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FOREWORD

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1 The Falkland Islands Fishery - 2018

Comparing to last year, the total annual catch in 2018 (~187,500 t) improved by ~20,000 t and came close to the average catch for the last decade. Despite lower than usual *Illex* catch (~54,400 t), catches of two other main commercial species, *Doryteuthis gahi* (~80,000 t) and common hakes (~27,000 t) attained record high values since the middle of 1990s. Catches of all other finfish species (apart from toothfish) remained low.

1.1 Illex argentinus – Illex squid

The abundance of one of the largest commercial stocks in the Southwest Atlantic, *I. argentinus* fluctuated greatly in recent years, with a period of low abundance in 2009-2011, gradual recovery in 2012-2013, full recovery in 2014-2015, and another fall in 2016. In 2017 and 2018, the South Patagonian stock of *Illex* is on a recovering trend, but is suffering more exploitation pressure due to a dramatic increase of fishing effort on the high seas.

In January, the main stream of the Falkland Current was characterized by strong negative anomalies of the SST to the north of 48°S. The sea surface temperatures (SST) were 1.5° C lower than the climate values in the first half of the month and reached -2°C anomaly in the third week. Then thermal conditions got back to normal in the last week of January. By the end of the month, strong positive anomalies of SST started to develop to the west and east of the main stream of the Falkland Current to the north of 48°S, creating temperature gradients that favoured to concentrate squid and fish. A record number of fishing vessels (around 400) was observed on the high seas, with about 300 jigging vessels spread over both 42°S and 45-46°S areas. Information on their catches was sporadic. Trawlers fished mainly rock cod there, with *Illex* being caught sporadically in relatively small quantities not exceeding 2-3 t per day.

In February, strong negative anomalies of SST in the main stream of the Falkland Current remained to the north of 47°S throughout the month. Conversely, surface waters of the Patagonian shelf between 100 m and 200 m depths were characterized by positive SST anomalies, exceeding average climatological values by 1-1.5°C. The end of month was characterized by high positive

SST anomalies in the northern part of FICZ/FOCZ. These oceanographic conditions are usually favourable for early migrations of *Illex* into Falkland waters. Catches on the high seas were variable throughout the month. Reported catches of Falkland licensed jiggers were low in the first three weeks of the month, with the mean CPUE varying between 3 and 6 t per night. Trawlers had variable, but better catches of small squid (17-20 cm ML), with the mean CPUEs ranging between 7 and 20 t per day. Maximum catch (50 t per day) was recorded in the middle of the month. In the last two days of February, dense aggregations of South Patagonian squid appeared from the Argentinean EEZ in the southern part of the high seas area, causing a significant improvement in catches of the jigging fleet. Mean CPUE increased to 17-22 t per night, with maximum catches up to 64 t per night.

The official start of the *Illex* fishery in Falkland waters was on 15 February. However, only 1 to 2 jiggers started to fish in the northern part of FICZ/FOCZ with low catches (2-4 t per night). Some improvement in the *Illex* catches caused almost the whole licensed fleet (93-97 jiggers) to move to the northern part of FICZ where they had variable but higher catches (7-10 t per night, with maximum CPUE of 90 t per night). Higher catches on the high seas attracted the majority of the jigging fleet to move back to the high seas during the last two days of the month.

In the first ten days of March, sea surface temperatures to the northeast of the Falkland Islands were significantly higher than the average climatological values. Then, SST became closer to the mean-average values. Strong temperature gradient between the shelf waters and Falkland Current was situated over the shelf break. The Patagonian Shelf Water Inflow (PSWI) was well pronounced in the first half of March, beginning to weaken in the second half of the month. Oceanographic conditions were favourable for migrating schools of *Illex* to appear and concentrate over the shelf break in the northeast of FICZ. In the beginning of March, catches on jiggers decreased rapidly on the high seas, and the whole fleet moved to the northeast of FICZ by the end of the first week. Here, they found good concentrations of Early Maturing South Patagonian Stock (ESPS). CPUEs were relatively stable, varying between 15 and 29 t per night, with the maximum daily catch of 129 t per night. However, weakening of oceanographic gradients in the second half of March caused spreading of squid schools over a much larger area. That resulted in unstable fishing, with vessels moving back and forth from the northern part of FOCZ to north-eastern part of FICZ. Mean daily CPUEs varied from 5 to 12 t per night, with maximum CPUE 100 t per night. G -licensed trawlers had good catches of *Illex* (20-25 t per day) fishing mainly in the northeast of FICZ amongst the jigging fleet.

In April, surface waters on the Patagonian shelf between 100 m and 200 m depths were characterized by positive SST anomalies, exceeding mean climatological values by 0.5-1°C in the first half of the month, and up to 1-1.5°C in the second half of the month. The western boundary of the Falkland Current was situated to the east of its mean average position in the first half of the month. Then, it shifted slightly westwards but still did not create well resolved gradient zones. The whole jigging fleet (105 licensed vessels) worked within the FICZ/FOCZ throughout the month. As usual for this period of time, the vessels fished for *Illex* along the 200 m isobath in the northern and north-eastern parts of the Falkland Shelf in the first half of the month trying to target the ESPS squid. Catches were relatively low (average CPUE of 6 t per vessel/night, with some vessels having maximum of 103 t per night). Variability of catches was high, as the squid were not concentrated in one particular area due to the lack of strong gradient zones of temperature. After emigration of the ESPS from Falkland waters, jiggers relocated to the western part of FICZ to fish for the Late maturing SPS, but its abundance was low. CPUE declined further in the second half of the month, with average CPUEs of only 3.5 t per night. Trawlers had relatively low catches of *Illex* only in the first half of the month (10-15 t per day).

In May, positive anomalies of sea surface temperatures (1-1.5°C) were observed in the north-western part of FICZ/FOCZ throughout the month. The abundance Late Maturing South Patagonian Stock (LSPS) was low that resulted in a very low total monthly catch (1,785 t). CPUEs of jiggers gradually decreased from 2 t per vessel night in the first week of May to less than a tonne of squid after 10 May. Several vessels had sporadic catches of up to 10 t per night, mainly in the north-western part of FICZ. Similar to the last year situation, Taiwanese jiggers started to move from the fishing grounds after 10th of May, and by 15th May, all of them left the Falkland fishing grounds. 24-27 Korean vessels remained in the fishery until 20th May. By 25th May, all jiggers had left the *Illex* fishery.

Overall, 54,405 t of *Illex* were taken during the 2018 fishing season in Falkland waters. Additionally, ~16,000 t of *Illex* were caught by Falkland licensed jigging vessels on the high seas between 15 February and end of April 2018. Due to relatively high market price for *Illex* in 2018, there was no reimbursement of licence fees for jigging vessels.

1.2 Doryteuthis (formerly *Loligo*) *gahi* – Falkland calamari

Patagonian longfin squid or Falkland calamari (*Doryteuthis gahi*) is a domestic squid resource of the Falkland Islands. The Falkland stocks of *D. gahi* are stable due to conservation measures and regulations implemented through exclusive management by the Fisheries Department.

A biomass survey for first season recruitment was carried out onboard the fishing vessel *Castelo* from the 11th to 25th February. Fifty-nine scientific trawls were taken during the survey, catching 115 t of squid. An estimate of 32,194 t of *D. gahi* was calculated for the fishing zone, of which 569 t were estimated north of 52 ºS, and 31,625 t were estimated south of 52 ºS.

The first fishing season started on 27th February. With reference to the previous season, all vessels were required to carry an observer tasked (at minimum) to monitor the presence and incidental capture of pinnipeds. Fourteen C-licensed trawlers started the season on opening day; one trawler delayed entry by one day for mechanical repairs, and one trawler delayed entry as it was replacing a damaged vessel. All 16 C-licensed trawlers started to fish in the southern part of the *Loligo* box, where dense aggregations of *D. gahi* were reported during the recruitment survey. CPUEs were high (35 to 45 t per day), with the maximum daily catch of 63.4 t per day. However, squid were generally smaller (8-10 cm ML) than in 2017.

Catches of Falkland calamari were very high and stable throughout the month, with mean CPUE of 51 t per day. Both northern and southern parts of the *Loligo* Box had dense concentrations of squid. However, squid in the south were significantly smaller (8-9 cm mantle length) than in the north (11-12 cm ML). Due to conservations reasons (occurrence of large quantities of small sized squid), the whole area of the *Loligo* Box to the south of 52°S was closed for fishing from 22 to 31 March. This closure did not have an impact on the fishing performance of trawlers, as they found dense concentrations of calamari in the northern part of the Box and fished there until the end of the month. On 8th March, the fleet caught a total of 1,203 t of calamari, which was the record high daily catch of this squid in the fishing history.

After a test period of open fishing, the *Loligo* Box was again closed south of 52°S and east of 59.5°W from April 12th through April 16th, due to continued concern over the small sizes of *D. gahi* in the south. The use of Seal Exclusion Devices (SEDs) was mandated in the north sub-area of the *Loligo* Box from April 26th until the end of the season, following four reported fishing mortalities of Southern sea lions in the north. Similar to last year, excellent performance in the *D. gahi* fishery was reported in April. In the first half of the month, trawlers fished for squid exclusively in the northern part of the *Loligo* Box. Especially high catches were reported in the first week, with mean CPUEs attaining 70-75 t per vessel/day (maximum daily catch 115 t per day). Then catches gradually decreased during the second week (CPUEs of 37 t per day). In the second half of the month, both northern and southern part of the *Loligo* Box yielded good catches with mean CPUEs of 28 t per day. All squid caught at this time belonged to the autumn-spawning cohort, with average mantle length of 11-12 cm. The use of SEDs was additionally mandated in the south sub-area of the *Loligo* Box for the last few days from May 3rd until the end of the season, following two reported fishing mortalities of South American fur seals in the south.

Total catch of *D. gahi* for the first season reached 43,085 t, the highest first season catch since 1995. The estimated escapement biomass of *D. gahi* squid remaining after the end of the first season was 31,356 t, with zero risk of overfishing and falling below the threshold limit of 10,000 t.

A biomass survey for second season recruitment was carried out onboard the fishing vessel *Venturer* from the 14th to 28th July. Fifty-three scientific trawls were taken during the survey, catching 510 tonnes of *D. gahi* squid. The results of the survey obtained an estimate of 183,593 t of squid present in the fishing zone, of which 61,262 t north of 52 ºS, and 122,331 t south of 52 ºS. This represented the highest estimate for a second season since the RRAG initial biomass estimate of 264,000 t in 1992.

The second commercial *D. gahi* season started as scheduled on 29th July, with all 16 X-licensed vessels fishing in the northern and southern part of the *Loligo* box. As found during the pre-recruitment survey, the abundance of squid was high throughout the whole fishing area, and daily CPUEs were very high ranging from 62 to 65 t per day, with the maximum catch of 106 t per day. The total catch of *D. gahi* in July attained 3,745 t, which is the record catch for July since the shortening of the second season. All trawlers started to work without seal exclusion devices (SED). As in the previous season, all vessels were required to embark an observer to monitor the presence and incidental capture of seals.

The occurrence of seal mortalities resulted in mandatory use of SEDs in the south sub-area of the *Loligo* Box starting on 5th August, and in the north sub-area of the *Loligo* Box starting on 7th August, for the rest of the season. Sixteen X-licensed trawlers fished for *D. gahi* in August, with both northern and southern parts of the *Loligo* Box having dense aggregations of squid. During the first half of the month, vessels had very high CPUEs, ranging between 65 to 79 t per vessel/day, with the maximum CPUE of 106 t per vessel/day. Many vessels fished up to their freezing capacity during this period. In the second half of the month, CPUE gradually decreased to 25-28 t per vessel/ day. The size of squid was also good – ranging from 10 to 17 cm mantle length, with modal length of 12-13 cm.

Sixteen trawlers fished for *D. gahi* until 23rd September when the effort allocation for one vessel (*Petrel*) expired and she left the fishery. The catches gradually decreased throughout the month, from 25 t per vessel/day during the first half of September to 16 t per vessel/day in the second half.

Total catch of *D. gahi* for the second season was 35,828 t, the highest second season catch since 2010 (but with ten fewer fishing days). The estimated escapement biomass of *D. gahi* squid remaining after the end of the second season was 35,910 t, with 0.9% risk of overfishing and falling below the threshold limit of 10,000 t.

An additional 1,082 t of *D. gahi* were reported caught in Falklands fisheries other than C or X-licensed. The total catch for the year thus attained 79,995 t, making it the highest annual catch since 1995.

1.3 Martialia hyadesi – Martialia squid

As in many previous years, no catch of *Martialia* squid was reported within the FICZ/FOCZ.

1.4 Micromesistius a. australis – Southern blue whiting

Southern blue whiting (BLU) is a pelagic species that migrates between Chilean, Argentine and Falkland Islands waters, making its management challenging. Spawning grounds are located to the south of the Falkland Islands and along the southern coast of Chile, and spawning takes place during September and October. Chilean production of BLU increased from 1989 to 1998 with a subsequent decrease in catch since 1999. Argentine and Falkland Islands BLU catch have a declining trend since the early 1990's. In 1999, the South Atlantic Fisheries Commission recommended a reduction of the fishing mortality of this stock to meet conservation targets. Catches in Argentina were greater than in Chile and the Falkland Islands from 1991 to 2007, and again from 2015. However, catches in the Falkland Islands have remained low, in part due to little to no effort reported on S-licence, and a ban of any fishing activity on the Falkland spawning grounds was established for conservation reasons since 2010.

In 2018, BLU was caught under A, E, G, W, and X–licences. Although catches of BLU increased in 2016, low catches were again observed in 2017 and decreased further in 2018. The total catch of BLU in 2018 was 992 t, which is the lowest annual catch since 1987. The highest annual catch over the same period of time was recorded in 1990 (72,351 t).

W–licensed vessels reported the highest catch (846 t) during 2018, with catches < 50 t per month except for the highest catch (703 t) reported in August.

Approximately 53 t were caught under G–licence during March (23 t), April (21 t) and May (9 t); effort ranged from 2,079 h to 1,849 h and occurred mainly along the west and north of the Falkland Islands. X–licensed vessels caught approximately 35 t of BLU; most of this catch occurred in September (34.5 t). E–licensed vessels caught 30 t of BLU mainly during February. A–licensed vessels caught 28 t, most of which was caught in December (27 t).

Most of the fishing effort by W and G–licences during 2018 occurred along the West and North of the FICZ. However, most of the catch took place at the Southwest of the Falkland Islands.

1.5 Macruronus magellanicus - hoki

Hoki, *Macruronus magellanicus,* has been one of the most abundant pelagic fish on the Patagonian shelf. Genetic studies and otolith microchemistry analysis suggested connectivity within the Southwest Atlantic, and between the Southwest Atlantic and the Southeast Pacific. Hence, it is likely that the same populations are partially targeted in Chilean, Argentine, and Falkland waters. Hoki stocks strongly declined in Chile since 2000. In contrast, catches in the Southwest Atlantic had an increasing trend prior to 2000, with a subsequent decline in Argentina since 2000 and in Falkland Islands waters over the past five years. From 2017 to 2018 there was a slight increase in catch in Argentina and Falkland Islands; 2018 catch data from Chile was not available by the time this report was produced.

Spawning occurs during the austral winter mainly in Chilean waters between 43°S and 48°S. Most hoki migrate out of Falkland Islands waters to spawn during winter, although small spawning areas have been detected at the shelf edge east of the Falkland Islands. This species is not highly abundant in Falkland waters as the FICZ is at the edge of the species distribution. However, it is targeted mainly by trawlers during spring, summer and autumn in deep waters to the southwest of West Falkland when hoki is relatively more abundant.

In the Falkland Islands, a total of 4,438 t of hoki were caught under A, B, C, E, F, G, W, and X–licences during 2018. This is the second lowest catch observed since 1987, which could be the result of many factors such as oceanographic conditions or overfishing on the Patagonian Shelf and in the Pacific. The highest annual catch since 1987 was observed in 2002 (26,977 t).

The highest catch was reported by W–licensed vessels (2,363 t). February and March had relatively high catches with 608 t and 463 t, respectively. Catches then decreased through the year, except for December with 811 t caught. Effort had an increasing trend from January (0 h) to December (855 h), with a maximum of 1,066 h in November. CPUE was highly variable throughout the year, with maximum values in February and March (1,905 and 2,297 $kg \cdot h^{-1}$, respectively). CPUE was nil in April due to the limited effort during that month (10 h) but had a peak in May (936 $kg \cdot h^{-1}$) and remained relatively low from June through November (<160 $kg \cdot h^{-1}$); high CPUE was reported again in December (949 $kg \cdot h^{-1}$).

The second highest catch (1,779 t) of the year was reported by G–licensed trawlers that fished during March (437 t), April (468 t), and May (875 t). CPUE was 296, 225 and 473 $kg \cdot h^{-1}$ from March through May, respectively. Fishing effort was high, with 1,479 h in March, followed by 2,079 h in

April and 1,849 h in May. A total of 234 t were caught by A–licensed vessels, with > 50 t caught only in May and November. Effort ranged from 0 to 2,148 h, and CPUE from 0 $kg \cdot h^{-1}$ to 306 $kg \cdot h^{-1}$. Fishing effort by W and G–licences was spread along the West and North of the FICZ with most of the catch taking place in the southwest.

1.6 *Merluccius hubbsi, Merluccius australis* – Hakes

Two commercial species of hake occur in Falkland waters, common hake *Merluccius hubbsi* and Patagonian hake *Merluccius australis*. Common hake is less valuable but significantly more abundant than Patagonian hake. Both species of hake migrate between Argentine, Chilean and Falkland Islands waters. Common hake is more abundant in Argentine waters from November to March during the spawning season and then migrate to Falkland waters where foraging grounds are. In Falkland waters common hake is found in the northwest of the FICZ. Patagonian hake is more abundant in Chilean waters than in Falkland Islands waters which are at the edge of their species range. Highest abundance of this fish is encountered in deep waters to the southwest of West Falkland. This species is taken as a bycatch in the finfish trawl fleet as low abundance prevent it from being targeted.

In 2018, hake was the most abundant finfish in catches within FICZ/FOCZ, making up 20% of the total catch for the year. In fact, total annual catch of hakes was exceptional (27,020 t), ranking second only to 1988 (51,489 t) and more than 15% higher than the next highest year (2016; 23,363 t). Conversely to many other species whose catches have declined in recent years, hake seems to be displacing other species in the FICZ as a result of its sheer abundance. Hake arrived later into the FICZ relative to previous years, with catches jumping from 1,130 t in April to 5,183 t in May. Additionally, hake departed later towards their spawning grounds in the Argentine EEZ (3,177 t in October). October's total catch corresponds to the highest of the past decade and the highest CPUE over the same period on A-licence (1,363 kg/hr); nearly double the second highest (681 kg/hr in 2016). Despite spatial restrictions (Hake Box) imposed to W-licensed vessels North of 51 degrees S and West of 60 degree W from the 1st of June, CPUEs in June and July on W-licence were the highest of the year (3,466 and 1,509 kg/hr, respectively), indicating that hake was highly abundant even outside the "Hake Box". Additionally, hake made up 80 and 77% of the total catch on W-licence for June and July, respectively, despite these spatial restrictions.

Hake was caught primarily in the finfish trawl fisheries: A- (20,400 t; 76%), W- (3,244 t; 12%), and G- (3,030 t; 11%) licences. Lesser amounts were reportedly caught in the "*Loligo*" (C- and X-licences; 156 t; 0.6%), skate (F-licence; 116 t; 0.4%), and *Illex* (B-licence; 9 t; <0.1%) trawl fisheries.

From May to October (inclusively), monthly hake catches were either the highest (4 months) or second highest (2 months) of the past decade. On A-licence, monthly CPUEs for May to October 2018 were the highest of the past decade for their respective months (1,363 to 3,104 kg/hr). Furthermore, monthly CPUEs for June to August 2018 (inclusively) were the highest of the past decade for these respective months despite the spatial restrictions imposed since 2015.

Hake catches have increased significantly in recent years, but hake sizes have been decreasing slightly during this time. This seems to indicate that not only are catches increasing, but also the number of fish caught. These patterns need to be analysed more carefully to better understand size and maturity patterns at each phase of their lifecycle. Additionally, it will be interesting to monitor the catch composition on different licences if and when hake decreases in abundance across the FICZ to determine which species were displaced by this generalist predator.

For a second year in a row, cumulative catches of Patagonian hake have decreased in 2018 (71 t) from their high in 2016 or 531 t. Decreasing effort in the southwest of the FICZ, where Patagonian hake is most abundant, on W-licence in 2018 relative to both 2016 and 2017 might explain this downward trend in catches.

1.7 Genypterus blacodes – kingclip

In 2018, kingclip catches totalled 1,445 t across all fisheries. This was the lowest total annual catch since 2003 or ninth-lowest since 1987 and nearly 200 t less than last year. For a third consecutive year, kingclip catches were well below the long-term average or *c.* 70% of the 31-year average of 2,099 t. Compared to catches from the last decade, kingclip monthly catches were the lowest for six of the months in 2018, including all three months of the austral spring (August to October), and second-, third-, or fourth- lowest for five additional months. Consistent with previous years, kingclip were most abundant to the north, northwest, and west of the Falkland Islands during the winter and spring when kingclip visit their feeding grounds in the FICZ. Catches of kingclip increased significantly in May (from 110 to 276 t) to reach their annual peak and corresponding with the autumn migration of kingclip into the FICZ, and decreased considerably in November (from 209 to 106 t), corresponding to kingclip exiting the FICZ to return to their spawning grounds in the Argentine EEZ.

Kingclip was caught primarily in the finfish fishery: A- (770 t; 53%), W- (367 t; 25%), and G- (286 t; 20%) licences. Lesser amounts were reportedly caught from the skate (F-licence, 12 t; 0.8%), *Illex* (B-licence, 2 t; <0.2%), and *D. gahi* (C- and X- licences, 1.5 t; 0.1%) fisheries. In the finfish fishery, while effort on A-licence (10,725 hours) was double to that of W- (5,262 hours) and G- (5,389 hours) licences, CPUEs were relatively similar (72, 70, and 53 kg/hr, respectively). However, despite vessels using their A-licence were targeting hake, kingclip made up similar proportions of the catch in the three licences in the finfish trawl fishery, *i.e.* 3.0% of the catch on A-licence compared to 4.3% and 2.8% on W- and G-licences, respectively.

For 2018, while catches of kingclip on A-licences have fluctuated greatly during the year (2 to 172 t per month of activity), peaking in July and October at the peak of A-licence effort, these have been highly correlated with effort and have led to CPUEs being relatively consistent from month to month (40 to 98 kg/hr) during the year. The patterns have been similar on W-licence where monthly catches have ranged from 0.2 to 76 t per month of activity with a peak in November corresponding to the highest monthly effort on W-licence once hake migrated out of our zone. These catches have also been correlated with effort with CPUEs remaining relatively consistent throughout the year (46 to 93 kg/hr when removing the months with kingclip catches of less than 15 t).

Kingclip biomass estimated during summer ground fish surveys has been declining since 2015 and in recent years has declined faster than abundance, indicating that although the number of kingclip is decreasing, a greater proportion of smaller individuals are being caught. This is indicative of a decrease in average size of kingclip. Furthermore, 2018 biomass estimates suggest that kingclip abundance is now lower than that observed in 2010.

1.8 Salilota australis – red cod

Red cod is another commercial by-catch species with a trend of declining catches and abundance. For 2018, red cod catches were the third lowest (1,654 t) since 1987 or less than 40% the long-term average (1987 to 2018) of 4,306 t, yet still nearly 300 t more than last year. It is possible that conservation measures introduced in 2009 and later extended, *i.e.* fishing ban from September and October in the spawning area, did not have much effect on declining catches in recent years. However, the more likely causes of declining red cod catches are attributable to vessels targeting rock cod, and more recently, due to incursions and high abundance of common hake throughout the finfish area. Not surprisingly, with the spatial and temporal closures in place, red cod catches peaked in May (451 t) once they began aggregating in the feeding area. However, monthly catches never exceeded 200 t the rest of the year and were lowest during the summer months following spawning and during the resting season.

The majority of catches were reported from the finfish trawl fisheries: A- (45%; 738 t), W- (29%; 470 t), and G- (24%; 399 t) licences, with lesser quantities caught in the "*Loligo*" (C- and X-licences; 15 t; 0.9%), skate (F-licence; 12 t; 0.7%), and *Illex* (B-licence; 1t; <0.1%) trawl fisheries. It should be noted that nearly 18 t (1%) were caught on E-licence, primarily during the groundfish survey in February.

While catches on A-licence were greater than on other finfish trawling licences, A-licence effort (10,725 hours) was double that for both W- and G-licences (5,262 and 5,389, respectively), resulting in lower CPUE on A-licensed vessels (69 kg/hr) targeting hake. Obviously, effort on A-licence was linked directly to abundance of hake in the FICZ. However, red cod catches were not strongly correlated with fishing effort on A-licence. The absence of any pattern was attributable to fishing effort being concentrated in the hake box to the northwest of the FICZ while red cod was most abundant to the west. Conversely, catches and effort on W-licence were highly correlated with effort being concentrated to the west due to spatial restrictions imposed on W-licensed vessels. Monthly CPUEs on A-licence varied widely (16 to 147 kg/hr), peaking in May (147 kg/hr) and November (103 kg/hr), before and after the spatial restrictions, respectively. These were more consistent on W-licensed vessels (70 to 112 kg/hr). Not surprisingly, with A-licensed vessels targeting hake, red cod made up 3% of the total catch on A-licence compared to 6% on W-licence.

