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This is an observer data report prepared for the MSC Assessment of the New Zealand hake fisheries by Deepwater Group and the Ministry for Primary Industries.

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## 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 the three target trawl hake fisheries over the five fishing years 1 October 2007 to 30 September 2012.

The raw data are held in MPI's Centralised 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 hake unless indicated otherwise.

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## 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) three target hake fisheries. These are HAK1, HAK4 and HAK7. 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 hake 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 three individual hake fisheries. To date, the published literature on non-target catch in hake fisheries (see Bagley et al 2013, Bagley et al. 2012, Ballara 2012, Ballara et al 2010, O'Driscoll et al. 2011, Stevens et al. 2011, & Stevens et al. 2010) 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 three separate hake

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target 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 hake fisheries. The two sources of information complement each other.

A series of tables is provided in this report for each of the four hake 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.

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### 3. References

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- Ballara, S.L. (2012). Descriptive analysis of the fishery for hake (*Merluccius australis*) in HAK 1, 4 and 7 from 1989–90 to 2009–10, and a catch-per-unit-effort (CPUE) analysis for Sub-Antarctic hake. *New Zealand Fisheries Assessment Report 2012/02*. 47p.
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**Summary Table 1:** HAK1 – Top 20 species - Top 20 species - observed non-target catch of target hake fishery over the last 5 fishing years (2007-08 to 2011-12)

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK1 target tows only) (t)	Observed catch (all fishing in HAK1) (t)	Proportion of catch from HAK1 target tows (%)
HAK	<i>Merluccius australis</i>	Hake	Fish	Hakes	QMS	4,083	5,124	79.7%
HOK	<i>Macruronus novaezelandiae</i>	Hoki	Fish	Hakes	QMS	1,235	55,277	2.2%
LIN	<i>Genypterus blacodes</i>	Ling	Fish	Cusk Eels	QMS	784	9,812	8.0%
WWA	<i>Seriolella caerulea</i>	White warehou	Fish	Raффishes, Medusafishes	QMS	155	2,692	5.7%
SPD	<i>Squalus acanthias</i>	Spiny dogfish	Fish	Dogfishes	QMS	72	3,764	1.9%
SWA	<i>Seriolella punctata</i>	Silver warehou	Fish	Raффishes, Medusafishes	QMS	70	6,268	1.1%
RAT	Macrouridae (Family)	Rattails	Fish	Rattails, Grenadiers	Non-QMS	70	2,506	2.8%
JAV	<i>Lepidorhynchus denticulatus</i>	Javelinfinch	Fish	Rattails, Grenadiers	Non-QMS	62	2,534	2.4%
SQU	<i>Nototodarus sloanii, N. gouldi</i>	Arrow squid	Molluscs		QMS	32	64,134	0.0%
RIB	<i>Mora moro</i>	Ribaldo	Fish	Morid Cods	QMS	18	305	5.8%
CSQ	<i>Centrophorus squamosus</i>	Leafscale gulper shark	Fish	Gulper Sharks	Non-QMS	14	86	15.9%
BSK	<i>Cetorhinus maximus</i>	Basking shark	Fish	Basking Shark	Non-QMS	13	70	18.6%
GSP	<i>Hydrolagus bemisi</i>	Pale ghost shark	Fish	Chimaeras, Ghost Sharks	QMS	12	578	2.1%
RUD	<i>Centrolophus niger</i>	Rudderfish	Fish	Raффishes, Medusafishes	Non-QMS	9	31	28.9%
STA	<i>Kathetostoma</i> spp.	Giant stargazer	Fish	Armourhead Stargazers	QMS	9	238	3.8%
SSK	<i>Dipturus innominatus</i>	Smooth skate	Fish	Skates	QMS	9	153	5.8%
LDO	<i>Cyttus traversi</i>	Lookdown dory	Fish	Dories	QMS	8	117	6.8%
WSQ	<i>Onykia</i> spp.	Warty squid	Molluscs		Non-QMS	7	90	8.2%
OSD	Selachii (Order)	Sharks & Dogfish	Fish		Non-QMS	7	155	4.3%
SND	<i>Deania calcea</i>	Shovelnose dogfish	Fish	Gulper Sharks	Non-QMS	6	149	3.9%

**Table 1: HAK1 - Observed non-target catch of target hake fishery over the last 5 fishing years by type of organism (2007-08 to 2011-12 )**

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK1 target tows only) (kg)	Observed catch (all fishing in HAK1) (kg)	Proportion of catch from HAK1 target tows (%)
ACS	<i>Actinostolidae (Family)</i>	Smooth deepsea anemones	Cnidaria	Deepsea anemones	Non-QMS	86	6,513	1.3%
AER	<i>Aeneator recens</i>	Aeneator recens	Molluscs	Whelks	Non-QMS	3	153	2.0%
ANT	<i>Actiniaria, Ceriantharia, Corallimorpharia &amp; Zoanthidea (Orders)</i>	Anemones	Cnidaria	Corals, Sea anemones	Non-QMS	94	2,736	3.4%
ANZ	<i>Ecionemia novaezelandiae</i>	Knobbly sandpaper sponge	Porifera		Non-QMS	0	430	0.1%
APR	<i>Apristurus spp.</i>	Cat shark	Fish	Cat sharks	Non-QMS	13	3,384	0.4%
ASC	<i>Asciadiacea (Class)</i>	Solitary and colonial sea squirts	Other	Sea squirts	Non-QMS	2	75	2.7%
ASR	<i>Asteroidea (Class)</i>	Sea stars	Echinoderms		Non-QMS	27	3,524	0.8%
AWI	<i>Alcithoe wilsonae</i>	Alcithoe wilsonae	Molluscs	Volutes	Non-QMS	5	168	3.0%
BAR	<i>Thyrsites atun</i>	Barracouta	Fish	Snake Mackerels	QMS	390	25,415,940	0.0%
BAS	<i>Polyprion americanus</i>	Bass	Fish	Wreckfishes	QMS	8	7,886	0.1%
BBA	<i>Nesiarchus nasutus</i>	Black barracouta	Fish	Snake Mackerels	Non-QMS	3	12	25.0%
BBE	<i>Centriscoptis humerosus</i>	Banded bellowsfish	Fish	Snipefishes	Non-QMS	381	24,562	1.6%
BCA	<i>Magnisudis prionosa</i>	Barracudina	Fish	Barracudinas	Non-QMS	6	278	2.2%
BEE	<i>Diastobranchius capensis</i>	Basketwork eel	Fish	Cutthroat Eels	Non-QMS	51	28,552	0.2%
BEL	<i>Centriscoptis spp.</i>	Bellowsfish	Fish	Snipefishes	Non-QMS	159	57,668	0.3%
BEN	<i>Benthodesmus spp.</i>	Scabbardfish	Fish	Cutlassfishes	Non-QMS	2	4,226	0.0%
BER	<i>Typhlonarke spp.</i>	Electric ray	Fish	Sleeper rays	Non-QMS	32	1,437	2.2%
BES	<i>Benthopecten spp.</i>	Benthopecten spp.	Echinoderms		Non-QMS	13	48	27.1%
BGZ	<i>Kathetostoma binigrasella</i>	Banded stargazer	Fish	Armourhead Stargazers	Non-QMS	10	3,142	0.3%
BHE	<i>Bathypectinura heros</i>	Deepsea brittle star	Echinoderms		Non-QMS	1	75	1.3%

**Table 1: HAK1 - Observed non-target catch of target hake fishery over the last 5 fishing years by type of organism (2007-08 to 2011-12 ) Cont**

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK1 target tows only) (kg)	Observed catch (all fishing in HAK1) (kg)	Proportion of catch from HAK1 target tows (%)
BNS	<i>Hyperoglyphe antarctica</i>	Bluenose	Fish	Raftfishes, Medusafishes	QMS	575	148,353	0.4%
BOC	<i>Bolocera spp.</i>	Deepsea anemones	Cnidaria	Sea anemones	Non-QMS	0	423	0.0%
BOE	<i>Alloctytus niger</i>	Black oreo	Fish	Oreos	QMS	37	9,978,452	0.0%
BOO	<i>Keratoisis spp.</i>	Bamboo coral	Cnidaria		Non-QMS	1	337	0.3%
BRN	<i>Cirripedia (Class)</i>	Barnacle	Crustacea		Non-QMS	3	18	17.0%
BSH	<i>Dalatis licha</i>	Seal shark	Fish	Kitefin sharks	Non-QMS	4,449	73,725	6.0%
BSK	<i>Cetorhinus maximus</i>	Basking shark	Fish	Basking Shark	Non-QMS	13,000	70,005	18.6%
BTH	<i>Notoraja spp.</i>	Deepsea skates	Fish	Skates	Non-QMS	105	2,144	4.9%
BYD	<i>Beryx decadactylus</i>	Longfinned beryx	Fish	Alfonsinos	QMS	1	2,481	0.0%
BYS	<i>Beryx splendens</i>	Alfonsino	Fish	Alfonsinos	QMS	15	794,185	0.0%
BYX	<i>Beryx splendens, B. decadactylus</i>	Alfonsino & Long-finned beryx	Fish	Alfonsinos	QMS	2	107,792	0.0%
CAR	<i>Cephaloscyllium isabellum</i>	Carpet shark	Fish	Cat sharks	Non-QMS	3	59,214	0.0%
CDL	<i>Epigonus telescopus</i>	Cardinal fish	Fish	Cardinalfishes	QMS	940	672,317	0.1%
CDO	<i>Capromimus abbreviatus</i>	Capro dory	Fish	Dories	Non-QMS	2	28,283	0.0%
CDY	<i>Cosmasterias dyscrita</i>	Cat's-foot star	Echinoderms		Non-QMS	2	66	3.0%
CHG	<i>Chimaera lignaria</i>	Purple chimaera	Fish	Chimaeras, Ghost Sharks	Non-QMS	14	4,608	0.3%
CHI	<i>Chimaera spp.</i>	Chimaera spp.	Fish	Chimaeras, Ghost Sharks	Non-QMS	31	20,366	0.2%
CHP	<i>Chimaera sp.</i>	Chimaera, purple	Fish	Chimaeras, Ghost Sharks	Non-QMS	52	6,867	0.8%
CJA	<i>Crossaster multispinus</i>	Sun-star	Echinoderms		Non-QMS	10	920	1.1%
CMT	<i>Comatulida (Order)</i>	Feather stars	Echinoderms		Non-QMS	4	501	0.8%

**Table 1: HAK1 - Observed non-target catch of target hake fishery over the last 5 fishing years by type of organism (2007-08 to 2011-12 ) Cont**

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK1 target tows only) (kg)	Observed catch (all fishing in HAK1) (kg)	Proportion of catch from HAK1 target tows (%)
COF	<i>Flabellum spp.</i>	Flabellum cup corals	Cnidaria		Non-QMS	3	678	0.4%
CON	<i>Conger spp.</i>	Conger eel	Fish	Conger Eels	Non-QMS	488	22,759	2.1%
COU	<i>Alcyonacea, Gorgonacea, Scleractinia, Antipatharia &amp;</i>	Coral (Unidentified)	Cnidaria	Stylasteridae	Non-QMS	1	339	0.1%
CRB	N/A	Crab (Unspecified)	Crustacea		Non-QMS	4	26,857	0.0%
CRM	<i>Callyspongia cf. ramosa</i>	Airy finger sponge	Porifera		Non-QMS	1	2,225	0.0%
CRN	N/A	Sea lily, Stalked crinoid	Echinoderms		Non-QMS	1	453	0.2%
CSH	<i>Other than Apristurus spp.</i>	Cat shark	Fish	Cat sharks	Non-QMS	22	8,152	0.3%
CSQ	<i>Centrophorus squamosus</i>	Leafscale gulper shark	Fish	Gulper Sharks	Non-QMS	13,750	86,277	15.9%
CUP	<i>Families Flabellidae &amp; Fungiacyathidae</i>	Stony cup corals	Cnidaria	some spp. in family Caryophyllidae Caryophyllidae	Non-QMS	4	5	77.5%
CYP	<i>Centroscymnus crepidater</i>	Longnose velvet dogfish	Fish	Dogfishes	Non-QMS	29	23,161	0.1%
DCS	<i>Halaelurus dawsoni</i>	Dawson's cat shark	Fish	Cat sharks	Non-QMS	33	692	4.8%
DDI	<i>Desmophyllum dianthus</i>	Crested cup coral	Cnidaria		Non-QMS	8	328	2.4%
DEA	<i>Trachipterus trachipterus</i>	Dealfish	Fish	Dealfishes	Non-QMS	34	4,141	0.8%
DHO	<i>Dermechinus horridus</i>	Deepsea urchin	Echinoderms		Non-QMS	23	242	9.3%
DIR	<i>Diacanthurus rubricatus</i>	Hermit crab	Crustacea		Non-QMS	10	588	1.7%
DMG	<i>Dipsacaster magnificus</i>	Magnificent sea-star	Echinoderms		Non-QMS	14	870	1.6%
DPP	<i>Diplopteraster sp.</i>	Diplopteraster sp.	Echinoderms		Non-QMS	1	112	0.9%
DSK	<i>Amblyraja hyperborea</i>	Deepwater spiny skate	Fish	Skates	Non-QMS	659	4,918	13.4%
DWD	N/A	Deepwater dogfish (Unspecified)	Fish		Non-QMS	4,193	48,890	8.6%
DWO	<i>Graneledone spp.</i>	Deepwater octopus	Molluscs		Non-QMS	273	3,130	8.7%

