code	Latin name	Common name	Legal status	Observed catch from target ORH tows (kg)	% by weight of total observed catch	Number of years species is present in observed catch
HYA	<i>Hyalascus sp.</i>	Floppy tubular sponge	Non-QMS	14	0.0012%	1
ONG	Porifera (Phylum)	Sponges	Non-QMS	12	0.0010%	1
GLS	Hexactinellida (Class)	Glass sponges	Non-QMS	1	0.0001%	1
Total observed catch 2007-08 to 2011-12				27	0.0023%	

Table 27: ORH3B (NW Rise) - Other organisms observed in the target ORH fishery 2007-08 to 2011-12 fishing years

Species code	Latin name	Common name	Legal status	Observed catch from target ORH tows (kg)	% by weight of total observed catch	Number of years species is present in observed catch
UNX	N/A	All and any unidentified species	Non-QMS	30	0.0026%	1
KBL	<i>Durvillea spp.</i>	Bull kelp	Non-QMS	10	0.0001%	1
PHA	Phaeophyta (Phylum)	Brown seaweed	Non-QMS	2	0.0009%	1
ASC	Ascidiacea (Class)	Solitary and colonial sea squirts	Non-QMS	1	0.0002%	1
INV	N/A	Invertebrate (Unknown)	Non-QMS	1	0.0001%	1
SEO	N/A	Seaweed	Non-QMS	1	0.0001%	1
Total observed catch 2007-08 to 2011-12				45	0.0039%	

Table 28: ORH3B (E&S Rise) - Observed non-target catch of target ORH fishery 2007-08 to 2011-12 fishing years by type of organism (total observed catch also given)

Type of organism	Number of species or kinds of organisms	kg	Non-target catch as % of total observed catch
Total observed catch		18,102,001	
<i>Observed non-target catch</i>			
Cnidaria	50	37,840	0.278%
Crustacea	28	5,420	0.040%
Echinoderms	38	6,682	0.049%
Teleosts (excluding ORH)	143	3,830,595	28.144%
Chondrichthyes	51	570,882	4.194%
Molluscs	25	38,852	0.285%
Porifera	6	742	0.005%
Other	10	281	0.002%
Total (excluding non biological and non marine material)	351	4,491,294	33.0%

Table 29: ORH3B(E&S Rise) - Observed catch of Cnidaria in the target ORH fishery 2007-08 to 2011-12 fishing years

Species code	Order	Latin name	Common name	Family name	Legal status	Observed catch from target ORH tows (kg)	% by weight of total observed catch	Number of years species is present in observed catch
GDU	Scleractinia	<i>Goniocorella dumosa</i>	Bushy hard coral	Caryophylliidae	Protected	5,219.7	0.0288%	4
SIA	Scleractinia	<i>Scleractinia (Order)</i>	Stony corals	Scleractinia (Order)	Protected	3,853.1	0.0213%	3
MOC	Scleractinia	<i>Madrepora oculata</i>	Madrepora coral	Oculinidae	Protected	3,683.9	0.0204%	3
DDI	Scleractinia	<i>Desmophyllum dianthus</i>	Crested cup coral	Caryophylliidae	Protected	3,455.8	0.0191%	3
ERO	Scleractinia	<i>Enallopsammia rostrata</i>	Deepwater branching coral	Dendrophylliidae	Protected	2,825.2	0.0156%	4
SVA	Scleractinia	<i>Solenosmilia variabilis</i>	Deepwater branching coral	Caryophylliidae	Protected	2,408.6	0.0133%	4
COU	Anthozoa (Class)	Orders Alcyonacea, Gorgonacea, Scleractinia, Antipatharia & Family Stylasteridae	Coral (Unidentified)		Protected	1,379.7	0.0076%	4
PAB	Alcyonacea	<i>Paragorgia arborea</i>	Bubblegum coral	Paragorgiidae	Protected	137.7	0.0008%	3
STP	Scleractinia	<i>Stephanocyathus platypus</i>	Solitary bowl coral	Caryophylliidae	protected	67.2	0.0004%	3
COB	Antipatharia	Antipatharia (Order)	Black corals		Protected	60.9	0.0003%	4
ISI	Gorgonacea	Isididae (Family)	Bamboo corals	Isididae	Protected	51.5	0.0003%	4
PMN	Alcyonacea	<i>Primnoa spp.</i>	Primnoa spp.	Primnoidae	Protected	27.9	0.0002%	2
BOO	Alcyonacea	<i>Keratoisis spp.</i>	Bamboo coral	Isididae	Protected	24.8	0.0001%	3

BTP	Antipatharia	Bathypathes spp.	Bathypathes spp.	Schizopathidae	Protected	23.2	0.0001%	2
CUP	Scleratinia	Families Flabellidae & Fungiacyathidae & some spp. in family Caryophyllidae	Stony cup corals	Scleratinia (Order)	Protected	11.7	0.0001%	2
CBR	Scleratinia	Families Dendrophylliidae & Oculinidae & some spp. in family Caryophyllidae	Stony branching corals	Scleratinia (Order)	Protected	11.5	0.0001%	3
GOC	Gorgonacea	Gorgonacea (Order)	Gorgonian coral	Gorgonacea (Order)	Protected	9.0	0.0001%	2
CAY	Scleratinia	Caryophyllia spp.	Caryophyllia spp.	Caryophyllidae	Protected	6.6	0.0000%	3
LSE	Antipatharia	<i>Leiopathes secunda</i>	Leiopathes black coral	Leiopathidae	Protected	6.4	0.0000%	2
CRE	Anthoathecata	<i>Calyptopora reticulata</i>	White hydrocoral	Stylasteridae	Protected	4.6	0.0000%	3
LEI	Antipatharia	<i>Leiopathes spp.</i>	Leiopathes spp.	Leiopathidae	Protected	2.8	0.0000%	2
THO	Alcyonacea	<i>Thouarella spp.</i>	Bottlebrush coral	Primnoidae	Protected	2.7	0.0000%	3
CTP	Anthoathecata	<i>Calyptrophora spp.</i>	<i>Calyptrophora spp.</i>	Stylasteridae	Protected	2.4	0.0000%	2
COR	Stylasteridae	Stylasteridae (Family)	Hydrocorals	Stylasteridae	Protected	2.3	0.0000%	1
PRI	Alcyonacea	<i>Primnoidae (Family)</i>	Primnoidae (Family)	Primnoidae	Protected	2.1	0.0000%	3
LLE	Alcyonacea	<i>Lepidisis spp.</i>	Bamboo coral	Isiidae	Protected	1.0	0.0000%	2
CHR	Alcyonacea	<i>Chrysogorgia spp.</i>	Golden corals	Chrysogorgiidae	Protected	0.8	0.0000%	3
PTP	Antipatharia	<i>Parantipathes spp.</i>	Parantipathes spp.	Schizopathidae	Protected	0.8	0.0000%	1
CLL	Alcyonacea	<i>Corallium spp.</i>	Precious corals	Coralliidae	Protected	0.7	0.0000%	1
CIR	Antipatharia	<i>Cirripathes spp.</i>	Whip corals	Antipathidae	Protected	0.3	0.0000%	2