1.9 Dissostichus eleginoides – Patagonian toothfish

Toothfish is one of the most valuable resources in the Southwest Atlantic. Adult toothfish caught by longliners are certified by the Marine Stewardship Council (MSC) and can be sold as high as US$ 30/kg. However, by-caught juvenile toothfish in the finfish trawl fisheries, on the continental shelf and shelf break, are not certified and far less valuable; being sold with other white-fleshed fish for less than US$5/kg. The spawning ground is believed to be along the edge of Burdwood Bank with spawning to occur between June and August. Toothfish may display skip-spawning, where mature fish do not spawn every year. Eggs hatch in austral spring (September – October) and larvae undergo a pelagic phase during which they are passively carried by the currents until they settle on the shelf in shallow waters in December – January. As the juveniles grow, they migrate to deeper waters. By the time they are 7 to 12 years of age, they have reached the Patagonian slope and deep water plains (> 1,000 m) where they remain. It is during this migration to deeper waters that they are most vulnerable to trawling. However, catches on the W-licence were much lower during the same period in 2018 due to 1.5% TOO and 10% GRX bycatch rule for trawlers implemented in 2018. Furthermore, juvenile toothfish are by-caught by the *Doryteuthis* trawl fishery, where practically all are discarded due to their small size, thus potentially affecting future recruitment of the species in the longline fishery. At this stage, it remains to be determined how much potential recruitment is taken by this fishery.

For 2018, a total of 1,258.9 t of toothfish was taken by all fisheries in the Falkland fishing zones (981.8 t [78.0%] taken by targeted longline fishery, 93.1 t [7.4%] under W-licence, 88.5 t [7.0 %] G-licence, 76.8 t [6.1%] A-licence, 5.7 t [6.1%] F-licence, 5.0 t [0.4%] C-licence, 4.6 t [0.4%] X-licence, 3.2 t [0.3%] E-licence, and 0.2 t [0.01%] B-licence, respectively). The majority of the toothfish catches were taken by Falkland-flagged vessels (1,045 t; 83.0%); primarily in the longline fishery. This was followed by 206.5 t (16.4%) on Spanish-flagged vessels (all in the trawl fisheries) and 6.5 t (0.5%) on Korean-flagged vessels (primarily from the F-licence skate fishery).

Trawl fisheries captured a total of 277.0 t of toothfish, with the finfish W-, G-, and A-licensed vessels taking 33.6%, 31.9% and 27.7% of that catch respectively. The calamari trawl fisheries only took 1.8% and 1.1% of that catch for C- and X-licensed vessels, respectively. Trawl fisheries started capturing toothfish in February and the capture of toothfish was relatively consistent throughout the year, with an average daily catch of 905 kg. In the first and second quarters of the year, toothfish were primarily caught by G-licensed vessels operating in 200-300 m depth to the north and to the west of the Islands. Starting in June, Catches of toothfish on G-licensed vessels stopped, and the majority of the catch for the rest of the year was taken by A- and W-licensed vessels. In the second half of the year, the catches of toothfish in trawl fisheries shifted away from the north and moved to the west and south of the FICZ, where toothfish were caught in shallower waters (200-300 m) on A-licence vessels, and deeper waters (down to 500 m) on W-licence vessels. In addition, December saw catches of toothfish increase in F-licence vessels fishing for skates as effort increased in the north of the FICZ around 200 m depth.

As in previous years, TAC was set at 1,040 t for the longline fishery based on the results of stock assessment by age-structured production model. It was also estimated that a proportion equivalent to approximately 330 t would be taken as by-catch by the respective trawl fisheries. In 2016 and 2017, there was a shift in fishing behaviour as some vessels exploited deeper waters (500 – 800 m), in the southwest of the FICZ between October and January. This led to a significant increase in toothfish by-catch during this period exceeding our predictions for the proportion of MSY taken by trawlers. This led to the closure of an area in the southwest of the FICZ from early December

2017 to the end of January 2018 as a conservation measure. Due to implementation of a 1.5% toothfish bycatch limit in 2018, trawlers did not fish as much in deep waters in the southwest, and therefore toothfish bycatch did not exceed our predictions of 330 t.

One longliner operated in Falkland waters throughout the year (except between May and August when it was in Spain for maintenance) with a total of 185 fishing days on L-licence. Toothfish catches on the longline vessel occurred throughout the eastern half of the FICZ/FOCZ, generally below 1,000 m depth. There was no spatial pattern in fishing effort throughout the year, but the longline vessel went furthest south in the first third of the year, fishing on the southern edge of Burdwood Bank, and also spending time fishing directly east of the Falkland Islands. In the last four months of the year the majority of the longline toothfish catches came from the southern parts of the zone, primarily east of Burdwood Bank and in the Falkland Trough, with smaller catches also coming from the eastern part of the zone.

Due to the long pause in fishing, the TAC was not fully taken (66.4 t remained) despite CPUE on L-licence being good (average 4.4 kg/umbrella). Monthly CPUEs ranged from 2.08 to 5.47 kg/umbrella; equivalent to the 2017 CPUEs on the same vessel. Placed in a historical context, CPUEs for 2018 were the fifth-highest since moving to the umbrella system in 2007. The catches on L-licence and associated CPUE suggest that there has been solid recruitment into the longline fishery, showing no signs that it will decrease in the future. However, some caution is necessary to protect this recruitment and bycatch levels will need to be monitored closely moving forward.

1.10 Rajidae – Skates

In 2018, 1,993 t of skate were caught in the Falklands Islands Conservation Zones. This represents the lowest annual total skate catch since 1998, and the fourth-lowest since skate catches were first recorded in 1989. Both target catch and non-target bycatch decreased in 2018 from the year before, by respectively 620 t and 566 t. Approximately 25.9% of the 2018 total catch (515 t) was harvested as target catch (F licence). This represents the lowest percentage of target catch since 2009. F-licence allocated days increased in 2018 from the year before, as more vessels were registered for GT category 5. However, the actual fishing effort decreased substantially: in 2018 64 F-licence fishing days taken out of 258 days allocated (24.8% licence utilization rate), whereas in 2017 133 F-licence fishing days taken out of 223 days allocated (59.6% licence utilization rate). By comparison, licence utilization rates were 58.6% in 2016, 96.1% in 2015, and 100% in 2014.

The 2018 target catch was taken by three vessels; one vessel each registered in the Falkland Islands (52.5 t in 18 vessel-days; mean CPUE of 177 kg/hr), Spain (1.3 t in 1 vessel-day; mean CPUE 91 kg/hr), and Korea (461.6 t in 45 vessel-days; mean CPUE 578 kg/hr). The F-licensed Falklands vessel took 62.1% of its skate catch in May (vs. 55.6% of the effort), and 37.9% of skate catch in October (44.4% of the effort). The Spanish vessel took its one day of F-licence fishing in August. The F-licensed Korean vessel took 33.3% of its skate catch in May through July (42.2% of the effort), and 66.7% of skate catch in December (57.8% of the effort).

The F-licenced Falklands vessel was targeting skate for the first time in 2018. This vessel also held finfish A and G licences, accounting for 29.6% of its total fishing activity in 2018, *D. gahi* C and

X licenses, accounting for 57.0% of its total fishing activity in 2018, and surimi S licence, accounting for 2.2% of its total fishing activity in 2018. The F-licenced Spanish vessel held A, G, and W finfish licences, which accounted for 99.3% of its total fishing activity in 2018. Skate-licence fishing was thus a minor activity for Falklands- and Spanish-registered vessels in 2018. The F-licenced Korean vessel also held a finfish W licence, which accounted for 12.9% of its total fishing activity in 2018, and an *Illex* B licence, which accounted for 32.1% of its total fishing activity in 2018. These three F-licence vessels took 9.6% of the total skate bycatch under finfish licence, compared to the 11.7% of total finfish-licensed effort they accounted for. Finfish vessels that participated in the skate-licence fishery were therefore not predisposed to bycatch more skate. Within finfish trawls, 816 t of skate were taken under A licence, 311 t under G licence, and 298 t under W licence, representing skate bycatch decreases of 201 t, 47 t, and 217 t from the year before. Less than 2% of finfish skate bycatch was reported discarded. Additionally 17 t of skate were caught in the *D. gahi* fishery, a substantial decrease from last year (107 t). The one F-licenced vessel in 2018 that had also fished *D. gahi* licences reported 1.4% of skate bycatch vs. 5.3% of the effort under *D. gahi* licence, thus a lower rate of skate bycatch compared to other vessels in that fishery. Twenty-eight tonnes of skate were caught in the toothfish longline fishery, 8 t were caught under experimental licence (which included a skate-fishing trial), and 2 t in the *Illex* trawl fishery. Skates caught in the longline fishery were almost entirely discarded.

In all commercial fisheries, a total of 22,397 skates were identified to 13 species by observers on thirteen vessels. In skate-target trawls, four species represented at least 10% each of the sampled species composition by numbers: *Bathyraja brachyurops* (28%), *Zearaja chilensis* (21%), *Bathyraja albomaculata* (14%), and *Amblyraja doellojuradoi* (12%). Two species represented at least 10% each by weight: *B. brachyurops* (33%) and *Z. chilensis* (26%). In finfish-target trawls, three species represented at least 10% each of the sampled species composition by numbers: *B. brachyurops* (39%), *Bathyraja macloviana* (17%), and *Z. chilensis* (14%). Five species represented at least 10% each by weight: *Z. chilensis* (28%), *B. brachyurops* (25%), *Bathyraja griseocauda* (18%), *B. macloviana* (10%), and *B. albomaculata* (10%). In *D. gahi* trawls, two species represented at least 10% each of the sampled species composition by numbers: *B. brachyurops* (54%) and *Bathyraja scaphiops* (26%). Three species represented at least 10% each by weight: *B. brachyurops* (53%), *Z. chilensis* (17%), and *B. scaphiops* (10%). In the longline fishery two species represented all skate bycatch; by numbers: *Amblyraja georgiana* (79%) and *Bathyraja meridionalis* (21%), and by weight *A. georgiana* (75%) and *B. meridionalis* (25%).

1.11 Patagonotothen ramsayi – Rock cod

The annual catch fell to a further low in 2018, with the total of 2,213 t of rock cod caught. The catch was dominated by the *D. gahi* fishery, the fishery caught 1,422 t, 64.25% of the catch. The fishery discarded 99.7% of the catch (1,418 t).

Finfish vessels (A, W and G) caught 728 t. The highest catch in the finfish targeting fleet was by the G licences with 358 t, 117 t were discards. Vessels fishing on A licences caught 198 t and discarded 92 t, whilst W licensed vessels caught 172 t.

Given the catch by G licensed vessels, the highest catch by the finfish licenses was in the second quarter, 396 t. The lowest catch was in the third quarter when 26.5 t were caught. Overall CPUE was 434 kg/day, with a high of 951 kg/day in the first quarter and a low of 54 kg/day in the third quarter.

1.12 Grenadiers (Macrouridae)

There was neither a target fishery nor a research cruise for grenadiers in 2018. Total annual catch of grenadiers was 483 t taken as by-catch during longline and finfish fisheries, closer to the norm after abundant 2016 and 2017 catches of 2,336 and 3,273 t. The highest catch was in the fourth quarter when 158 t were caught, whilst the lowest catch was in the third quarter, 96 t. A total of 47 t of *Macrourus* spp. were caught in the longline fishery mostly *M. holotrachys*, whilst the trawl fishery was split between *Macrourus* spp. (generally *M. carinatus*, with few *M. holotrachys*) and *Coelorhynchus* (*Coelorhynchus fasciatus*).

1.13 Zygochlamys patagonica - Patagonian scallop

No directed scallop fishery in Falkland Island waters occurred in 2018 although 4 t were taken as by-catch.

1.14 Eleginops maclovinus - Falkland mullet

Historically, there has been a minor commercial beach seine fishery for Falkland mullet that supplies the domestic market, with fishing occurring only over summer months (Dec- Feb). Operations have reduced with modest supply to domestic market outlets.

1.15 Paralomis granulosa - Snow crab

There is an experimental licence available for snow crabs, this was only used rarely in 2018 and catch was less than 1 tonne.

1.16 Others

Butterfish (*Stromateus brasiliensis*), redfish (*Sebastes oculatus*), lobster krill (*Munida* spp.), various other squid and fish as well as jellyfish are included into this category. The total annual catch of each species is shown in table O.7.

2 Fisheries Department research cruises in 2018

In 2018, a variety of research cruises were conducted by the Fisheries Department using chartered fishing vessel *Monteferro*, longliner *CFL Hunter* and fishing vessels *Petrel* and *Castelo*.

2.1 Demersal biomass survey ZDLM3–02–2018

The ground fish survey was conducted from 3 to 24 February 2018 on board the F/V *Monteferro* for the sixth time since 2010, every time concurrently with the first season *Loligo* pre–recruitment survey. Since 2011, the same stations were repeated to ease comparisons between years. To improve the data collection towards the implementation of an ecosystem–based framework for fisheries management in the Falkland Islands, the survey was extended by 23 trawl stations to the south of the finfish zone, thus increasing the number of trawl stations from 89 to 102 (10 stations were removed in the north of the *Loligo* box as this area is already covered by the *Loligo* pre–recruitment survey) and oceanographic stations to 101. The southward expansion of the survey provided for data to be collected that were not available with the survey design used until 2017 (inclusively). Southern blue whiting, hoki, toothfish, and skates were better covered in the 2018 survey than by previous ones. In 2018, hot spots for southern blue whiting and hoki were identified to the south of the southern limit of the previous survey area. Furthermore, data were also collected on grenadier – ridge scaled rattail (GRC), a species that was targeted by some bottom trawlers over the last three years, especially in late-spring and early-summer and whose distribution consists of waters deeper than 400 m to the north and south of the finfish area.

During the survey a total catch of 130,402 kg was taken comprising 125 species or taxa. Focusing on trends in annual estimated biomass for the main commercial species, despite the increase in survey area to the Southwest of the FICZ, biomass for certain species has decreased from previous years. For red cod, a non-significant increase in biomass and decrease in abundance were observed, indicating that red cod density over the finfish area has decreased and that the population consists of larger individuals; the latter most likely due to larger fish being sampled from the Southwest of the FICZ. A similar trend was observed for *Illex* with a greater increase in biomass than abundance indicating that the population consisted of larger individuals than in previous years. This is most likely due to positive anomalies in temperatures that would have led to increased growth rates of the South Patagonian stock. Hake biomass and abundance both decreased from last year. Compared to previous years, this lower biomass in February should not be surprising given that this species generally arrives to their feeding grounds in March. However, given that hake catches were the second-highest since 1987, the lower biomass estimated during the groundfish survey might simply reflect that hake arrived later in the FICZ relative to previous years. For southern blue whiting, hoki, and Patagonian toothfish, significant increases both in terms of biomass and abundance were observed from 2017. Given that the biomass hotspot for all three species was located in the Southwest of the FICZ, the extension of the survey in 2018 has provided a more accurate assessment of the biomass of these species in Falkland waters. For kingclip, the biomass decrease from 2017 to 2018 was steeper than that for abundance. This is the result of a shift in the length frequency of the stock towards smaller individuals where the length frequency mode is observed at c. 50 cm while it was always >50 cm prior to 2018.

2.2 Toothfish tagging and underwater camera research cruise ZDLK3–02–2018

The initial Marine Stewardship Council (MSC) certification for Patagonian toothfish (*Dissostichus eleginoides*) in the Falkland Islands was awarded in March 2014, and came with four conditions which Consolidated Fisheries Ltd (CFL) were obligated to meet. These conditions were addressed in collaboration with the Falkland Islands Fisheries Department (FIFD) and included enhancing the current knowledge on stock discrimination of toothfish in the Southwest Atlantic, and better understanding the impact of the longline gear on the benthic habitat of the Falkland Islands waters.

To continue researching these two questions, a research cruise focused on Patagonian toothfish was conducted aboard the *CFL Hunter* between 10 and 23 February 2018. The two primary goals of this cruise were to: 1) deploy conventional and satellite tags on toothfish in areas where none had been deployed before; and 2) gather video footage of the benthic environment and the behaviour of the longline gear during setting, soaking and hauling. The cruise travelled to five areas in the south-eastern region of the Falkland Conservation Zones, where tagging took place on a total of 21 lines. The underwater camera was deployed 11 times on umbrella branch lines of the longline gear.

Overall, 1,161 conventional tags and 10 mark-recapture satellite tags were deployed on toothfish ranging from 61 to 165 cm TL, with the weight of toothfish tagged and released totalling 10.9 t. On average, 45.1% of the toothfish weight on each line was tagged, with a weak decreasing relationship between tagging percentage and soak time. No tagged toothfish were recaptured during the February 2018 cruise.

All but one camera deployment were successful and returned useable video footage of the habitat, epibenthic invertebrates (including hard corals, gorgonian corals, and sea pens), and organisms interacting with the baited hooks including toothfish, bigeye grenadier (*Macrourus holotrachys*), blue antimora (*Antimora rostrata*), skates (Rajiformes), hagfish (*Myxine* sp.), and crabs. The behaviour of the fishing gear was also recorded, indicating that only the 6 kg weight at the end of each branch line is contacting the bottom and dragging during hauling. The umbrella does not seem to be regularly making contact with the bottom during normal fishing activity, suggesting that the footprint of the longline fishing is minimal. Most of the benthic habitat seems to be composed of mud or silt and no evidence of permanent damage to the benthic environment was seen.

2.3 Skate mesh trial research cruise ZDLV–10–2018

Currently, there are no specific gear requirements for the specialized skate fishery in the Falkland Islands. The 110 mm diamond mesh regulation applies to all trawlers regardless of their targeted species. However, skate-licensed trawlers are permitted to use one or several tickler chains in front of their ground rope to ‘lift’ the skates from the bottom, increasing the effectiveness of their catches. The relatively small mesh size of the cod-end of the specialized skate fishery in the Falkland Islands raised concerns regarding the high proportion of bycatch in terms of finfish species caught, as well as the unwanted bycatch of small and undersized skates.

In the beginning of 2018, a skate-licensed fishing company (Fortuna Ltd) approached the Falkland Islands Fisheries Department (FIFD) with a proposal to test a variety of cod-ends comprised of differing mesh sizes as a means to optimise their catches of skate that has been realized in October 2018 on board the F/V *Petrel*. Cruise objectives were: a) to assess the impact different cod-end mesh sizes (110 mm, 300 mm and 400 mm diamond mesh) have on the composition and quantities of finfish by-catch caught within the specialized skate fishery; b) to investigate species composition and skate size distribution by species in the catches of trawls utilising different cod end mesh sizes and 3) to make recommendations on the optimal mesh size to be used in the cod-end of bottom trawls for the specialized skate fishery.

During the 10-days cruise it was found that for every mesh size, catches were quite similar in three sample areas of the FICZ that currently allows skate fishing (north of 51°S). The 110 mm mesh cod-ends kept between 22 to 73 % of commercial by-catch species in the net (hake, grenadier, rock cod, red cod and toothfish). The by-catch of these species drastically decreased in 300 mm and 400 mm mesh, down to 1-8 %. In the latter case, a large proportion of bycatch originated from fish enmeshed in the trawl area close to the attachment of the cod end. It was found that the 110 mm mesh cod-end took a large proportion of small undersized commercial (< 35 cm disc width) and non-commercial species of skates such as RMC, RDO and RPX, accounting for 40 to 50 % of catch by weight (and up to 80 % by number). Such skates were discarded, with unlikely survival rates. The 300 mm mesh retained significantly larger proportions of small skates (40-50 cm DW), approximately 30-40 % more than those of 400 mm mesh. These were processed and kept onboard as low value product (category RY1 – 0-300 g). A significant proportion of these skates were at length below 50% maturity – i.e. never given the opportunity to reproduce. When all mesh sizes are considered, skate numbers and weights remained consistent in terms of larger individuals (>50 cm DW). However, in Areas 1 and 2 the effectiveness of the 400 mm mesh was higher than that of 300 mm, as the reported weight for the product RY3 and RY4 (+500 g) was significantly larger when the 400 mm mesh was utilised.

It was recommended that the 110 mm mesh size cod end NOT to be used for the specialized skate fishery as it catches large quantities of commercial by-catch finfish species, as well as large quantities of undersized and non-commercial small skates. The 300 mm mesh size reduces by-catch of finfish species but retains a significant proportion of small sized skate (<45-50 cm DW) that have yet to attain their 50 % maturity size. Thus, for the sustainability of the skate assemblage, the 300 mm mesh is not recommended for the F-licensed fishery. The 400 mm mesh size cod end is recommend to be used in the F-Licensed fishery as it produces the same (or greater) amounts of large commercial sizes skates as both 110 mm and 300 mm mesh cod ends. Furthermore, 400 mm mesh dramatically decreases the number and volume of fin fish by-catch caught and also limits the catch of immature commercial and non-commercial skate species.

2.4 Toothfish tagging and underwater camera research cruise ZDLK3–11–2018

Continuing the work started on toothfish tagging and benthic habitat information, a second research cruise focusing on Patagonian toothfish was conducted aboard the *CFL Hunter* between 27 November and 7 December 2018. The two primary goals of this cruise were to: 1) deploy conventional and satellite tags on toothfish in areas where none had been deployed before; and 2) gather video footage of the benthic environment and the behaviour of the longline gear during setting, soaking and hauling. In addition, work was carried out on seabird interaction during setting and hauling operations. The vessel travelled to four areas in the north and north-eastern regions of the

Falkland Conservation Zones, where tagging took place on a total of 13 lines. The underwater camera was deployed 8 times on umbrella branch lines of the longline gear.

Overall, 828 conventional tags and 5 mark-recapture satellite tags were deployed on toothfish ranging from 60 to 162 cm TL, with the weight of toothfish tagged and released totalling 9.5 t. On average, 46.2% of the toothfish weight on each line was tagged, with no relationship between tagging percentage and soak time. At the time of writing, a total of 3,314 toothfish have been tagged since the beginning of the toothfish tagging effort, 51 of which have so far been recaptured (2.05% recapture rate before the November cruise, 1.54% recapture rate with the added tagged fish from the November 2018 cruise). No tagged toothfish were recaptured during the November 2018 cruise.

All camera deployments were successful. The performance of the fishing gear was also recorded, indicating that, under normal conditions, only the 6 kg weight at the end of each branch line is contacting the bottom and dragging during hauling. The umbrella does not seem to be regularly making contact with the bottom during normal fishing activity, suggesting that the footprint of the longline fishing is minimal on the bottom. Most of the benthos has mud or silt sediment and only rare evidence of long-term damage to the benthic environment (damage to hard corals for example) was seen.

2.5 Juvenile toothfish survey ZDLT1–12–2018

Understanding the spatial and temporal distribution and abundance patterns of species and their relationships with environmental variables is a key issue in fisheries ecology. Patagonian toothfish (*Dissostichus eleginoides*) have a complex life cycle composed of both pelagic and benthic life-history stages. In the Falkland Islands, mature toothfish are thought to spawn in waters >800 m over the eastern part of the Burdwood Bank. During a protracted egg phase (3 months), larvae are distributed to shelf waters by the Falklands Current. These waters are highly productive and are thought to serve as important recruitment areas for the rapid growth of toothfish larvae and the settlement of early juveniles onto the shelf. Over the next 5 to 10 years juveniles will undertake a characteristic down-slope ontogenetic migration into deeper slope waters where they will reach maturity and spawn. As such, these recruitment areas across the shelf to the south of the Falkland Islands form a critical link in the life cycle trajectory associated with spawning adults on the Burdwood Bank. During a research cruise undertaken within this region during January 2017, a nursery ground of juvenile 0+ year class toothfish (10-12 cm total length) was found at depths between 70 and 120 m to the south of the Falkland Islands. The aim of this follow up research cruise was to locate and investigate the timing, location, distribution and abundance of newly settled Patagonian toothfish recruits across two regions of high productivity to the southeast and southwest of the Falkland Islands.

However, no juvenile toothfish recruits or larvae were found during the research survey. Catch data indicates a potentially delayed or poor recruitment period for finfish species occurring over the southern shelf regions of the Falkland Islands, including rock cod and icefish. This may have been due to colder than average sea temperatures occurring during the time period resulting in higher egg or larval mortality.

3 Fisheries Department research contracts in 2018

The Falkland Islands Government's financial year runs from 1 July to 30 June and most external research contracts in the Fisheries Department adhered to these start and end dates. Contracts completed by the end of June 2018 are presented below.

3.1 "Providing satellite sea surface water temperature (SST) data for the area of the Falkland-Patagonian shelf between January and May 2018".

This contract has been carried out by principal investigator Dr. A.M. Sirota of the research company MARSATEC, Kaliningrad, Russia.

SST maps were sent to the Fisheries Department three times a week (Monday, Wednesday, Friday) by e-mail. The SST maps were made in color using SURFER-7 Software. They were used for monitoring *Illex* distributions during the fishing season.

3.2 'Seasonal and interannual variations in oceanographic conditions on the eastern continental slope and shelf of the Falkland Islands (November 1999 – February 2018)'

The oceanographic contract was carried out by principal investigator Dr. A.M. Sirota of MARSATEC, Kaliningrad, Russia.

Seasonal and inter-annual variability of water masses on the eastern shelf (transect P1) and southern shelf (transect P5) were described. Water structure and its variability around the Falkland Island shelf were analysed using the data from research cruises.

4 Reductions in seabird mortality in the Falkland Islands

4.1 Longlining

The Falkland Islands Government holds a National Plan of Action – Seabirds (NPOA-S) for Longliners, last updated in 2011. Since 2010, dedicated seabird observations have generally been conducted entirely by Fisheries Observers every one in four days when on board, although a dedicated Seabird Observer was deployed on the vessel for ten days in November/December 2018. A northern giant petrel M. halli became hooked during hauling operations but was released with only minor injuries to the mouth. No other gear interactions were observed during the year.