**Table 1: HAK1 - Observed non-target catch of target hake fishery over the last 5 fishing years by type of organism (2007-08 to 2011-12 ) Cont**

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK1 target tows only) (kg)	Observed catch (all fishing in HAK1) (kg)	Proportion of catch from HAK1 target tows (%)
ECH	<i>Echinodermata (Phylum)</i>	Echinoderms	Echinoderms		Non-QMS	1	102	1.0%
ECN	N/A	Echinoid (Sea Urchin)	Echinoderms		Non-QMS	9	414	2.2%
EEL	N/A	Eels, Marine (Unspecified)	Fish		Non-QMS	38	205	18.5%
EPL	<i>Epigonus lenimen</i>	Cardinal fish, bigeye	Fish	Cardinalfishes	Non-QMS	753	4,365	17.3%
EPR	<i>Epigonus robustus</i>	Cardinal fish, robust	Fish	Cardinalfishes	Non-QMS	389	1,775	21.9%
ERA	<i>Torpedo fairchildi</i>	Electric ray	Fish	Electric Rays	Non-QMS	106	7,383	1.4%
ERE	<i>Euplectella regalis</i>	Basket-weave horn sponge	Porifera		Non-QMS	0	14	0.7%
ETB	<i>Etmopterus baxteri</i>	Baxter's lantern dogfish	Fish	Dogfishes	Non-QMS	1,231	363,580	0.3%
ETL	<i>Etmopterus lucifer</i>	Lucifer dogfish	Fish	Dogfishes	Non-QMS	2,720	27,749	9.8%
ETM	<i>Etmopterus spp.</i>	Etmopterus spp.	Fish	Dogfishes	Non-QMS	1	9,176	0.0%
EUC	<i>Euclichthys polynemus</i>	Eucla cod	Fish	Eucla Cod	Non-QMS	140	350	40.0%
EZE	<i>Enteroctopus zealandicus</i>	Yellow octopus	Molluscs	Octopuses	Non-QMS	40	1,212	3.3%
FHD	<i>Hoplichthys haswelli</i>	Deepsea flathead	Fish	Ghostflatheads	Non-QMS	1,201	36,712	3.3%
FLA	N/A	Flatfish	Fish		QMS	30	6,246	0.5%
FLO		Flounder (Unspecified)	Fish		Non-QMS	30	185	16.2%
FMA	<i>Fusitriton magellanicus</i>	Fusitriton magellanicus	Molluscs		Non-QMS	180	5,952	3.0%
FRO	<i>Lepidopus caudatus</i>	Frostfish	Fish	Cutlassfishes	QMS	10	2,268,065	0.0%
GAS	<i>Gastropoda (Class)</i>	Gastropods	Molluscs		Non-QMS	45	3,928	1.2%
GDU	<i>Goniocorella dumosa</i>	Bushy hard coral	Cnidaria		Non-QMS	1	18,687	0.0%
GMC	<i>Leptomithrax garricki</i>	Garrick's masking crab	Crustacea	Spider crabs	Non-QMS	6	3,150	0.2%



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Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK1 target tows only) (kg)	Observed catch (all fishing in HAK1) (kg)	Proportion of catch from HAK1 target tows (%)
GOC	<i>Gorgonacea (Order)</i>	Gorgonian coral	Cnidaria	Corals, Sea anemones	Non-QMS	1	285	0.4%
GON	<i>Gonorynchus forsteri, G. greyi</i>	Sandfish	Fish	Sandfish	Non-QMS	73	19,474	0.4%
GOR	<i>Gorgonocephalus spp.</i>	Gorgon's head basket-stars	Echinoderms		Non-QMS	209	329	63.6%
GOU	<i>Goniocidaris umbraculum</i>	Umbrella urchin	Echinoderms		Non-QMS	0	160	0.1%
GRM	<i>Gracilechinus multidentatus</i>	Deepsea kina	Echinoderms		Non-QMS	1	454	0.2%
GSC	<i>Jacquintia edwardsii</i>	Giant spider crab	Crustacea	Spider crabs	QMS	84	195,446	0.0%
GSH	<i>Hydrolagus novaezealandiae</i>	Ghost shark	Fish	Chimaeras, Ghost Sharks	QMS	3,931	368,955	1.1%
GSP	<i>Hydrolagus bemisi</i>	Pale ghost shark	Fish	Chimaeras, Ghost Sharks	QMS	11,941	578,846	2.1%
GSQ	<i>Architeuthis sp.</i>	Giant squid	Molluscs		Non-QMS	150	2,814	5.3%
GVO	<i>Provocator mirabilis</i>	Golden volute	Molluscs	Volutes	Non-QMS	0	539	0.0%
GYS	<i>Gyrophyllum sibogae</i>	Siboga sea pen	Cnidaria		Non-QMS	26	49	52.6%
HAG	<i>Eptatretus cirrhatius</i>	Hagfish	Fish	Hagfishes	Non-QMS	11	57,312	0.0%
HAK	<i>Merluccius australis</i>	Hake	Fish	Hakes	QMS	4,082,608	5,123,940	79.7%
HAP	<i>Polyprion oxygeneios</i>	Hapuku	Fish	Wreckfishes	QMS	15	147,688	0.0%
HCO	<i>Bassanago hirsutus</i>	Hairy conger	Fish	Conger Eels	Non-QMS	44	16,520	0.3%
HDF	<i>Order Leptomeduseae &amp; Order Anthoathecatae</i>	Feathery hydroids	Cnidaria		Non-QMS	0	873	0.0%
HEX	<i>Hexanchus griseus</i>	Sixgill shark	Fish	Cow Sharks	Non-QMS	1,765	5,903	29.9%
HMT	<i>Hormathiidae (Family)</i>	Warty deepsea anemones	Cnidaria		Non-QMS	4	4,664	0.1%
HOK	<i>Macruronus novaezealandiae</i>	Hoki	Fish	Hakes	QMS	1,235,327	55,276,727	2.2%
HPB	<i>Polyprion oxygeneios, P. americanus</i>	Hapuku & Bass	Fish	Wreckfishes	QMS	215	6,811	3.2%



**Table 1: HAK1 - Observed non-target catch of target hake fishery over the last 5 fishing years by type of organism (2007-08 to 2011-12 ) Cont**

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK1 target tows only) (kg)	Observed catch (all fishing in HAK1) (kg)	Proportion of catch from HAK1 target tows (%)
HSI	<i>Haliporoides sibogae</i>	Jack-knife prawn	Crustacea		Non-QMS	1	11,757	0.0%
HTH	<i>Holothuroidea (Class)</i>	Sea cucumber (not <i>Stichopus mollis</i> )	Echinoderms		Non-QMS	24	3,501	0.7%
HTR	<i>Hippasteria phrygiana</i>	Trojan star	Echinoderms		Non-QMS	27	1,296	2.1%
HYA	<i>Hyalascus sp.</i>	Floppy tubular sponge	Porifera		Non-QMS	29	39,386	0.1%
HYD	<i>Hydrolagus spp.</i>	Hydrolagus spp.	Fish	Chimaeras, Ghost Sharks	Non-QMS	15	1,031	1.5%
JAV	<i>Lepidorhynchus denticulatus</i>	Javelinfinch	Fish	Rattails, Grenadiers	Non-QMS	61,823	2,534,022	2.4%
JMM	<i>Trachurus murphyi</i>	Murphy's mackerel	Fish	Jacks, Trevallies, Kingfishes	QMS	2	2,291,803	0.0%
KIC	<i>Lithodes murrayi, Neolithodes brodiei</i>	King crab	Crustacea	Deepwater king or stone crabs	QMS	5	1,024	0.5%
LAG	<i>Laetmogone spp.</i>	Laetmogone spp.	Echinoderms		Non-QMS	1	1,173	0.1%
LAN	<i>Myctophidae (Family)</i>	Lanternfish	Fish	Lanternfishes	Non-QMS	1	9,939	0.0%
LCH	<i>Harriotta raleighana</i>	Long-nosed chimaera	Fish	Longnose chimaeras	Non-QMS	1,186	46,804	2.5%
LDO	<i>Cyttus traversi</i>	Lookdown dory	Fish	Dories	QMS	7,986	117,467	6.8%
LIN	<i>Genypterus blacodes</i>	Ling	Fish	Cusk Eels	QMS	783,930	9,811,079	8.0%
LLC	<i>Leptomithrax longipes</i>	Long-legged masking crab	Crustacea	Spider crabs	Non-QMS	3	1,097	0.3%
LMU	<i>Lithodes murrayi</i>	Murray's king crab	Crustacea	Deepwater king or stone crabs	Non-QMS	5	1,382	0.4%
LSK	<i>Arhynchobatis asperimus</i>	Long-tailed skate	Fish	Skates	Non-QMS	51	2,260	2.3%
MAN	<i>Neoachirosetta milfordi</i>	Finless flounder	Fish	Lefteyed Flounders	Non-QMS	51	800	6.4%
MDO	<i>Zenopsis nebulosa</i>	Mirror dory	Fish	Dories	Non-QMS	2	9,442	0.0%
MIQ	<i>Onykia ingens</i>	Warty squid	Molluscs		Non-QMS	1,204	32,814	3.7%
MNI	<i>Munida spp.</i>	Krill, squat lobsters	Crustacea	Squat lobsters	Non-QMS	1	463	0.2%

**Table 1: HAK1 - Observed non-target catch of target hake fishery over the last 5 fishing years by type of organism (2007-08 to 2011-12 ) Cont**

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK1 target tows only) (kg)	Observed catch (all fishing in HAK1) (kg)	Proportion of catch from HAK1 target tows (%)
BNS	<i>Hyperoglyphe antarctica</i>	Bluenose	Fish	Raftfishes, Medusafishes	QMS	575	148,353	0.4%
BOC	<i>Bolocera spp.</i>	Deepsea anemones	Cnidaria	Sea anemones	Non-QMS	0	423	0.0%
BOE	<i>Allocyttus niger</i>	Black oreo	Fish	Oreos	QMS	37	9,978,452	0.0%
BOO	<i>Keratoisis spp.</i>	Bamboo coral	Cnidaria		Non-QMS	1	337	0.3%
BRN	<i>Cirripedia (Class)</i>	Barnacle	Crustacea		Non-QMS	3	18	17.0%
BSH	<i>Dalatias licha</i>	Seal shark	Fish	Kitefin sharks	Non-QMS	4,449	73,725	6.0%
BSK	<i>Cetorhinus maximus</i>	Basking shark	Fish	Basking Shark	Non-QMS	13,000	70,005	18.6%
BTH	<i>Notoraja spp.</i>	Deepsea skates	Fish	Skates	Non-QMS	105	2,144	4.9%
BYD	<i>Beryx decadactylus</i>	Longfinned beryx	Fish	Alfonsinos	QMS	1	2,481	0.0%
BYS	<i>Beryx splendens</i>	Alfonsino	Fish	Alfonsinos	QMS	15	794,185	0.0%
BYX	<i>Beryx splendens, B. decadactylus</i>	Alfonsino & Long-finned beryx	Fish	Alfonsinos	QMS	2	107,792	0.0%
CAR	<i>Cephaloscyllium isabellum</i>	Carpet shark	Fish	Cat sharks	Non-QMS	3	59,214	0.0%
CDL	<i>Epigonus telescopus</i>	Cardinal fish	Fish	Cardinalfishes	QMS	940	672,317	0.1%
CDO	<i>Capromimus abbreviatus</i>	Capro dory	Fish	Dories	Non-QMS	2	28,283	0.0%
CDY	<i>Cosmasterias dyscrita</i>	Cat's-foot star	Echinoderms		Non-QMS	2	66	3.0%
CHG	<i>Chimaera lignaria</i>	Purple chimaera	Fish	Chimaeras, Ghost Sharks	Non-QMS	14	4,608	0.3%
CHI	<i>Chimaera spp.</i>	Chimaera spp.	Fish	Chimaeras, Ghost Sharks	Non-QMS	31	20,366	0.2%
CHP	<i>Chimaera sp.</i>	Chimaera, purple	Fish	Chimaeras, Ghost Sharks	Non-QMS	52	6,867	0.8%
CJA	<i>Crossaster multispinus</i>	Sun-star	Echinoderms		Non-QMS	10	920	1.1%
CMT	<i>Comatulida (Order)</i>	Feather stars	Echinoderms		Non-QMS	4	501	0.8%

Table 1: HAK1 - Observed non-target catch of target hake fishery over the last 5 fishing years by type of organism (2007-08 to 2011-12) Cont