LPT	Anthothecata	<i>Lepidotheca spp.</i>	Spiny white hydrocorals	Stylasteridae	Protected	0.2	0.0000%	2
CBB		N/A	Coral rubble		Possibly includes protected species	12,130.0	0.0670%	2
ACS	Actiniaria	Actinostolidae (Family)	Smooth deepsea anemones	Actinostolidae		1,440.8	0.0080%	4
ANT	Actiniaria, Ceriantharia, Corallimorpharia & Zoanthidea (Orders)	Actiniaria, Ceriantharia, Corallimorpharia & Zoanthidea (Orders)	Anemones			430.1	0.0024%	3
JFI		N/A	Jellyfish (Unspecified)			208.1	0.0011%	2
CBD		N/A	Coral rubble - dead			128.0	0.0007%	2
EPZ	Zoanthidea	Epizoanthus spp.	Epizoanthus spp.	Epizoanthidae		106.0	0.0006%	4
HMT	Actiniaria	Hormathiidae (Family)	Warty deepsea anemones	Hormathiidae		73.8	0.0004%	3
SOC	Alcyonacea	Alcyonacea (Order)	Soft coral	Alcyonacea (Order)		10.2	0.0000%	1
TLO	Alcyonacea	<i>Telesto spp.</i>	Long polyp soft corals	Clavulariidae		8.3	0.0000%	1
ATR		Actiniaria (Order)	Sea anemones			7.3	0.0000%	3
PNN	Pennatulacea	Pennatula spp.	Purple sea pen	Pennatulidae		5.4	0.0000%	3
HDR	Hydrozoa	Hydrozoa (Class)	Hydroids			1.5	0.0000%	2
PTU	Pennatulacea	<i>Pennatulacea (Order)</i>	Sea pens	Pennatulidae		1.4	0.0000%	1
BOC	Actiniaria	<i>Bolocera spp.</i>	Deepsea anemones	Actiniidae		1.2	0.0000%	2

GYS	Pennatulacea	Gyrophyllum sibogae	Siboga sea pen	Pennatulidae		1.0	0.0000%	1
LIP	Actiniaria	<i>Liponema spp.</i>	Deepsea anemones	Liponemidae		1.0	0.0000%	1
HDF	Order Leptomeduseae & Order Anthoathecatae excluding family Stylasteridae.	<i>Order Leptomeduseae & Order Anthoathecatae excluding family Stylasteridae.</i>	Feathery hydroids			0.3	0.0000%	1
SPN	Pennatulacea	N/A	Sea pen	Pennatulidae		0.2	0.0000%	1
SCY		<i>Scyphozoa (Class)</i>	Scyphozoa - Jellyfish			0.1	0.0000%	1
Total observed catch 2007-08 to 2011-12						37,839.5	0.2090%	

Table 30: ORH3B(E&S Rise) - Observed catch of Crustacea in the target ORH fishery 2007-08 to 2011-12 fishing years

Species code	Latin name	Common name	Common family name	Legal status	Observed catch from target ORH tows (kg)	% by weight of total observed catch	Number of years species is present in observed catch
NEB	<i>Neolithodes brodiei</i>	Brodie's king crab	Deepwater king or stone crabs	QMS	3,120	0.0172%	3
KIC	<i>Lithodes murrayi</i> , <i>Neolithodes brodiei</i>	King crab	Deepwater king or stone crabs	QMS	1,057	0.0058%	4
LMU	<i>Lithodes murrayi</i>	Murray's king crab	Deepwater king or stone crabs	QMS	80	0.0004%	3
CHC	<i>Chaceon bicolor</i>	Red crab	Red crabs	QMS	4	0.0000%	2
PYC	<i>Pycnogonida</i> (Class)	Sea spiders	N/A	Non-QMS	862	0.0048%	1
VIT	<i>Vitjazmaia latidactyla</i>	Deep-sea spider crab	Spider crabs	Non-QMS	168	0.0009%	5
CRB	N/A	Crab (Unspecified)	N/A	Non-QMS	37	0.0002%	4
PLY	<i>Polycheles spp.</i>	Deep-sea blind lobster	N/A	Non-QMS	26	0.0001%	3
ENE	<i>Elthusa neocyttta</i>	Gill biter	N/A	Non-QMS	9	0.0001%	1
DIR	<i>Diacanthurus rubricatus</i>	Hermit crab	N/A	Non-QMS	7	0.0000%	1
LLT	<i>Lithodes cf. longispinus</i>	Long-spined king crab	Deepwater king or stone crabs	Non-QMS	7	0.0000%	2
SDM	<i>Sympagurus dimorphus</i>	Hermit crab	N/A	Non-QMS	6	0.0000%	2
HOO	<i>Homola orientalis</i>	Carrier crab	Homolid crabs	Non-QMS	5	0.0000%	1
PRA	N/A	Prawn (Unspecified)	N/A	Non-QMS	5	0.0000%	1
SMK	<i>Teratomaia richardsoni</i>	Spiny masking crab	Spider crabs	Non-QMS	5	0.0000%	1