4.2 Trawl fishery

The Falkland Islands Government holds a NPOA-S-Trawlers, last updated in December 2018. For the period of July 2017 to June 2018, the estimated mortality of seabirds in the trawl fleet was the lowest recorded since the introduction of the tori-line in 2004 (n = 174, of which 162 represented species listed on the Annex I of the Agreement on the Conservation of Albatrosses and Petrels (ACAP)). Uncharacteristically, the vast majority (76.8%) of incidental catches were the result of net entanglement. It is unclear at this stage whether this is an effect of improved warp-related mitigation, or a bias that resulted from the majority of observations having been limited to hauling operations by external observers in the Falkland calamari fleet.

4.2.1 Finfish

For the demersal finfish fleet, observations of seabird interactions were conducted on 34 days, representing 1.8% of the finfish trawling effort over the reporting period, and the lowest observer effort since 2004. A total of two seabird mortalities of were recorded during dedicated seabird days, both black-browed albatrosses. Extrapolated to the entire year's finfish fishing effort, this equates to 117.7 mortalities. A further three black-browed albatross mortalities were recorded aboard finfish vessels outside dedicated seabird days. The very low observer effort during the reporting period introduced high uncertainty into the mortality estimate for this fishery.

4.2.2 Falkland calamari

For the Falkland Calamari fishery, the presence of external observers allowed for seabird observations to be conducted on 1442 days, representing 73 % of fishing days for the period of July 2017 to June 2018. In this period, mortalities of 3 grey-headed albatrosses *T. chrysostoma*, 35 black-browed albatrosses and one white-chinned petrel *Procellaria aequinoctialis* were observed, extrapolating to 44.3 ACAP-listed species mortalities per year. In addition, 12 mortalities of sooty shearwaters *Ardenna grisea* were recorded in the second season. The high level of observer effort allows for a confident mortality estimate.

4.2.3 Skate

Three percent (n = 4 days) of skate trawling was observed in the period of June 2017 to July 2018. No seabird mortalities were recorded in this period.

4.2.4 Illex

No observations were conducted in the illex trawl fishery for this period, which in the period of July 2017 to June 2018 only amounted to 26 fishing days.

4.3 Improvements to incidental seabird mitigation

Important progress was made in relation to improved mitigation measures.

4.3.1 Fixed Aerial Array

It was established that the FAA can be more effective than the traditional tori-line, but that this highly depends on an adequate design. Companies have been encouraged to continue to seek an active dialogue with the Department prior to installations to ensure effective resource investment. As of December 2018, ten vessels had exchanged the standard tori-line for a FAA.

4.3.2 Discard Management

The FIFD recognises discard management as a long-term solution to seabird bycatch and continues to collaborate with the industry to implement this mitigation measure. A discard management policy was discussed with the Fisheries Committee in June 2018, and will come into effect in January 2021. This will oblige all vessels trawling in Falkland Islands waters to be fitted with a storage tank to allow strategic storage and batching of discards, thereby significantly reducing the risk of incidental catches of seabirds. By the end of December 2018, nine vessels had been fitted with a discard storage tank.

4.4 Compliance

4.4.1 Tori-line deployment

According to observer reports, only one vessel was reported to have non-compliant tori-lines.

4.4.2 Discarding regulations during manoeuvres

Based on observer reports, the discarding regulation was followed on the vast majority of vessels to a very high standard. On at least two vessels, however, discarding was sometimes halted late, or not halted at all, until the captain was reminded of the regulation by the observer.

4.4.3 Net cleaning

The licence regulations have recently been re-worded to emphasise that nets ‘must’ be cleaned. Whilst some degree of net cleaning was reported in all observer reports, the level of effort and effectiveness varied substantially, with many nets still returned to sea with plenty of material to attract seabirds and seals. Besides the management of waste discharge, adequate net cleaning is currently the single most effective mitigation measure for net-related mortalities of seabirds, and as such, it is important that this mitigation should be taken more seriously.

5 Falkland Islands Fisheries Observer Programme

Fisheries Observers collect position data, catch/effort and biological data, conversion factor data, and seabird/mammal interaction & mortality data from all fleets and all fisheries, whereas the Seabird Observer primarily works on seabird/mammal interaction/mortality data as well as being involved with trial and development of appropriate bird mitigation measures in the demersal mixed finfish and Falkland calamari trawl fleet. Observers also monitor activities of the Falkland-licensed fleet operating on the high seas to the North of the FCZ. Lastly, observers take part in the research cruises conducted regularly by the Department and participate in various scientific projects on land according to the needs of the Scientists of the Department. Periods at sea typically vary between two and six weeks in duration. All data collected are entered into a database at sea, and a detailed trip report completed after each period at sea. These internal reports are also shared with respective ITQ holders and vessel operators.

Monitoring effort over the last 4 years (2015-2018) is summarized in Table 1. There has been a net percentage-decrease in FIFD observer coverage in 2018, explained by two main circumstances: a shortage of observer staff for an extended period of time during the year, which prevented a regular coverage as it had been the case in previous years, and the fact that external observers were mandated on the fleet fishing for Falkland calamari under C and X license – these two seasons having therefore an actual observer coverage of 100%. This year again, the fishing effort of trawlers targeting mainly finfish under A, G and W license, has slightly decreased. However, the number of jiggers targeting *Illex* has been even higher that during 2018, reflecting a comparatively good season for this B-licensed fishery. Skates-targeting trawler effort (F-License) has dropped by half when compared to previous years and has been very scarce, hence the poverty of observer coverage for this fishery. Finally, the longliner (license L) fishing effort has stayed comparable to those of previous years, as it has been the case for observer coverage if we exclude two tagging trips that happened in 2018 and are not observed days per se.

Table 1 - Observer coverage for 2015 - 2018 FICZ / FOCZ

	2015			2016			2017			2018		
License	Fishing Days	Obs days		Fishing Days	Obs days		Fishing Days	Obs days		Fishing Days	Obs days	
A/G/W	3,031	270	8.9%	2,350	243	10.3%	1,770	241	13.6%	1,752	236	13.4%
B	8,278	116	1.4%	1,714	6	0.4%	6,055	86	1.4%	7,513	51	0.7%
C/X	1,616	133	8.2%	2,024	207	10.2%	1,997	282	14.1%	1,953	173	8.9%
F	251	34	13.5%	152	29	19.1%	133	26	19.5%	64	7	10.9%
L	216	93	43.1%	197	98	49.7%	191	106	55.5%	185	123*	66.5%*
S	6	0	0%	4	4	100%	0	0	0%	4	0	0%
E (surveys)	89	89	53%	53	53	100%	90	90	100%	60	60	100%
Totals	13,491	735	5.4%	6,494	640	9.9%	10,236	931	9.1%	11,531	650	5.6%

*Observed day numbers include two tagging trips. The actual observed days and percentage of coverage are 105 and 56.6%, respectively

In 2018, there were 37 observer trips on commercial vessels, two Falkland calamari *Doryteuthis gahi* pre-recruitment surveys, three research cruises (a ground fish survey, a mesh-size trial in Skate fisheries, and a juvenile Toothfish survey) and two Toothfish tagging trips.

Table 2 provides a four year summary of individual specimens sampled for size/sex/maturity and optionally weight/otoliths/statoliths. Four-year totals of less than 100 specimens per species were grouped into “Others”.

Table 2 - Fish, squid, skate and invertebrate specimens sampled by observers & scientists

Species name	2015-2018	%	2015	%	2016	%	2017	%	2018	%
Doryteuthis gahi	428,255	37.4	99,271	35.9	114,330	40.3	142,397	38.4	72,257	33.6
Patagonotothen ramsayi	194,744	17.0	45,286	16.4	44,750	15.8	69,254	18.7	35,454	16.5
Illex argentinus	107,516	9.4	45,896	16.6	12,502	4.4	27,677	7.5	21,441	10.0
Merluccius hubbsi	87,049	7.6	14,911	5.4	22,020	7.8	27,646	7.5	22,472	10.4
Dissostichus eleginoides	57,021	5.0	11,099	4.0	13,513	4.8	25,508	6.9	6,901	3.2
Salilota australis	35,864	3.1	8,516	3.1	11,642	4.1	9,618	2.6	6,088	2.8
Bathyraja brachyurops	33,738	2.9	9,424	3.4	9,556	3.4	8,335	2.2	6,423	3.0
Macruronus magellanicus	25,000	2.2	4,156	1.5	7,383	2.6	7,014	1.9	6,447	3.0
Bathyraja albomaculata	24,414	2.1	7,327	2.6	7,251	2.6	7,284	2.0	2,552	1.2
Zearaja chilensis	19,449	1.7	5,027	1.8	7,590	2.7	2,133	0.6	4,699	2.2
Genypterus blacodes	17,822	1.6	4,373	1.6	4,613	1.6	4,514	1.2	4,322	2.0
Micromesistius australis	15,876	1.4	3,388	1.2	5,291	1.9	4,019	1.1	3,178	1.5
Coelorinchus fasciatus	9,788	0.9	1,903	0.7	1,475	0.5	2,377	0.6	4,033	1.9
Bathyraja griseocauda	9,672	0.8	1,537	0.6	4,203	1.5	2,723	0.7	1,209	0.6
Macrourus holotrachys	8,158	0.7	2,938	1.1	2,569	0.9	1,461	0.4	1,190	0.6
Bathyraja macloviana	8,056	0.7	1,272	0.5	1,718	0.6	2,199	0.6	2,867	1.3
Champsocephalus esox	7,979	0.7	773	0.3	253	0.1	6,359	1.7	594	0.3
Amblyraja doellojuradoi	7,337	0.6	884	0.3	1,664	0.6	2,740	0.7	2,049	1.0
Antimora rostrata	4,720	0.4	487	0.2	1,104	0.4	1,638	0.4	1,491	0.7
Bathyraja scaphiops	4,300	0.4	636	0.2	1,484	0.5	1,276	0.3	904	0.4
Cottoperca gobio	2,944	0.3	22	<0.1	452	0.2	1,811	0.5	659	0.3
Physiculus marginatus	2,932	0.3	48	<0.1	199	0.1	408	0.1	2,277	1.1
Munida gregaria	2,885	0.3	297	0.1	-	-	2,588	0.7	-	-
Sprattus fuegensis	2,794	0.2	1,672	0.6	230	0.1	685	0.2	207	0.1
Bathyraja cousseauae	2,282	0.2	151	0.1	669	0.2	1,099	0.3	363	0.2
Patagonotothen tessellata	2,158	0.2	06	<0.1	739	0.3	1,271	0.3	142	0.1
Gymnoscopelus nicholsi	1,949	0.2	671	0.2	421	0.1	757	0.2	100	0.0
Psammobatis spp.	1,794	0.2	397	0.1	369	0.1	171	<0.1	857	0.4
Bathyraja multispinis	1,493	0.1	251	0.1	609	0.2	304	0.1	329	0.2
Stromateus brasiliensis	1,443	0.1	139	0.1	92	0.0	852	0.2	360	0.2
Iluocoetes/Patagolycus mix	1,368	0.1	174	0.1	979	0.3	209	0.1	06	0.0
Moroteuthis ingens	1,323	0.1	185	0.1	309	0.1	101	<0.1	728	0.3
Merluccius australis	1,216	0.1	322	0.1	476	0.2	289	0.1	129	0.1
Sebastes oculatus	735	0.1	332	0.1	141	<0.1	189	0.1	73	<0.1
Munida spp.	622	0.1	-	-	-	-	499	0.1	123	0.1
Patagolycus melastomus	566	<0.1	-	-	-	-	444	0.1	122	0.1
Squalus acanthias	519	<0.1	181	0.1	202	0.1	35	<0.1	101	<0.1
Patagonotothen guntheri	490	<0.1	273	0.1	40	<0.1	177	<0.1	-	-
Allothunnus fallai	476	<0.1	31	<0.1	179	0.1	134	<0.1	132	0.1
Pseudocyttus maculatus	455	<0.1	-	-	01	<0.1	434	0.1	20	<0.1
Zearaja argentinensis	371	<0.1	85	<0.1	145	0.1	46	<0.1	95	<0.1

Species name	2015-2018	%	2015	%	2016	%	2017	%	2018	%
Bathyraja magellanica	363	<0.1	45	<0.1	78	<0.1	208	0.1	32	<0.1
Congiopodus peruvianus	360	<0.1	03	<0.1	64	<0.1	103	<0.1	190	0.1
Schroederichthys bivius	342	<0.1	57	<0.1	132	<0.1	152	<0.1	01	<0.1
Cottunculus granulosus	315	<0.1	50	<0.1	119	<0.1	63	<0.1	83	<0.1
Amblyraja cf. georgiana	236	<0.1	82	<0.1	53	<0.1	82	<0.1	19	<0.1
Myctophid spp.	233	<0.1	-	-	-	-	-	-	233	0.1
Brama dussumieri	170	<0.1	-	-	29	<0.1	123	<0.1	18	<0.1
Cataetyx messieri	124	<0.1	107	<0.1	14	<0.1	01	<0.1	02	<0.1
Congridae	120	<0.1	-	-	-	-	-	-	120	0.1
Pseudoxenomystax albescens	110	<0.1	41	<0.1	61	<0.1	08	<0.1	-	-
Paralomis formosa	106	<0.1	78	<0.1	21	<0.1	06	<0.1	01	<0.1
Paranotothenia magellanica	105	<0.1	49	<0.1	19	<0.1	36	<0.1	01	<0.1
Munida subrugosa	103	<0.1	03	<0.1	-	-	100	<0.1	-	-
Others	1,503	0.1	407	0.1	345	0.1	493	0.1	258	0.1
Total	1,146,072		276,569		283,502		370,832		215,169	

6 Fishing Effort and Catch Limits

Total Allowable Effort (TAE) and Total Allowable Catch (TAC) were set by the Falkland Islands Fisheries Department for the 2019 calendar year fisheries and published (Item 1 on the technical reports list at 8.3).

7 Marine Stewardship Council (MSC) certification of the Patagonian toothfish (*Dissostichus eleginoides*) fishery

In 2012, the Fisheries Department and Consolidated Fisheries Ltd (CFL) initiated the process of obtaining Marine Steward Council (MSC) certification for the toothfish fishery in the FICZ/FOCZ. The MSC certification was awarded in March 2014, valid for 5 years. The certification was awarded with 4 Conditions, which required additional work to be conducted before the recertification cycle could start again.

Although the initial MSC certification was valid until March 2019, FIFD and CFL decided to recertify early before the planned changes in MSC certification standards go into effect. To that end, the recertification process was initiated in September 2017. During 2018, all of the Conditions of the original certification were closed and a synthesis of the work on stock discrimination, harvest control rules and benthic habitat was produced. A Public Comment Draft Report was published in June 2018, which concluded that the fishery should be certified. This was followed by a comment period during which no public comments were submitted. Therefore, the Falkland Islands Toothfish fishery was recertified without Conditions for 5 years, with a start date of 5 November 2018.

In addition, an expert external review of the toothfish fishery was conducted by Dr. Mike Bergh (OLSPS Marine) in August 2018. This review assessed the effectiveness of the stock assessment management system for toothfish in the Falkland Islands, provided recommendations for areas of potential improvement, and produced a report detailing the findings of the review. It found that the present management is based on a modern approach and well-developed harvest control rules, and several recommendations for improvements were made.

A strategic plan was developed by FIFD in coordination with CFL to direct the work that needs to be conducted before the next recertification period in November 2023. This plan includes additional work on habitat information and strategies to further minimize the impact of the gear on habitats, improvements to the stock assessment modelling, reducing bycatch, and gathering more data on the impact of the fishery on the trophic function. Additional external reviews and more stakeholder engagement will also be addressed in the next four years.

8 Participation in Scientific Workshops, Conferences and Symposia in 2018

8.1 6th Otolith Symposium

The Sixth International Otolith Symposium was held in Keelung, Taiwan between 16 and 23 April 2018. Participants from FIFD: A. Arkhipkin, B. Lee and J. Jones. Three oral reports were presented at the Symposium: ‘Convergent evolution in vestibular systems of fish and cephalopods’ by A. Arkhipkin, ‘Variability in otolith shape shows evidence of stock structure in Patagonian toothfish (*Dissostichus eleginoides*) in the Southwest Atlantic’ by B. Lee and ‘Age and growth in distinct male morphotypes of a loliginid squid (*Doryteuthis gahi*) in Falkland Islands waters’ by J. Jones. The best student presentation award was given to J. Jones by the Symposium Organisers.

8.2 3rd Sharks International Conference – June 2018

The Sharks International Conference is the first truly international event devoted to elasmobranchs, and in 2018 it was organized by the Brazilian Society for Elasmobranch Studies (SBEEL) and the American Elasmobranch Society (AES). The conference was held in João Pessoa, Brazil between 3 and 8 June 2018. T. Farrugia participated in the conference, and presented a paper entitled “Getting to the bottom of it: Bathypelagic fauna of elasmobranchs in the Falkland Islands revealed from bycatch of the deep-sea bottom longline fishery”.

8.3 ICES Annual Scientific Meeting - 2018

Annual Scientific Meetings are organised by the International Council for the Exploration of the Seas (ICES). In 2018, the meeting was held in Hamburg, Germany between 24 and 28 September. Participants from FIFD: A. Arkhipkin with one report presented: ‘Introduction of seal exclusion devices to avoid seal bycatch in squid trawling fishery in the Falkland Islands’ prepared by Arkhipkin, A.I., Blake, D., Iriarte, V.

8.4 Cephalopod International Advisory Council (CIAC) Symposium - 2018

The triannual CIAC Symposium was held in St. Petersburg, Florida, USA between 12 and 16 November 2018. The Symposium was attended by ~280 delegates from around the globe. Participant from FIFD: A. Arkhipkin, who presented a talk 'Divergence and convergence in evolution of sensory organs in cephalopods and fish'. Additionally, A. Arkhipkin was a chairman of the workshop 'Hard structures of cephalopods and their application in your field of study' that took place between 10 and 11 November 2018.

8.5 European Elasmobranch Association (EEA) Annual Conference – 2018

The 22nd annual EEA conference was held in Peniche, Portugal from 12-14 October, 2018. The EEA is a consortium of European organization dedicated to the study, management and conservation of sharks, skates, rays and chimaeras. T. Farrugia was a coauthor on a paper presented at the conference, entitled "Species-specific reporting in Falkland Islands skate fisheries", which described the efforts of FIFD, in collaboration with the Shark Trust, to provide fishing vessels with the tools to move towards species-specific catch reporting of skates.

9 Publications from scientific work carried out in FIG Fisheries Department in 2018 (or in collaboration with FIG personnel)

9.1 Peer-reviewed publications (appeared in 2018)

Anglade, T., Randhawa, H.S., 2018. Gaining insights into the ecological role of the New Zealand sole (*Peltorhamphus novaezeelandiae*) through parasites. *Journal of Helminthology*, **92**: 187–196.

Arkhipkin, A.I., 2018. Suture line complexity as an adaptation to acceleration changes during ammonoid locomotion. *Cretaceous Research*, **88**: 46–54.

Arkhipkin, A.I., Bizikov, V.A., Doubleday, Z.A., Laptikhovsky, V.V., Lishchenko, F.V., Perales-Raya, C., Hollyman, P.R., 2018. Techniques for estimating the age and growth of Molluscs: Cephalopoda. *Journal of Shellfish Research*, **37**: 783–792.

Jones, J.B., Arkhipkin, A.I., Marriott, A.L., Pierce, G.J., 2018. Using statolith elemental signatures to confirm ontogenetic migrations of the squid *Doryteuthis gahi* around the Falkland Islands (Southwest Atlantic). *Chemical Geology*, **481**: 85–94.

Lee, B., Brewin, P., Brickle, P., Randhawa, H.S., 2018. Use of otolith shape to inform structure in Patagonian toothfish (*Dissostichus eleginoides*) in the Southwest Atlantic. *Marine and Freshwater Research*, **69**: 1238–1247.

Pérez-Ponce de Léon, G., Anglade, T., Randhawa, H.S., 2018. A new species of *Steringotrema* Odhner, 1911 (Trematoda: Fellodistomidae) from the New Zealand sole *Peltorhamphus* *novaezeelandiae* Günther off Kaka Point in the Catlins, South Island, New Zealand. *Systematic Parasitology*, **95**: 213–222.

Ramos, J.E., Pecl, G.T., Moltschaniwskyj, N.A., Semmens, J.M., Souza, C.A., Strugnell, J.M., 2018. Population genetic signatures of a climate change driven marine range extension. *Scientific Reports* 8: 9558. DOI: 10.1038/s41598-018-27351-y.

Rasmussen, T.K., Randhawa, H.S., 2018. The influence of host diet on parasite diversity: a case study looking at tapeworm diversity among sharks. *Marine Ecology Progress Series*, **605**: 1–16.

Sajikumar, K. K., Arkhipkin, A. I., Venkatesan, V., Jestin Joy, K. M., Binesh C. P., Sasikumar, G., Mohamed, K. S. 2018. Range extension of a bathypelagic squid, *Bathyteuthis bacidifera* (Cephalopoda: Bathyteuthidae), to the south Arabian Sea with special reference to its age and growth pattern. *Marine Biodiversity*, **48** (3): 1511–1518.

9.2 Technical reports

Arkhipkin, A., Goyot, L., Trevizan, T., Derbyshire, C., Hall, J. 2018. Scientific Report, Fisheries Cruise ZDLV-10-2018. *Tech. Rep. FIG Fisheries Dept*., Stanley, Falkland Islands. 31 p.

Blake, D., Winter, A. 2018. Impact of finfish and skate trawl fisheries on benthic bycatch, 2007-2016. *Tech. Rep. FIG Fisheries Dept.*, Stanley, Falkland Islands. 46 p.

Farrugia T.J., 2018. 2017-2018 Sustainability Measures for Patagonian Toothfish. TOO-SM-2018. *Tech. Rep. FIG Fisheries Dept.*, Stanley, Falkland Islands.

Farrugia T.J., 2018. Summary and Synthesis Report: Stock discrimination research overview for the Patagonian toothfish in the Falkland Islands. *Tech. Rep. FIG Fisheries Dept.,* Stanley, Falkland Islands.

Farrugia T.J., 2018. Bycatch in the Patagonian toothfish longline fishery in the Falkland Islands, 2017. *Tech. Rep. FIG Fisheries Dept.*, Stanley, Falkland Islands.

Farrugia T.J., 2018. PSAT Tagging Report: Patagonian Toothfish. TR-2018-TOO. *Tech. Rep. FIG Fisheries Dept.*, Stanley, Falkland Islands.

Farrugia T.J., and Keningale B., 2018. Scientific Report, Fisheries Cruise ZDLK3-02-2018. *Tech. Rep. FIG Fisheries Dept.*, Stanley, Falkland Islands.

Farrugia T.J., and Winter A., 2018. 2017 Stock Assessment Report for Patagonian Toothfish, Fisheries Report SA-2017-TOO. *Tech. Rep. FIG Fisheries Dept.*, Stanley, Falkland Islands. 35 p.

Gras, M., Randhawa, H.S., Blake, A., Busbridge, T., Chemshirova, I. and Guest, A., 2018. Report of the 2018 ground fish survey ZDLM3–02–2018. *Tech. Rep. FIG Fisheries Dept*., Stanley, Falkland Islands. 75 p.

Iriarte, V., Arkhipkin, A., Blake, D. 2018. Pinniped (*Arctocephalus australis, Otaria flavescens*) bycatch mitigation in the Loligo (*Doryteuthis gahi*) fishing fleet during the 2nd season 2017. *Tech. Rep. FIG Fisheries Dept.*, Stanley, Falkland Islands. 30 p.

Ramos, J.E., Winter, A. 2018. Stock assessment of kingclip (*Genypterus blacodes*), 2017–2018. *Tech. Rep. FIG Fisheries Dept*. Stanley, Falkland Islands.

Winter, A. 2018. *Doryteuthis gahi* stock assessment. 1st season 2018. *Tech. Rep. FIG Fisheries Dept.*, Stanley, Falkland Islands. 36 p.

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Winter, A. 2018. Stock assessment - Skates (Rajidae). *Tech. Rep. FIG Fisheries Dept*., Stanley, Falkland Islands. 14 p.

Winter, A. 2018. Stock assessment – Red cod (*Salilota australis*). *Tech. Rep. FIG Fisheries Dept*., Stanley, Falkland Islands. 22 p.

Winter, A., Gras, M. 2018. Stock assessment - Rock cod (*Patagonotothen ramsayi*). *Tech. Rep. FIG Fisheries Dept*., Stanley, Falkland Islands. 14 p.

Winter, A., Iriarte, V., Zawadowski, T. 2018. Doryteuthis gahi stock assessment survey, 1st season 2018. *Tech. Doc. FIG Fisheries Dept*., Stanley, Falkland Islands. 20 p.

Winter, A., Lee, B. 2018. Stock assessment - Grenadier (*Macrourus carinatus, Coelorinchus fasciatus*). *Tech. Rep. FIG Fisheries Dept*., Stanley, Falkland Islands. 13 p.

Winter, A., Zawadowski, T., Thomas, O. 2018. *Doryteuthis gahi* stock assessment survey, 2nd season 2018. *Tech. Doc. FIG Fisheries Dept*., Stanley, Falkland Islands. 19 p.