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK1 target tows only) (kg)	Observed catch (all fishing in HAK1) (kg)	Proportion of catch from HAK1 target tows (%)
COF	<i>Flabellum spp.</i>	Flabellum cup corals	Cnidaria		Non-QMS	3	678	0.4%
CON	<i>Conger spp.</i>	Conger eel	Fish	Conger Eels	Non-QMS	488	22,759	2.1%
COU	<i>Alcyonacea, Gorgonacea, Scleractinia, Antipatharia</i>	Coral (Unidentified)	Cnidaria	Stylasteridae	Non-QMS	1	339	0.1%
CRB	N/A	Crab (Unspecified)	Crustacea		Non-QMS	4	26,857	0.0%
CRM	<i>Callyspongia cf. ramosa</i>	Airy finger sponge	Porifera		Non-QMS	1	2,225	0.0%
CRN	N/A	Sea lily, Stalked crinoid	Echinoderms		Non-QMS	1	453	0.2%
CSH	<i>Other than Apristurus spp.</i>	Cat shark	Fish	Cat sharks	Non-QMS	22	8,152	0.3%
CSQ	<i>Centrophorus squamosus</i>	Leafscale gulper shark	Fish	Gulper Sharks	Non-QMS	13,750	86,277	15.9%
CUP	<i>Families Flabellidae &amp; Fungiacyathidae</i>	Stony cup corals	Cnidaria	some spp. in family Caryophyllidae Caryophyllidae	Non-QMS	4	5	77.5%
CYP	<i>Centroscymnus crepidater</i>	Longnose velvet dogfish	Fish	Dogfishes	Non-QMS	29	23,161	0.1%
DCS	<i>Halaaelurus dawsoni</i>	Dawson's cat shark	Fish	Cat sharks	Non-QMS	33	692	4.8%
DDI	<i>Desmophyllum dianthus</i>	Crested cup coral	Cnidaria		Non-QMS	8	328	2.4%
DEA	<i>Trachipterus trachipterus</i>	Dealfish	Fish	Dealfishes	Non-QMS	34	4,141	0.8%
DHO	<i>Dermechinus horridus</i>	Deepsea urchin	Echinoderms		Non-QMS	23	242	9.3%
DIR	<i>Diacanthurus rubricatus</i>	Hermit crab	Crustacea		Non-QMS	10	588	1.7%
DMG	<i>Dipsacaster magnificus</i>	Magnificent sea-star	Echinoderms		Non-QMS	14	870	1.6%
DPP	<i>Diplopteraster sp.</i>	Diplopteraster sp.	Echinoderms		Non-QMS	1	112	0.9%
DSK	<i>Amblyraja hyperborea</i>	Deepwater spiny skate	Fish	Skates	Non-QMS	659	4,918	13.4%
DWD	N/A	Deepwater dogfish (Unspecified)	Fish		Non-QMS	4,193	48,890	8.6%
DWO	<i>Graneledone spp.</i>	Deepwater octopus	Molluscs		Non-QMS	273	3,130	8.7%

**Table 1: HAK1 - Observed non-target catch of target hake fishery over the last 5 fishing years by type of organism (2007-08 to 2011-12 ) Cont**

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK1 target tows only) (kg)	Observed catch (all fishing in HAK1) (kg)	Proportion of catch from HAK1 target tows (%)
ECH	<i>Echinodermata (Phylum)</i>	Echinoderms	Echinoderms		Non-QMS	1	102	1.0%
ECN	N/A	Echinoid (Sea Urchin)	Echinoderms		Non-QMS	9	414	2.2%
EEL	N/A	Eels, Marine (Unspecified)	Fish		Non-QMS	38	205	18.5%
EPL	<i>Epigonus lenimen</i>	Cardinal fish, bigeye	Fish	Cardinalfishes	Non-QMS	753	4,365	17.3%
EPR	<i>Epigonus robustus</i>	Cardinal fish, robust	Fish	Cardinalfishes	Non-QMS	389	1,775	21.9%
ERA	<i>Torpedo fairchildi</i>	Electric ray	Fish	Electric Rays	Non-QMS	106	7,383	1.4%
ERE	<i>Euplectella regalis</i>	Basket-weave horn sponge	Porifera		Non-QMS	0	14	0.7%
ETB	<i>Etmopterus baxteri</i>	Baxter's lantern dogfish	Fish	Dogfishes	Non-QMS	1,231	363,580	0.3%
ETL	<i>Etmopterus lucifer</i>	Lucifer dogfish	Fish	Dogfishes	Non-QMS	2,720	27,749	9.8%
ETM	<i>Etmopterus spp.</i>	Etmopterus spp.	Fish	Dogfishes	Non-QMS	1	9,176	0.0%
EUC	<i>Euclichthys polynemus</i>	Eucla cod	Fish	Eucla Cod	Non-QMS	140	350	40.0%
EZE	<i>Enteroctopus zealandicus</i>	Yellow octopus	Molluscs	Octopuses	Non-QMS	40	1,212	3.3%
FHD	<i>Hoplichthys haswelli</i>	Deepsea flathead	Fish	Ghostflatheads	Non-QMS	1,201	36,712	3.3%
FLA	N/A	Flatfish	Fish		QMS	30	6,246	0.5%
FLO		Flounder (Unspecified)	Fish		Non-QMS	30	185	16.2%
FMA	<i>Fusitriton magellanicus</i>	Fusitriton magellanicus	Molluscs		Non-QMS	180	5,952	3.0%
FRO	<i>Lepidopus caudatus</i>	Frostfish	Fish	Cutlassfishes	QMS	10	2,268,065	0.0%
GAS	<i>Gastropoda (Class)</i>	Gastropods	Molluscs		Non-QMS	45	3,928	1.2%
GDU	<i>Goniocorella dumosa</i>	Bushy hard coral	Cnidaria		Non-QMS	1	18,687	0.0%
GMC	<i>Leptomithrax garricki</i>	Garrick's masking crab	Crustacea	Spider crabs	Non-QMS	6	3,150	0.2%

**Table 1: HAK1 - Observed non-target catch of target hake fishery over the last 5 fishing years by type of organism (2007-08 to 2011-12 ) Cont**

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK1 target tows only) (kg)	Observed catch (all fishing in HAK1) (kg)	Proportion of catch from HAK1 target tows (%)
GOC	<i>Gorgonacea (Order)</i>	Gorgonian coral	Cnidaria	Corals, Sea anemones	Non-QMS	1	285	0.4%
GON	<i>Gonorynchus forsteri, G. greyi</i>	Sandfish	Fish	Sandfish	Non-QMS	73	19,474	0.4%
GOR	<i>Gorgonocephalus spp.</i>	Gorgon's head basket-stars	Echinoderms		Non-QMS	209	329	63.6%
GOU	<i>Goniocidaris umbraculum</i>	Umbrella urchin	Echinoderms		Non-QMS	0	160	0.1%
GRM	<i>Gracilechinus multidentatus</i>	Deepsea kina	Echinoderms		Non-QMS	1	454	0.2%
GSC	<i>Jacquintia edwardsii</i>	Giant spider crab	Crustacea	Spider crabs	QMS	84	195,446	0.0%
GSH	<i>Hydrolagus novaezealandiae</i>	Ghost shark	Fish	Chimaeras, Ghost Sharks	QMS	3,931	368,955	1.1%
GSP	<i>Hydrolagus bemisi</i>	Pale ghost shark	Fish	Chimaeras, Ghost Sharks	QMS	11,941	578,846	2.1%
GSQ	<i>Architeuthis sp.</i>	Giant squid	Molluscs		Non-QMS	150	2,814	5.3%
GVO	<i>Provocator mirabilis</i>	Golden volute	Molluscs	Volutes	Non-QMS	0	539	0.0%
GYS	<i>Gyrophyllum sibogae</i>	Siboga sea pen	Cnidaria		Non-QMS	26	49	52.6%
HAG	<i>Eptatretus cirrhatius</i>	Hagfish	Fish	Hagfishes	Non-QMS	11	57,312	0.0%
HAK	<i>Merluccius australis</i>	Hake	Fish	Hakes	QMS	4,082,608	5,123,940	79.7%
HAP	<i>Polyprion oxygeneios</i>	Hapuku	Fish	Wreckfishes	QMS	15	147,688	0.0%
HCO	<i>Bassanago hirsutus</i>	Hairy conger	Fish	Conger Eels	Non-QMS	44	16,520	0.3%
HDF	<i>Order Leptomeduseae &amp; Order Anthoathecatae</i>	Feathery hydroids	Cnidaria		Non-QMS	0	873	0.0%
HEX	<i>Hexanchus griseus</i>	Sixgill shark	Fish	Cow Sharks	Non-QMS	1,765	5,903	29.9%
HMT	<i>Hormathiidae (Family)</i>	Warty deepsea anemones	Cnidaria		Non-QMS	4	4,664	0.1%
HOK	<i>Macruronus novaezealandiae</i>	Hoki	Fish	Hakes	QMS	1,235,327	55,276,727	2.2%
HPB	<i>Polyprion oxygeneios, P. americanus</i>	Hapuku & Bass	Fish	Wreckfishes	QMS	215	6,811	3.2%

**Table 1: HAK1 - Observed non-target catch of target hake fishery over the last 5 fishing years by type of organism (2007-08 to 2011-12 ) Cont**

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK1 target tows only) (kg)	Observed catch (all fishing in HAK1) (kg)	Proportion of catch from HAK1 target tows (%)
MOD	<i>Moridae (Family)</i>	Morids	Fish	Morid Cods	Non-QMS	3	9,570	0.0%
MST	<i>Melanostomiidae (Family)</i>	Scaleless black dragonfishes	Fish	Scaleless Black Dragonfishes	Non-QMS	1	52	1.9%
NCB	<i>Nectocarcinus bennetti</i>	Smooth red swimming crab	Crustacea	Swimming crabs	Non-QMS	5	1,112,203	0.0%
NEB	<i>Neolithodes brodiei</i>	Brodie's king crab	Crustacea	Deepwater king or stone crabs	Non-QMS	20	712	2.8%
NOC	<i>Notocanthus chemnitzii</i>	Notocanthus chemnitzii	Fish	Spiny Eels	Non-QMS	6	93	6.5%
OCP		Octopod	Molluscs		Non-QMS	6	114	5.3%
OCT	<i>Pinnoctopus cordiformis</i>	Octopus	Molluscs		Non-QMS	103	9,553	1.1%
ODT	<i>Odontaster benhami</i>	Pentagonal tooth-star	Echinoderms		Non-QMS	3	73	4.1%
OFH	<i>Ruvettus pretiosus</i>	Oilfish	Fish	Snake Mackerels	Non-QMS	10	881	1.1%
ONG	<i>Porifera (Phylum)</i>	Sponges	Porifera		Non-QMS	120	39,681	0.3%
OPE	<i>Lepidoperca aurantia</i>	Orange perch	Fish	Sea Perches, Gropers	Non-QMS	5	19,667	0.0%
OPI	<i>Opisthoteuthis spp.</i>	Umbrella octopus	Molluscs		Non-QMS	157	2,502	6.3%
OSD	<i>Selachii (Order)</i>	Sharks & Dogfish not specified in Sch3, Part2 Reporting Regs 2001	Fish		Non-QMS	6,660	155,144	4.3%
OSI	<i>Ophiocreas sibogae</i>	Ophiocreas sibogae	Echinoderms		Non-QMS	0	6	1.6%
OSK	<i>Rajidae (Family)</i>	Skate, Other	Fish	Skates	Non-QMS	37	5,630	0.7%
PAM	<i>Pannychia moseleyi</i>	Pannychia moseleyi	Echinoderms		Non-QMS	2	317	0.6%
PCH	<i>Penion chathamensis</i>	Penion chathamensis	Molluscs	Whelks	Non-QMS	1	143	0.4%
PDG	<i>Oxynotus bruniensis</i>	Prickly dogfish	Fish	Rough Sharks	Non-QMS	440	4,888	9.0%
PHI	<i>Peronella hinemoae</i>	Peronella hinemoae	Echinoderms		Non-QMS	0	1	16.7%
MNI	<i>Munida spp.</i>	Krill, squat lobsters	Crustacea	Squat lobsters	Non-QMS	31	674	4.6%

**Table 1: HAK1 - Observed non-target catch of target hake fishery over the last 5 fishing years by type of organism (2007-08 to 2011-12 ) Cont**

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK1 target tows only) (kg)	Observed catch (all fishing in HAK1) (kg)	Proportion of catch from HAK1 target tows (%)
PLS	<i>Centroscyrnus plunketi</i>	Plunket's shark	Fish	Sleeper Sharks	Non-QMS	3	9,570	0.0%
PLY	<i>Polycheles spp.</i>	Deep-sea blind lobster	Crustacea		Non-QMS	1	52	1.9%
PMU	<i>Paramaretia peloria</i>	Microsoft mouse	Echinoderms		Non-QMS	5	1,112,203	0.0%
PNE	<i>Proserpinaster neozelanicus</i>	Proserpinaster neozelanicus	Echinoderms		Non-QMS	20	712	2.8%
PNN	<i>Pennatula spp.</i>	Purple sea pen	Cnidaria		Non-QMS	6	93	6.5%
POS	<i>Lamna nasus</i>	Porbeagle shark	Fish	Mackerel Sharks	QMS	6	114	5.3%
PRA	N/A	Prawn (Unspecified)	Crustacea		Non-QMS	103	9,553	1.1%
PRU	<i>Pseudechinaster rubens</i>	Pseudechinaster rubens	Echinoderms		Non-QMS	3	73	4.1%
PSI	<i>Psilaster acuminatus</i>	Geometric star	Echinoderms		Non-QMS	10	881	1.1%
PSQ	<i>Pholidoteuthis boschmai</i>	Pholidoteuthis boschmai	Molluscs		Non-QMS	120	39,681	0.3%
PYC	<i>Pycnogonida (Class)</i>	Sea spiders	Crustacea		Non-QMS	5	19,667	0.0%
PZE	<i>Paralomis zealandica</i>	Prickly king crab	Crustacea	Deepwater king or stone crabs	Non-QMS	157	2,502	6.3%
QSC	<i>Zygochlamys delicatula</i>	Queen scallop	Molluscs	Scallops	QMS	6,660	155,144	4.3%
RAG	<i>Icichthys australis</i>	Ragfish	Fish	Raftfishes, Medusafishes	Non-QMS	0	6	1.6%
RAT	<i>Macrouridae (Family)</i>	Rattails	Fish	Rattails, Grenadiers	Non-QMS	37	5,630	0.7%
RBM	<i>Brama brama</i>	Ray's bream	Fish	Pomfrets	QMS	2	317	0.6%
RBT	<i>Emmelichthys nitidus</i>	Redbait	Fish	Bonnetmouths, Rovers	QMS	1	143	0.4%
RCO	<i>Pseudophycis bachus</i>	Red cod	Fish	Morid Cods	QMS	440	4,888	9.0%
RGR	<i>Radiaster gracilis</i>	Radiaster gracilis	Echinoderms		Non-QMS	0	1	16.7%
RHY	<i>Paratrachichthys trailli</i>	Common roughy	Fish	Roughies, Slimeheads	Non-QMS	31	674	4.6%