SPI	N/A	Spider crabs (Unspecified)	N/A	Non-QMS	5	0.0000%	1
PTM	<i>Platymaia maoria</i>	Dell's spider crab	Spider crabs	Non-QMS	3	0.0000%	2
BRN	<i>Cirripedia (Class)</i>	Barnacle	N/A	Non-QMS	2	0.0000%	2
NAT	N/A	Natant Decapod	N/A	Non-QMS	2	0.0000%	1
PED	<i>Aristaeopsis edwardsiana</i>	Scarlet prawn	N/A	Non-QMS	2	0.0000%	2
PTA	<i>Pasiphaea aff. tarda</i>	Deepwater prawn	N/A	Non-QMS	2	0.0000%	1
ELP	<i>Elthusa propinqua</i>	Gill biter	N/A	Non-QMS	1	0.0000%	1
GAT	<i>Gastroptychus spp.</i>	Gastroptychus spp.	N/A	Non-QMS	1	0.0000%	1
NEC	<i>Nematocarcinus spp.</i>	Spider prawns	N/A	Non-QMS	1	0.0000%	1
NEI	<i>Gnathophausia ingens</i>	Giant red mysid	N/A	Non-QMS	1	0.0000%	1
PDA	<i>Paralomis dawsoni</i>	Warty king crab	Deepwater king or stone crabs	Non-QMS	1	0.0000%	1
YSP	<i>Yaldwynopsis spinimana</i>	Yaldwyn's crab	Homolid crabs	Non-QMS	1	0.0000%	1
NAU	<i>Notostomus auriculatus</i>	Notostomus auriculatus	N/A	Non-QMS	0	0.0000%	1
Total observed catch 2007-08 to 2011-12					5,420	0.0299%	

Table 31: ORH3B(E&S Rise) - Observed catch of Echinodermata in the target ORH fishery 2007-08 to 2011-12 fishing years

Species code	Latin name	Common name	Legal status	Observed catch from target ORH tows (kg)	% by weight of total observed catch	Number of years species is present in observed catch
HTH	Holothuroidea (Class)	Sea cucumber (other than <i>Stichopus mollis</i>)	Non-QMS	3319	0.0183%	5
BRG	Brisingida (Order)	Armless stars	Non-QMS	1032	0.0057%	4
TAM	Echinothuriidae and Phormosomatidae (Families)	Tam O'Shanter urchins	Non-QMS	838	0.0046%	4
SFI	Asteroidea and Ophiuroidea (Classes)	Starfish	Non-QMS	612	0.0034%	4
PMO	<i>Pseudostichopus mollis</i>	<i>Pseudostichopus mollis</i>	Non-QMS	454	0.0025%	3
ZOR	<i>Zoroaster spp.</i>	Rat-tail star	Non-QMS	52	0.0003%	3
PSI	<i>Psilaster acuminatus</i>	Geometric star	Non-QMS	47	0.0003%	2
GOR	<i>Gorgonocephalus spp.</i>	Gorgon's head basket-stars	Non-QMS	45	0.0003%	3
SOT	<i>Solaster torulatus</i>	Chubby sun-star	Non-QMS	35	0.0002%	3
PAO	<i>Pillsburiaster aoteanus</i>	Pillsburiaster aoteanus	Non-QMS	25	0.0001%	4
ASR	Asteroidea (Class)	Sea stars	Non-QMS	25	0.0001%	3
DHO	<i>Dermechinus horridus</i>	Deepsea urchin	Non-QMS	23	0.0001%	4
OPH	Ophiuroidea (Class)	Brittle stars, basket stars	Non-QMS	20	0.0001%	1
HTR	<i>Hippasteria phrygiana</i>	Trojan star	Non-QMS	19	0.0001%	4

ECN	N/A	Echinoid (Sea Urchin)	Non-QMS	17	0.0001%	2
DMG	<i>Dipsacaster magnificus</i>	Magnificent sea-star	Non-QMS	16	0.0001%	2
HEC	<i>Henricia compacta</i>	Henricia compacta	Non-QMS	14	0.0001%	2
PNE	<i>Proserpinaster neozelanicus</i>	Proserpinaster neozelanicus	Non-QMS	13	0.0001%	3
CJA	<i>Crossaster multispinus</i>	Sun-star	Non-QMS	11	0.0001%	2
ECT	Echinothuriidae (family)	Echinothuriidae (family)	Non-QMS	10	0.0001%	2
GRM	<i>Gracilechinus multidentatus</i>	Deepsea kina	Non-QMS	10	0.0001%	4
CRN	N/A	Sea lily, Stalked crinoid	Non-QMS	7	0.0000%	2
MSL	<i>Mediaster sladeni</i>	Sladen's star	Non-QMS	5	0.0000%	2
CPA	<i>Ceramaster patagonicus</i>	Pentagon star	Non-QMS	4	0.0000%	2
URO	N/A	Sea urchin other (except SUR - Kina)	Non-QMS	4	0.0000%	2
CAL	<i>Caenopedina porphyrogigas</i>	Giant purple pedinid	Non-QMS	3	0.0000%	1
DPP	<i>Diplopteraster sp.</i>	Diplopteraster sp.	Non-QMS	3	0.0000%	2
PRU	<i>Pseudechinaster rubens</i>	Pseudechinaster rubens	Non-QMS	3	0.0000%	2
PCD	<i>Poriocidarid purpurata</i>	Cidarid urchin	Non-QMS	2	0.0000%	2
CMT	<i>Comatulida (Order)</i>	Feather stars	Non-QMS	2	0.0000%	1
ECH	Echinodermata (Phylum)	Echinoderms	Non-QMS	2	0.0000%	1

ODT	<i>Odontaster benhami</i>	Pentagonal tooth-star	Non-QMS	2	0.0000%	2
CDY	<i>Cosmasterias dyscrita</i>	Cat's-foot star	Non-QMS	1	0.0000%	2
BES	<i>Benthopecten spp.</i>	Benthopecten spp.	Non-QMS	1	0.0000%	1
EEX	<i>Enypniastes eximia</i>	Enypniastes eximia	Non-QMS	1	0.0000%	1
PAM	<i>Pannychia moseleyi</i>	Pannychia moseleyi	Non-QMS	1	0.0000%	1
PHM	<i>Phormosoma spp.</i>	Phormosoma spp.	Non-QMS	1	0.0000%	1
SMO	<i>Sclerasterias mollis</i>	Cross-fish	Non-QMS	1	0.0000%	1
Total observed catch 2007-08 to 2011-12				6,682	0.0369%	

Table 32: ORH3B(E&S Rise) - Observed catch of Teleost fishes in the target ORH fishery 2007-08 to 2011-12 fishing years