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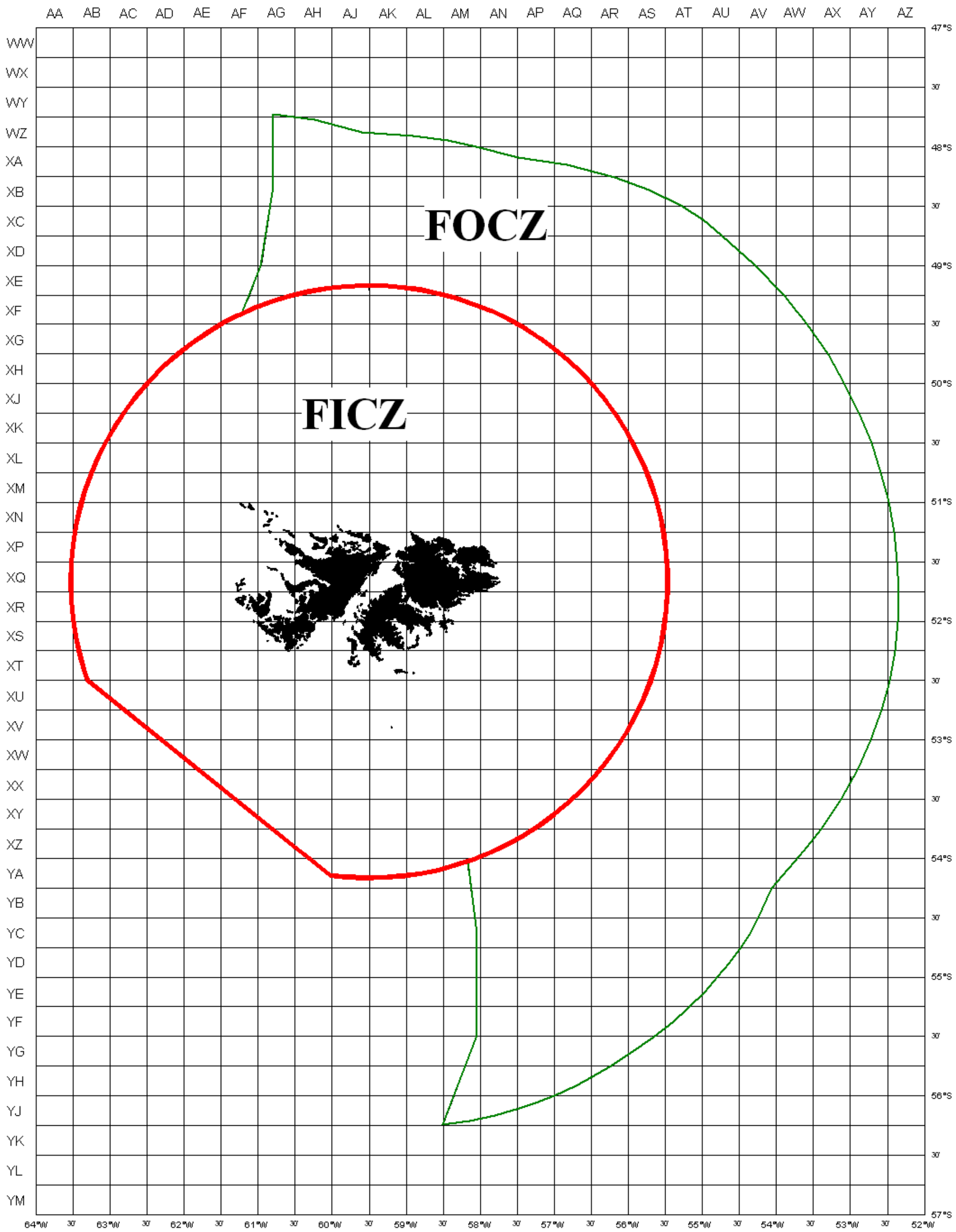
Figure A.1 Chart of the Falkland Islands Interim Conservation and Management Zone (FICZ) and Falkland Islands Outer Conservation Zone (FOCZ)



This chart is illustrative NOT definitive

Introduction

Table A.1 Abbreviations for vessel types used in the tables

FIFD Code	Vessel type
CO	Combination (trawler - jigger)
JI	Jigger
LO	Longliner
PO	Potter
TR	Trawler

Table A.2 Abbreviations for species names used in the tables

FIFD Code	FAO Code	Scientific name	Common name
BAC	SAO	*Salilota australis*	Red cod
BLU	POS	*Micromesistius australis*	Southern blue whiting
COX**	PAT	*Patagonotothen spp*	Rock cod
GRX**	RTX	Macrouridae	Grenadiers
HAK***	HKP	*Merluccius hubbsi*	Common hake
KIN	CUS	*Genypterus blacodes*	Kingclip
ILL	SQA	*Illex argentinus*	Illex squid
LOL	SQP	*Doryteuthis gahi*	Falkland Calamari
MAR	SQS	*Martialia hyadesi*	Martialia squid
OTH	MZZ/SKX	Osteichthyes/Chondrichthyes	Others
PAT	HKX / HKN	*Merluccius spp /australis**	Austral Hake
RAY	SRX	Rajidae	Skates and rays
TOO	TOP	*Dissostichus eleginoides*	Patagonian toothfish
WHI	GRM	*Macruronus magellanicus*	Hoki
ZYP	ZYP	*Zygochlamys patagonica*	Scallop

* - *Merluccius spp.* until 2005; *M.australis* since 2006

** - since 2006, before - in OTH; *** - since 2006, before - in PAT

Table A.3 Abbreviations for fishing fleets used in the tables

ISO Alfa-2 code	ISO Alfa-3 code	Fishing Fleet
AU	AUS	Australia
BG	BGR	Bulgaria
BZ	BLZ	Belize
CB*	KHM	Cambodia
CL	CHL	Chile
CN	CHN	China
DE	DEU	Germany
EE	EST	Estonia
ES	ESP	Spain
FK	FLK	Falkland Islands
FR	FRA	France
GH	GHC	Ghana
GR	GRC	Greece
IS	ISL	Iceland
IT	ITA	Italy
JP	JPN	Japan
KR	KOR	Korea
NA	NAM	Namibia
NL	NLD	Netherlands
NO	NOR	Norway
NZ	NZL	New Zealand
PA	PAN	Panama
PL	POL	Poland
PT	PRT	Portugal
RU	RUS	Russia
SH	SHN	Saint Helena
SL	SLE	Sierra Leone
TG	TGO	Togo
TW *	TWN	Taiwan

* - Cambodia is coded as CB for these statistics and Taiwan as TW.

Table A.3(b) Abbreviations for fishing fleets used in the tables

ISO Alfa-2 code	**ISO Alfa-3 code**	**Fishing Fleet**
UA	UKR	Ukraine
UK	GBR	United Kingdom
US	USA	United States of America
UY	URY	Uruguay
VC	VCT	Saint Vincent
VU	VUT	Vanuatu

Table A.4 Licence types, target species and periods of application 1989 - 2018

	Licence	Target species	Period of application
First Season			
	A	Unrestricted finfish	1989—2007
	B	*Illex* squid	1989 - 1992
		Illex and *Martialia* squid	1993 -
	C	Falkland Calamari (*Loligo*)	1989 -
	F	Skates and rays	1995 –2007
	G	*Illex* squid and restricted finfish*	1997 -
	W	Restricted finfish**	1994 –2007
Second Season			
	R	Skate and rays	1994 - 2007
	X	All species	1989 - 1990
		Falkland Calamari (*Loligo*)	1991 -
	Y	Unrestricted finfish	1989 –2007
	Z	Restricted finfish**	1989 –2007
All year			
	A	Unrestricted finfish	2008-
	F	Skates and rays	2008-
	E	Experimental fishery***	1996-
	L	Toothfish (Longliners)	mid 1999 -
	S	Blue Whiting and Hoki	1999 -
	W	Restricted finfish**	2008-

* The 'G' licence was introduced in 1997. It represents a combination of the 'B' Illex squid licence and 'W' restricted finfish licences. It is limited to trawlers using nets with a minimum mesh size of 90 mm.

** Restricted finfish - Main target species:
Patagonotothen ramsayi - Rock cod—*PAR*
Micromesistius australis - Southern blue whiting - BLU
Macruronus magellanicus - Hoki - WHI.

*** Experimental fishing licences 'E' are issued on an occasional basis to denote exploratory or experimental fishing activities. The 'E' licence included long-liners fishing for toothfish up to mid 1999, when the 'L' licence was instituted for this activity. In 2006 the 'E' licence was used to cover access to the *Loligo* fishery during the monitoring activities undertaken by single vessels. The Scallop fishery, exploratory trawl fishery for grenadiers and longline fishery for kingclip have also been operating on an E licence.

Table A5 Register of ITQ holding in January 2018

					FISHERY					
Quota			**Squid**	**Squid**		**Squid &**				**Squid**
Owner	**Finfish**	**Scallops**	**Jig or Trawl** ***Illex argentinus***	***Loligo gahi*** **(Summer)**	**Skate**	**Restricted Finfish**	**Restricted Finfish Pelagic**	**Restricted Finfish**	**Toothfish Longline**	***Loligo gahi*** **(Winter)**
Argos Group Ltd.	8.15%			18.75%		11.22%		2.00%		18.75%
Beauchene Fishing Co. Ltd.	3.10%			12.97%				1.88%		12.97%
Bold Ventures Ltd						15.30%		22.21%		
Byron Fishing Ltd	2.28%					10.36%		19.97%		
CFL									100.00%	
FIG							70.00%			
Fortuna Ltd	24.96%			27.53%	29.20%	14.18%	30.00%	4.28%		27.53%
J K Marine Ltd.					36.80%			0.86%		
Pioneer Seafoods Ltd	7.86%					2.52%				
RBC Ltd.	38.33%			10.45%		15.63%		4.01%		10.45%
Seafish (Falklands) Ltd.				4.40%				15.94%		4.40%
Seaview Ltd.				14.34%						14.34%
Southern Cross Ltd.	4.18%			11.56%		7.71%		10.42%		11.56%
Sulivan Shipping Services Ltd	11.14%				34.00%	23.09%		18.43%		
Total	100.00%			100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Note:

Scallops and Squid Jig/Trawl have yet to enter quota system.

The catch entitlement generated by the ITQ held by the Crown (FIG) in the Restricted Finfish Pelagic fishery is leased to Fortuna Ltd.

Licences

Table B.1 Licence allocations by licence type and year

LICENCE	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
A	40	33	17	13	4	10	5	5	4	9
B	161	144	170	165	156	164	120	113	92	79
C	46	38	16	20	21	22	17	19	15	14
E	8	5	-	2	1	6	6	5	6	9
F	-	-	-	-	-	-	4	5	-	-
G	-	-	-	-	-	-	-	-	19	27
L	-	-	-	-	-	-	-	-	-	-
R	-	-	-	-	-	9	10	11	10	2
S	-	-	-	-	-	-	-	-	-	-
W	-	-	11	16	14	30	29	28	9	16
X	23	20	19	23	30	27	23	24	21	20
Y	70	17	15	6	5	10	9	6	11	8
Z	24	35	40	46	43	47	60	43	36	27
	372	**292**	**288**	**291**	**274**	**325**	**283**	**259**	**223**	**211**

LICENCE	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
A	11	10	6	6	6	8	9	11	11	23
B	86	109	116	125	122	90	71	43	56	44
C	17	17	16	17	16	16	16	16	16	17
E	8	5	1	1	8	8	12	8	6	4
F	-	4	1	9	4	7	4	-	1	8
G	30	16	19	19	24	17	12	20	18	23
L	-	3	6	6	8	5	4	6	6	2
R	8	7	9	8	10	11	11	11	10	-
S	2	3	3	4	3	4	2	2	2	3
W	21	11	13	10	23	25	17	21	14	27
X	18	15	19	17	18	18	16	16	17	19
Y	8	4	8	8	12	9	12	16	18	-
Z	34	27	18	18	22	23	18	24	25	-
	243	**231**	**235**	**248**	**276**	**241**	**204**	**194**	**200**	**170**

LICENCE	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
A*	21	22	29	29	31	29	26	22	28	26
B	21	76	94	100	99	106	106	104	106	109
C	17	18	17	18	17	17	16	17	18	17
E	7	5	5	6	8	5	8	4	13	6
F**	8	8	7	8	8	8	8	8	7	6
G	27	23	25	25	25	22	21	22	18	18
L	1	1	1	1	2	2	1	1	3	1
R	-	-	-	-	-	-	-	-	-	-
S	4	3	1	3	1	1	1	1	-	1
W***	30	30	27	25	28	26	28	26	22	23
X	18	17	17	16	16	17	16	17	16	17
Y	-	-	-	-	-	-	-	-	-	-
Z	-	-	-	-	-	-	-	-	-	-
	154	**203**	**223**	**231**	**235**	**233**	**231**	**222**	**231**	**224**

* - A + Y since 2008 ** - F + R since 2008 ** *- W + Z since 2008

Licences

Table B.2 Licence allocations by fishing fleet and year

FISHING FLEET	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
AU	-	-	-	-	-	-	-	-	-	3	3	-	-	-	-
BG	9	14	8	6	2	-	-	-	-	-	-	-	-	-	-
BZ	-	-	-	-	-	-	1	-	-	-	2	5	2	1	3
CB												2	1	1	1
CL	1	1	-	3	2	8	8	4	3	2	3	1	1	1	1
CN	-	-	-	-	-	-	-	-	-	2	4	9	20	25	21
ES	99	72	66	74	74	108	100	69	52	64	76	41	45	48	46
FK	7	4	2	3	3	8	19	37	32	43	49	47	55	48	80
FR	-	-	-	-	-	5	3	4	2	2	2	1	-	-	-
GR	5	3	-	-	-	-	-	-	-		-	-	-	-	-
HN	-	-	2	3	4	7	8	2	-		-	-	-	-	-
IS	-	-	-	-	-	-	-	1	3	-	-	-	-	-	-
IT	7	3	2	5	6	3	2	-	-	-	-	-	-	-	-
JP	95	82	77	63	30	36	13	11	19	40	20	21	16	22	14
KR	30	32	42	55	60	86	105	112	98	48	71	84	67	70	62
NA	-	-	-	-	-	-	-	-	3	1	2	-	-	-	-
NL	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
NO	-	2	-	-	-	-	-	1	1	-	-	-	-	-	-
NZ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
PA	-	-	5	4	3	3	2	3	1	1	2	-	-	2	2
PL	68	53	40	21	8	8	4	2	-	-	-	-	-	-	-
PT	7	7	4	4	3	4	8	4	-	-	-	1	-	-	-
RU	-	-	-	-	-	1	-	-	-	-	-	-	1	-	6
SC	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-
SL	-	-	-	1	1	1	-	-	-	-	-	-	-	-	-
TW	32	17	39	49	77	43	8	3	3	2	4	16	22	26	33
UK	11	1	1	-	1	3	2	5	3	3	5	3	3	3	4
UR	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
US	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
UY												-	1	1	2
VC												-	1	-	-
	372	**292**	**288**	**291**	**274**	**325**	**283**	**259**	**223**	**211**	**243**	**231**	**235**	**248**	**276**

Licences

Table B.2 Licence allocations by fishing fleet and year

FISHING FLEET	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
BZ	1	1	-	1	-	-	-	-	-	-	-	-	-	-	-
CB	1	-	-	-	-	-	1	1	2	1	-	-	-	-	-
CL	2	-	1	2	1	-	1	-	-	-	2	-	-	2	-
CN	7	3	2	4	-	-	-	-	-	-	-	-	-	-	-
DE	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
EE	1	-	2	-	-	-	-	-	-	-	-	-	-	-	-
ES	48	36	59	65	59	61	55	61	63	67	64	64	59	54	51
FK	71	73	69	62	54	55	58	58	57	60	52	52	49	61	59
GH	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
JP	7	2	1	1	1	1	1	1	1	-	-	-	-	-	-
KR	59	43	42	41	38	21	34	35	35	36	36	35	32	32	32
NA	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NZ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PA	2	2	1	1	-	-	-	-	-	-	-	-	-	-	-
RU	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
SH	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-
SL	-	-	-	-	-	-	2	-	1	-	-	-	-	-	-
TW	34	34	10	19	13	8	45	61	67	65	71	71	73	73	75
UK	4	6	4	4	4	6	4	4	4	4	4	5	4	5	3
UY	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-
VU	-	2	-	-	-	-	1	2	-	2	4	4	4	4	4
	241	**204**	**194**	**200**	**170**	**154**	**203**	**223**	**231**	**235**	**233**	**231**	**221**	**231**	**224**

Table B.3 Licence 'A' (Unrestricted finfish - first season, 1999-2007; both seasons since 2008) allocations by fishing fleet and year

FISHING FLEET	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
ES	11	11	15	17	19	17	15	14	17	15
FK	9	10	12	11	11	11	10	7	10	10
KR			1						-	-
UK	1	1	1	1	1	1	1	1	1	1
	21	**22**	**29**	**29**	**31**	**29**	**26**	**22**	**28**	**26**

Licences

Table B.4 Licence 'B' (Illex squid) allocations by fishing fleet and year

FISHING FLEET	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
CB	-	1	1	2	1	-	-	-	-	-
FK	-	-	1	-	-	-	-	-	-	-
KR	13	27	29	30	31	31	31	27	29	30
SL	-	2	-	1	-	-	-	-	-	-
TW	8	45	61	67	65	71	71	73	73	75
VU	-	1	2	-	2	4	4	4	4	4
	21	**76**	**94**	**100**	**99**	**106**	**106**	**104**	**106**	**109**

Table B.5 Licence 'C' (Patagonian squid) allocations by fishing fleet and year

FISHING FLEET	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
ES	2	1	2	2	1	2	1	2	3	2
FK	14	16	14	15	15	14	14	14	14	14
UK	1	1	1	1	1	1	1	1	1	1
	17	**18**	**17**	**18**	**17**	**17**	**16**	**17**	**18**	**17**

Table B.6 Licence 'E' (Experimental) allocations by fishing fleet and year

FISHING FLEET	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
CL	-	1	-	-	-	-	-	-	-	-
DE	-	-	-	1	-	-	-	-	-	-
ES	1	-	1	-	-	-	1	-	-	-
FK	2	3	4	5	8	5	5	4	12	6
KR	-	-	-	-	-	-	1	-	-	-
RU	-	1	-	-	-	-	-	-	-	-
SH	2	-	-	-	-	-	-	-	-	-
UK	2	-	-	-	-	-	1	-	1	-
	7	**5**	**5**	**6**	**8**	**5**	**8**	**4**	**13**	**6**

Licences

Table B.7 Licence 'F' (Skates and rays) allocations by fishing fleet and year

FISHING FLEET	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
ES	2	4	3	4	4	4	6	5	2	3
FK	-	-	-	-	-	-	-	-	3	2
KR	6	4	4	4	4	4	2	3	2	1
	8	**8**	**7**	**8**	**8**	**8**	**8**	**8**	**7**	**6**

Table B.8 Licence 'G' (Illex squid and restricted finfish) allocations by fishing fleet and year

FISHING FLEET	2009	2010	2011	2012	2013	2014	2015	2016	2017	20178
ES	22	17	18	21	21	20	20	18	16	15
FK	5	6	7	4	4	2	1	4	2	3
	27	**23**	**25**	**25**	**25**	**22**	**21**	**22**	**18**	**18**

Table B.9 Licence 'L' (Toothfish Longliners) allocations by fishing fleet and year

FISHING FLEET	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
CL	-	-	-	-	-	1	-	-	2	-
FK	1	1	1	1	2	1	1	1	1	1
	1	**1**	**1**	**1**	**2**	**2**	**1**	**1**	**3**	**1**

Licences

Table B.10 Licence 'S' (Blue Whiting and Hoki - surimi vessels) allocations by fishing fleet and year

FISHING FLEET	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
CL	-	-	-	-	-	1	-	-	-	-
FK	3	2	-	2	1	-	1	1	-	1
JP	1	1	1	1	-	-	-	-	-	-
Grand Total	**4**	**3**	**1**	**3**	**1**	**1**	**1**	**1**	**0**	**1**

Table B.11 Licence 'W' (Restricted finfish) allocations by fishing fleet and year

FISHING FLEET	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
ES	22	20	20	18	21	19	20	18	15	15
FK	5	6	5	5	5	5	6	4	5	7
KR	2	3	1	1	1	1	1	2	1	1
UK	1	1	1	1	1	1	1	1	1	-
	30	**30**	**27**	**25**	**28**	**26**	**28**	**25**	**22**	**22**

Table B.12 Licence 'X' (Patagonian squid - second season) allocations by fishing fleet and year

FISHING FLEET	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
ES	1	2	2	1	1	2	1	2	1	1
FK	16	14	14	14	14	14	14	14	14	15
UK	1	1	1	1	1	1	1	1	1	1
	18	**17**	**17**	**16**	**16**	**17**	**16**	**17**	**16**	**17**

Licences

Table B.13 Annual revenue (Pounds sterling) by licence type

LICENCE	1989	1990	1991	1992	1993	1994	1995	1996
A	537,775	485,949	300,154	191,586	119,854	537,775	485,949	300,154
B	22,723,027	20,698,011	20,961,399	20,865,023	14,301,237	17,440,342	10,867,548	12,176,224
C	4,028,578	5,077,665	3,286,308	2,904,346	3,558,704	3,305,953	3,473,536	3,915,269
E	3,000	1,000	-	12,308	12,303	163,607	196,725	107,022
F	-	-	-	-	-	-	74,214	117,243
G	-	-	-	-	-	-	-	-
L	-	-	-	-	-	-	-	-
R	-	-	-	-	-	140,664	431,363	446,767
S	-	-	-	-	-	-	-	-
W	-	-	113,412	169,895	206,682	413,290	500,679	842,504
X	377,917	613,764	572,085	959,803	1,466,992	2,046,655	2,173,149	2,297,557
Y	939,594	291,531	285,700	187,767	199,798	180,825	164,690	174,748
Z	391,332	774,666	841,843	1,222,974	1,207,635	1,335,812	1,920,068	1,536,543
	29,001,223	**27,942,586**	**26,360,901**	**26,513,702**	**21,073,205**	**25,690,547**	**20,348,929**	**21,977,242**

LICENCE	1997	1998	1999	2000	2001	2002	2003	2004
A	191,586	186,858	247,467	264,667	153,200	229,589	312,757	239,533
B	12,189,748	9,578,864	9,349,734	14,609,416	16,408,604	15,504,408	12,122,222	2,926,562
C	3,489,634	3,694,139	3,840,651	4,063,638	4,515,400	4,495,703	1,446,088	1,509,446
E	180,956	460,752	471,163	190,113	0	0	34,500	56,925
F	-	-	0	83,714	41,311	218,114	85,855	156,778
G	654,702	900,493	1,321,513	755,274	1,001,852	1,176,222	1,085,814	558,859
L	-	-	0	237,250	581,856	581,856	493,873	581,855
R	429,579	73,733	452,362	252,959	405,492	221,071	240,511	263,006
S	-	-	326,903	980,410	914,033	792,191	895,352	1,237,335
W	590,818	868,281	872,436	418,455	303,832	268,804	515,383	905,319
X	1,745,260	2,157,595	1,802,191	1,596,130	2,014,142	1,759,362	1,804,098	2,090,748
Y	284,846	327,707	235,446	276,522	375,871	384,723	434,158	407,128
Z	1,474,175	1,329,126	1,262,615	1,051,854	969,460	920,040	995,807	978,825
	21,296,309	**19,577,548**	**20,182,480**	**24,780,401**	**27,685,053**	**26,552,083**	**20,466,419**	**11,912,319**

LICENCE	2005	2006	2007	2008	2009	2010	2011	2012
A*	160,585	296,901	428,227	1,129,012	1,129,011	1,129,012	1,129,012	1,129,012
B	2,441,087	4,509,716	6,151,234	4,430,958	0	798,205	8,996,154	9,522,332
C	1,534,994	1,763,009	1,734,547	1,939,301	1,939,301	1,939,301	2,133,230	2,133,230
E	84,150	95,600	-	-	-	-	-	-
F**	49,701	-	7,699	274,579	247,121	247,121	247,121	247,121
G	374,079	909,945	627,065	769,004	769,004	845,900	845,900	845,900
L	533,368	579,782	907,704	760,700	760,700	760,700	836,770	836,770
R	405,720	285,453	278,912	-	-	-	-	-
S	449,067	525,669	554,748	543,770	543,770	181,257	181,257	181,257
W***	524,877	488,818	506,479	1,219,240	1,219,240	1,341,160	1,341,160	1,341,160
X	2,510,109	3,263,140	3,263,140	4,242,081	4,242,082	4,242,082	4,242,082	4,242,082
Y	650,185	656,810	459,542	-	-	-	-	-
Z	834,434	1,026,697	474,296	-	-	-	-	-
	10,552,357	**14,401,541**	**15,393,593**	**15,308,645**	**10,850,229**	11,484,738	19,952,686	20,478,864

Licences

Table B.13 Annual revenue (Pounds sterling) by licence type (continue)

LICENCE	2013	2014	2015	2016	2017	2018
A	1,129,012	1,129,012	1,129,012	1,129,012	1,129,012	1,129,012
B	10,597,284	10,616,032	11,208,479	3,346,467	11,093,286	11,247,526
C	2,133,230	2,133,230	2,133,230	2,133,230	2,133,230	2,240,100
E	-	-	-	-	-	-
F	247,121	247,121	247,121	247,121	247,121	247,121
G	845,900	845,900	845,900	845,900	845,900	761,300
L	836,770	836,770	836,770	836,770	836,770	920,500
S	181,257	60,419	60,419	60,419	60,419	60,419
W	1,341,160	1,341,160	1,341,160	1,341,160	1,341,160	1,207,000
X	4,242,082	4,242,082	4,242,082	4,242,082	4,242,082	4,454,000
	21,553,816	**21,451,726**	**22,044,173**	**14,182,161**	**21,928,980**	**22,266,978**

* - A + Y since 2008;   ** - F+R since 2008; *** - W + Z since 2008;

Catch summary tables

In the following tables a "-" sign means there was no catch, "0" means the catch has been rounded to 0.