**Table 1: HAK1 - Observed non-target catch of target hake fishery over the last 5 fishing years by type of organism (2007-08 to 2011-12 ) Cont**

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK1 target tows only) (kg)	Observed catch (all fishing in HAK1) (kg)	Proportion of catch from HAK1 target tows (%)
RIB	<i>Mora moro</i>	Ribaldo	Fish	Morid Cods	QMS	17,792	305,340	5.8%
RIS	<i>Bathyraja richardsoni</i>	Richardson's skate	Fish	Skates	Non-QMS	70	1,050	6.7%
ROK	<i>Geological</i>	Rocks / Stones	Other		Non-QMS	1,124	236,177	0.5%
RSK	<i>Zearaja nasuta</i>	Rough skate	Fish	Skates	QMS	2,746	245,285	1.1%
RSQ	<i>Ommastrephes bartrami</i>	Ommastrephes bartrami	Molluscs		Non-QMS	3,865	5,925	65.2%
RUD	<i>Centrolophus niger</i>	Rudderfish	Fish	Raftfishes, Medusafishes	Non-QMS	9,094	31,465	28.9%
SBK	<i>Notacanthus sexspinis</i>	Spineback	Fish	Spiny Eels	Non-QMS	252	5,060	5.0%
SBO	<i>Pseudopentaceros richardsoni</i>	Southern boarfish	Fish	Boarfishes, Armourheads	Non-QMS	3	27,781	0.0%
SBW	<i>Micromesistius australis</i>	Southern blue whiting	Fish	True Cods	QMS	561	88,114,602	0.0%
SCH	<i>Galeorhinus galeus</i>	School shark	Fish	Smoothhounds	QMS	3,136	321,354	1.0%
SCI	<i>Metanephrops challengerii</i>	Scampi	Crustacea	Clawed lobsters	QMS	33	218,259	0.0%
SCO	<i>Bassanago bulbiceps</i>	Swollenhead conger	Fish	Conger Eels	Non-QMS	311	3,039	10.2%
SDF	<i>Azygopus pinnifasciatus</i>	Spotted flounder	Fish	Righteyed Flounders	Non-QMS	1	206	0.5%
SDO	<i>Cyttus novaezealandiae</i>	Silver dory	Fish	Dories	Non-QMS	3,399	309,593	1.1%
SEE	<i>Gnathophis habenatus</i>	Silver conger	Fish	Conger Eels	Non-QMS	140	2,468	5.7%
SEO	N/A	Seaweed	Seaweed		Non-QMS	15	3,052	0.5%
SEV	<i>Notorynchus cepedianus</i>	Broadnose sevengill shark	Fish	Cow Sharks	Non-QMS	180	3,246	5.5%
SFI	<i>Asteroidea and Ophiuroidea (Classes)</i>	Starfish	Echinoderms		Non-QMS	460	11,837	3.9%
SHA		Shark (Unspecified)	Fish		Non-QMS	15	2,914	0.5%
SKI	<i>Rexea spp.</i>	Gemfish	Fish	Snake Mackerels	QMS	259	57,763	0.4%

**Table 1: HAK1 - Observed non-target catch of target hake fishery over the last 5 fishing years by type of organism (2007-08 to 2011-12 ) Cont**

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK1 target tows only) (kg)	Observed catch (all fishing in HAK1) (kg)	Proportion of catch from HAK1 target tows (%)
SLK	Alepocephalidae (Family)	Slickhead	Fish	Slickheads	Non-QMS	17,792	305,340	5.8%
SMK	Teratomaia richardsoni	Spiny masking crab	Crustacea	Spider crabs	Non-QMS	70	1,050	6.7%
SMO	Sclerasterias mollis	Cross-fish	Echinoderms		Non-QMS	1,124	236,177	0.5%
SND	Deania calcea	Shovelnose dogfish	Fish	Gulper Sharks	Non-QMS	2,746	245,285	1.1%
SNE	Simenchelys parasitica	Snubnosed eel	Fish	Cutthroat Eels	Non-QMS	3,865	5,925	65.2%
SNR	Deania histricosa	Rough shovelnose dogfish	Fish	Gulper Sharks	Non-QMS	9,094	31,465	28.9%
SOR	Neocyttus rhomboidalis	Spiky oreo	Fish	Oreos	QMS	252	5,060	5.0%
SOT	Solaster torulatus	Chubby sun-star	Echinoderms		Non-QMS	3	27,781	0.0%
SPD	Squalus acanthias	Spiny dogfish	Fish	Dogfishes	QMS	561	88,114,602	0.0%
SPE	Helicolenus spp.	Sea perch	Fish	Scorpionfishes	QMS	3,136	321,354	1.0%
SPK	Macrorhamphosodes uradoi	Spikefish	Fish	Spikefishes	Non-QMS	33	218,259	0.0%
SPN	N/A	Sea pen	Cnidaria		Non-QMS	311	3,039	10.2%
SPP	Callanthias allporti	Splendid perch	Fish	Sea Perches, Gropers	Non-QMS	1	206	0.5%
SQU	Nototodarus sloanii, N. gouldi	Arrow squid	Molluscs		QMS	3,399	309,593	1.1%
SQX	N/A	Squid (Unspecified)	Molluscs		Non-QMS	140	2,468	5.7%
SRH	Hoplostethus mediterraneus	Silver roughy	Fish	Roughies, Slimeheads	Non-QMS	15	3,052	0.5%
SSI	Argentina elongata	Silverside	Fish	Silversides	Non-QMS	180	3,246	5.5%
SSK	Dipturus innominatus	Smooth skate	Fish	Skates	QMS	460	11,837	3.9%
SSO	Pseudocyttus maculatus	Smooth oreo	Fish	Oreos	QMS	15	2,914	0.5%
STA	Kathetostoma spp.	Giant stargazer	Fish	Armourhead Stargazers	QMS	259	57,763	0.4%

**Table 1: HAK1 - Observed non-target catch of target hake fishery over the last 5 fishing years by type of organism (2007-08 to 2011-12 ) Cont**

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK1 target tows only) (kg)	Observed catch (all fishing in HAK1) (kg)	Proportion of catch from HAK1 target tows (%)
SUA	<i>Suberites affinis</i>	Fleshy club sponge	Porifera		Non-QMS	1	146	0.3%
SUR	<i>Evechinus chloroticus</i>	Kina	Echinoderms		QMS	50	55	90.9%
SWA	<i>Seriolella punctata</i>	Silver warehou	Fish	Raftfishes, Medusafishes	QMS	70,122	6,267,840	1.1%
TAM	<i>Echinothuriidae and Phormosomatidae</i>	Tam O'Shanter urchins	Echinoderms	<i>Echinothuriidae and Phormosomatidae</i>	Non-QMS	3,192	7,366	43.3%
TAR	<i>Nemadactylus macropterus, Nemadactylus sp.</i>	Tarakihi (King Tarakihi)	Fish	Tarakihi, Morwongs	QMS	142	109,359	0.1%
TAY	<i>Typhlonarke aysoni</i>	Blind electric ray	Fish	Sleeper rays	Non-QMS	47	1,134	4.1%
TEW	<i>Tewara cranwellae</i>	Sand diver	Fish	Sand burrowers	Non-QMS	2	160	1.3%
THO	<i>Thouarella spp.</i>	Bottlebrush coral	Cnidaria		Non-QMS	0	97	0.1%
TLD	<i>Tetilla leptoderma</i>	Furry oval sponge	Porifera		Non-QMS	0	105	0.2%
TOA	<i>Neophrynichthys spp.</i>	Toadfish	Fish	Fatheads	Non-QMS	940	22,714	4.1%
TOD	<i>Neophrynichthys latus</i>	Dark toadfish	Fish	Fatheads	Non-QMS	6	2,230	0.3%
TOP	<i>Neophrynichthys angustus</i>	Pale toadfish	Fish	Fatheads	Non-QMS	13	2,120	0.6%
TSQ	<i>Todarodes filippovae</i>	Todarodes filippovae	Molluscs		Non-QMS	2,646	5,078	52.1%
UNI	N/A	Unidentified fish	Fish		Non-QMS	2	1,607	0.1%
UNX	N/A	All and any unidentified species	Other		Non-QMS	10	463	2.2%
URO	N/A	Sea urchin other (except SUR - Kina)	Echinoderms		Non-QMS	37	1,053	3.5%
URP	<i>Uroptychus spp.</i>	Squat lobsters	Crustacea	Squat lobsters	Non-QMS	1	344	0.3%
VSQ	<i>Histioteuthis spp.</i>	Violet squid	Molluscs		Non-QMS	244	1,203	20.3%
WAR	<i>Seriolella brama</i>	Common warehou	Fish	Raftfishes, Medusafishes	QMS	171	1,768,552	0.0%
WIT	<i>Arnoglossus scapha</i>	Witch	Fish	Lefteyed Flounders	Non-QMS	491	18,717	2.6%

**Table 1: HAK1 - Observed non-target catch of target hake fishery over the last 5 fishing years by type of organism (2007-08 to 2011-12 ) Cont**

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK1 target tows only) (kg)	Observed catch (all fishing in HAK1) (kg)	Proportion of catch from HAK1 target tows (%)
WSQ	<i>Onykia spp.</i>	Warty squid	Molluscs		Non-QMS	7,307	89,582	8.2%
WWA	<i>Seriolella caerulea</i>	White warehou	Fish	Raффishes, Medusafishes	QMS	154,500	2,692,406	5.7%
ZOR	<i>Zoroaster spp.</i>	Rat-tail star	Echinoderms		Non-QMS	3	3,513	0.1%

**Summary Table 2: HAK4 – Top 20 species - observed non-target catch of target hake fishery over the last 5 fishing years (2007-08 to 2011-12)**

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK1 target tows only) (t)	Observed catch (all fishing in HAK1) (t)	Proportion of catch from HAK1 target tows (%)
HOK	<i>Macruronus novaezelandiae</i>	Hoki	Fish	Hakes	QMS	112	11,869	0.9%
HAK	<i>Merluccius australis</i>	Hake	Fish	Hakes	QMS	20	143	13.8%
SWA	<i>Seriolella punctata</i>	Silver warehou	Fish	Rafffishes, Medusafishes	QMS	19	988	2.0%
JAV	<i>Lepidorhynchus denticulatus</i>	Javelinfinch	Fish	Rattails, Grenadiers	Non-QMS	10	912	1.1%
SPE	<i>Helicolenus</i> spp.	Sea perch	Fish	Scorpionfishes	QMS	9	318	3.0%
LIN	<i>Genypterus blacodes</i>	Ling	Fish	Cusk Eels	QMS	9	1,933	0.5%
RAT	Macrouridae (Family)	Rattails	Fish	Rattails, Grenadiers	Non-QMS	6	795	0.7%
BAR	<i>Thyrsites atun</i>	Barracouta	Fish	Snake Mackerels	QMS	5	2,477	0.2%
BEL	<i>Centriscops</i> spp.	Bellowsfish	Fish	Snipefishes	Non-QMS	4	14	28.5%
BYS	<i>Beryx splendens</i>	Alfonsino	Fish	Alfonsinos	QMS	4	357	1.1%
SPD	<i>Squalus acanthias</i>	Spiny dogfish	Fish	Dogfishes	QMS	4	811	0.5%
GSH	<i>Hydrolagus novaezealandiae</i>	Ghost shark	Fish	Chimaeras, Ghost Sharks	QMS	1.8	351	0.5%
LDO	<i>Cyttus traversi</i>	Lookdown dory	Fish	Dories	QMS	1.5	83	1.8%
GSP	<i>Hydrolagus bemisi</i>	Pale ghost shark	Fish	Chimaeras, Ghost Sharks	QMS	1.3	119	1.2%
STA	<i>Kathetostoma</i> spp.	Giant stargazer	Fish	Armourhead Stargazers	QMS	1.1	129	0.9%
WWA	<i>Seriolella caerulea</i>	White warehou	Fish	Rafffishes, Medusafishes	QMS	0.9	114	0.8%
SCH	<i>Galeorhinus galeus</i>	School shark	Fish	Smoothhounds	QMS	0.8	58	1.3%
RIB	<i>Mora moro</i>	Ribaldo	Fish	Morid Cods	QMS	0.7	102	0.7%
OPE	<i>Lepidoperca aurantia</i>	Orange perch	Fish	Sea Perches, Gropers	Non-QMS	0.7	28	2.5%
BOE	<i>Allocyttus niger</i>	Black oreo	Fish	Oreos	QMS	0.6	1,160	0.0%

**Table 2: HAK4 - Observed non-target catch of target hake fishery over the last 5 fishing years by type of organism (2007-08 to 2011-12 )**