Species code	Latin name	Common name	Family name	Legal status	Observed catch from target ORH tows (kg)	% by weight of total observed catch	Number of years species is present in observed catch
SSO	<i>Pseudocyttus maculatus</i>	Smooth oreo	Oreosomatidae	QMS	2,485,147	13.7286%	5
BOE	<i>Allocyttus niger</i>	Black oreo	Oreosomatidae	QMS	494,947	2.7342%	5
HOK	<i>Macruronus novaezelandiae</i>	Hoki	Merlucciidae	QMS	174,357	0.9632%	5
RIB	<i>Mora moro</i>	Ribaldo	Moridae	QMS	24,455	0.1351%	5
OEO	Oreosomatidae (Family)	Oreo	Oreosomatidae	QMS	23,423	0.1294%	3
CDL	<i>Epigonus telescopus</i>	Cardinal fish	Apogonidae	QMS	19,682	0.1087%	5
SOR	<i>Neocyttus rhomboidalis</i>	Spiky oreo	Oreosomatidae	QMS	15,807	0.0873%	5
HAK	<i>Merluccius australis</i>	Hake	Merlucciidae	QMS	3,900	0.0215%	5
BYS	<i>Beryx splendens</i>	Alfonsino	Berycidae	QMS	3,583	0.0198%	5
WOE	<i>Allocyttus verrucosus</i>	Warty oreo	Oreosomatidae	QMS	2,163	0.0119%	4
LIN	<i>Genypterus blacodes</i>	Ling	Ophidiidae	QMS	404	0.0022%	5
SPE	<i>Helicolenus spp.</i>	Sea perch	Scorpaenidae	QMS	352	0.0019%	5
BNS	<i>Hyperoglyphe antarctica</i>	Bluenose	Centrolophidae	QMS	339	0.0019%	4
BYX	<i>Beryx splendens, B. decadactylus</i>	Alfonsino & Long-finned beryx	Berycidae	QMS	193	0.0011%	4
WWA	<i>Seriolella caerulea</i>	White warehou	Centrolophidae	QMS	127	0.0007%	1

SWA	<i>Seriolella punctata</i>	Silver warehou	Centrolophidae	QMS	28	0.0002%	1
STA	<i>Kathetostoma spp.</i>	Giant stargazer	Uranoscopidae	QMS	25	0.0001%	3
LDO	<i>Cyttus traversi</i>	Lookdown dory	Zeidae	QMS	22	0.0001%	3
RBM	<i>Brama brama</i>	Ray's bream	Bramidae	QMS	20	0.0001%	5
MOO	<i>Lampris guttatus</i>	Moonfish	Lampridae	QMS	15	0.0001%	1
SWO	<i>Xiphias gladius</i>	Swordfish	Xiphiidae	QMS	15	0.0001%	1
FLA	N/A	Flatfish		QMS	10	0.0001%	1
FRO	<i>Lepidopus caudatus</i>	Frostfish	Trichiuridae	QMS	5	0.0000%	1
SBW	<i>Micromesistius australis</i>	Southern blue whiting	Gadidae	QMS	4	0.0000%	1
RBY	<i>Plagiogeneion rubiginosum</i>	Rubyfish	Emmelichthyidae	QMS	1	0.0000%	1
BAR	<i>Thyrsites atun</i>	Barracouta	Gempylidae	QMS	1	0.0000%	1
RAT	Macrouridae (Family)	Rattails	Macrouridae	Non-QMS	150,674	0.8324%	5
SLK	Alepocephalidae (Family)	Slickhead	Alepocephalidae	Non-QMS	118,608	0.6552%	5
HJO	<i>Halargyreus johnsonii</i>	Johnson's cod	Moridae	Non-QMS	109,448	0.6046%	5
MOD	Moridae (Family)	Morids	Moridae	Non-QMS	103,641	0.5725%	5
BEE	<i>Diastobranchus capensis</i>	Basketwork eel	Synaphobranchidae	Non-QMS	32,059	0.1771%	5
JAV	<i>Lepidorhynchus denticulatus</i>	Javelinfinh	Macrouridae	Non-QMS	27,330	0.1510%	5
VCO	<i>Antimora rostrata</i>	Violet cod	Moridae	Non-QMS	23,833	0.1317%	4

TOA	<i>Neophrynichthys spp.</i>	Toadfish	Psychrolutidae	Non-QMS	2,878	0.0159%	5
RHY	<i>Paratrachichthys trailli</i>	Common roughy	Trachichthyidae	Non-QMS	2,004	0.0111%	3
WIT	<i>Arnoglossus scapha</i>	Witch	Bothidae	Non-QMS	1,776	0.0098%	5
CBO	<i>Coelorinchus bollonsi</i>	Bollons rattail	Macrouridae	Non-QMS	1,500	0.0083%	1
WHR	<i>Trachyrincus longirostris</i>	White rattail	Macrouridae	Non-QMS	679	0.0038%	2
PSY	<i>Psychrolutes sp.</i>	Blobfish	Psychrolutidae	Non-QMS	667	0.0037%	4
MAN	<i>Neoachirosetta milfordi</i>	Finless flounder	Bothidae	Non-QMS	652	0.0036%	3
EEL	N/A	Eels, Marine (Unspecified)		Non-QMS	587	0.0032%	2
EPL	<i>Epigonus lenimen</i>	Cardinal fish, bigeye	Apogonidae	Non-QMS	524	0.0029%	5
SNO	<i>Sio nordenskjoeldii</i>	Sio nordenskjoeldii	Melamphaidae	Non-QMS	450	0.0025%	1
EPR	<i>Epigonus robustus</i>	Cardinal fish, robust	Apogonidae	Non-QMS	424	0.0023%	5
MST	Melanostomiidae (Family)	Scaleless black dragonfishes	Melanostomiidae	Non-QMS	369	0.0020%	3
LAN	Myctophidae (Family)	Lanternfish	Myctophidae	Non-QMS	331	0.0018%	2
RUD	<i>Centrolophus niger</i>	Rudderfish	Centrolophidae	Non-QMS	306	0.0017%	3
COD	N/A	Cod (Unspecified)		Non-QMS	287	0.0016%	1
CON	<i>Conger spp.</i>	Conger eel	Congridae	Non-QMS	216	0.0012%	4
RRC	<i>Scorpaena cardinalis, S. papillosus</i>	Red scorpion fish	Scorpaenidae	Non-QMS	159	0.0009%	3