Table C.1 Total catch (tonnes) by vessel type and year

VESSEL TYPE	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
CO	59,069	46,211	27,896	17,669	1,151	4,807	3,222	1,569	811	274
JI	195,476	94,743	160,754	149,557	144,189	62,874	62,717	73,128	150,732	79,837
LO	-	-	-	131	10	2,855	1,901	992	1,241	1,787
TR	172,270	143,561	115,853	147,601	106,257	126,262	177,332	119,303	77,542	128,976
	426,814	**284,516**	**304,503**	**314,957**	**251,605**	**196,798**	**245,172**	**194,991**	**230,326**	**210,874**

VESSEL TYPE	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
JI	254,026	182,925	146,066	13,001	101,754	1,661	7,775	81,766	157,637	100,348
LO	2,077	2,092	1,684	1,754	1,832	2,076	1,791	1,622	1,539	1,511
PO	-	-	-	-	-	-	-	295	85	-
TR	120,935	134,089	117,449	86,224	105,511	99,361	117,551	129,832	142,907	168,193
	377,038	**319,107**	**265,198**	**100,979**	**209,097**	**103,098**	**127,118**	**213,516**	**302,169**	**270,051**

VESSEL TYPE	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
JI	3	11,645	73,577	84,619	139,137	291,770	332,862	2,303	63,849	51,393
LO	1,254	1,061	1,406	1,222	1,477	1,367	1,258	1,160	1,126	1,083
PO	-	2	-	-	6	7	5	-	-	0
TR	152,386	196,463	150,496	180,194	123,975	157,825	128,363	108,032	103,225	124,152
	153,643	**209,171**	**225,479**	**266,035**	**264,595**	**450,969**	**462,487**	**111,495**	**168,174**	**176,628**

Table C.2 Total catch (tonnes) of all species by year

SPECIES	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
BAC	2,814	2,778	2,880	7,055	6,224	4,043	9,084	6,925	4,649	8,121
BLU	43,468	72,326	50,491	34,078	24,900	38,697	39,154	23,539	26,296	31,483
ILL	224,022	102,417	174,745	160,016	145,185	66,996	64,122	79,724	149,763	84,993
KIN	977	850	949	1,952	1,643	899	1,985	1,682	1,392	2,217
LOL	118,720	82,990	53,817	83,384	52,279	65,757	98,417	61,374	26,122	51,559
MAR	-	4	141	1	33	-	5,803	111	2,099	-
HAK	16,480	11,900	6,759	4,070	3,029	1,414	1,988	1,649	1,554	-
PAT	-	-	-	-	-	-	-	-	-	3,502
RAY	1,749	1,500	6,923	8,108	8,523	5,542	5,432	3,475	3,320	1,077
TOO	236	208	980	912	393	2,963	2,069	685	1,208	2,103
WHI	13,313	7,553	4,499	14,188	8,506	10,064	15,603	13,813	13,006	22,378
OTH	5,036	1,989	2,317	1,192	890	423	1,514	2,015	916	3,443
	426,814	**284,516**	**304,503**	**314,957**	**251,605**	**196,798**	**245,172**	**194,991**	**230,326**	**210,874**

Catch summary tables

Table C.2 Total catch (tonnes) of all species by year (cont'd)

SPECIES	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
BAC	9,313	6,551	3,896	2,617	2,285	2,781	2,467	3,472	5,195	4,076
BLU	28,564	23,371	25,735	24,908	20,798	28,554	17,047	20,532	22,204	13,209
COX	-	-	-	-	-	-	8,641	21,012	30,386	60,601
ILL	266,201	189,709	150,631	13,411	103,375	1,720	7,937	85,622	161,506	106,189
KIN	2,602	1,875	1,625	1,224	1,275	1,841	1,936	2,822	3,592	2,227
LOL	34,866	64,493	53,560	23,712	47,422	26,835	58,813	43,064	42,003	52,260
MAR	29	-	147	1	31	24	-	-	4	-
HAK	-	-	-	-	-	-	-	8,410**	11,909*	8,806*
PAT	4,224	3,069	1,978	1,678	1,967	1,926	2,735*	23***	-	-
RAY	4,785	3,853	4,309	3,364	3,988	5,151	5,698	4,683	5,669	3,861
TOO	2,988	2,318	1,754	1,793	1,707	2,002	1,677	1,568	1,520	1,429
WHI	18,765	19,831	19,471	26,970	23,815	25,905	16,723	19,769	16,669	15,908
GRX	-	-	-	-	-		778	800	629	943
ZYP	-	-	76	59	685	1,279	1,358	1,161	14	6
OTH	4,701	4,037	2,018	1,242	1,748	5,080	1,309	578	869	536
	377,038	**319,107**	**265,198**	**100,979**	**209,097**	**103,098**	**127,118**	**213,516**	**302,169**	**270,051**

SPECIES	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
BAC	5,120	3,129	4,210	4,629	5,164	3,467	3,340	3,143	1,379	1,654
BLU	10,395	6,471	3,940	1,596	2,698	3,612	2,790	5,415	2,309	992
COX	58,236	76,451	55,705	63,510	32,435	56,693	29,086	7,039	2,520	2,213
ILL	44	12,111	79,264	87,002	142,619	306,111	357,722	2,360	67,445	54,405
KIN	3,390	3,639	3,867	3,510	3,977	2,881	2,983	1,612	1,632	1,445
LOL	31,474	66,543	34,675	70,894	40,168	48,702	30,317	46,447	64,676	79,996
MAR	0	-	-	-	-	10	0	0	0	-
HAK	13,049	13,606	9,904	10,489	12,308	14,875	21,054	23,363	15,589	27,021
PAT ***	0	0	0	0	0	-	14	531	170	70
RAY	5,873	5,891	6,970	6,655	5,932	5,555	6,393	5,906	3,189	1,994
TOO	1,418	1,404	1,560	1,311	1,422	1,297	1,227	1,499	1,519	1,259
WHI	23,404	19,227	22,979	15,867	16,849	7,392	6,845	11,562	4,053	4,438
GRX	965	455	2,062	225	517	216	367	2,335	3,273	484
ZYP	13	3	11	0	0	1	1	8	4	4
OTH	263	241	331	347	506	155	347	274	414	654
	153,643	**209,171**	**225,479**	**266,035**	**264,595**	**450,969**	**462,487**	**111,495**	**168,174**	**176,628**

* - *Merluccius spp,*

** - *M.hubbsi,*

*** - *M.australis*

Catch summary tables

Table C.3 Total catch (tonnes) by month and year

MONTH	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
January	2,475	.	5,128	5,217	3,723	9,149	7,810	5,217	7,918	7,687
February	30,652	26,620	19,493	21,028	6,789	13,273	28,800	15,782	8,660	19,942
March	89,952	74,890	88,553	96,826	39,900	52,894	46,084	49,887	29,199	47,799
April	131,835	56,338	83,954	79,745	79,365	27,654	49,391	48,971	60,718	63,064
May	73,998	28,475	32,258	24,303	51,777	18,914	21,514	19,526	68,234	22,936
June	11,913	1,017	112	107	437	2,002	1,786	1,211	10,474	2,821
July	5,265	2,437	2,538	223	1,577	2,172	2,937	1,418	2,625	1,596
August	24,987	13,196	14,895	22,415	20,227	18,151	25,736	16,451	10,019	13,012
September	26,143	33,653	21,075	26,933	16,111	19,569	25,540	13,562	8,668	11,157
October	14,221	17,836	13,123	19,839	11,891	16,105	14,486	8,315	7,960	7,778
November	8,909	19,119	9,832	10,736	11,056	8,805	11,881	7,406	8,381	6,395
December	6,463	10,934	13,542	7,585	8,751	8,111	9,205	7,245	7,470	6,689
	426,814	**284,516**	**304,503**	**314,957**	**251,605**	**196,798**	**245,172**	**194,991**	**230,326**	**210,874**

MONTH	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
January	6,605	5,213	6,497	3,536	5,881	2,901	1,712	2,181	2,381	4,072
February	29,626	47,924	10,926	12,306	16,612	9,405	7,562	10,867	11,142	14,326
March	98,631	94,536	81,574	17,335	91,036	15,081	27,436	48,141	40,210	38,998
April	104,827	63,840	71,936	13,811	37,830	11,292	10,581	46,987	86,244	65,736
May	73,790	48,684	38,621	15,504	5,680	4,930	3,870	28,058	69,293	46,779
June	12,665	2,854	2,199	1,473	1,385	727	712	1,840	8,694	16,356
July	2,313	2,502	1,299	253	877	6,771	11,786	10,168	12,356	10,254
August	13,364	16,528	17,380	11,863	21,491	14,344	22,575	23,414	26,175	20,967
September	11,853	16,874	15,306	5,751	14,513	10,571	17,115	15,654	20,049	23,084
October	9,857	8,333	12,413	5,668	8,831	13,552	11,010	13,520	14,000	15,444
November	7,138	7,306	4,933	8,638	3,981	8,412	9,646	8,895	9,768	9,967
December	6,370	4,513	2,112	4,841	980	5,114	3,113	3,790	1,856	4,070
	377,038	**319,107**	**265,198**	**100,979**	**209,097**	**103,098**	**127,118**	**213,516**	**302,169**	**270,051**

MONTH	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
January	3,804	2,742	4,973	625	3,758	142	217	3,458	497	127
February	12,427	12,883	11,110	17,747	8,684	4,136	18,848	10,231	2,901	6,360
March	20,338	40,981	75,786	75,158	39,918	84,249	132,218	15,693	51,813	59,604
April	18,753	30,748	37,109	54,366	72,662	155,782	164,810	19,478	53,614	34,512
May	17,809	16,803	18,678	26,086	68,741	102,399	89,798	9,302	9,674	11,339
June	5,955	6,948	8,222	7,749	7,817	23,929	11,276	4,871	2,359	4,525
July	14,481	17,796	15,423	13,019	8,022	16,834	6,453	6,614	6,794	9,823
August	16,506	28,251	18,736	30,540	18,437	22,030	14,286	19,333	16,881	28,271
September	15,139	22,304	13,130	19,041	20,021	18,973	9,711	13,089	14,890	14,534
October	13,499	12,286	10,381	12,185	8,966	10,816	5,224	6,788	5,145	4,869
November	9,328	9,881	6,693	5,829	4,275	8,682	3,761	1,281	2,800	964
December	5,605	7,548	5,237	3,689	3,294	2,997	5,885	1,357	806	1,699
	153,643	**209,171**	**225,479**	**266,035**	**264,595**	**450,969**	**462,487**	**111,495**	**168,174**	**176,628**

Catch summary tables

Table C.4 Total catch (tonnes) by gross registered tonnage (GRT) and year

GRT	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<400	-	-	-	-	6	7	5	-	-	0
400-599	-	98	761	936	1,245	2,579	-	-	-	-
600-799	11,607	16,299	30,329	35,335	42,597	69,012	55,821	5,025	11,143	9,263
800-999	19,439	23,756	61,453	71,471	102,421	213,012	264,130	21,487	58,509	48,355
1,000-1,499	65,152	78,975	68,620	76,220	69,023	102,124	90,293	31,278	34,371	43,944
1,500-1,999	31,081	46,090	38,032	44,253	27,628	35,706	28,176	29,271	32,893	35,621
2,000-2,999	18,921	37,934	21,060	37,005	21,246	26,848	24,061	24,364	31,258	39,445
>2,999	7,443	6,018	5,225	816	428	1,681	-	70	-	-
	153,643	**209,171**	**225,479**	**266,035**	**264,595**	**450,969**	**462,487**	**111,495**	**168,174**	**176,628**

Table C.5 Total catch (tonnes) by length overall (m) (LOA) and year

LOA	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<45	2,046	730	2,831	936	1,720	2,823	640	980	-	122
45-49	17,394	16,171	15,274	20,185	21,635	28,768	28,004	8,292	8,733	9,753
50-54	9,721	14,483	28,355	35,276	34,427	65,494	48,195	12,287	10,139	10,151
55-59	18,719	28,268	39,304	40,970	47,933	64,761	65,173	10,209	19,165	17,432
60-64	38,835	47,299	54,956	63,919	63,906	89,551	88,549	26,422	33,336	38,369
65-69	27,193	43,688	40,688	48,645	42,539	82,334	95,290	21,247	38,330	36,523
70-79	27,880	42,230	32,516	44,114	45,844	107,662	129,563	24,059	50,880	50,644
80-89	2,303	4,666	3,121	5,250	2,919	3,770	3,315	3,800	5,245	6,522
>89	9,552	11,635	8,435	6,743	3,672	5,805	3,758	4,199	2,345	7,112
	153,643	**209,171**	**225,479**	**266,035**	**264,595**	**450,969**	**462,487**	**111,495**	**168,174**	**176,628**

Table C.6 Total catch (tonnes) by brake horsepower (BHP) and year

BHP	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<1,000	-	2	-	-	830	7	5	-	-	478
1,000-1,199	-	730	1,797	936	1,714	2,816	635	980	-	621
1,200-1,399	2,172	3,748	6,975	9,397	12,328	17,228	14,155	23	2,434	1,989
1,400-1,599	21,362	18,832	35,046	37,646	39,422	69,104	55,480	15,246	13,279	12,872
1,600-1,799	15,174	20,935	19,209	22,881	25,948	43,895	40,720	9,202	9,496	7,891
1,800-1,999	37,936	55,212	62,542	69,147	64,523	93,089	88,249	22,722	29,987	24,924
2,000-2,499	40,877	49,759	56,919	63,413	66,348	131,972	147,083	25,961	46,872	46,699
2,500-2,999	5,067	9,755	13,727	19,821	25,479	52,965	78,890	9,012	25,675	31,148
3,000-3,999	18,577	33,923	18,069	31,568	18,479	22,797	20,737	19,688	27,880	35,760
>3,999	12,478	16,274	11,194	11,227	9,525	17,097	16,531	8,660	12,550	14,245
	153,643	**209,171**	**225,479**	**266,035**	**264,595**	**450,969**	**462,487**	**111,495**	**168,174**	**176,628**

Catch summary tables

Table C.7 Total catch (tonnes) by fishing fleet and year

FISHING FLEET	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
AU	-	-	-	-	-	-	-	-	-	3593
BG	13,503	22,369	21,888	8,981	2,976	-	-	-	-	-
BZ	-	-	-	-	-	-	585	-	-	-
CL	1,150	1,884	-	3,145	1,514	5,223	9,997	6,638	8,199	8849
CN	-	-	-	-	-	-	-	-	-	1177
ES	82,345	65,908	57,605	87,763	58,143	67,191	89,284	40,842	20,510	40307
FK	781	5,853	1,470	1,846	1,978	5,906	27,184	31,520	17,117	43578
FR	-	-	-	-	-	1,945	7,369	4,600	1,545	4177
GR	4,960	3,121	-	-	-	-	-	-	-	-
HN	-	-	1,712	2,761	3,681	2,976	2,833	850	-	-
IS	-	-	-	-	-	-	-	214	268	-
IT	10,391	4,547	2,409	2,923	2,142	1,181	218	-	-	-
JP	125,567	60,028	93,652	68,325	39,510	39,916	25,583	24,870	46,060	56992
KR	51,133	32,996	61,614	72,489	65,228	42,987	63,236	73,861	129,546	45082
NA	-	-	-	-	-	-	-	-	303	676
NL	4,587	3,369	-	-	-	-	-	-	-	-
NO	-	1,384	-	-	-	-	-	319	210	-
PA	-	-	2,425	4,027	1,060	598	459	706	-	1098
PL	74,039	64,765	43,878	32,996	12,442	11,178	8,861	3,262	-	-
PT	9,143	6,430	3,268	1,548	1,809	2,512	5,157	1,052	-	-
RU	-	-	-	-	-	39	-	-	-	-
SC									1,252	-
SL	-	-	-	1,150	822	373	-	-	-	-
TW	37,529	10,479	12,590	27,002	59,853	13,497	2,323	1,901	3,013	1734
UK	11,685	1,383	1,992	-	445	1,255	2,083	4,357	2,302	3575
UR	-	-	-	-	-	21	-	-	-	-
UY	-	-	-	-	-	-	-	-	-	36
	426,814	**284,516**	**304,503**	**314,957**	**251,605**	**196,798**	**245,172**	**194,991**	**230,326**	**210,874**

FISHING FLEET	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
AU	3,711	-	-	-	-	-	-	-	-	-
BZ	4,511	6,729	2,581	136	2,788	42	61	-	2,285	-
CB	-	2,768	1,204	33	857	17	-	-	-	-
CL	5,491	2,749	8,014	9,252	6,490	9,752	-	2,131	3,948	1,640
CN	7,301	11,641	18,838	1,203	12,652	99	99	3,555	8,575	-
EE	-	-	-	-	-	226	-	1,427	-	-
ES	35,909	30,732	29,170	23,972	20,169	22,488	24,559	42,057	56,187	72,152
FK	39,131	62,947	59,820	35,732	60,596	43,320	71,204	65,255	65,809	76,969
FR	2,381	2,053	-	-	-	-	-	-	-	-
GH	-	-	-	-	-	-	-	1,244	-	-
JP	57,971	41,737	27,913	14,485	18,923	15,062	11,230	12,049	9,042	8,820
KR	207,795	128,940	86,587	12,637	53,677	6,008	10,076	61,748	101,162	81,267
NA	746	-	-	-	-	1,181	-	-	-	-
NZ	-	-	-	-	69	-	-	-	-	-
PA	61	-	-	-	-	-	194	585	1,254	-
PT	-	66	-	-	-	-	-	-	-	-
RU	-	-	228	-	6,891	31	-	-	-	-
TW	8,771	23,243	25,380	1,190	22,057	866	3,106	18,554	49,985	24,353
UK	3,259	5,501	3,564	2,279	3,238	2,703	5,100	3,742	3,923	4,850
UY	-	-	81	61	690	1,303	1,369	1,169	-	-
VC	-	-	1,820	-	-	-	-	-	-	-
VU	-	-	-	-	-	-	120	-	-	-
	377,038	**319,107**	**265,198**	**100,979**	**209,097**	**103,098**	**127,118**	**213,516**	**302,169**	**270,051**

Catch summary tables

Table C.7 Total catch (tonnes) by fishing fleet and year, continued

FISHING FLEET	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
CB	-	94	1,144	1,695	1,468	-	-	-	-	-
CL	-	-	-	-	-	1,729	-	-	276	-
ES	80,267	88,060	77,862	84,914	59,001	81,262	68,438	48,164	34,020	35,017
FK	58,549	93,191	62,196	85,832	60,474	67,688	52,458	55,263	63,892	84,049
JP	7,443	6,018	4,745	109	-	-	-	-	-	-
KR	3,317	9,407	26,310	32,786	52,216	107,337	101,313	2,743	17,902	13,438
RU	-	2	-	-	-	-	-	-	-	-
SL	-	178	-	340	-	-	-	-	-	-
TW	-	5,808	48,540	55,327	86,147	178,375	223,334	2,064	45,209	36,544
UK	4,067	6,271	2,861	5,033	2,968	3,528	3,749	3,184	4,212	4,902
VU	-	142	1,821	-	2,322	11,051	13,195	77	2,664	2,677
	153,643	**209,171**	**225,479**	**266,035**	**264,595**	**450,969**	**462,487**	**111,495**	**168,174**	**176,628**

Illex argentinus—Illex squid

Table D.1 Total catch (tonnes) by vessel type and year

VESSEL TYPE	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
JI	3	11,645	73,577	84,619	139,137	291,760	332,862	2,303	63,807	51,393
TR	41	466	5,688	2,383	3,481	14,351	24,861	57	3,638	3,012
	44	**12,111**	**79,264**	**87,002**	**142,619**	**306,111**	**357,722**	**2,360**	**67,445**	**54,405**

Table D.2 Total catch (tonnes) by month and year

MONTH	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
January	-	-	-	1	-	-	-	1	0	-
February	1	134	987	9,247	195	13	13,916	83	9	3,817
March	30	9,847	60,836	40,558	20,910	66,649	110,741	2,055	29,892	34,155
April	11	2,128	17,382	29,213	57,455	137,647	153,163	199	33,121	14,647
May	1	1	59	7,959	59,361	87,699	75,544	19	4,415	1,785
June	0	-	0	23	4,695	14,007	4,352	2	8	1
July	-	-	-	-	2	94	6	0	0	0
August	-	-	-	-	2	1	0	0	0	0
September	-	0	-	-	0	0	1	0	0	0
October	-	1	-	0	-	-	-	1	0	-
November	-	-	0	-	-	-	-	-	-	-
December	-	-	0	-	-	-	-	0	0	0
	44	**12,111**	**79,264**	**87,002**	**142,619**	**306,111**	**357,722**	**2,360**	**67,445**	**54,405**

Table D.3 Total catch (tonnes) by fishing fleet and year

FISHING FLEET	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
CB	-	94	1,144	1,695	1,468	-	-	-	-	-
ES	33	187	2,035	509	2,798	9,527	9,809	46	2,800	1,545
FK	8	67	2,828	572	650	2,873	11,889	12	278	946
KR	3	5,635	22,892	28,554	49,236	104,251	98,588	162	16,491	12,693
SL	-	178	-	340	-	-	-	-	-	-
TW	-	5,808	48,540	55,327	86,147	178,375	223,334	2,064	45,209	36,544
UK	0	-	4	6	0	36	909	-	3	0
VU	-	142	1,821	-	2,322	11,051	13,195	77	2,664	2,677
	44	**12,111**	**79,264**	**87,002**	**142,619**	**306,111**	**357,722**	**2,360**	**67,445**	**54,405**

Illex argentinus—Illex squid

Table D.4 Total catch (tonnes) by gross registered tonnage (GRT) and year

GRT	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<400	-	-	-	-	-	-	-	-	-	-
400-599	-	98	761	936	1,245	2,579	-	-	-	-
600-799	3	4,173	21,395	24,365	35,080	61,701	49,495	72	7,625	4,896
800-999	6	6,679	46,325	54,022	85,758	192,663	246,465	2,042	49,872	37,174
1,000-1,499	34	1,064	8,428	7,576	19,714	46,919	49,307	233	9,251	11,871
1,500-1,999	1	96	1,184	102	821	2,131	5,474	11	691	438
2,000-2,999	0	-	1,173	1	0	119	6,981	2	6	27
>2,999	-	-	-	-	-	0	-	-	-	-
	44	**12,111**	**79,264**	**87,002**	**142,619**	**306,111**	**357,722**	**2,360**	**67,445**	**54,405**

Table D.5 Total catch (tonnes) by length overall (m) (LOA) and year

LOA	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<45	0	98	871	936	1,245	2,579	-	-	-	-
45-49	4	1,277	5,339	6,641	11,649	19,696	19,412	18	3,192	3,375
50-54	4	3,491	17,241	20,295	24,564	51,798	37,276	25	5,194	3,161
55-59	1	2,545	19,804	20,272	30,711	52,916	54,414	356	10,285	5,394
60-64	18	2,248	17,785	20,030	30,256	49,784	59,732	236	9,655	7,248
65-69	3	2,058	12,759	13,263	21,274	53,085	76,114	737	17,347	16,091
70-79	14	393	5,081	5,565	22,920	76,242	108,638	987	21,770	19,110
80-89	-	-	144	-	-	6	965	0	2	8
>89	0	-	240	-	0	4	1,172	0	-	18
	44	**12,111**	**79,264**	**87,002**	**142,619**	**306,111**	**357,722**	**2,360**	**67,445**	**54,405**

Table D.6 Total catch (tonnes) by brake horsepower (BHP) and year

BHP	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<1,000	-	-	-	-	-	-	-	-	-	-
1,000-1,199	-	98	761	936	1,245	2,579	-	-	-	621
1,200-1,399	-	947	5,208	6,132	9,847	14,863	12,681	23	2,434	1,989
1,400-1,599	5	3,404	20,671	21,118	27,651	52,921	42,309	93	5,514	2,917
1,600-1,799	17	1,710	6,848	9,705	15,714	33,633	32,999	114	5,381	2,970
1,800-1,999	7	2,981	21,969	23,298	33,067	60,353	62,981	268	12,200	8,184
2,000-2,499	14	2,025	15,219	18,238	34,337	90,078	117,934	947	19,916	16,347
2,500-2,999	0	946	7,488	7,565	17,615	43,778	71,528	788	20,271	20,038
3,000-3,999	0	-	793	7	0	144	5,753	1	7	12
>3,999	-	-	307	2	3,144	7,763	11,538	126	1,721	1,328
	44	**12,111**	**79,264**	**87,002**	**142,619**	**306,111**	**357,722**	**2,360**	**67,445**	**54,405**

Illex argentinus—Illex squid

Table D.7 Total catch (tonnes) of jiggers by gross registered tonnage (GRT) and year

GRT	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<400	-	-	-	-	-	-	-	-	-	-
400-599	-	98	761	936	1,245	2,579	-	-	-	-
600-799	-	4,152	21,000	24,327	34,767	60,482	48,489	68	7,266	4,455
800-999	3	6,457	45,065	52,609	85,278	188,189	242,580	2,033	48,762	35,726
1,000-1,499	1	937	6,751	6,748	17,848	40,510	41,792	202	7,779	11,211
1,500-1,999	-	-	-	-	-	-	-	-	-	-
2,000-2,999	-	-	-	-	-	-	-	-	-	-
>2,999	-	-	-	-	-	-	-	-	-	-
	3	**11,645**	**73,577**	**84,619**	**139,137**	**291,760**	**332,862**	**2,303**	**63,807**	**51,393**