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK4 target tows only) (kg)	Observed catch (all fishing in HAK4) (kg)	Proportion of catch from HAK4 target tows (%)
ACS	Actinostolidae (Family)	Smooth deepsea anemones	Cnidaria	Deepsea anemones	Non-QMS	1	2,338	0.0%
BAR	Thyrstites atun	Barracouta	Fish	Snake Mackerels	QMS	5,017	2,476,983	0.2%
BBE	Centriscoptus humerosus	Banded bellowsfish	Fish	Snipefishes	Non-QMS	451	33,564	1.3%
BCO	Parapercoptus colias	Blue cod	Fish	Weevers, Sandperches	QMS	5	1,731	0.3%
BEE	Diastobranchius capensis	Basketwork eel	Fish	Cutthroat Eels	Non-QMS	46	43,805	0.1%
BEL	Centriscoptus spp.	Bellowsfish	Fish	Snipefishes	Non-QMS	4,039	14,149	28.5%
BNS	Hyperoglyphe antarctica	Bluenose	Fish	Raffishes, Medusafishes	QMS	7	51,534	0.0%
BOE	Alloctytus niger	Black oreo	Fish	Oreos	QMS	576	1,159,717	0.0%
BSH	Dalatis licha	Seal shark	Fish	Kitefin sharks	Non-QMS	21	64,247	0.0%
BTH	Notoraja spp.	Deepsea skates	Fish	Skates	Non-QMS	40	1,976	2.0%
BYS	Beryx splendens	Alfonsino	Fish	Alfonsinos	QMS	3,781	357,452	1.1%
CAR	Cephaloscyllium isabellum	Carpet shark	Fish	Cat sharks	Non-QMS	50	3,428	1.5%
CDL	Epigonus telescopus	Cardinal fish	Fish	Cardinalfishes	QMS	13	31,049	0.0%
CON	Conger spp.	Conger eel	Fish	Conger Eels	Non-QMS	131	8,481	1.5%
CRM	Callyspongia cf. ramosa	Airy finger sponge	Porifera	-	Non-QMS	0	11	0.9%
CSQ	Centrophorus squamosus	Leafscale gulper shark	Fish	Gulper Sharks	Non-QMS	16	10,724	0.1%
DMG	Dipsacaster magnificus	Magnificent sea-star	Echinoderms	-	Non-QMS	4	255	1.6%
DWD	N/A	Deepwater dogfish spp	Fish	-	Non-QMS	52	137,294	0.0%
ERA	Torpedo fairchildi	Electric ray	Fish	Electric Rays	Non-QMS	10	1,170	0.9%
FHD	Hoplichthys haswelli	Deepsea flathead	Fish	Ghostflatheads	Non-QMS	576	38,471	1.5%

**Table 2: HAK4 - Observed non-target catch of target hake fishery over the last 5 fishing years by type of organism (2007-08 to 2011-12 ) Cont**

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK4 target tows only) (kg)	Observed catch (all fishing in HAK4) (kg)	Proportion of catch from HAK4 target tows (%)
FLA	N/A	Flatfish	Fish	-	QMS	1	2,338	0.0%
FMA	Fusitriton magellanicus	Fusitriton magellanicus	Molluscs	-	Non-QMS	5,017	2,476,983	0.2%
GSH	Hydrolagus novaezealandiae	Ghost shark	Fish	Chimaeras, Ghost Sharks	QMS	451	33,564	1.3%
GSP	Hydrolagus bemisi	Pale ghost shark	Fish	Chimaeras, Ghost Sharks	QMS	5	1,731	0.3%
GUR	Chelidonichthys kumu	Gurnard	Fish	Gurnards	QMS	46	43,805	0.1%
HAG	Eptatretus cirrhatus	Hagfish	Fish	Hagfishes	Non-QMS	4,039	14,149	28.5%
HAK	Merluccius australis	Hake	Fish	Hakes	QMS	7	51,534	0.0%
HAP	Polyprion oxygeneios	Hapuku	Fish	Wreckfishes	QMS	576	1,159,717	0.0%
HEX	Hexanchus griseus	Sixgill shark	Fish	Cow Sharks	Non-QMS	21	64,247	0.0%
HOK	Macruronus novaezealandiae	Hoki	Fish	Hakes	QMS	40	1,976	2.0%
JAV	Lepidorhynchus denticulatus	Javelinfish	Fish	Rattails, Grenadiers	Non-QMS	3,781	357,452	1.1%
JMA	Trachurus declivis, T. murphyi, T. novaezealandiae	Jack mackerel	Fish	Jacks, Trevallies, Kingfishes	QMS	50	3,428	1.5%
JMD	Trachurus declivis	Trachurus declivis	Fish	Jacks, Trevallies, Kingfishes	QMS	13	31,049	0.0%
LCH	Harriotta raleighana	Long-nosed chimaera	Fish	Longnose chimaeras	Non-QMS	131	8,481	1.5%
LDO	Cyttus traversi	Lookdown dory	Fish	Dories	QMS	0	11	0.9%
LIN	Genypterus blacodes	Ling	Fish	Cusk Eels	QMS	16	10,724	0.1%
LNW	Lithosoma novaezealandiae	Rock star	Echinoderms	-	Non-QMS	4	255	1.6%
MAK	Isurus oxyrinchus	Mako shark	Fish	Mackerel Sharks	QMS	52	137,294	0.0%
MSL	Mediaster sladeni	Sladen's star	Echinoderms	-	Non-QMS	10	1,170	0.9%



**Table 2: HAK4 - Observed non-target catch of target hake fishery over the last 5 fishing years by type of organism (2007-08 to 2011-12 ) Cont**

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK4 target tows only) (kg)	Observed catch (all fishing in HAK4) (kg)	Proportion of catch from HAK4 target tows (%)
OCT	<i>Pinnocotopus cordiformis</i>	Octopus	Molluscs	-	Non-QMS	576	38,471	1.5%
ONG	Porifera (Phylum)	Sponges	Porifera	-	Non-QMS	5	5,142	0.1%
OPE	<i>Lepidoperca aurantia</i>	Orange perch	Fish	Sea Perches, Gropers	Non-QMS	696	27,944	2.5%
OSD	Selachii (Order)	Sharks & Dogfish	Fish	-	Non-QMS	5	98,388	0.0%
OSK	Rajidae (Family)	Skate, Other	Fish	Skates	Non-QMS	5	1,820	0.3%
PDG	<i>Oxynotus bruniensis</i>	Prickly dogfish	Fish	Rough Sharks	Non-QMS	112	1,381	8.1%
PED	<i>Aristaeopsis edwardsiana</i>	Scarlet prawn	Crustacea	-	Non-QMS	1	6	16.7%
PHM	<i>Phormosoma</i> spp.	<i>Phormosoma</i> spp.	Echinoderms	-	Non-QMS	0	7	1.4%
PKN	<i>Plutonaster knoxi</i>	Abyssal star	Echinoderms	-	Non-QMS	3	1,853	0.2%
PLS	<i>Centroscyrnus plunketi</i>	Plunket's shark	Fish	Sleeper Sharks	Non-QMS	20	11,369	0.2%
PSI	<i>Psilaster acuminatus</i>	Geometric star	Echinoderms	-	Non-QMS	9	2,065	0.4%
RAT	Macrouridae (Family)	Rattails	Fish	Rattails, Grenadiers	Non-QMS	5,710	794,924	0.7%
RAY	Torpedinidae, Narkidae, Dasyatidae, Myliobatidae, Mobulidae (Families)	Rays	Fish	-	Non-QMS	45	121	37.2%
RBM	<i>Brama brama</i>	Ray's bream	Fish	Pomfrets	QMS	8	2,198	0.4%
RBT	<i>Emmelichthys nitidus</i>	Redbait	Fish	Bonnetmouths, Rovers	QMS	82	69,737	0.1%
RCO	<i>Pseudophycis bachus</i>	Red cod	Fish	Morid Cods	QMS	7	57,688	0.0%
RHY	<i>Paratrachichthys trailli</i>	Common roughy	Fish	Roughies, Slimeheads	Non-QMS	129	122,573	0.1%
RIB	<i>Mora moro</i>	Ribaldo	Fish	Morid Cods	QMS	717	102,352	0.7%
RSK	<i>Zearaja nasuta</i>	Rough skate	Fish	Skates	QMS	30	8,920	0.3%
RUD	<i>Centrolophus niger</i>	Rudderfish	Fish	Raffishes, Medusafishes	Non-QMS	171	9,133	1.9%

**Table 2: HAK4 - Observed non-target catch of target hake fishery over the last 5 fishing years by type of organism (2007-08 to 2011-12) Cont**

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK4 target tows only) (kg)	Observed catch (all fishing in HAK4) (kg)	Proportion of catch from HAK4 target tows (%)
SCG	Lepidotrigla brachyoptera	Scaly gurnard	Fish	Gurnards	Non-QMS	5	2,648	0.2%
SCH	Galeorhinus galeus	School shark	Fish	Smoothhounds	QMS	772	57,523	1.3%
SCI	Metanephrops challengeri	Scampi	Crustacea	Clawed lobsters	QMS	27	113,824	0.0%
SDM	Sympagurus dimorphus	Hermit crab	Crustacea	-	Non-QMS	1	145	0.7%
SDO	Cyttus novaezealandiae	Silver dory	Fish	Dories	Non-QMS	191	29,107	0.7%
SFI	Asteroidea and Ophiuroidea (Classes)	Starfish	Echinoderms	-	Non-QMS	57	7,088	0.8%
SMA	Stigmatophora macropterygia	Smooth pipefish	Fish	Seahorses, Pipefishes	Non-QMS	10	11	90.9%
SND	Deania calcea	Shovelnose dogfish	Fish	Gulper Sharks	Non-QMS	400	239,374	0.2%
SOR	Neocyttus rhomboidalis	Spiky oreo	Fish	Oreos	QMS	3	56,927	0.0%
SPD	Squalus acanthias	Spiny dogfish	Fish	Dogfishes	QMS	3,661	811,174	0.5%
SPE	Helicolenus spp.	Sea perch	Fish	Scorpionfishes	QMS	9,401	317,842	3.0%
SQU	Nototodarus sloanii, N. gouldi	Arrow squid	Molluscs	-	QMS	370	97,220	0.4%
SSI	Argentina elongata	Silverside	Fish	Silversides	Non-QMS	475	25,368	1.9%
SSK	Dipturus innominatus	Smooth skate	Fish	Skates	QMS	503	67,021	0.8%
STA	Kathetostoma spp.	Giant stargazer	Fish	Armourhead Stargazers	QMS	1,168	129,481	0.9%
SWA	Seriolella punctata	Silver warehou	Fish	Raффishes, Medusafishes	QMS	19,464	987,117	2.0%
TAR	Nemadactylus macropterus, Nemadactylus sp. ("King Tarakihi")	Tarakihi	Fish	Tarakihi, Morwongs	QMS	230	19,801	1.2%
TOA	Neophrynichthys spp.	Toadfish	Fish	Fatheads	Non-QMS	85	6,657	1.3%
UNI	N/A	Unidentified fish	Fish	-	Non-QMS	1	404	0.2%

**Table 2: HAK4 - Observed non-target catch of target hake fishery over the last 5 fishing years by type of organism (2007-08 to 2011-12 ) Cont**

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK4 target tows only) (kg)	Observed catch (all fishing in HAK4) (kg)	Proportion of catch from HAK4 target tows (%)
UNX	N/A	All and any unidentified species	Other	-	Non-QMS	0	54	0.2%
WIT	Arnoglossus scapha	Witch	Fish	Lefteyed Flounders	Non-QMS	3	6,680	0.0%
WSQ	Onykia spp.	Warty squid	Molluscs	-	Non-QMS	40	52,035	0.1%
WWA	Seriotelella caerulea	White warehou	Fish	Rafffishes, Medusafishes	QMS	889	113,609	0.8%
ZOR	Zoroaster spp.	Rat-tail star	Echinoderms	-	Non-QMS	3	847	0.4%

**Summary Table 3:** HAK7 – Top 20 species - observed non-target catch of target hake fishery over the last 5 fishing years (2007-08 to 2011-12 )

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK1 target tows only) (t)	Observed catch (all fishing in HAK1) (t)	Proportion of catch from HAK1 target tows (%)
HAK	<i>Merluccius australis</i>	Hake	Fish	Hakes	QMS	3,788	4,563	83.0%
HOK	<i>Macruronus novaezelandiae</i>	Hoki	Fish	Hakes	QMS	1,918	59,259	3.2%
RIB	<i>Mora moro</i>	Ribaldo	Fish	Morid Cods	QMS	285	310	91.9%
LIN	<i>Genypterus blacodes</i>	Ling	Fish	Cusk Eels	QMS	152	1,067	14.2%
JAV	<i>Lepidorhynchus denticulatus</i>	Javelinfish	Fish	Rattails, Grenadiers	Non-QMS	140	229	61.0%
RAT	Macrouridae (Family)	Rattails	Fish	Rattails, Grenadiers	Non-QMS	124	200	62.1%
SWA	<i>Seriolella punctata</i>	Silver warehou	Fish	Raftfishes, Medusafishes	QMS	85	770	11.0%
WWA	<i>Seriolella caerulea</i>	White warehou	Fish	Raftfishes, Medusafishes	QMS	69	77	89.6%
CON	<i>Conger spp.</i>	Conger eel	Fish	Conger Eels	Non-QMS	55	67	82.4%
LDO	<i>Cyttus traversi</i>	Lookdown dory	Fish	Dories	QMS	41	85	47.5%
SPE	<i>Helicolenus spp.</i>	Sea perch	Fish	Scorpionfishes	QMS	38	69	54.7%
HAG	<i>Eptatretus cirrhatus</i>	Hagfish	Fish	Hagfishes	Non-QMS	34	35	98.8%
SPD	<i>Squalus acanthias</i>	Spiny dogfish	Fish	Dogfishes	QMS	25	675	3.6%
SND	<i>Deania calcea</i>	Shovelnose dogfish	Fish	Gulper Sharks	Non-QMS	21	32	65.1%
CSQ	<i>Centrophorus squamosus</i>	Leafscale gulper shark	Fish	Gulper Sharks	Non-QMS	16	22	72.7%
OSD	Selachii (Order)	Sharks & Dogfish	Fish	-	Non-QMS	16	34	46.4%
SQU	<i>Nototodarus sloanii, N. gouldi</i>	Arrow squid	Molluscs	-	QMS	15	101	14.4%
SSK	<i>Dipturus innominatus</i>	Smooth skate	Fish	Skates	QMS	14	49	28.7%
BSH	<i>Dalatias licha</i>	Seal shark	Fish	Kitefin sharks	Non-QMS	13	16	83.5%
WHX	<i>Trachyrincus sp.</i>	Unicorn rattail	Fish	Rattails, Grenadiers	Non-QMS	12	13	94.0%