SMC	<i>Lepidion microcephalus</i>	Small-headed cod	Moridae	Non-QMS	143	0.0008%	4
DWE	N/A	Deepwater eel (Unspecified)		Non-QMS	142	0.0008%	4
RSC	<i>Scorpaena papillosus</i>	Red scorpion fish	Scorpaenidae	Non-QMS	134	0.0007%	1
SUN	<i>Mola mola</i>	Sunfish	Molidae	Non-QMS	129	0.0007%	2
SBK	<i>Notacanthus sexspinis</i>	Spineback	Notacanthidae	Non-QMS	125	0.0007%	5
TOP	<i>Neophrynichthys angustus</i>	Pale toadfish	Psychrolutidae	Non-QMS	124	0.0007%	2
LEG	<i>Lepidion schmidti, L. inosimae</i>	Giant lepidion	Moridae	Non-QMS	121	0.0007%	1
BBE	<i>Centriscopus humerosus</i>	Banded bellowsfish	Macroramphosidae	Non-QMS	101	0.0006%	4
LPS	<i>Lepidion schmidti</i>	Giant lepidion	Moridae	Non-QMS	94	0.0005%	1
COL	<i>Coelorinchus oliverianus</i>	Olivers rattail	Macrouridae	Non-QMS	77	0.0004%	1
CAN	<i>Cataetyx niki</i>	Brown brotula	Bythitidae	Non-QMS	73	0.0004%	4
SCO	<i>Bassanago bulbiceps</i>	Swollenhead conger	Congridae	Non-QMS	65	0.0004%	4
CSE	<i>Coryphaenoides serrulatus</i>	Serrulate rattail	Macrouridae	Non-QMS	59	0.0003%	3
ANO	<i>Anoplogaster cornuta</i>	Fangtooth	Anoplogastridae	Non-QMS	43	0.0002%	3
CMA	<i>Coelorinchus matamua</i>	Mahia rattail	Macrouridae	Non-QMS	42	0.0002%	3
SNE	<i>Simenchelys parasitica</i>	Snubnosed eel	Synphobranchidae	Non-QMS	40	0.0002%	4
ABR	<i>Alepisaurus brevirostris</i>	Shortsnouted lancetfish	Alepisauridae	Non-QMS	36	0.0002%	1

LAE	<i>Laemonema spp.</i>	Laemonema spp.	Moridae	Non-QMS	36	0.0002%	1
GGL	<i>Guttigadus globosus</i>	Tadpole cod	Moridae	Non-QMS	35	0.0002%	1
CHX	<i>Chaunax pictus</i>	Pink frogmouth	Chaunacidae	Non-QMS	35	0.0002%	4
HCO	<i>Bassanago hirsutus</i>	Hairy conger	Congridae	Non-QMS	33	0.0002%	4
CKA	<i>Coelorinchus kaiyomaru</i>	Kaiyomaru rattail	Macrouridae	Non-QMS	30	0.0002%	3
RAG	<i>Icichthys australis</i>	Ragfish	Centrolophidae	Non-QMS	28	0.0002%	5
CIN	<i>Coelorinchus innotabilis</i>	Notable rattail	Macrouridae	Non-QMS	28	0.0002%	2
NOC	<i>Notocanthus chemnitzii</i>	Notocanthus chemnitzii	Notacanthidae	Non-QMS	27	0.0001%	2
CFA	<i>Coelorinchus fasciatus</i>	Banded rattail	Macrouridae	Non-QMS	25	0.0001%	3
DEA	<i>Trachipterus trachipterus</i>	Dealfish	Trachipteridae	Non-QMS	24	0.0001%	1
BSL	<i>Xenodermichthys spp.</i>	Black slickhead	Alepocephalidae	Non-QMS	21	0.0001%	3
BEL	<i>Centriscomps spp.</i>	Bellowsfish	Macroramphosidae	Non-QMS	20	0.0001%	5
EPT	<i>Epigonus telescopus</i>	Deepsea cardinalfish	Apogonidae	Non-QMS	19	0.0001%	3
CSU	<i>Coryphaenoides subserrulatus</i>	Four-rayed rattail	Macrouridae	Non-QMS	19	0.0001%	2
BYT	Bythitidae (Family)	Brotulas	Bythitidae	Non-QMS	17	0.0001%	1
WHX	<i>Trachyrincus sp.</i>	Unicorn rattail	Macrouridae	Non-QMS	16	0.0001%	2
PHO	<i>Photichthys argenteus</i>	Lighthouse fish	Photichthyidae	Non-QMS	15	0.0001%	4
HAL	<i>Halosaurus macrochir</i>	Abyssal halosaur	Halosauridae	Non-QMS	13	0.0001%	1

SUM	<i>Schedophilus maculatus</i>	Pelagic butterfish	Centrolophidae	Non-QMS	11	0.0001%	2
GBR	<i>Bidenichthys consobrinus</i>	Grey brotula	Bythitidae	Non-QMS	10	0.0001%	1
CEP	<i>Cepola aotea</i>	Red bandfish	Cepolidae	Non-QMS	9	0.0000%	1
ROC	<i>Lotella rhacina</i>	Rock cod	Moridae	Non-QMS	8	0.0000%	1
LYC	<i>Lyconus sp.</i>	Lyconus sp.	Merlucciidae	Non-QMS	7	0.0000%	1
CBA	<i>Coryphaenoides sp. b</i>	Coryphaenoides sp. b	Macrouridae	Non-QMS	7	0.0000%	2
CMX	<i>Coryphaenoides mcmillani</i>	Coryphaenoides mcmillani	Macrouridae	Non-QMS	7	0.0000%	1
BCR	<i>Brotulotaenia crassa</i>	Blue cusk eel	Ophidiidae	Non-QMS	6	0.0000%	2
EPO	<i>Melanostigma gelatinosum</i>	Limp eelpout	Zoarcidae	Non-QMS	6	0.0000%	1
HAT	Sternoptychidae (Family)	Hatchetfish	Sternoptychidae	Non-QMS	6	0.0000%	2
BAC	<i>Bathygadus cottoides</i>	Codheaded rattail	Macrouridae	Non-QMS	6	0.0000%	1
STO	<i>Stomias spp.</i>	Stomias spp.		Non-QMS	6	0.0000%	1
SLR	<i>Optivus elongatus</i>	Slender roughy	Trachichthyidae	Non-QMS	5	0.0000%	1
GON	<i>Gonorynchus forsteri, G. greyi</i>	Sandfish		Non-QMS	5	0.0000%	1
CER	<i>Ceratias spp.</i>	Ceratias spp.	Ceratiidae	Non-QMS	5	0.0000%	2
SBI	<i>Alepocephalus australis</i>	Bigscaled brown slickhead	Alepocephalidae	Non-QMS	5	0.0000%	1
NEM	<i>Nemichthys scolopaceus</i>	Slender snipe eel	Nemichthyidae	Non-QMS	5	0.0000%	1