Table D.8 Total catch (tonnes) of jiggers by length overall (m) (LOA) and year

LOA	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<45	-	98	761	936	1,245	2,579	-	-	-	-
45-49	-	1,256	4,973	6,610	11,326	18,780	18,136	15	2,938	2,487
50-54	2	3,273	16,346	18,870	24,287	48,080	34,429	20	4,359	2,371
55-59	-	2,527	19,081	19,894	30,141	51,404	52,549	348	9,505	5,070
60-64	0	2,154	16,409	19,619	28,849	45,361	53,970	210	9,015	6,807
65-69	-	1,967	12,164	13,163	20,896	50,906	71,204	726	16,231	15,591
70-79	1	370	3,843	5,529	22,393	74,650	102,574	984	21,759	19,068
80-89	-	-	-	-	-	-	-	-	-	-
>89	-	-	-	-	-	-	-	-	-	-
	3	**11,645**	**73,577**	**84,619**	**139,137**	**291,760**	**332,862**	**2,303**	**63,807**	**51,393**

Table D.9 Total catch (tonnes) of jiggers by brake horsepower (BHP) and year

BHP	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<1,000	-	-	-	-	-	-	-	-	-	-
1,000-1,199	-	98	761	936	1,245	2,579	-	-	-	621
1,200-1,399	-	946	5,208	6,127	9,621	14,306	12,350	23	2,434	1,989
1,400-1,599	-	3,386	20,053	21,034	27,247	50,110	40,864	82	4,770	2,167
1,600-1,799	3	1,643	6,419	9,424	15,402	31,772	31,527	94	5,126	2,936
1,800-1,999	1	2,879	20,887	22,837	32,067	57,113	59,143	253	10,607	6,932
2,000-2,499	-	1,959	13,821	18,068	32,901	86,651	111,649	938	19,608	16,045
2,500-2,999	-	734	6,428	6,194	17,510	41,478	67,731	788	19,547	19,383
3,000-3,999	-	-	-	-	-	-	-	-	-	-
>3,999	-	-	-	-	3,144	7,752	9,599	125	1,715	1,320
	3	**11,645**	**73,577**	**84,619**	**139,137**	**291,760**	**332,862**	**2,303**	**63,807**	**51,393**

Illex argentinus—Illex squid

Table D.10 Total catch (tonnes) of trawlers by gross registered tonnage (GRT) and year

GRT	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<400	-	-	-	-	-	-	-	-	-	-
400-599	-	-	-	-	-	-	-	-	-	-
600-799	3	21	394	38	314	1,219	1,006	4	359	440
800-999	4	222	1,259	1,413	480	4,474	3,885	9	1,109	1,448
1,000-1,499	34	127	1,678	828	1,866	6,409	7,515	32	1,473	659
1,500-1,999	1	96	1,184	102	821	2,131	5,474	11	691	438
2,000-2,999	0	-	1,173	1	0	119	6,981	2	6	27
>2,999	-	-	-	-	-	0	-	-	-	-
	41	**466**	**5,688**	**2,383**	**3,481**	**14,351**	**24,861**	**57**	**3,638**	**3,012**

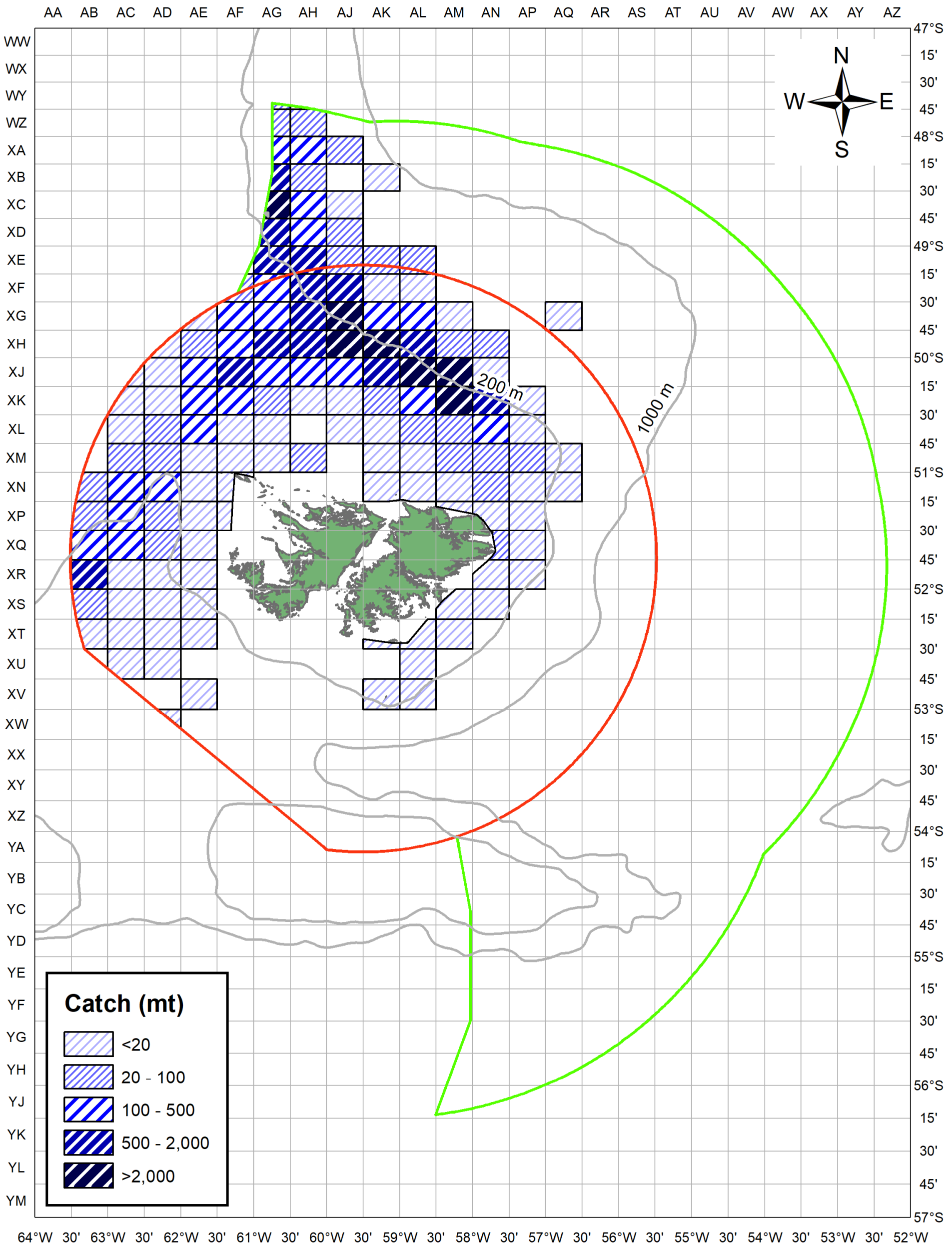
Table D.11 Total catch (tonnes) of trawlers by length overall (m) (LOA) and year

LOA	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<45	0	-	110	-	-	-	-	-	-	-
45-49	4	21	367	32	323	916	1,276	4	254	888
50-54	1	218	895	1,425	277	3,718	2,846	5	836	790
55-59	1	18	723	378	570	1,512	1,866	8	780	325
60-64	18	94	1,375	412	1,406	4,423	5,762	26	640	442
65-69	3	91	595	100	378	2,179	4,911	11	1,115	500
70-79	13	23	1,238	36	526	1,592	6,064	3	11	42
80-89	-	-	144	-	-	6	965	0	2	8
>89	0	-	240	-	0	4	1,172	0	-	18
	41	**466**	**5,688**	**2,383**	**3,481**	**14,351**	**24,861**	**57**	**3,638**	**3,012**

Table D.12 Total catch (tonnes) of trawlers by brake horsepower (BHP) and year

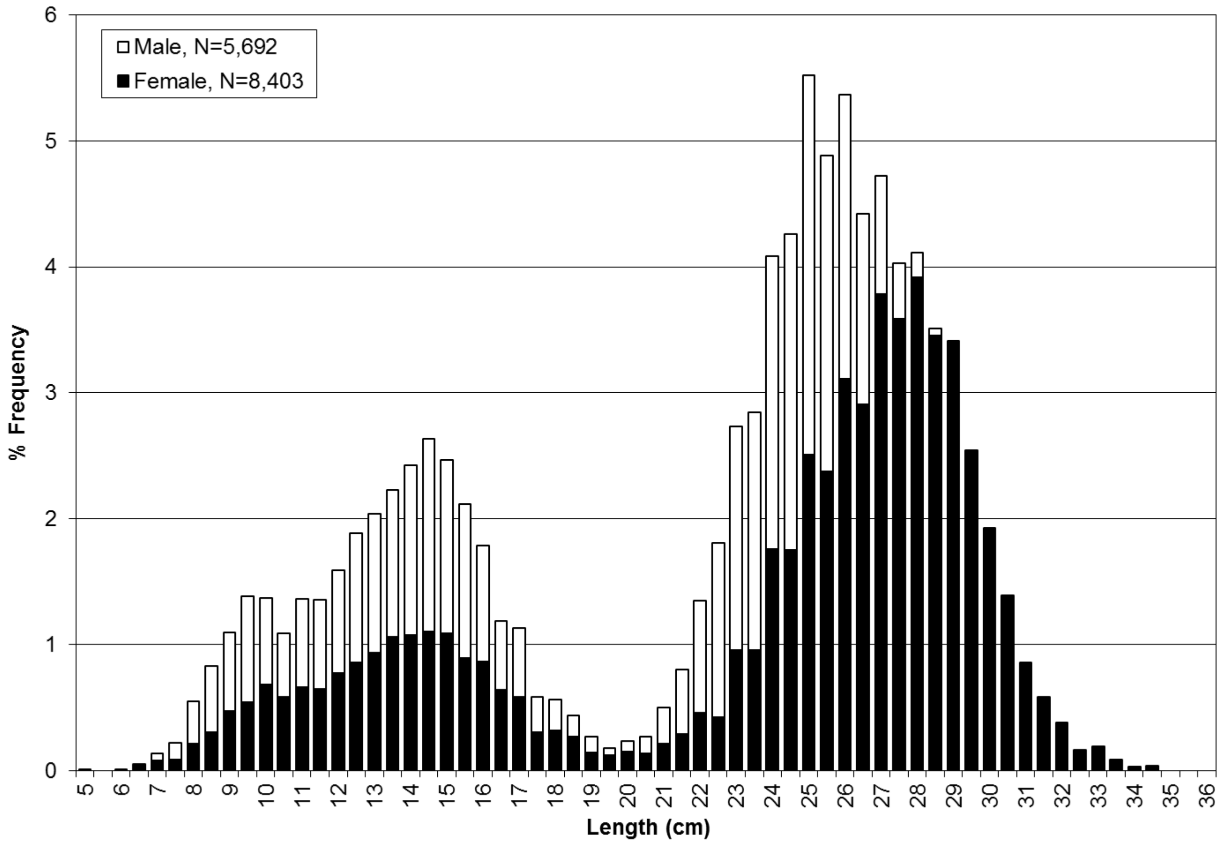
BHP	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<1,000	-	-	-	-	-	-	-	-	-	-
1,000-1,199	-	-	-	-	-	-	-	-	-	-
1,200-1,399	-	1	-	6	225	557	331	-	-	-
1,400-1,599	5	18	618	85	404	2,811	1,445	11	744	751
1,600-1,799	15	66	429	280	311	1,861	1,472	20	255	34
1,800-1,999	6	103	1,081	461	1,000	3,240	3,838	15	1,593	1,251
2,000-2,499	14	67	1,399	170	1,435	3,427	6,286	8	308	301
2,500-2,999	0	212	1,061	1,371	105	2,300	3,797	0	724	655
3,000-3,999	0	-	793	7	0	144	5,753	1	7	12
>3,999	-	-	307	2	-	10	1,939	1	7	9
	41	**466**	**5,688**	**2,383**	**3,481**	**14,351**	**24,861**	**57**	**3,638**	**3,012**

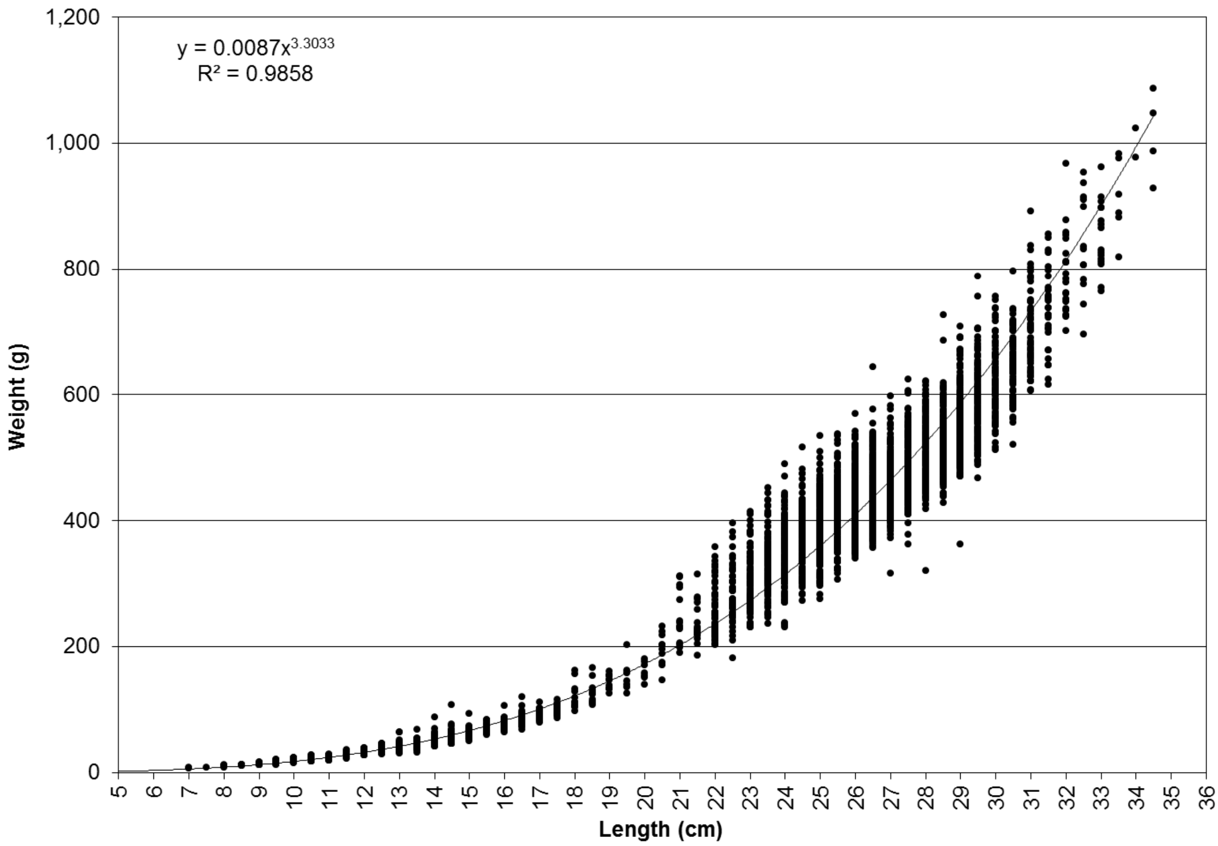
Illex argentinus
First Season 2018 (01 Jan to 30 Jun)



Illex argentinus—Illex squid

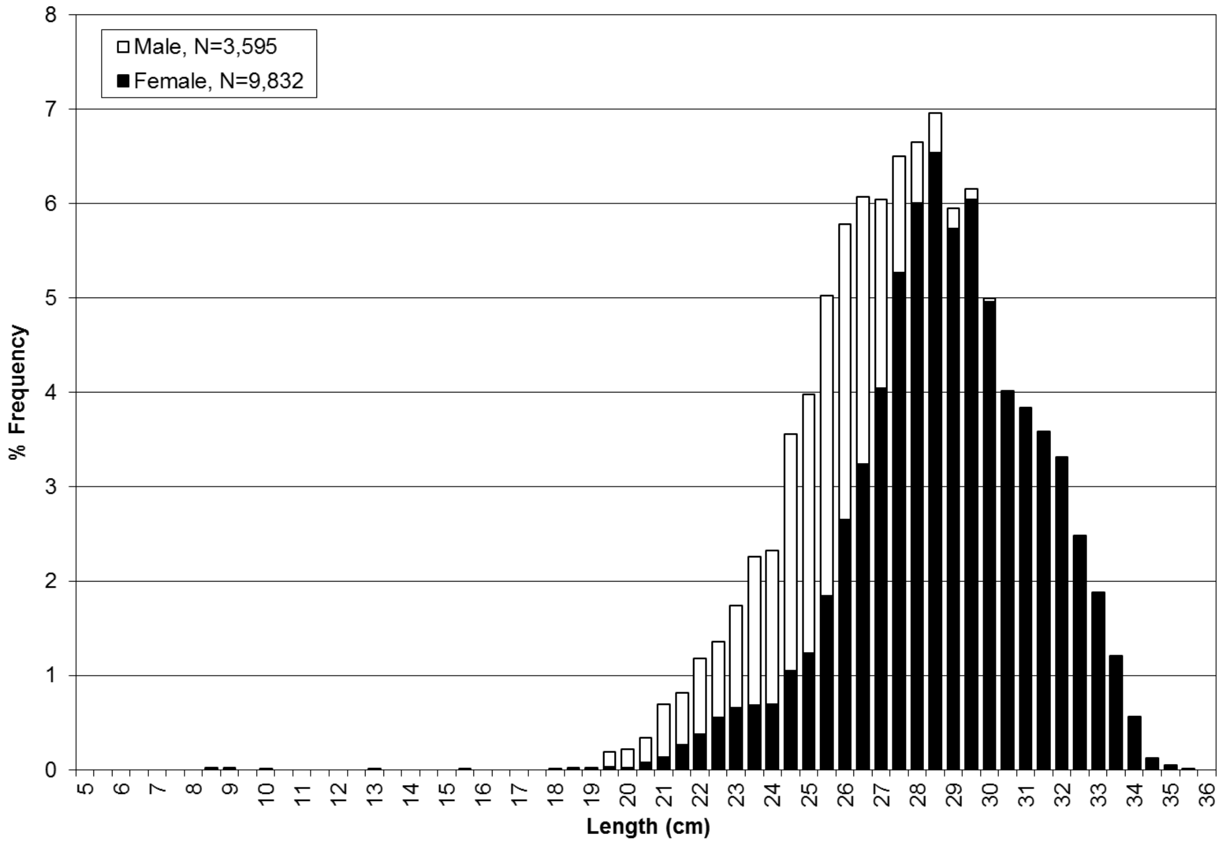
Length– frequency distribution and length-weight relationship in trawler fleet in 2018

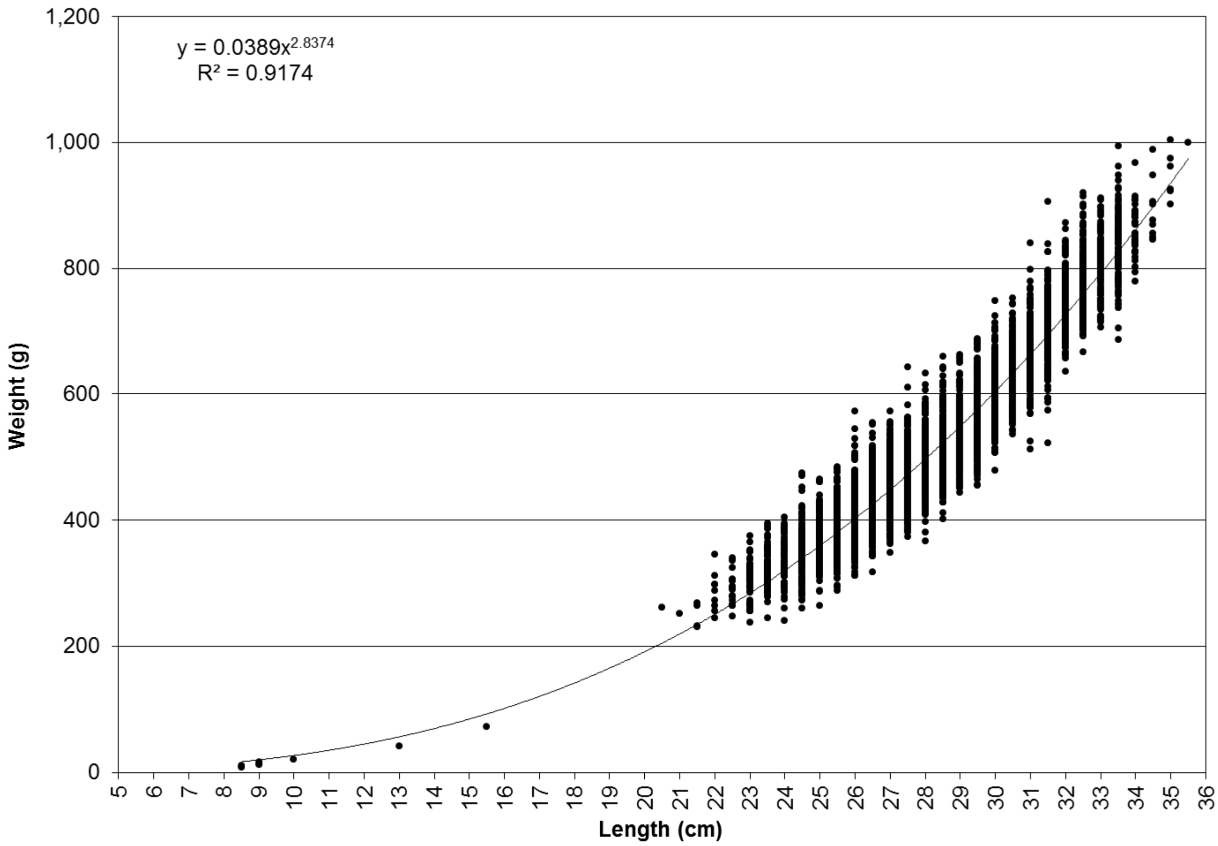




Illex argentinus—Illex squid

Length– frequency distribution and length-weight relationship in jigger fleet in 2018





Doryteuthis gahi - Falkland Calamari

Table E.1 Total catch (tonnes) by vessel type and year

VESSEL TYPE	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
TR	31,474	66,543	34,675	70,894	40,168	48,702	30,317	46,447	64,676	79,996
	31,474	**66,543**	**34,675**	**70,894**	**40,168**	**48,702**	**30,317**	**46,447**	**64,676**	**79,996**

Table E.2 Total catch (tonnes) by month and year

MONTH	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
January	0	0	-	-	-	-	-	0	5	-
February	2,013	4,455	1,308	3,885	1,293	2,167	2,048	1,222	2,224	1,407
March	8,573	16,963	10,276	21,154	12,983	13,832	14,630	8,713	20,244	23,412
April	2,403	7,733	3,826	9,917	5,724	12,318	3,007	12,832	16,322	16,852
May	17	5	20	18	35	47	115	55	1,081	1,715
June	8	3	11	22	9	15	4	17	24	15
July	8,228	11,013	7,075	6,362	5,006	4,800	1,176	1,879	2,509	3,745
August	8,102	16,654	8,186	17,595	7,740	9,643	8,056	12,746	12,432	22,910
September	2,030	9,622	3,856	11,781	7,223	5,778	1,204	7,763	9,016	9,273
October	82	80	99	145	132	92	55	1,217	817	657
November	19	16	18	15	21	11	20	2	2	7
December	-	0	-	1	1	-	3	-	0	2
	31,474	**66,543**	**34,675**	**70,894**	**40,168**	**48,702**	**30,317**	**46,447**	**64,676**	**79,996**

Table E.3 Total catch (tonnes) by fishing fleet and year

FISHING FLEET	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
ES	1,756	3,723	2,614	3,353	2,261	2,444	1,676	2,851	6,677	4,615
FK	27,180	58,016	30,580	62,668	35,243	42,927	26,478	40,823	54,039	70,680
JP	0	0	-	-	-	-	-	-	-	-
KR	2	34	54	87	34	39	2	7	12	1
UK	2,535	4,770	1,426	4,786	2,629	3,292	2,161	2,767	3,948	4,699
	31,474	**66,543**	**34,675**	**70,894**	**40,168**	**48,702**	**30,317**	**46,447**	**64,676**	**79,996**

Doryteuthis gahi - Falkland Calamari

Table E.4 Total catch (tonnes) by gross registered tonnage (GRT) and year

GRT	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<400	-	-	-	-	-	-	-	-	-	-
400-599	-	-	-	-	-	-	-	-	-	-
600-799	179	76	45	97	58	30	13	48	62	22
800-999	1,747	3,030	1,892	3,405	2,157	2,371	1,598	2,509	2,666	65
1,000-1,499	5,299	10,769	5,967	11,164	6,988	7,908	5,056	7,935	10,897	16,263
1,500-1,999	9,974	20,173	9,554	21,284	11,990	14,603	9,377	13,775	21,467	25,104
2,000-2,999	14,275	32,494	17,212	34,932	18,969	23,784	14,272	22,180	29,584	38,542
>2,999	0	0	4	13	7	5	-	-	-	-
	31,474	**66,543**	**34,675**	**70,894**	**40,168**	**48,702**	**30,317**	**46,447**	**64,676**	**79,996**