**Table 3: HAK7 - Observed non-target catch of target hake fishery over the last 5 fishing years by type of organism (2007-08 to 2011-12 )**

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK7 target tows only) (tkg)	Observed catch (all fishing in HAK7) (kg)	Proportion of catch from HAK7 target tows (%)
ACS	Actinostolidae (Family)	Smooth deepsea anemones	Cnidaria	Deepsea anemones	Non-QMS	2,490	2,674	93.1%
ALB	Thunnus alalunga	Albacore tuna	Fish	Mackerels, Tunas	Non-QMS	61	2,743	2.2%
ANT	Actiniaria, Ceriantharia, Corallimorpharia & Zoanthidea (Orders)	Anemones	Cnidaria	Corals, Sea anemones	Non-QMS	206	215	95.8%
APR	Apristurus spp.	Cat shark	Fish	Cat sharks	Non-QMS	185	4,667	4.0%
ASC	Ascidacea (Class)	Solitary and colonial sea squirts	Other	Sea squirts	Non-QMS	45	116	38.8%
ASR	Asteroidea (Class)	Sea stars	Echinoderms	-	Non-QMS	482	483	99.8%
AWI	Alcithoe wilsonae	Alcithoe wilsonae	Molluscs	Volutes	Non-QMS	1	3	33.3%
BAF	N/A	Black anglerfish	Fish	-	Non-QMS	1	1	100.0%
BAR	Thyrsites atun	Barracouta	Fish	Snake Mackerels	QMS	1,236	6,863,916	0.0%
BAS	Polyprion americanus	Bass	Fish	Wreckfishes	QMS	127	4,230	3.0%
BBA	Nesiarchus nasutus	Black barracouta	Fish	Snake Mackerels	Non-QMS	4	4	100.0%
BBE	Centriscops humerosus	Banded bellowsfish	Fish	Snipefishes	Non-QMS	2,270	2,681	84.7%
BCA	Magnisudis prionosa	Barracudina	Fish	Barracudinas	Non-QMS	10	12	83.3%
BCR	Brotulotaenia crassa	Blue cusk eel	Fish	Cusk Eels	Non-QMS	4	12	33.3%
BEE	Diastobranchus capensis	Basketwork eel	Fish	Cutthroat Eels	Non-QMS	4,743	5,866	80.9%
BEL	Centriscops spp.	Bellowsfish	Fish	Snipefishes	Non-QMS	862	1,088	79.2%
BEN	Benthodesmus spp.	Scabbardfish	Fish	Cutlassfishes	Non-QMS	3,190	27,746	11.5%
BER	Typhlonarke spp.	Electric ray	Fish	Sleeper rays	Non-QMS	12	114	10.5%
BES	Benthopecten spp.	Benthopecten spp.	Echinoderms	-	Non-QMS	90	90	100.0%
BFI	Bathophilus filifer	Bathophilus filifer	Fish	Scaleless Black Dragonfishes	Non-QMS	8	8	100.0%

**Table 3: HAK7 - Observed non-target catch of target hake fishery over the last 5 fishing years by type of organism (2007-08 to 2011-12) Cont**

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK7 target tows only) (tkg)	Observed catch (all fishing in HAK7) (kg)	Proportion of catch from HAK7 target tows (%)
BHE	<i>Bathypsectinura heros</i>	Deepsea brittle star	Echinoderms	-	Non-QMS	7	10	74.1%
BNE	<i>Benthodesmus elongatus</i>	Scabbard fish	Fish	Cutlassfishes	Non-QMS	25	31	80.6%
BNS	<i>Hyperoglyphe antarctica</i>	Bluenose	Fish	Raффishes, Medusafishes	QMS	509	19,054	2.7%
BNT	<i>Benthodesmus tenuis</i>	Scabbard fish	Fish	Cutlassfishes	Non-QMS	60	75	80.0%
BOC	<i>Bolocera</i> spp.	Deepsea anemones	Cnidaria	Sea anemones	Non-QMS	4	4	100.0%
BOE	<i>Allocyttus niger</i>	Black oreo	Fish	Oreos	QMS	51	570	8.9%
BRA	<i>Dasyatis brevicaudata</i>	Short-tailed black ray	Fish	Whiptail stingrays	Non-QMS	14	25	56.0%
BRG	Brisingida (Order)	Armless stars	Echinoderms	-	Non-QMS	0	2	4.8%
BSH	<i>Dalatias licha</i>	Seal shark	Fish	Kitefin sharks	Non-QMS	13,495	16,168	83.5%
BSL	<i>Xenodermichthys</i> spp.	Black slickhead	Fish	Slickheads	Non-QMS	997	1,320	75.5%
BSP	<i>Taractichthys longipinnis</i>	Big-scale pomfret	Fish	Pomfrets	Non-QMS	3	592	0.5%
BTA	<i>Notoraja asperula</i>	<i>Notoraja asperula</i>	Fish	Skates	Non-QMS	1	2	50.0%
BTH	<i>Notoraja</i> spp.	Deepsea skates	Fish	Skates	Non-QMS	747	1,007	74.2%
BTS	<i>Notoraja spinifera</i>	<i>Notoraja spinifera</i>	Fish	Skates	Non-QMS	413	422	97.9%
BYS	<i>Beryx splendens</i>	Alfonsino	Fish	Alfonsinos	QMS	580	51,222	1.1%
BYX	<i>Beryx splendens</i> , <i>B. decadactylus</i>	Alfonsino & Long-finned beryx	Fish	Alfonsinos	QMS	233	7,210	3.2%
CAM	<i>Campylonotus rathbunae</i>	Sabre prawn	Crustacea	-	Non-QMS	0	0	100.0%
CAR	<i>Cephaloscyllium isabellum</i>	Carpet shark	Fish	Cat sharks	Non-QMS	265	6,223	4.3%
CBD	N/A	Coral rubble - dead	Cnidaria	-	Non-QMS	15	30	50.0%
CBE	<i>Notopogon lilliei</i>	Crested bellowsfish	Fish	Snipefishes	Non-QMS	12	22	54.5%

**Table 3: HAK7 - Observed non-target catch of target hake fishery over the last 5 fishing years by type of organism (2007-08 to 2011-12) Cont**

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK7 target tows only) (tkg)	Observed catch (all fishing in HAK7) (kg)	Proportion of catch from HAK7 target tows (%)
CBX	Cubiceps baxteri	Cubehead	Fish	Eyebrowserfishes, Driftfishes	Non-QMS	2	4	50.0%
CCA	Cubiceps caeruleus	Cubehead	Fish	Eyebrowserfishes, Driftfishes	Non-QMS	62	62	100.0%
CDL	Epigonus telescopus	Cardinal fish	Fish	Cardinalfishes	QMS	1,526	2,462	62.0%
CDO	Capromimus abbreviatus	Capro dory	Fish	Dories	Non-QMS	29	2,582	1.1%
CER	Ceratias spp.	Ceratias spp.	Fish	Seadevils	Non-QMS	1	1	100.0%
CHA	Chauliodus sloani	Viper fish	Fish	Viperfishes	Non-QMS	7	31	22.6%
CHQ	Cranchiidae (Family)	Cranchiid squid	Molluscs	Cranchiids	Non-QMS	1	18	5.6%
CHX	Chaunax pictus	Pink frogmouth	Fish	Seatoads	Non-QMS	156	165	94.5%
CHY	Coelorinchus trachycarus	Roughhead rattail	Fish	Rattails, Grenadiers	Non-QMS	6	9	66.7%
CJA	Crossaster multispinus	Sun-star	Echinoderms	-	Non-QMS	300	340	88.2%
CNI	Chiasmodon spp.	Black swallows	Fish	Swallows	Non-QMS	1	1	100.0%
COL	Coelorinchus oliverianus	Olivers rattail	Fish	Rattails, Grenadiers	Non-QMS	14	14	100.0%
CON	Conger spp.	Conger eel	Fish	Conger Eels	Non-QMS	55,078	66,831	82.4%
COU	Alcyonacea, Gorgonacea, Scleractinia, Antipatharia	Coral (Unidentified)	Cnidaria	- Stylasteridae	Non-QMS	2	2	87.0%
CPA	Ceramaster patagonicus	Pentagon star	Echinoderms	-	Non-QMS	2	3	67.7%
CRB	N/A	Crab (Unspecified)	Crustacea	-	Non-QMS	277	353	78.4%
CSH	Other than Apristurus spp.	Cat shark	Fish	Cat sharks	Non-QMS	131	2,663	4.9%
CSQ	Centrophorus squamosus	Leafscale gulper shark	Fish	Gulper Sharks	Non-QMS	16,169	22,248	72.7%
CUB	Cubiceps spp.	Cubeheads	Fish	Eyebrowserfishes, Driftfishes	Non-QMS	1	5	20.0%
CUC	Chlorophthalmus nigripinnis	Cucumber fish	Fish	Cucumberfishes, Tripod Fishes	Non-QMS	1	1,028	0.1%



**Table 3: HAK7 - Observed non-target catch of target hake fishery over the last 5 fishing years by type of organism (2007-08 to 2011-12 ) Cont**

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK7 target tows only) (tkg)	Observed catch (all fishing in HAK7) (kg)	Proportion of catch from HAK7 target tows (%)
CWA	<i>Ceratoscopelus warmingi</i>	Warming's lanternfish	Fish	Lanternfishes	Non-QMS	1	1	100.0%
CYL	<i>Centroscymnus coelolepis</i>	Potuguese dogfish	Fish	Dogfishes	Non-QMS	1	273	0.4%
CYO	<i>Centroscymnus owstoni</i>	Smooth skin dogfish	Fish	Dogfishes	Non-QMS	1,147	2,867	40.0%
CYP	<i>Centroscymnus crepidater</i>	Longnose velvet dogfish	Fish	Dogfishes	Non-QMS	1,999	2,724	73.4%
DAP	<i>Dagnaudus petterdi</i>	Antlered crab	Crustacea	Homolid crabs	Non-QMS	1	1	100.0%
DDI	<i>Desmophyllum dianthus</i>	Crested cup coral	Cnidaria	-	Non-QMS	0	0	100.0%
DEA	<i>Trachipterus trachypterus</i>	Dealfish	Fish	Dealfishes	Non-QMS	4,554	9,268	49.1%
DIR	<i>Diacanthurus rubricatus</i>	Hermit crab	Crustacea	-	Non-QMS	1	4	18.9%
DIS	<i>Diretmus argenteus</i>	Discfish	Fish	Discfishes	Non-QMS	9	53	17.0%
DMG	<i>Dipsacaster magnificus</i>	Magnificent sea-star	Echinoderms	-	Non-QMS	106	117	90.3%
DSH	<i>Carcharhinus obscurus</i>	Dusky shark	Fish	Requiem sharks	Non-QMS	60	60	100.0%
DSK	<i>Amblyraja hyperborea</i>	Deepwater spiny skate	Fish	Skates	Non-QMS	2,291	3,070	74.6%
DWD	N/A	Deepwater dogfish (Unspecified)	Fish	-	Non-QMS	5,772	7,083	81.5%
DWE	N/A	Deepwater eel (Unspecified)	Fish	-	Non-QMS	1,077	1,420	75.8%
DWO	<i>Graneledone</i> spp.	Deepwater octopus	Molluscs	-	Non-QMS	2,599	2,746	94.6%
ECH	Echinodermata (Phylum)	Echinoderms	Echinoderms	-	Non-QMS	2	2	100.0%
ECT	Echinothuriidae (family)	Echinothuriidae (family)	Echinoderms	-	Non-QMS	102	102	100.0%
EEL	N/A	Eels, Marine (Unspecified)	Fish	-	Non-QMS	47	54	87.0%
EGC	N/a	Egg Case	Other	-	Non-QMS	0	0	100.0%
EGR	<i>Myliobatis tenuicaudatus</i>	Eagle ray	Fish	Eagle Rays	Non-QMS	10	1,025	1.0%

Table 3: HAK7 - Observed non-target catch of target hake fishery over the last 5 fishing years by type of organism (2007-08 to 2011-12 ) **Cont**