HPE	<i>Halosaurus pectoralis</i>	Common halosaur	Halosauridae	Non-QMS	4	0.0000%	1
CHA	<i>Chauliodus sloani</i>	Viper fish	Chauliodontidae	Non-QMS	4	0.0000%	3
SAF	<i>Synaphobranchus affinis</i>	Grey cutthroat eel	Synaphobranchidae	Non-QMS	3	0.0000%	2
CCO	<i>Coelorinchus cookianus</i>	Cooks rattail	Macrouridae	Non-QMS	3	0.0000%	1
CEX	<i>Coelorinchus celaenostoma</i>	Black lip rattail	Macrouridae	Non-QMS	3	0.0000%	1
TET	<i>Tetragonurus cuvieri</i>	Squaretail	Tetragonuridae	Non-QMS	3	0.0000%	2
BCA	<i>Magnisudis prionosa</i>	Barracudina	Paralepididae	Non-QMS	2	0.0000%	1
AST	<i>Astronesthinae (subfamily)</i>	Snaggletooths	Astronesthinae	Non-QMS	2	0.0000%	2
NET	<i>Nettastoma parviceps</i>	Duckbill eel	Nettastomatidae	Non-QMS	2	0.0000%	2
CST	<i>Caristius sp.</i>	Manefish	Caristiidae	Non-QMS	2	0.0000%	2
GRC	<i>Tripteryphycis gilchristi</i>	Grenadier cod	Moridae	Non-QMS	2	0.0000%	1
PVE	<i>Pyramodon ventralis</i>	Pearlfish	Carapidae	Non-QMS	2	0.0000%	1
TUB	<i>Tubbia tasmanica</i>	Tubbia tasmanica	Centrolophidae	Non-QMS	2	0.0000%	2
CDX	<i>Coelorinchus maurofasciatus</i>	Dark banded rattail	Macrouridae	Non-QMS	2	0.0000%	1
SDE	<i>Cryptopsaras couesi</i>	Seadevil	Ceratiidae	Non-QMS	2	0.0000%	1
SSM	<i>Alepocephalus antipodianus</i>	Smallscaled brown slickhead	Alepocephalidae	Non-QMS	2	0.0000%	1
MPH	Melamphaidae (Family)	Big-scale Fish	Melamphaidae	Non-QMS	1	0.0000%	1
CLI	Gobiesocidae (Family)	Clingfish	Gobiesocidae	Non-QMS	1	0.0000%	1

SEE	<i>Gnathophis habenatus</i>	Silver conger	Congridae	Non-QMS	1	0.0000%	1
BOD	<i>Bathypterois oddi</i>	Tripod fish	Chlorophthalmidae	Non-QMS	1	0.0000%	1
SDO	<i>Cyttus novaezealandiae</i>	Silver dory	Zeidae	Non-QMS	1	0.0000%	1
FHD	<i>Hoplichthys haswelli</i>	Deepsea flathead	Hoplichthyidae	Non-QMS	1	0.0000%	1
GUL	<i>Eurypharynx pelecanoioides</i>	Gulper eel	Eurypharyngidae	Non-QMS	1	0.0000%	1
GST	Gonostomatidae (Family)	Lightfishes	Gonostomatidae	Non-QMS	1	0.0000%	1
MAL	Malacosteidae (Family)	Loosejaws	Malacosteidae	Non-QMS	1	0.0000%	1
OMO	<i>Omosudis lowii</i>	Omosudid	Omosudidae	Non-QMS	1	0.0000%	1
SCP	<i>Scopelarchus sp.</i>	Scopelarchus sp.	Scopelarchidae	Non-QMS	1	0.0000%	1
FAN	<i>Pterycombus petersii</i>	Fanfish	Bramidae	Non-QMS	1	0.0000%	1
CPD	Centrolophidae (Family)	Centrolophidae	Centrolophidae	Non-QMS	1	0.0000%	1
SUH	<i>Schedophilus huttoni</i>	Schedophilus huttoni	Centrolophidae	Non-QMS	1	0.0000%	1
CCX	<i>Coelorinchus parvifasciatus</i>	Small banded rattail	Macrouridae	Non-QMS	1	0.0000%	1
CTH	<i>Coelorinchus acanthiger</i>	Roughhead rattail	Macrouridae	Non-QMS	1	0.0000%	1
SRH	<i>Hoplostethus mediterraneus</i>	Silver roughy	Trachichthyidae	Non-QMS	1	0.0000%	1
OPE	<i>Lepidoperca aurantia</i>	Orange perch		Non-QMS	1	0.0000%	1
SSI	<i>Argentina elongata</i>	Silverside		Non-QMS	1	0.0000%	1
GIG	<i>Gigantactis paxtoni</i>	Gigantactis paxtoni	Gigantactinidae	Non-QMS	1	0.0000%	1

OSE	<i>Ophisurus serpens</i>	Snake eel	Ophichthidae	Non-QMS	1	0.0000%	1
LEP	<i>Lepidocybium flavobrunneum</i>	Escolar	Gempylidae	Non-QMS	1	0.0000%	1
PDS	<i>Paradiplospinus gracilis</i>	False frostfish	Gempylidae	Non-QMS	1	0.0000%	1
NEX	Nemichthyidae (Family)	Snipe eels	Nemichthyidae	Non-QMS	1	0.0000%	1
CBE	<i>Notopogon lilliei</i>	Crested bellowsfish	Macroramphosidae	Non-QMS	1	0.0000%	1
Total observed catch 2007-08 to 2011-12					3,830,595	21.1612%	