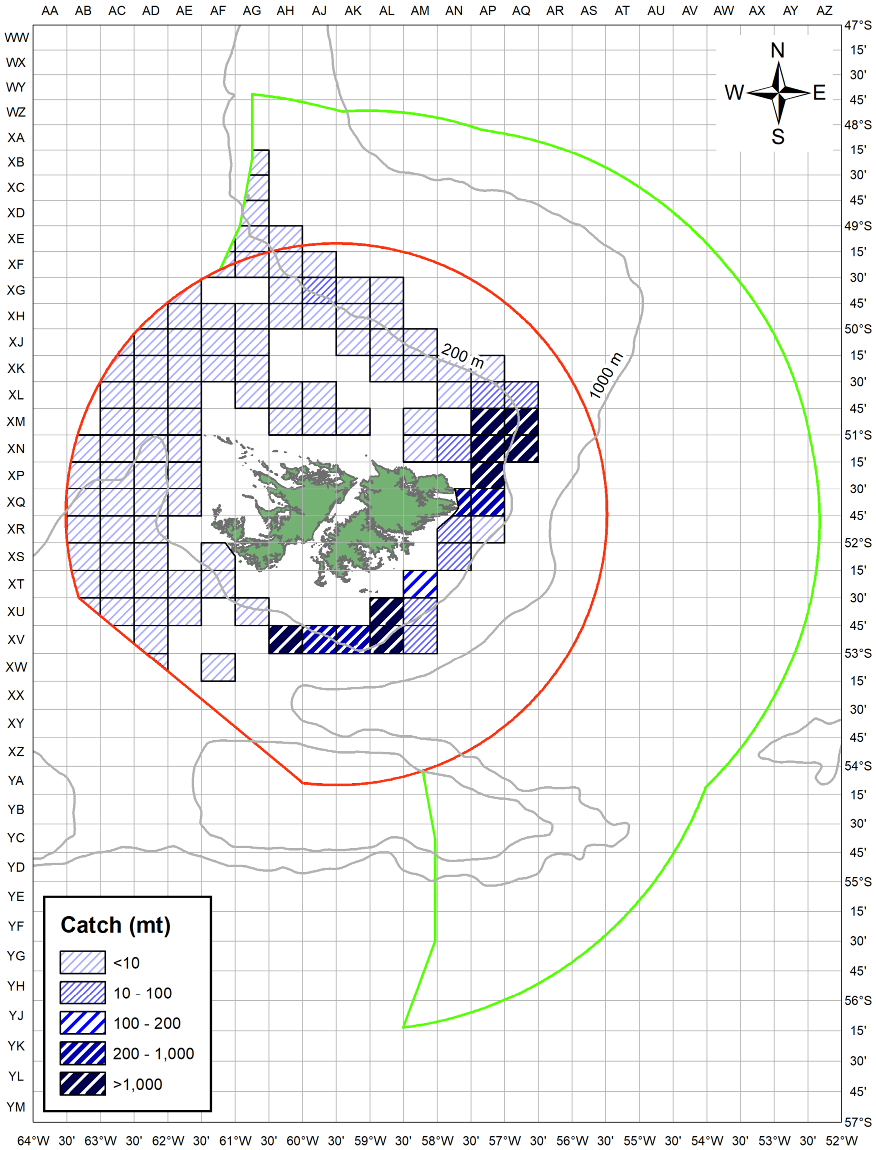
Table E.5 Total catch (tonnes) by length overall (m) (LOA) and year

LOA	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<45	3	0	12	-	1	0	3	2	-	0
45-49	1,909	2,793	1,726	3,406	2,163	2,344	1,590	2,478	1,426	60
50-54	95	47	59	96	45	49	17	34	1,288	16
55-59	1,928	3,848	1,939	3,926	2,435	2,867	2,062	3,255	3,912	4,199
60-64	7,110	15,224	7,938	15,714	9,018	10,380	6,800	9,652	14,393	19,924
65-69	6,563	13,790	6,014	13,992	8,109	9,834	6,271	9,085	12,653	14,797
70-79	9,972	21,171	12,007	23,356	13,036	16,268	9,171	14,702	23,912	27,687
80-89	2,048	4,504	2,385	4,835	2,620	3,355	2,169	3,565	5,088	6,339
>89	1,848	5,165	2,594	5,568	2,740	3,604	2,234	3,676	2,004	6,973
	31,474	**66,543**	**34,675**	**70,894**	**40,168**	**48,702**	**30,317**	**46,447**	**64,676**	**79,996**

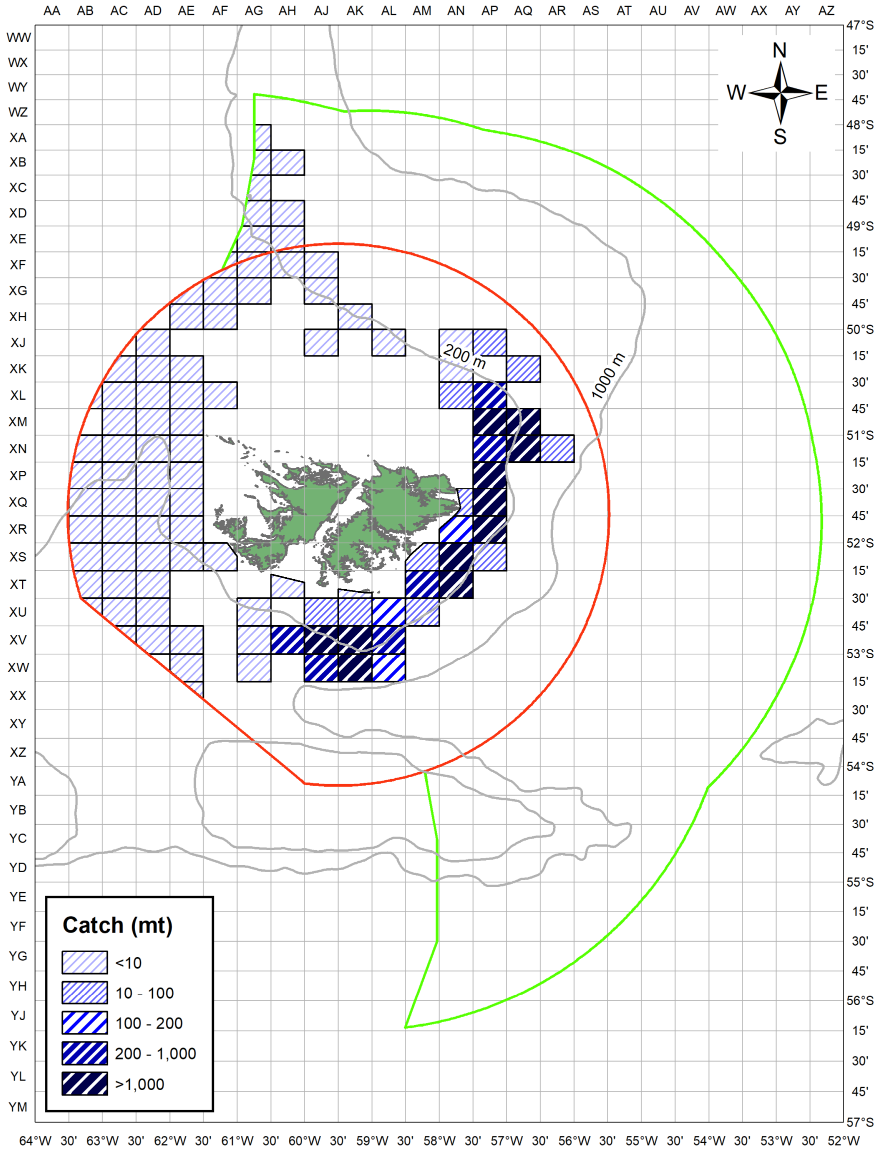
Table E.6 Total catch (tonnes) by brake horsepower (BHP) and year

BHP	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<1,000	-	-	-	-	1	-	-	-	-	3
1,000-1,199	-	0	6	-	1	0	3	2	-	-
1,200-1,399	-	-	-	0	1	-	-	-	-	-
1,400-1,599	380	349	180	101	71	46	28	114	1,348	43
1,600-1,799	29	35	29	770	324	56	10	274	12	23
1,800-1,999	3,222	6,141	3,520	6,324	4,283	4,538	3,192	4,903	4,959	3,699
2,000-2,499	8,620	17,504	9,415	18,202	10,654	12,969	8,183	12,560	19,521	22,060
2,500-2,999	1,850	5,196	2,637	5,635	2,764	3,635	2,236	3,687	2,017	6,975
3,000-3,999	12,915	27,595	13,668	29,341	16,250	20,127	12,031	17,705	26,440	34,618
>3,999	4,458	9,722	5,218	10,520	5,818	7,331	4,633	7,203	10,379	12,574
	31,474	**66,543**	**34,675**	**70,894**	**40,168**	**48,702**	**30,317**	**46,447**	**64,676**	**79,996**

Doryteuthis gahi
First Season 2017 (01 Jan to 30 Jun)

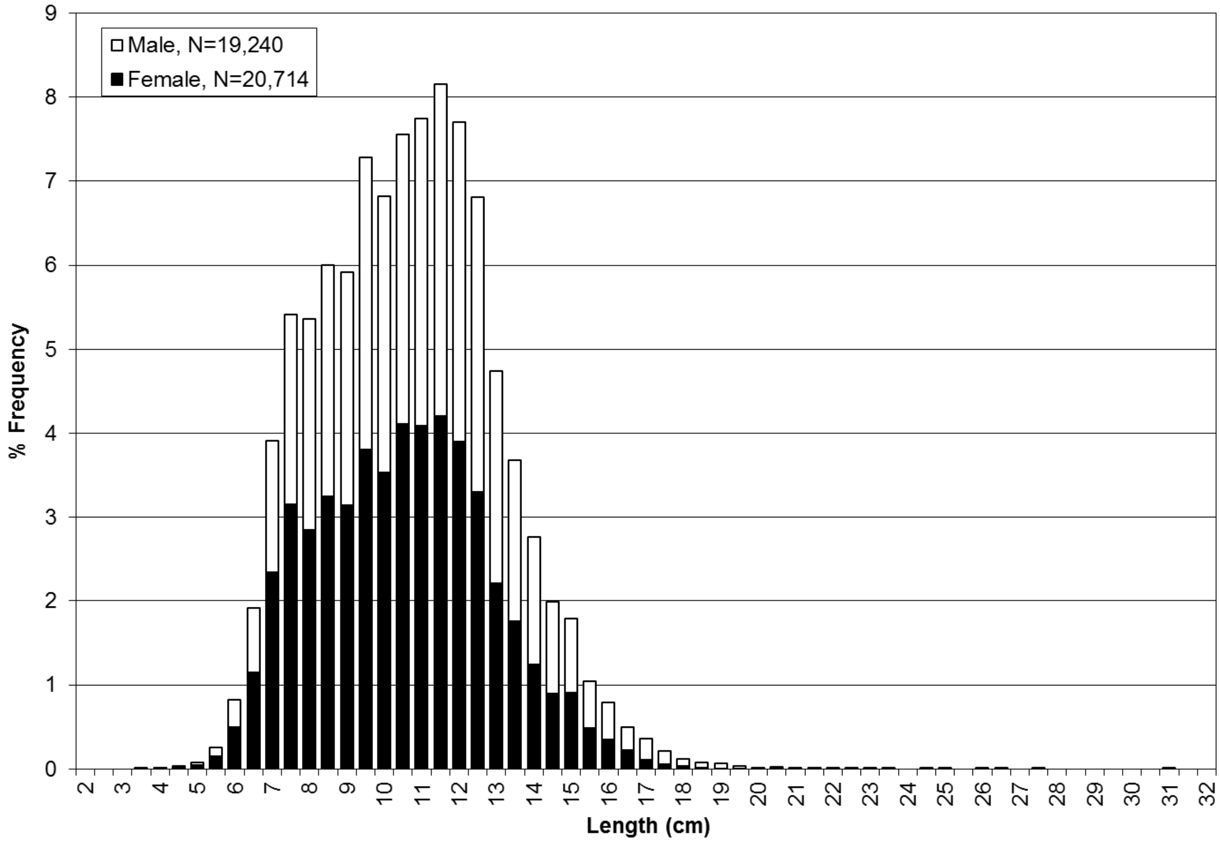


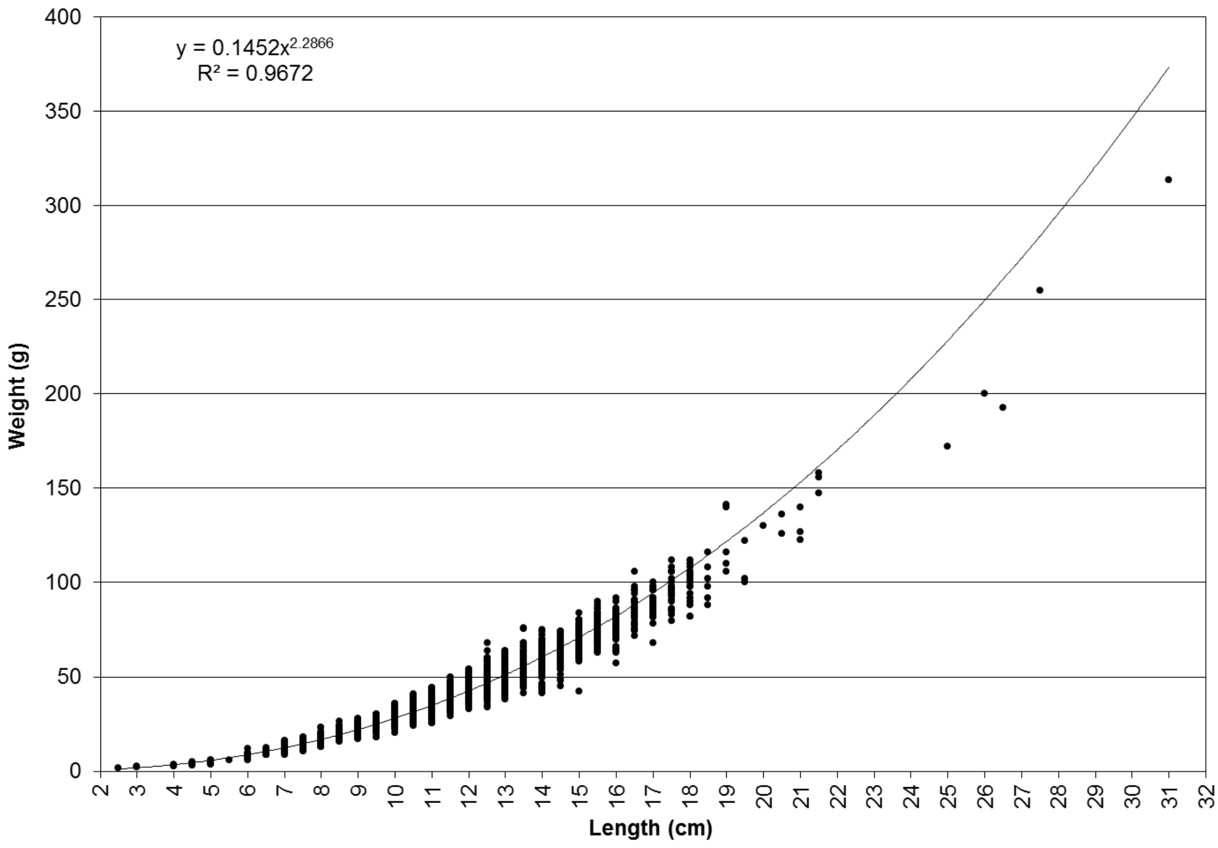
Doryteuthis gahi
Second Season 2017 (01 Jul to 31 Dec)



Doryteuthis gahi **- Falkland Calamari**

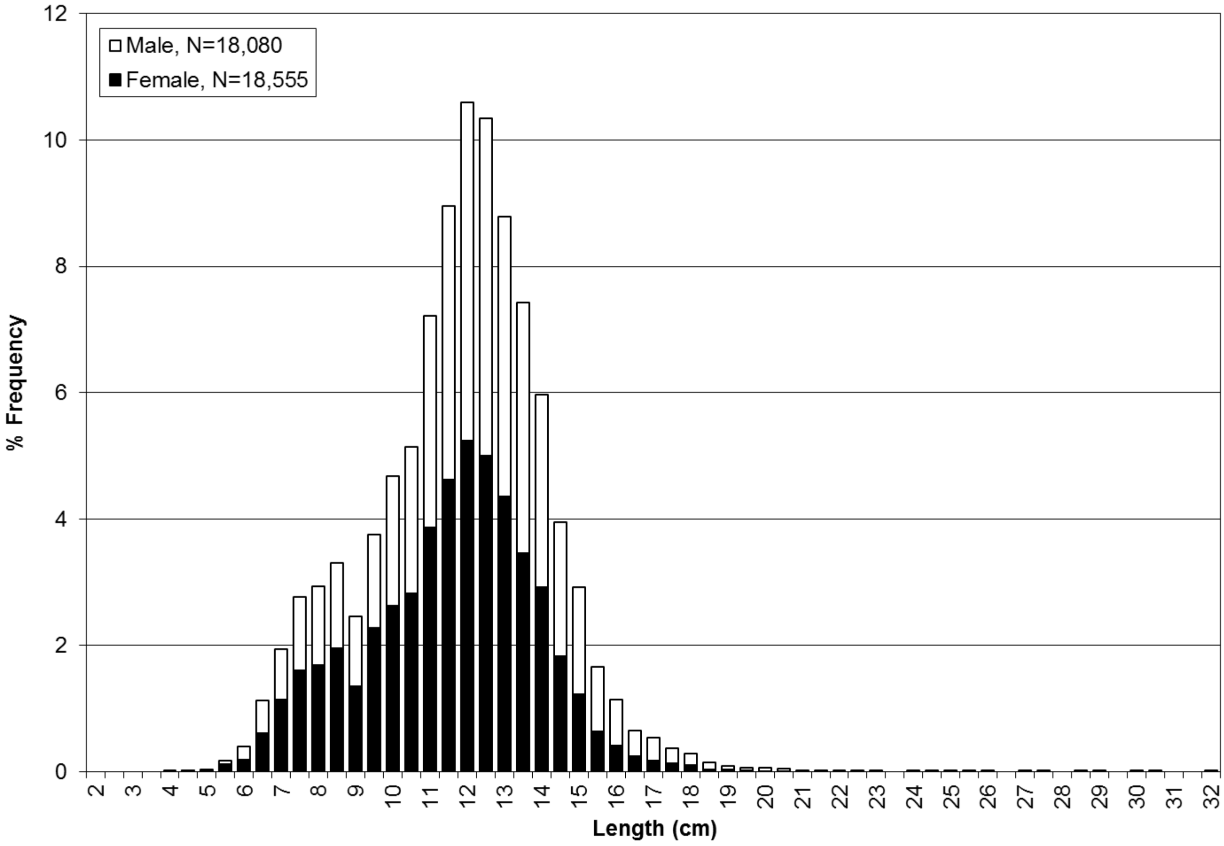
Length– frequency distribution and length-weight relationship during First Season 2018

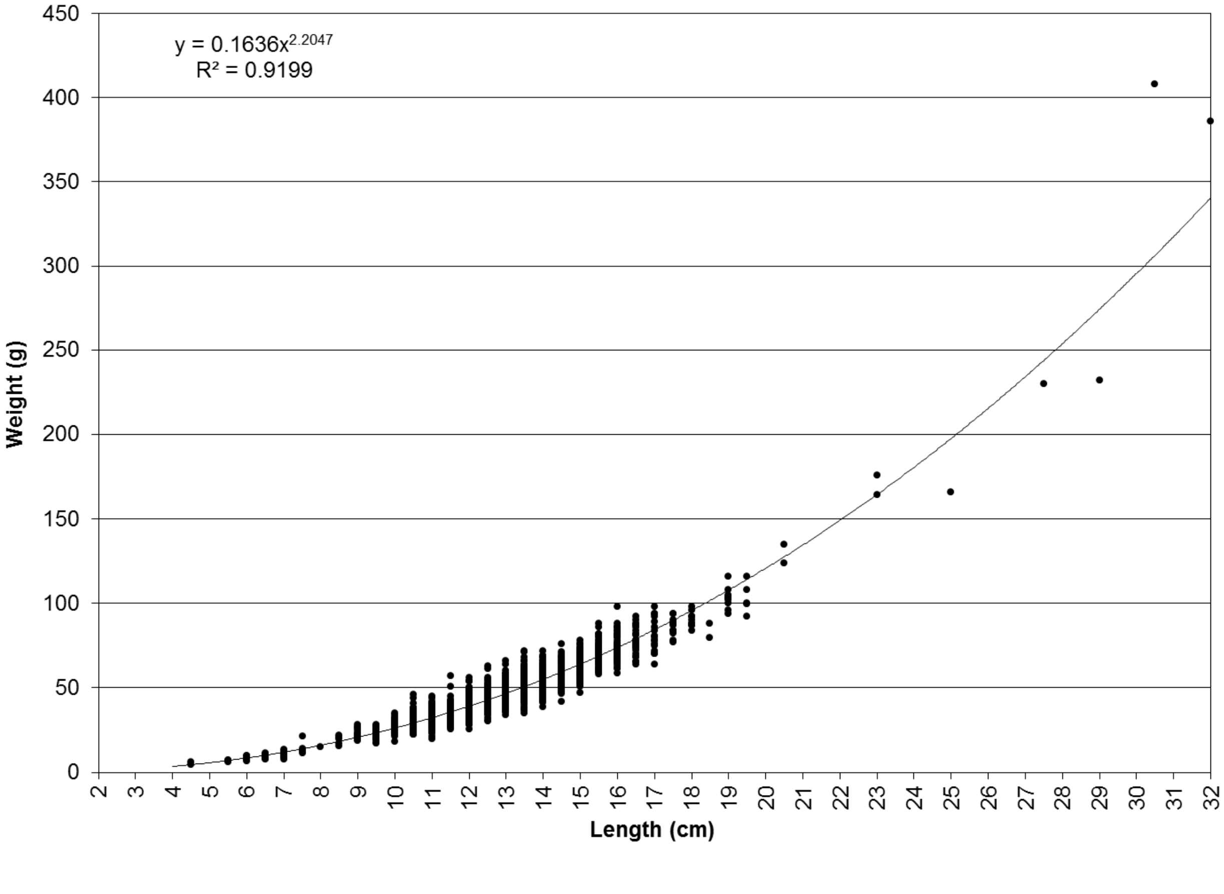




Doryteuthis gahi - Falkland Calamari

Length– frequency distribution and length-weight relationship during Second Season 2018





Micromesistius australis - Southern Blue Whiting

Table F.1 Total catch (tonnes) by vessel type and year

VESSEL TYPE	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
TR	10,395	6,471	3,940	1,596	2,698	3,612	2,790	5,415	2,309	992
	10,395	**6,471**	**3,940**	**1,596**	**2,698**	**3,612**	**2,790**	**5,415**	**2,309**	**992**

Table F.2 Total catch (tonnes) by month and year

MONTH	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
January	129	1,439	199	36	162	-	-	1,189	157	-
February	139	32	233	39	375	123	184	1,420	283	59
March	339	107	26	219	205	137	28	1,002	176	64
April	126	414	220	95	116	127	5	816	14	21
May	51	76	27	7	84	0	4	83	1	12
June	6	9	10	3	8	15	-	1	-	-
July	3	2	7	9	47	14	1	2	3	1
August	608	296	543	727	897	55	97	580	616	704
September	2,519	248	496	138	758	1,670	121	116	515	52
October	1,947	537	5	211	14	212	147	40	482	2
November	1,877	2,171	1,369	31	1	1,211	1,687	52	60	2
December	2,651	1,141	805	81	32	47	517	114	2	76
	10,395	**6,471**	**3,940**	**1,596**	**2,698**	**3,612**	**2,790**	**5,415**	**2,309**	**992**

Table F.3 Total catch (tonnes) by fishing fleet and year

FISHING FLEET	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
CL	-	-	-	-	-	1,155	-	-	-	-
ES	2,450	1,010	818	1,157	834	578	2,488	4,578	1,796	924
FK	1,670	375	764	412	1,669	1,795	273	800	509	67
JP	6,173	5,062	2,282	24	-	-	-	-	-	-
KR	1	24	31	3	32	2	0	8	-	-
UK	100	1	45	1	163	82	29	29	4	0
	10,395	**6,471**	**3,940**	**1,596**	**2,698**	**3,612**	**2,790**	**5,415**	**2,309**	**992**

Micromesistius australis - Southern Blue Whiting

Table F.4   Total catch (tonnes) by gross registered tonnage (GRT) and year

GRT	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<400	-	-	-	-	-	-	-	-	-	-
400-599	-	-	-	-	-	-	-	-	-	-
600-799	250	347	65	165	127	29	28	499	65	2
800-999	252	241	115	142	299	171	569	1,118	195	52
1,000-1,499	1,273	269	229	225	657	810	1,449	1,845	857	204
1,500-1,999	2,334	521	1,024	882	910	455	597	1,812	956	724
2,000-2,999	113	31	226	158	705	991	148	141	237	9
>2,999	6,173	5,062	2,282	24	-	1,155	-	-	-	-
	10,395	**6,471**	**3,940**	**1,596**	**2,698**	**3,612**	**2,790**	**5,415**	**2,309**	**992**