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK7 target tows only) (tkg)	Observed catch (all fishing in HAK7) (kg)	Proportion of catch from HAK7 target tows (%)
EPD	Epigonus denticulatus	Cardinal fish, white	Fish	Cardinalfishes	Non-QMS	61	61	100.0%
EPL	Epigonus lenimen	Cardinal fish, bigeye	Fish	Cardinalfishes	Non-QMS	1,717	1,950	88.1%
EPR	Epigonus robustus	Cardinal fish, robust	Fish	Cardinalfishes	Non-QMS	1,573	1,615	97.4%
EPT	Epigonus telescopus	Deepsea cardinalfish	Fish	Cardinalfishes	Non-QMS	2	189	1.1%
EPZ	Epizoanthus spp.	Epizoanthus spp.	Cnidaria	-	Non-QMS	4	11	40.0%
ERA	Torpedo fairchildi	Electric ray	Fish	Electric Rays	Non-QMS	3,456	6,639	52.1%
ETB	Etmopterus baxteri	Baxter's lantern dogfish	Fish	Dogfishes	Non-QMS	241	555	43.4%
ETL	Etmopterus lucifer	Lucifer dogfish	Fish	Dogfishes	Non-QMS	2,547	3,373	75.5%
ETM	Etmopterus spp.	Etmopterus spp.	Fish	Dogfishes	Non-QMS	6	6	100.0%
EUC	Euclichthys polynemus	Eucla cod	Fish	Eucla Cod	Non-QMS	1,233	1,543	79.9%
FHD	Hoplichthys haswelli	Deepsea flathead	Fish	Ghostflatheads	Non-QMS	10,664	19,326	55.2%
FLA	N/A	Flatfish	Fish	-	QMS	30	1,306	2.3%
FMA	Fusitriton magellanicus	Fusitriton magellanicus	Molluscs	-	Non-QMS	259	328	78.7%
FRO	Lepidopus caudatus	Frostfish	Fish	Cutlassfishes	QMS	915	1,391,354	0.1%
FRS	Chlamydoselachus anguineus	Frill shark	Fish	Frill shark	Non-QMS	6	9	66.7%
GAS	Gastropoda (Class)	Gastropods	Molluscs	-	Non-QMS	524	538	97.5%
GMC	Leptomithrax garricki	Garrick's masking crab	Crustacea	Spider crabs	Non-QMS	39	48	81.3%
GOR	Gorgonocephalus spp.	Gorgon's head basket-stars	Echinoderms	-	Non-QMS	15	18	83.2%
GSH	Hydrolagus novaezealandiae	Ghost shark	Fish	Chimaeras, Ghost Sharks	QMS	751	28,312	2.7%
GSP	Hydrolagus bemisi	Pale ghost shark	Fish	Chimaeras, Ghost Sharks	QMS	8,388	10,811	77.6%

Table 3: HAK7 - Observed non-target catch of target hake fishery over the last 5 fishing years by type of organism (2007-08 to 2011-12 ) **Cont**

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK7 target tows only) (tkg)	Observed catch (all fishing in HAK7) (kg)	Proportion of catch from HAK7 target tows (%)
GSQ	Architeuthis sp.	Giant squid	Molluscs	-	Non-QMS	253	926	27.3%
GUR	Chelidonichthys kumu	Gurnard	Fish	Gurnards	QMS	4	16,481	0.0%
GVO	Provocator mirabilis	Golden volute	Molluscs	Volutes	Non-QMS	3	7	41.6%
HAG	Eptatretus cirrhatus	Hagfish	Fish	Hagfishes	Non-QMS	34,177	34,580	98.8%
HAK	Merluccius australis	Hake	Fish	Hakes	QMS	3,787,874	4,563,378	83.0%
HAL	Halosaurus macrochir	Abyssal halosaur	Fish	Halosaurs	Non-QMS	3	9	33.3%
HAP	Polyprion oxygeneios	Hapuku	Fish	Wreckfishes	QMS	114	8,922	1.3%
HAT	Sternoptychidae (Family)	Hatchetfish	Fish	Hatchetfishes	Non-QMS	1	4	25.0%
HCO	Bassanago hirsutus	Hairy conger	Fish	Conger Eels	Non-QMS	20	523	3.8%
HEP	Heptranchias perlo	Sharpnose sevengill shark	Fish	Cow Sharks	Non-QMS	25	861	2.9%
HEX	Hexanchus griseus	Sixgill shark	Fish	Cow Sharks	Non-QMS	403	874	46.1%
HJO	Halargyreus johnsonii	Johnson's cod	Fish	Morid Cods	Non-QMS	657	1,591	41.3%
HMT	Hormathiidae (Family)	Warty deepsea anemones	Cnidaria	-	Non-QMS	254	282	90.0%
HOK	Macruronus novaezelandiae	Hoki	Fish	Hakes	QMS	1,917,932	59,259,411	3.2%
HPB	Polyprion oxygeneios, P. americanus	Hapuku & Bass	Fish	Wreckfishes	QMS	15	714	2.1%
HSI	Haliporoides sibogae	Jack-knife prawn	Crustacea	-	Non-QMS	56	67	83.6%
HTH	Holothuroidea (Class)	Sea cucumber (other than Stichopus mollis)	Echinoderms	-	Non-QMS	4	13	30.8%
HTR	Hippasteria phrygiana	Trojan star	Echinoderms	-	Non-QMS	7	8	85.4%
HTU	Hyalinoecia tubicola	Quill worm	Worm	Onuphids	Non-QMS	0	6	1.6%
ISI	Isididae (Family)	Bamboo corals	Cnidaria	-	Non-QMS	0	0	66.7%

Table 3: HAK7 - Observed non-target catch of target hake fishery over the last 5 fishing years by type of organism (2007-08 to 2011-12 ) **Cont**

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK7 target tows only) (tkg)	Observed catch (all fishing in HAK7) (kg)	Proportion of catch from HAK7 target tows (%)
JAV	<i>Lepidorhynchus denticulatus</i>	Javelinfish	Fish	Rattails, Grenadiers	Non-QMS	140,074	229,491	61.0%
JDO	<i>Zeus faber</i>	John dory	Fish	Dories	QMS	7	18,514	0.0%
JFI	N/A	Jellyfish (Unspecified)	Cnidaria		Non-QMS	517	812	63.7%
JGU	<i>Pterygotrigla picta</i>	Japanese gurnard	Fish	Gurnards	Non-QMS	8	195	4.1%
JMA	<i>Trachurus declivis</i> , <i>T. murphyi</i> , <i>T. novaezelandiae</i>	Jack mackerel	Fish	Jacks, Trevallies, Kingfishes	QMS	207	6,482,667	0.0%
JMD	<i>Trachurus declivis</i>	<i>Trachurus declivis</i>	Fish	Jacks, Trevallies, Kingfishes	QMS	11	4,920,385	0.0%
KBL	<i>Durvillea</i> spp.	Bull kelp	Seaweed	-	Non-QMS	0	0	100.0%
KIC	<i>Lithodes murrayi</i> , <i>Neolithodes brodiei</i>	King crab	Crustacea	Deepwater king or stone crabs	QMS	10	10	100.0%
KWH	<i>Austrofusus glans</i>	Knobbed whelk	Molluscs	Whelks	QMS	104	116	89.5%
LAG	<i>Laetmogone</i> spp.	<i>Laetmogone</i> spp.	Echinoderms	-	Non-QMS	2	2	100.0%
LAN	Myctophidae (Family)	Lanternfish	Fish	Lanternfishes	Non-QMS	469	674	69.6%
LAT	<i>Alepisaurus ferox</i>	Lancetfish	Fish	Lancetfishes	Non-QMS	29	32	90.6%
LCH	<i>Harriotta raleighana</i>	Long-nosed chimaera	Fish	Longnose chimaeras	Non-QMS	3,240	3,843	84.3%
LDO	<i>Cyttus traversi</i>	Lookdown dory	Fish	Dories	QMS	40,504	85,265	47.5%
LHO	<i>Lipkius holthuisi</i>	Omega prawn	Crustacea	-	Non-QMS	143	169	84.6%
LIN	<i>Genypterus blacodes</i>	Ling	Fish	Cusk Eels	QMS	152,064	1,067,364	14.2%
LMU	<i>Lithodes murrayi</i>	Murray's king crab	Crustacea	Deepwater king or stone crabs	Non-QMS	42	51	82.4%
LNV	<i>Lithosoma novaezelandiae</i>	Rock star	Echinoderms	-	Non-QMS	8	26	29.9%
LPD	<i>Lampadena</i> spp.	<i>Lampadena</i> spp.	Fish	Lanternfishes	Non-QMS	43	43	100.0%
LSK	<i>Arhynchobatis asperrimus</i>	Long-tailed skate	Fish	Skates	Non-QMS	306	387	79.1%

**Table 3: HAK7 - Observed non-target catch of target hake fishery over the last 5 fishing years by type of organism (2007-08 to 2011-12 ) Cont**

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK7 target tows only) (tkg)	Observed catch (all fishing in HAK7) (kg)	Proportion of catch from HAK7 target tows (%)
LSO	<i>Pelotretis flavilatus</i>	Lemon sole	Fish	Righteyed Flounders	QMS	1	7	14.3%
MCA	<i>Macrourus carinatus</i>	Ridge scaled rattail	Fish	Rattails, Grenadiers	Non-QMS	12	12	100.0%
MCN	<i>Malacosteus niger</i>	Loosejaw	Fish	Loosejaws	Non-QMS	1	1	100.0%
MIQ	<i>Onykia ingens</i>	Warty squid	Molluscs	-	Non-QMS	679	713	95.2%
MNI	<i>Munida</i> spp.	Krill, squat lobsters	Crustacea	Squat lobsters	Non-QMS	0	0	9.1%
MOD	Moridae (Family)	Morids	Fish	Morid Cods	Non-QMS	2,894	3,280	88.2%
MOK	<i>Latridopsis ciliaris</i>	Blue moki	Fish	Moki, Trumpeters	QMS	2	661	0.3%
MOL	N/A	Molluscs (Unspecified)	Molluscs	-	Non-QMS	6	8	75.0%
MOO	<i>Lampris guttatus</i>	Moonfish	Fish	Opahs	QMS	58	987	5.9%
MSL	<i>Mediaster sladeni</i>	Sladen's star	Echinoderms	-	Non-QMS	3	11	27.3%
MST	Melanostomiidae (Family)	Scaleless black dragonfishes	Fish	Scaleless Black Dragonfishes	Non-QMS	13	33	39.4%
MUD	N/A	Mud	Other	-	Non-QMS	100	450	22.2%
NAT	N/a	Natant Decapod	Crustacea	-	Non-QMS	4	6	66.7%
NEC	<i>Nematocarcinus</i> spp.	Spider prawns	Crustacea	-	Non-QMS	1	1	100.0%
NOC	<i>Notocanthus chemnitzii</i>	<i>Notocanthus chemnitzii</i>	Fish	Spiny Eels	Non-QMS	226	226	100.0%
NOS	<i>Nototodarus sloanii</i>	NZ Southern arrow squid	Molluscs	-	QMS	906	8,800	10.3%
NSD	<i>Squalus griffini</i>	Northern spiny dogfish	Fish	Dogfishes	Non-QMS	412	18,540	2.2%
OAR	<i>Regalecus glesne</i>	Oarfish	Fish	Oarfishes	Non-QMS	2	56	3.6%
OCT	<i>Pinnoctopus cordiformis</i>	Octopus	Molluscs	-	Non-QMS	261	498	52.4%
ODT	<i>Odontaster benhami</i>	Pentagonal tooth-star	Echinoderms	-	Non-QMS	1	7	14.3%

**Table 3: HAK7 - Observed non-target catch of target hake fishery over the last 5 fishing years by type of organism (2007-08 to 2011-12 ) Cont**

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK7 target tows only) (tkg)	Observed catch (all fishing in HAK7) (kg)	Proportion of catch from HAK7 target tows (%)
PIG	Congiopodus leucopaecilus	Pigfish	Fish	Pigfishes	Non-QMS	2	113	1.8%
PIN	Idiolorhynchus andriashevi	Pineapple rattail	Fish	Rattails, Grenadiers	Non-QMS	200	200	100.0%
PKN	Plutonaster knoxi	Abyssal star	Echinoderms	-	Non-QMS	50	52	96.2%
PLM	Plesionika martia	Golden prawn	Crustacea	-	Non-QMS	0	0	100.0%
PLS	Centroscymnus plunketi	Plunket's shark	Fish	Sleeper Sharks	Non-QMS	693	1,943	35.7%
PLY	Polycheles spp.	Deep-sea blind lobster	Crustacea	-	Non-QMS	8	8	99.8%
PNE	Proserpinaster neozelanicus	Proserpinaster neozelanicus	Echinoderms	-	Non-QMS	4	12	30.5%
PNN	Pennatula spp.	Purple sea pen	Cnidaria	-	Non-QMS	2	3	79.3%
POM	Bramidae (Family)	Pomfrets	Fish	Pomfrets	Non-QMS	25	62	40.3%
POS	Lamna nasus	Porbeagle shark	Fish	Mackerel Sharks	QMS	1,066	23,965	4.4%
PRA	N/A	Prawn (Unspecified)	Crustacea	-	Non-QMS	57	154	36.7%
PRK	Ibacus alticrenatus	Prawn killer	Crustacea	Slipper Lobsters	QMS	14	1,801	0.8%
PRU	Pseudechinaster rubens	Pseudechinaster rubens	Echinoderms	-	Non-QMS	60	60	100.0%
PSI	Psilaster acuminatus	Geometric star	Echinoderms	-	Non-QMS	481	696	69.2%
PSK	Bathyraja shuntovi	Longnosed deepsea skate	Fish	Skates	Non-QMS	586	1,011	58.0%
PSQ	Pholidoteuthis boschmai	Pholidoteuthis boschmai	Molluscs	-	Non-QMS	453	615	73.7%
PSY	Psychrolutes sp.	Blobfish	Fish	Fatheads	Non-QMS	12	13	92.3%
PTA	Pasiphaea aff. tarda	Deepwater prawn	Crustacea	-	Non-QMS	5	5	100.0%
PTU	Pennatulacea (Order)	Sea pens	Cnidaria	-	Non-QMS	2	54	3.9%
PYR	Pyrosoma atlanticum	Pyrosoma atlanticum	Other	-	Non-QMS	1	7	12.2%