Table 33: ORH3B(E&S Rise) - Observed catch of Chondrichthyes (sharks, skates, rays) in the target ORH fishery 2007-08 to 2011-12 fishing years

Species code	Latin name	Common name	Family name	Legal status	Observed catch from target ORH tows (kg)	% by weight of total observed catch	Number of years species is present in observed catch
GSP	<i>Hydrolagus bemisi</i>	Pale ghost shark	Chimaeridae	QMS	8,868	0.0490%	5
SSK	<i>Dipturus innominatus</i>	Smooth skate	Rajidae	QMS	273	0.0015%	5
GSH	<i>Hydrolagus novaezealandiae</i>	Ghost shark	Chimaeridae	QMS	204	0.0011%	4
RSK	<i>Zearaja nasuta</i>	Rough skate	Rajidae	QMS	87	0.0005%	3
POS	<i>Lamna nasus</i>	Porbeagle shark	Lamnidae	QMS	64	0.0004%	1
SPD	<i>Squalus acanthias</i>	Spiny dogfish	Squalidae	QMS	23	0.0001%	2
BWS	<i>Prionace glauca</i>	Blue shark	Carcharhinidae	QMS	12	0.0001%	1
SCH	<i>Galeorhinus galeus</i>	School shark	Triakidae	QMS	10	0.0001%	1
SND	<i>Deania calcea</i>	Shovelnose dogfish	Centrophoridae	Non-QMS	139,766	0.7721%	5
ETB	<i>Etmopterus baxteri</i>	Baxter's lantern dogfish	Squalidae	Non-QMS	109,033	0.6023%	5
DWD	N/A	Deepwater dogfish (Unspecified)		Non-QMS	107,733	0.5951%	4
OSD	Selachii (Order)	Sharks & Dogfish not otherwise specified in Sch3, Part2 Reporting Regs 2001		Non-QMS	51,140	0.2825%	5
CYP	<i>Centroscymnus crepidater</i>	Longnose velvet dogfish	Squalidae	Non-QMS	43,058	0.2379%	5
BSH	<i>Dalatias licha</i>	Seal shark	Dalatiidae	Non-QMS	42,365	0.2340%	5

LCH	<i>Harriotta raleighana</i>	Long-nosed chimaera	Rhinochimaeridae	Non-QMS	37,275	0.2059%	5
PLS	<i>Centroscymnus plunketi</i>	Plunket's shark	Somniosidae	Non-QMS	7,420	0.0410%	5
SOP	<i>Somniosus pacificus</i>	Pacific sleeper shark	Somniosidae	Non-QMS	4,400	0.0243%	3
PSK	<i>Bathyraja shuntovi</i>	Longnosed deepsea skate	Rajidae	Non-QMS	4,238	0.0234%	4
CSQ	<i>Centrophorus squamosus</i>	Leafscale gulper shark	Centrophoridae	Non-QMS	3,640	0.0201%	5
APR	<i>Apristurus spp.</i>	Cat shark	Scyliorhinidae	Non-QMS	2,372	0.0131%	4
CYO	<i>Centroscymnus owstoni</i>	Smooth skin dogfish	Squalidae	Non-QMS	2,018	0.0111%	5
IBR	<i>Isistius brasiliensis</i>	Cookiecutter shark	Dalatiidae	Non-QMS	1,734	0.0096%	1
DSK	<i>Amblyraja hyperborea</i>	Deepwater spiny skate	Rajidae	Non-QMS	898	0.0050%	4
CHI	<i>Chimaera spp.</i>	Chimaera spp.	Chimaeridae	Non-QMS	880	0.0049%	4
SCM	<i>Scymnodon macracanthus</i>	Roughskin dogfish	Squalidae	Non-QMS	821	0.0045%	4
BTH	<i>Notoraja spp.</i>	Deepsea skates	Rajidae	Non-QMS	444	0.0025%	3
CYL	<i>Centroscymnus coelolepis</i>	Potuguese dogfish	Squalidae	Non-QMS	351	0.0019%	4
CSH	<i>Other than Apristurus spp.</i>	Cat shark	Scyliorhinidae	Non-QMS	320	0.0018%	2
ETM	<i>Etmopterus spp.</i>	Etmopterus spp.	Squalidae	Non-QMS	311	0.0017%	2
CHP	<i>Chimaera sp.</i>	Chimaera, purple	Chimaeridae	Non-QMS	268	0.0015%	4
ETL	<i>Etmopterus lucifer</i>	Lucifer dogfish	Squalidae	Non-QMS	187	0.0010%	3
SNR	<i>Deania histicosa</i>	Rough shovelnose dogfish	Centrophoridae	Non-QMS	129	0.0007%	1
HYD	<i>Hydrolagus spp.</i>	Hydrolagus spp.	Chimaeridae	Non-QMS	108	0.0006%	2

CHG	<i>Chimaera lignaria</i>	Purple chimaera	Chimaeridae	Non-QMS	82	0.0005%	3
OSK	Rajidae (Family)	Skate, Other	Rajidae	Non-QMS	74	0.0004%	3
ERA	<i>Torpedo fairchildi</i>	Electric ray	Torpedinidae	Non-QMS	67	0.0004%	3
SRI	<i>Scymnodon ringens</i>	Knifetooth dogfish	Somniosidae	Non-QMS	35	0.0002%	1
HGB	<i>Hydrolagus sp. d</i>	Giant black ghost shark	Chimaeridae	Non-QMS	34	0.0002%	1
ZAS	<i>Zameus squamulosus</i>	Velvet dogfish	Somniosidae	Non-QMS	32	0.0002%	1
SHA	N/A	Shark (Unspecified)		Non-QMS	26	0.0001%	2
PDG	<i>Oxynotus bruniensis</i>	Prickly dogfish	Oxynotidae	Non-QMS	21	0.0001%	3
GOB	<i>Mitsukurina owstoni</i>	Goblin shark	Mitsukurinidae	Non-QMS	14	0.0001%	1
RAY	Torpedinidae, Narkidae, Dasyatidae, Myliobatidae, Mobulidae (Families)	Rays		Non-QMS	10	0.0001%	1
TAY	<i>Typhlonarke aysoni</i>	Blind electric ray	Narkidae	Non-QMS	8	0.0000%	1
ETP	<i>Etmopterus pusillus</i>	Etmopterus pusillus	Squalidae	Non-QMS	6	0.0000%	1
RCH	<i>Rhinochimaera pacifica</i>	Widenosed chimaera	Rhinochimaeridae	Non-QMS	6	0.0000%	1
RIS	<i>Bathyraja richardsoni</i>	Richardson's skate	Rajidae	Non-QMS	5	0.0000%	1
HYP	<i>Hydrolagus trolli</i>	Pointynose blue ghost shark	Chimaeridae	Non-QMS	4	0.0000%	1
SKA	Rajidae, Arhynchobatidae (Families)	Skates		Non-QMS	4	0.0000%	1
BTS	<i>Notoraja spinifera</i>	Notoraja spinifera	Rajidae	Non-QMS	2	0.0000%	1