**Table 3: HAK7 - Observed non-target catch of target hake fishery over the last 5 fishing years by type of organism (2007-08 to 2011-12 ) Cont**

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK7 target tows only) (tkg)	Observed catch (all fishing in HAK7) (kg)	Proportion of catch from HAK7 target tows (%)
RAG	<i>Icichthys australis</i>	Ragfish	Fish	Raftfishes, Medusafishes	Non-QMS	36	61	59.0%
RAT	Macrouridae (Family)	Rattails	Fish	Rattails, Grenadiers	Non-QMS	124,231	199,914	62.1%
RAY	Torpedinidae, Narkidae, Dasyatidae, Myliobatidae, Mobulidae (Families)	Rays	Fish	-	Non-QMS	169	327	51.7%
RBM	<i>Brama brama</i>	Ray's bream	Fish	Pomfrets	QMS	1,271	98,487	1.3%
RBT	<i>Emmelichthys nitidus</i>	Redbait	Fish	Bonnetmouths, Rovers	QMS	1,431	1,581,889	0.1%
RBY	<i>Plagiogeneion rubiginosum</i>	Rubyfish	Fish	Bonnetmouths, Rovers	QMS	12	419	2.9%
RCO	<i>Pseudophycis bachus</i>	Red cod	Fish	Morid Cods	QMS	669	95,643	0.7%
RDO	<i>Cyttopsis rosea</i>	Rosy dory	Fish	Dories	Non-QMS	2	27,669	0.0%
RGR	<i>Radiaster gracilis</i>	Radiaster gracilis	Echinoderms	-	Non-QMS	1	1	100.0%
RHY	<i>Paratrachichthys trailli</i>	Common roughy	Fish	Roughies, Slimeheads	Non-QMS	8,609	23,093	37.3%
RIB	<i>Mora moro</i>	Ribaldo	Fish	Morid Cods	QMS	285,036	310,126	91.9%
RIS	<i>Bathyraja richardsoni</i>	Richardson's skate	Fish	Skates	Non-QMS	416	440	94.5%
ROK	Geological	Rocks / Stones	Other	-	Non-QMS	66	1,325	5.0%
RSK	<i>Zearaja nasuta</i>	Rough skate	Fish	Skates	QMS	314	7,058	4.4%
RSQ	<i>Ommastrephes bartrami</i>	Ommastrephes bartrami	Molluscs	-	Non-QMS	33	86	38.4%
RUD	<i>Centrolophus niger</i>	Rudderfish	Fish	Raftfishes, Medusafishes	Non-QMS	4,947	7,794	63.5%
SAB	<i>Evermanella indica</i>	Sabretooth	Fish	Sabretooth Fishes	Non-QMS	1	1	100.0%
SAI	<i>Istiophorus platypterus</i>	Sailfish	Fish	Billfishes	Non-QMS	7	95	7.4%
SAL	N/a	Salps	Zoo & Phytoplankton	-	Non-QMS	29	500	5.7%



**Table 3: HAK7 - Observed non-target catch of target hake fishery over the last 5 fishing years by type of organism (2007-08 to 2011-12 ) Cont**

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK7 target tows only) (tkg)	Observed catch (all fishing in HAK7) (kg)	Proportion of catch from HAK7 target tows (%)
SBK	Notacanthus sexspinis	Spineback	Fish	Spiny Eels	Non-QMS	2,398	2,511	95.5%
SBN	Scalpellidae (Family)	Stalked barnacle	Crustacea	-	Non-QMS	0	5	1.9%
SBO	Pseudopentaceros richardsoni	Southern boarfish	Fish	Boarfishes, Armourheads	Non-QMS	14	223	6.3%
SBR	Pseudophycis barbata	Southern bastard cod	Fish	Morid Cods	Non-QMS	80	320	25.0%
SCG	Lepidotrigla brachyoptera	Scaly gurnard	Fish	Gurnards	Non-QMS	7	6,346	0.1%
SCH	Galeorhinus galeus	School shark	Fish	Smoothhounds	QMS	903	39,070	2.3%
SCI	Metanephrops challengerii	Scampi	Crustacea	Clawed lobsters	QMS	2,434	3,471	70.1%
SCO	Bassanago bulbiceps	Swollenhead conger	Fish	Conger Eels	Non-QMS	7,400	8,427	87.8%
SDF	Azygopus pinnifasciatus	Spotted flounder	Fish	Righteyed Flounders	Non-QMS	20	46	43.5%
SDM	Sympagurus dimorphus	Hermit crab	Crustacea	-	Non-QMS	9	24	38.5%
SDO	Cyttus novaezealandiae	Silver dory	Fish	Dories	Non-QMS	152	114,235	0.1%
SEE	Gnathopis habenatus	Silver conger	Fish	Conger Eels	Non-QMS	334	401	83.3%
SEO	N/A	Seaweed	Seaweed	-	Non-QMS	1	4	24.4%
SEV	Notorynchus cepedianus	Broadnose sevengill shark	Fish	Cow Sharks	Non-QMS	47	752	6.3%
SFI	Asteroidea and Ophiuroidea (Classes)	Starfish	Echinoderms	-	Non-QMS	5,612	6,560	85.5%
SKI	Rexea spp.	Gemfish	Fish	Snake Mackerels	QMS	4,916	141,216	3.5%
SLK	Alepocephalidae (Family)	Slickhead	Fish	Slickheads	Non-QMS	7,622	8,919	85.5%
SLL	Scyllaridae (Family)	Slipper lobsters	Crustacea	Slipper Lobsters	Non-QMS	24	30	79.7%
SMK	Teratomaia richardsoni	Spiny masking crab	Crustacea	Spider crabs	Non-QMS	91	114	79.8%

**Table 3: HAK7 - Observed non-target catch of target hake fishery over the last 5 fishing years by type of organism (2007-08 to 2011-12 ) Cont**

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK7 target tows only) (tkg)	Observed catch (all fishing in HAK7) (kg)	Proportion of catch from HAK7 target tows (%)
SNI	Macroramphosus scolopax	Snipefish	Fish	Snipefishes	Non-QMS	1	5	20.0%
SOR	Neocyttus rhomboidalis	Spiky oreo	Fish	Oreos	QMS	8,520	18,417	46.3%
SOT	Solaster torulatus	Chubby sun-star	Echinoderms	-	Non-QMS	31	35	89.9%
SPD	Squalus acanthias	Spiny dogfish	Fish	Dogfishes	QMS	24,621	675,288	3.6%
SPE	Helicolenus spp.	Sea perch	Fish	Scorpionfishes	QMS	37,884	69,229	54.7%
SPO	Mustelus lenticulatus	Rig	Fish	Smoothhounds	QMS	120	3,673	3.3%
SQU	Nototodarus sloanii, N. gouldi	Arrow squid	Molluscs	-	QMS	14,547	101,225	14.4%
SQX	N/A	Squid (Unspecified)	Molluscs	-	Non-QMS	955	1,365	70.0%
SRH	Hoplostethus mediterraneus	Silver roughy	Fish	Roughies, Slimeheads	Non-QMS	1,425	6,729	21.2%
SSH	Gollum attenuatus	Slender smooth-hound	Fish	False Cat Sharks	Non-QMS	1,121	13,457	8.3%
SSI	Argentina elongata	Silverside	Fish	Silversides	Non-QMS	990	17,470	5.7%
SSK	Dipturus innominatus	Smooth skate	Fish	Skates	QMS	14,028	48,845	28.7%
SSM	Alepocephalus antipodanus	Smallscaled brown slickhead	Fish	Slickheads	Non-QMS	158	182	86.8%
SSO	Pseudocyttus maculatus	Smooth oreo	Fish	Oreos	QMS	27	4,071	0.7%
STA	Kathetostoma spp.	Giant stargazer	Fish	Armourhead Stargazers	QMS	3,457	55,476	6.2%
STI	Stichopathes spp.	Stichopathes spp.	Cnidaria	-	Non-QMS	10	10	100.0%
STN	Thunnus maccoyii	Southern bluefin tuna	Fish	Mackerels, Tunas	QMS	999	88,431	1.1%
STO	Stomias spp.	Stomias spp.	Fish	Scaly Dragonfishes	Non-QMS	300	300	100.0%
STP	Stephanocyathus platypus	Solitary bowl coral	Cnidaria	-	Non-QMS	18	18	100.0%

**Table 3: HAK7 - Observed non-target catch of target hake fishery over the last 5 fishing years by type of organism (2007-08 to 2011-12 ) Cont**

Species code	Latin name	Common name	Organism type	Family Name	QMS/Non QMS	Observed catch (HAK7 target tows only) (tkg)	Observed catch (all fishing in HAK7) (kg)	Proportion of catch from HAK7 target tows (%)
SWA	<i>Seriolella punctata</i>	Silver warehou	Fish	Raftfishes, Medusafishes	QMS	85,048	770,464	11.0%
SWO	<i>Xiphias gladius</i>	Swordfish	Fish	Swordfish	QMS	200	17,410	1.1%
SYN	Synphobranchidae (Family)	Cutthroat eels (except Basketwork eels)	Fish	Cutthroat Eels	Non-QMS	431	443	97.3%
TAM	Echinothuriidae and Phormosomatidae (Families)	Tam O'Shanter urchins	Echinoderms	-	Non-QMS	679	883	77.0%
TAR	<i>Nemadactylus macropterus</i> , <i>Nemadactylus</i> sp.	Tarakihi ("King Tarakihi")	Fish	Tarakihi, Morwongs	QMS	31	57,045	0.1%
TAY	<i>Typhlonarke aysoni</i>	Blind electric ray	Fish	Sleeper rays	Non-QMS	213	300	71.0%
TET	<i>Tetragonurus cuvieri</i>	Squairetail	Fish	Squairetails	Non-QMS	1	1	100.0%
TFA	<i>Trichopeltarion fantasticum</i>	Friiled crab	Crustacea	Horse crabs	Non-QMS	1	1	100.0%
TOA	<i>Neophrynichthys</i> spp.	Toadfish	Fish	Fatheads	Non-QMS	3,959	4,272	92.7%
TOP	<i>Neophrynichthys angustus</i>	Pale toadfish	Fish	Fatheads	Non-QMS	159	188	84.6%
TOR	<i>Thunnus orientalis</i>	Pacific bluefin tuna	Fish	Mackerels, Tunas	QMS	380	1,160	32.8%
TSQ	<i>Todarodes filippovae</i>	<i>Todarodes filippovae</i>	Molluscs	-	Non-QMS	409	580	70.5%
TUB	<i>Tubbia tasmanica</i>	<i>Tubbia tasmanica</i>	Fish	Raftfishes, Medusafishes	Non-QMS	2	14	14.3%
UNI	N/A	Unidentified fish	Fish	-	Non-QMS	96	259	37.1%
UNX	N/A	All and any unidentified species	Other	-	Non-QMS	18	37	48.5%
URO	N/A	Sea urchin other (except SUR - Kina)	Echinoderms	-	Non-QMS	17	38	44.7%
URP	<i>Uroptychus</i> spp.	Squat lobsters	Crustacea	Squat lobsters	Non-QMS	1	1	100.0%
VOL	Volutidae (Family)	Volute	Molluscs	Volutes	Non-QMS	142	180	78.9%
VSQ	<i>Histioteuthis</i> spp.	Violet squid	Molluscs	-	Non-QMS	2,398	3,035	79.0%

Table 3: HAK7 - Observed non-target catch of target hake fishery over the last 5 fishing years by type of organism (2007-08 to 2011-12 ) **Cont**

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WHE	N/A	Whelks	Molluscs	-	Non-QMS	116	125	92.8%
WHR	Trachyrincus longirostris	White rattail	Fish	Rattails, Grenadiers	Non-QMS	2,455	2,465	99.6%
WHX	Trachyrincus sp.	Unicorn rattail	Fish	Rattails, Grenadiers	Non-QMS	12,533	13,331	94.0%
WIN	Pteraclis velifera	Wingfish	Fish	Pomfrets	Non-QMS	1	13	7.7%
WIT	Arnoglossus scapha	Witch	Fish	Lefteyed Flounders	Non-QMS	32	570	5.6%
WOD	N/A	Wood	Other	-	Non-QMS	5,261	11,516	45.7%
WSQ	Onykia spp.	Warty squid	Molluscs	-	Non-QMS	1,364	1,515	90.0%
WWA	Seriolella caerulea	White warehou	Fish	Raффishes, Medusafishes	QMS	68,551	76,543	89.6%
YBO	Pentaceros decacanthus	Yellow boarfish	Fish	Boarfishes, Armourheads	Non-QMS	521	1,864	28.0%
ZOR	Zoroaster spp.	Rat-tail star	Echinoderms	-	Non-QMS	2	56	3.6%