LSK	<i>Arhynchobatis asperimus</i>	Long-tailed skate	Rajidae	Non-QMS	2	0.0000%	1
Total observed catch 2007-08 to 2011-12					570,882	3.1537%	

Table 34: ORH3B(E&S Rise) - Observed catch of Mollusca in the target ORH fishery 2007-08 to 2011-12 fishing years

Species code	Latin name	Common name	Legal status	Observed catch from target ORH tows (kg)	% by weight of total observed catch	Number of years species is present in observed catch
SQU	<i>Nototodarus sloanii, N. gouldi</i>	Arrow squid	QMS	102	0.0006%	3
NOS	<i>Nototodarus sloanii</i>	NZ Southern arrow squid	QMS	8	0.0000%	2
WSQ	<i>Onykia spp.</i>	Warty squid	Non-QMS	36785	0.2032%	5
MIQ	<i>Onykia ingens</i>	Warty squid	Non-QMS	747	0.0041%	4
TSQ	<i>Todarodes filippovae</i>	Todarodes filippovae	Non-QMS	333	0.0018%	4
DWO	<i>Graneledone spp.</i>	Deepwater octopus	Non-QMS	311	0.0017%	3
PSQ	<i>Pholidoteuthis boschmai</i>	Pholidoteuthis boschmai	Non-QMS	239	0.0013%	3
SQX	N/A	Squid (Unspecified)	Non-QMS	94	0.0005%	3
VSQ	<i>Histioteuthis spp.</i>	Violet squid	Non-QMS	57	0.0003%	5
FMA	<i>Fusitriton magellanicus</i>	Fusitriton magellanicus	Non-QMS	42	0.0002%	4
OCT	<i>Pinnoctopus cordiformis</i>	Octopus	Non-QMS	35	0.0002%	3
GAS	Gastropoda (Class)	Gastropods	Non-QMS	25	0.0001%	1
OCP	N/A	Octopod	Non-QMS	20	0.0001%	2
MRQ	<i>Onykia robsoni</i>	Warty squid	Non-QMS	19	0.0001%	1
OPI	<i>Opisthoteuthis spp.</i>	Umbrella octopus	Non-QMS	17	0.0001%	2
RSQ	<i>Ommastrephes bartrami</i>	Ommastrephes bartrami	Non-QMS	6	0.0000%	2

CHQ	Cranchiidae (Family)	Cranchiid squid	Non-QMS	2	0.0000%	1
EGA	<i>Euciroa galatheae</i>	Euciroa galatheae	Non-QMS	2	0.0000%	1
OMM	<i>Ommastrephes spp.</i>	Red squid	Non-QMS	2	0.0000%	1
BNO	<i>Benthoctopus spp.</i>	Benthoctopus spp.	Non-QMS	2	0.0000%	1
MOL	N/A	Molluscs (Unspecified)	Non-QMS	1	0.0000%	2
ASG	<i>Acesta saginata</i>	Lesser giant file shell	Non-QMS	1	0.0000%	1
BIV	Bivalvia (Class)	Bivalves (unidentified)	Non-QMS	1	0.0000%	1
WHE	N/A	Whelks	Non-QMS	1	0.0000%	1
GVO	<i>Provocator mirabilis</i>	Golden volute	Non-QMS	0	0.0000%	1
Total observed catch 2007-08 to 2011-12				38,852	0.2146%	

Table 35: ORH3B(E&S Rise) - Observed catch of Porifera in the target ORH fishery 2007-08 to 2011-12 fishing years

Species code	Latin name	Common name	Legal status	Observed catch from target ORH tows (kg)	% by weight of total observed catch	Number of years species is present in observed catch
GLS	Hexactinellida (Class)	Glass sponges	Non-QMS	310	0.0017%	4
ONG	Porifera (Phylum)	Sponges	Non-QMS	173	0.0010%	4
FAR	<i>Farrea spp.</i>	Lacey honeycomb sponge	Non-QMS	108	0.0006%	3
HYA	<i>Hyalascus sp.</i>	Floppy tubular sponge	Non-QMS	84	0.0005%	4
ERE	<i>Euplectella regalis</i>	Basket-weave horn sponge	Non-QMS	62	0.0003%	2
PHB	<i>Phorbas spp.</i>	Grey fibrous massive sponge	Non-QMS	5	0.0000%	1
Total observed catch 2007-08 to 2011-12				742	0.0041%	

Table 36: ORH3B(E&S Rise) - Other organisms observed in the target ORH fishery 2007-08 to 2011-12 fishing years

Species code	Latin name	Common name	Legal status	Observed catch from target ORH tows (kg)	% by weight of total observed catch	Number of years species is present in observed catch
SEO	N/A	Seaweed	Non-QMS	117.3	0.0006%	3
UNI	N/A	Unidentified fish	Non-QMS	108.7	0.0006%	3
ZOS	<i>Zostera (Genus)</i>	Zostera	Non-QMS	20.0	0.0001%	1
UNX	N/A	All and any unidentified species	Non-QMS	12.8	0.0001%	2
ZPF	N/A	Flagellates		12.0	0.0001%	1
HAG	<i>Eptatretus cirrhatu</i> s	Hagfish	Non-QMS	7.0	0.0000%	1
EUN	<i>Eunice (Undescribed)</i>	Eunice sea-worm	Non-QMS	1.0	0.0000%	1
SAL	N/A	Salps		1.0	0.0000%	1
EGC	N/A	Egg Case		1.0	0.0000%	1
INV	N/A	Invertebrate (Unknown)		0.2	0.0000%	1
Total observed catch 2007-08 to 2011-12				281.0	0.0016%	