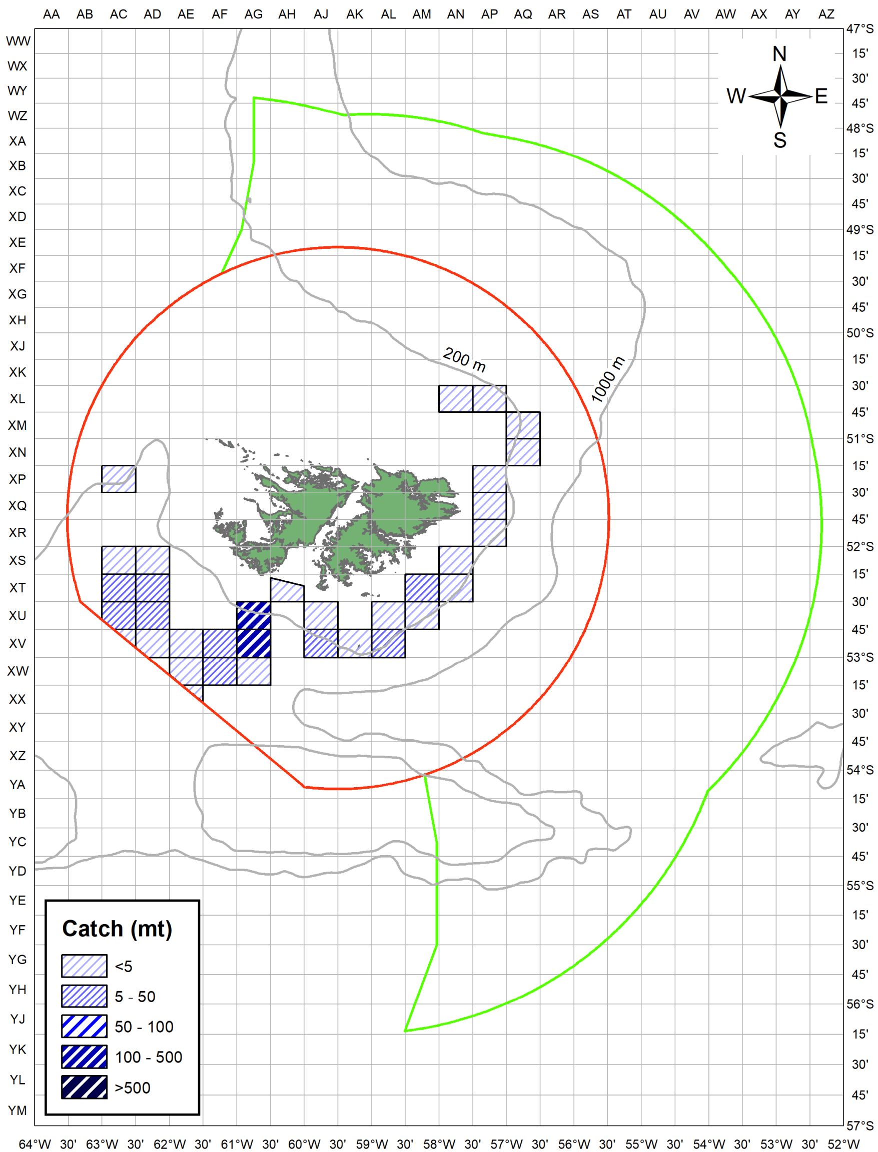
Table F.5   Total catch (tonnes) by length overall (m) (LOA) and year

LOA	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<45	17	15	1	-	-	-	132	26	-	-
45-49	362	312	63	136	164	106	84	388	66	2
50-54	481	83	76	85	125	60	194	890	74	47
55-59	194	233	97	130	347	48	193	411	160	32
60-64	749	114	280	178	619	809	846	1,529	830	178
65-69	1,572	556	661	874	588	264	698	1,392	974	722
70-79	846	73	289	130	458	723	566	754	133	7
80-89	0	1	91	27	133	221	23	18	40	3
>89	6,173	5,084	2,384	35	265	1,381	56	7	32	-
	10,395	**6,471**	**3,940**	**1,596**	**2,698**	**3,612**	**2,790**	**5,415**	**2,309**	**992**

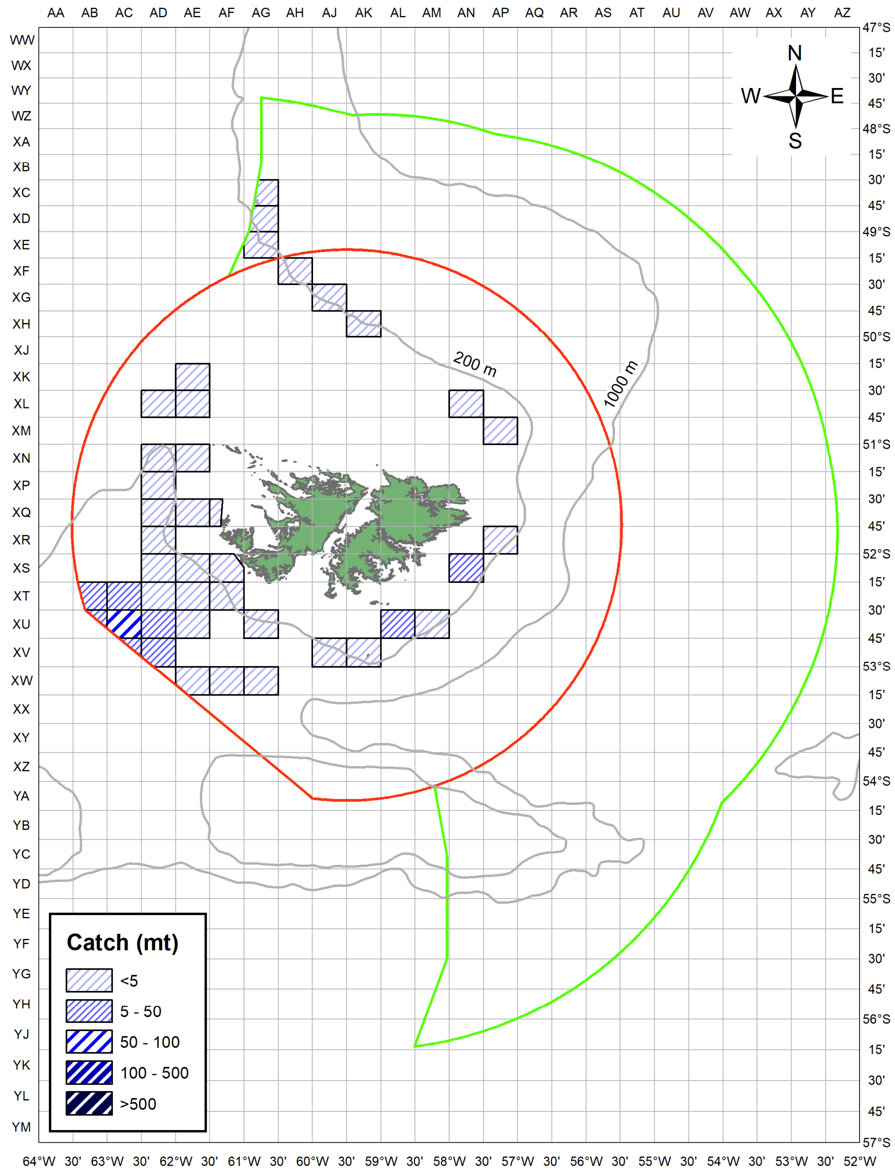
Table F.6   Total catch (tonnes) by brake horsepower (BHP) and year

BHP	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<1,000	-	-	-	-	-	-	-	-	-	1
1,000-1,199	-	15	-	-	-	-	132	26	-	-
1,200-1,399	5	51	-	14	4	1	-	-	-	-
1,400-1,599	897	451	158	249	260	92	403	1,540	217	53
1,600-1,799	92	79	9	72	70	70	428	1,316	428	124
1,800-1,999	1,618	646	674	956	709	477	765	1,323	974	742
2,000-2,499	1,386	113	496	89	651	727	875	913	402	42
2,500-2,999	1	44	133	33	350	240	61	35	73	-
3,000-3,999	213	9	78	120	470	626	98	145	168	25
>3,999	6,183	5,064	2,392	64	183	1,377	29	117	47	3
	10,395	**6,471**	**3,940**	**1,596**	**2,698**	**3,612**	**2,790**	**5,415**	**2,309**	**992**

Micromesistius australis
Second Season 2018 (01 Jul to 31 Dec)

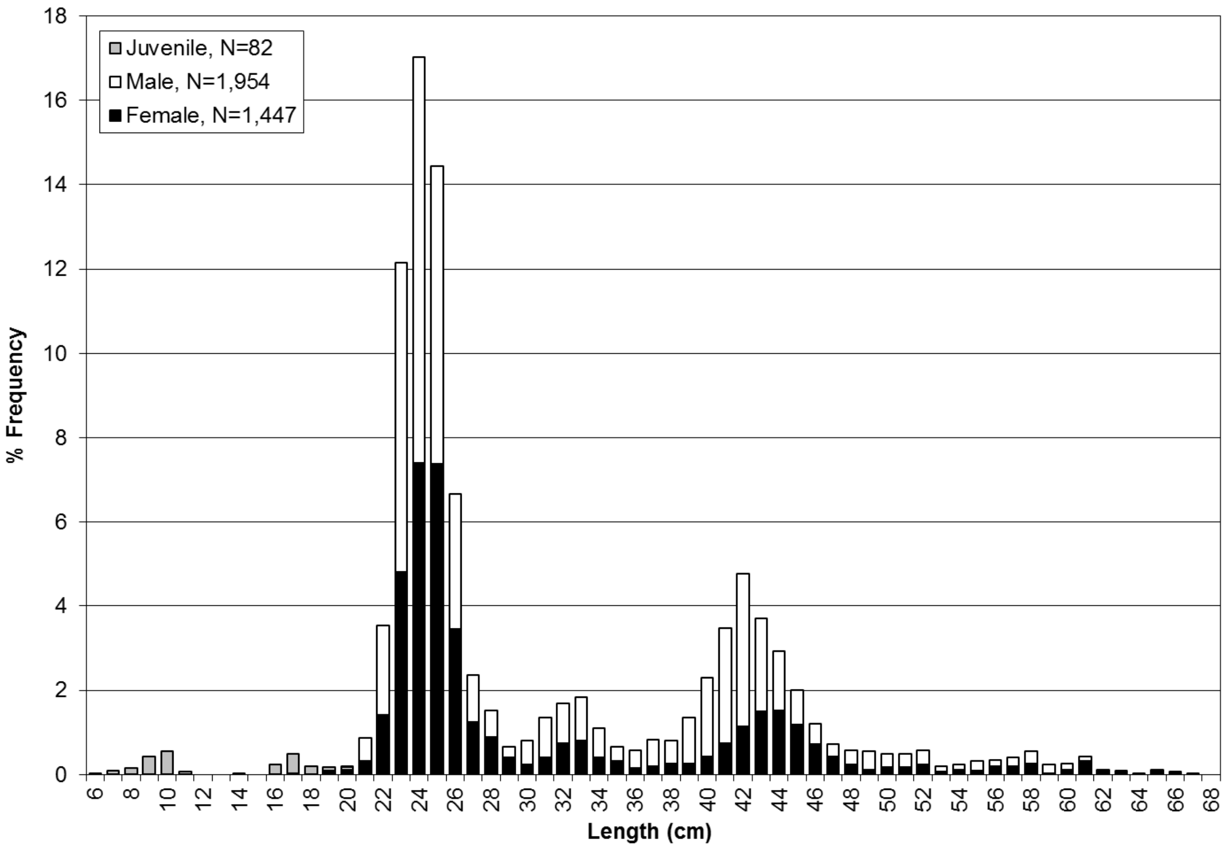


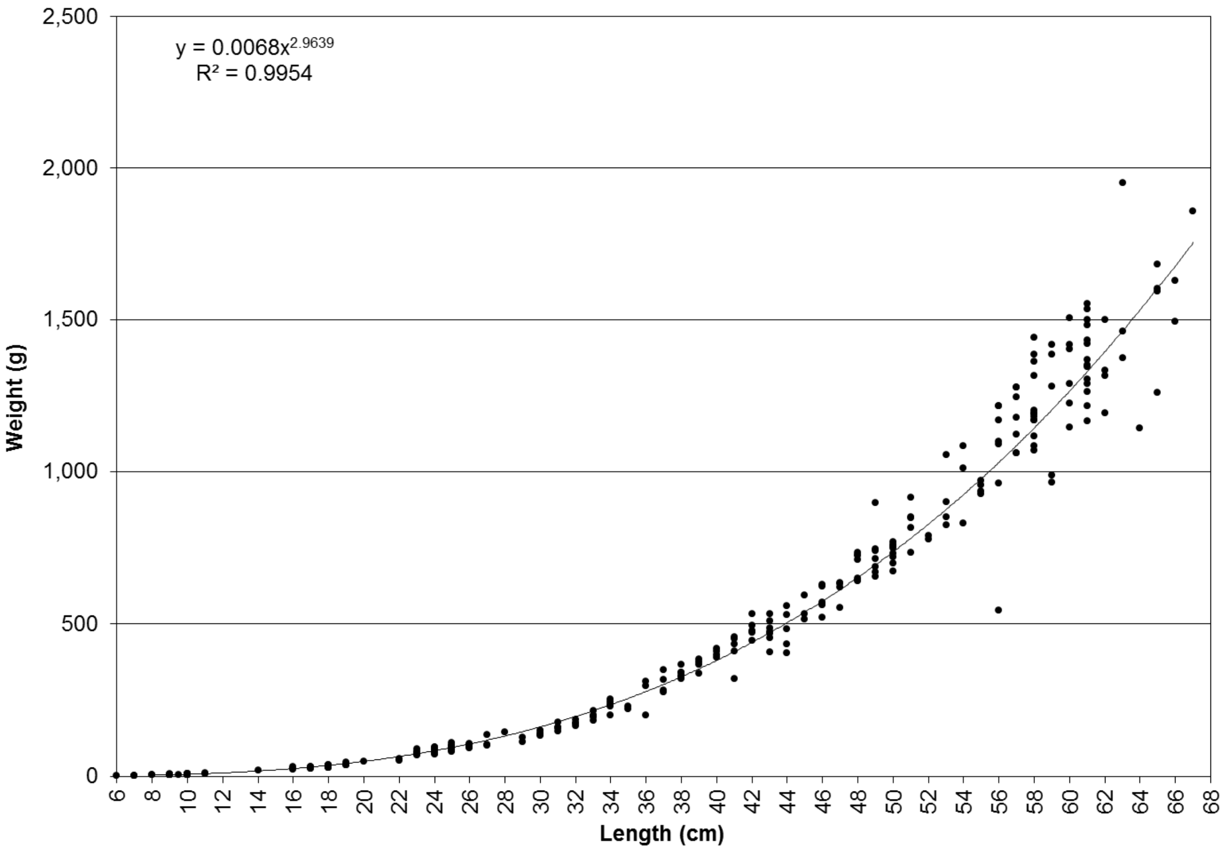
Micromesistius australis
First Season 2018 (01 Jan to 30 Jun)



Micromesistius australis - Southern Blue Whiting

Length– frequency distribution and length-weight relationship in 2018





Macruronus magellanicus—Hoki

Table G.1 Total catch (tonnes) by vessel type and year

VESSEL TYPE	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
TR	23,404	19,227	22,979	15,867	16,849	7,392	6,845	11,562	4,053	4,438
	23,404	**19,227**	**22,979**	**15,867**	**16,849**	**7,392**	**6,845**	**11,562**	**4,053**	**4,438**

Table G.2 Total catch (tonnes) by month and year

MONTH	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
January	395	179	635	230	2,010	-	-	211	22	-
February	2,552	1,834	1,289	535	2,196	754	484	4,655	146	639
March	4,653	1,893	1,264	2,414	1,745	1,521	3,836	2,277	530	901
April	3,377	2,772	5,769	2,508	3,043	2,811	1,610	2,596	770	503
May	2,278	1,270	2,609	652	3,414	774	256	1,082	733	1,162
June	646	205	1,143	311	553	350	36	99	19	4
July	1,069	351	2,775	839	233	56	5	25	273	29
August	933	2,374	2,387	1,739	761	82	64	90	316	2
September	2,258	2,127	978	557	1,239	800	181	6	47	28
October	1,446	856	357	3,617	362	9	35	45	878	127
November	2,911	4,125	1,082	2,183	1,091	229	239	290	311	217
December	885	1,239	2,690	283	203	6	101	185	9	826
	23,404	**19,227**	**22,979**	**15,867**	**16,849**	**7,392**	**6,845**	**11,562**	**4,053**	**4,438**

Table G.3 Total catch (tonnes) by fishing fleet and year

FISHING FLEET	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
CL	-	-	-	-	-	207	-	-	-	-
ES	15,177	13,511	15,867	11,628	11,569	5,275	5,705	8,886	3,548	3,879
FK	5,994	4,033	3,808	3,433	4,755	1,889	959	2,378	467	555
JP	1,267	917	2,457	85	-	-	-	-	-	-
KR	792	667	594	712	481	20	147	211	19	3
UK	174	98	253	10	45	1	35	87	18	0
	23,404	**19,227**	**22,979**	**15,867**	**16,849**	**7,392**	**6,845**	**11,562**	**4,053**	**4,438**

Macruronus magellanicus—Hoki

Table G.4 Total catch (tonnes) by gross registered tonnage (GRT) and year

GRT	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<400	-	-	-	-	-	-	-	-	-	-
400-599	-	-	-	-	-	-	-	-	-	-
600-799	3,528	2,795	2,714	2,568	1,478	497	1,051	1,155	323	307
800-999	4,306	2,933	3,119	3,532	3,238	1,634	1,845	3,569	615	767
1,000-1,499	9,742	8,034	8,562	6,957	8,740	3,477	3,055	2,992	2,371	2,163
1,500-1,999	4,223	4,310	5,894	2,529	3,177	1,566	858	3,813	644	1,201
2,000-2,999	339	237	221	100	214	8	38	31	100	0
>2,999	1,267	917	2,469	181	2	210	-	1	-	-
	23,404	**19,227**	**22,979**	**15,867**	**16,849**	**7,392**	**6,845**	**11,562**	**4,053**	**4,438**

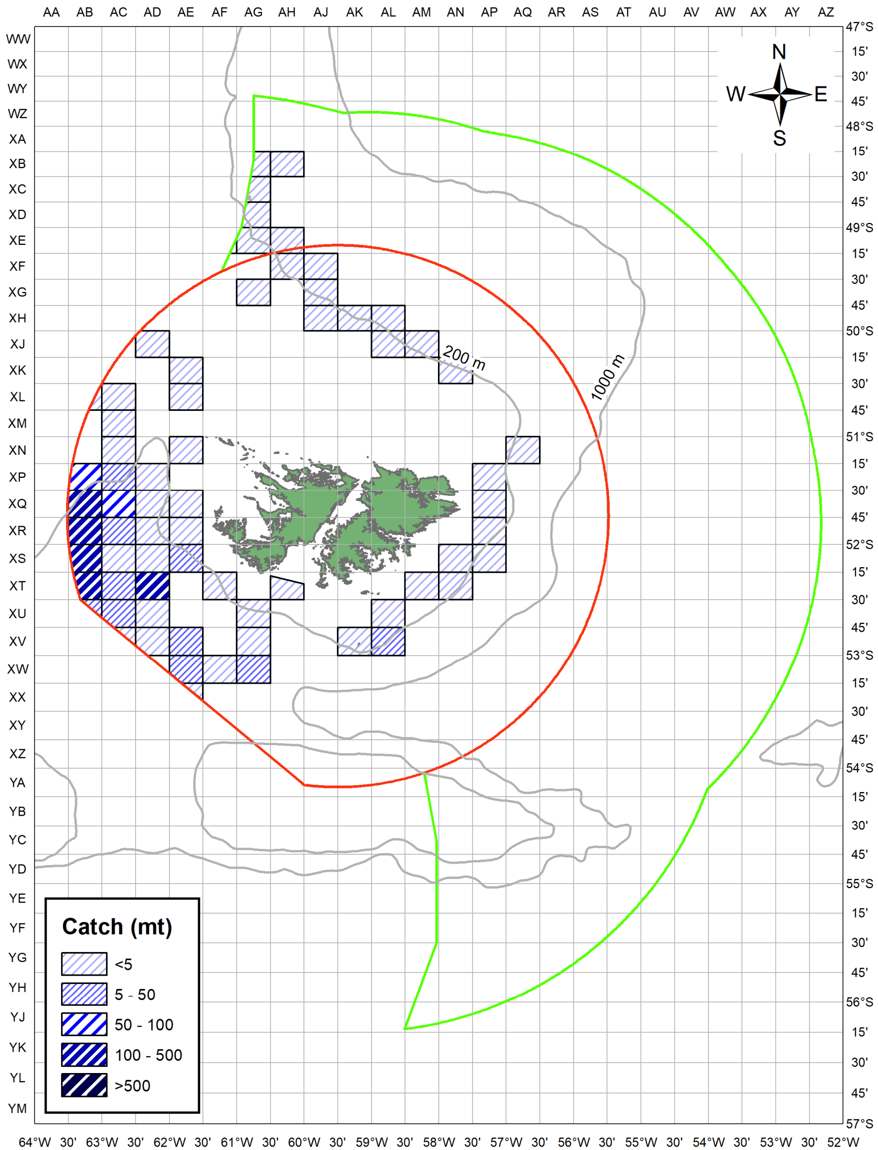
Table G.5 Total catch (tonnes) by length overall (m) (LOA) and year

LOA	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<45	737	155	217	-	-	-	10	167	-	-
45-49	3,768	2,309	1,732	2,036	1,358	335	839	1,061	302	302
50-54	2,016	1,923	2,215	2,894	2,014	1,309	978	2,574	165	304
55-59	3,251	2,879	3,404	3,017	3,433	800	1,652	1,225	710	681
60-64	6,024	4,191	5,704	4,001	5,196	1,856	1,456	2,512	1,633	2,024
65-69	2,896	3,276	4,082	1,782	2,592	2,081	622	2,340	1,025	934
70-79	3,326	3,462	3,066	1,933	2,198	800	1,280	1,681	195	192
80-89	85	27	27	21	31	1	1	0	1	0
>89	1,301	1,004	2,532	183	26	210	6	1	22	-
	23,404	**19,227**	**22,979**	**15,867**	**16,849**	**7,392**	**6,845**	**11,562**	**4,053**	**4,438**

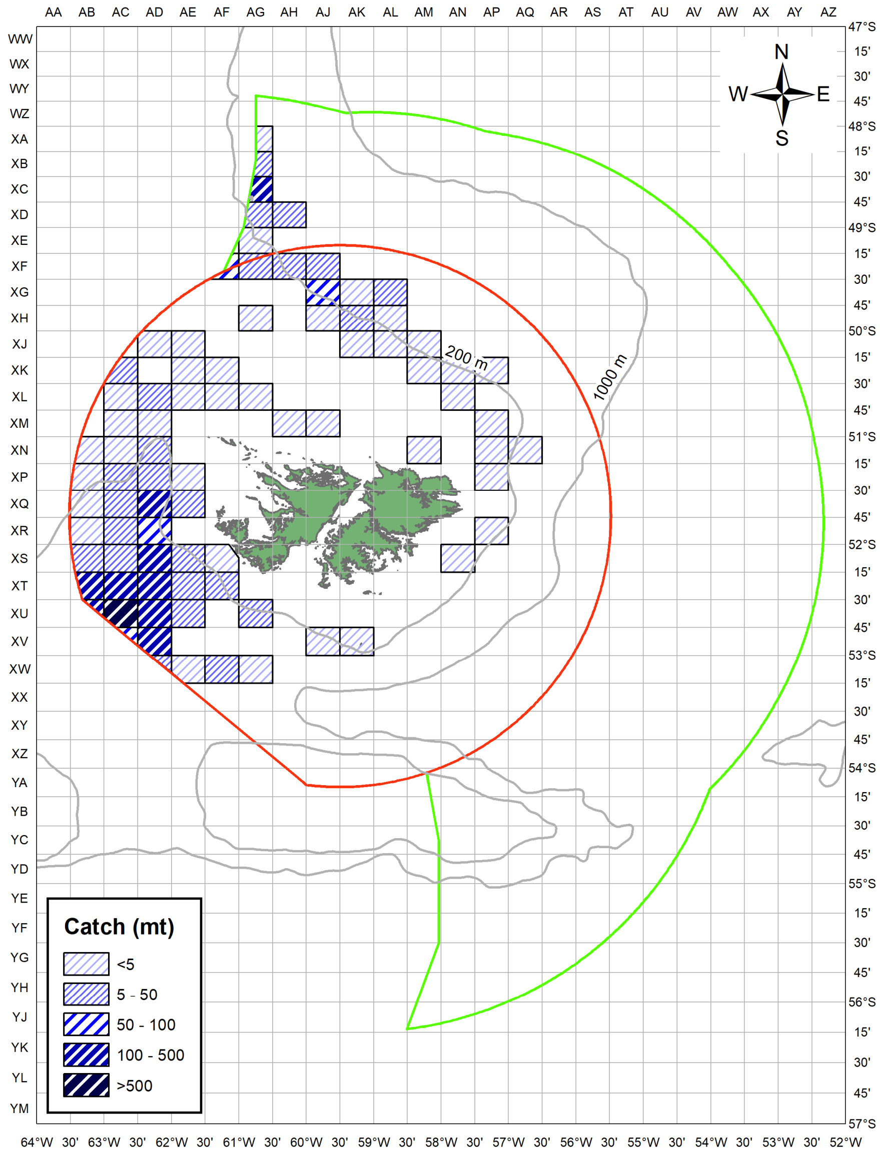
Table G.6 Total catch (tonnes) by brake horsepower (BHP) and year

BHP	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<1,000	-	-	-	-	-	-	-	-	-	46
1,000-1,199	-	155	54	-	-	-	10	167	-	-
1,200-1,399	453	442	310	327	276	67	119	-	-	-
1,400-1,599	6,722	3,441	3,264	4,216	3,263	1,704	2,006	3,859	907	973
1,600-1,799	1,882	2,997	2,253	1,089	1,611	688	912	1,490	1,448	1,251
1,800-1,999	4,854	5,385	6,899	4,248	5,661	2,114	1,205	2,389	1,314	1,497
2,000-2,499	6,955	4,982	6,352	4,101	4,837	2,257	1,797	2,476	231	571
2,500-2,999	790	637	937	1,594	964	345	729	464	53	45
3,000-3,999	393	221	397	182	205	10	65	120	95	52
>3,999	1,353	965	2,513	109	31	208	1	597	5	2
	23,404	**19,227**	**22,979**	**15,867**	**16,849**	**7,392**	**6,845**	**11,562**	**4,053**	**4,438**

Macruronus magellanicus
Second Season 2018 (01 Jul to 31 Dec)

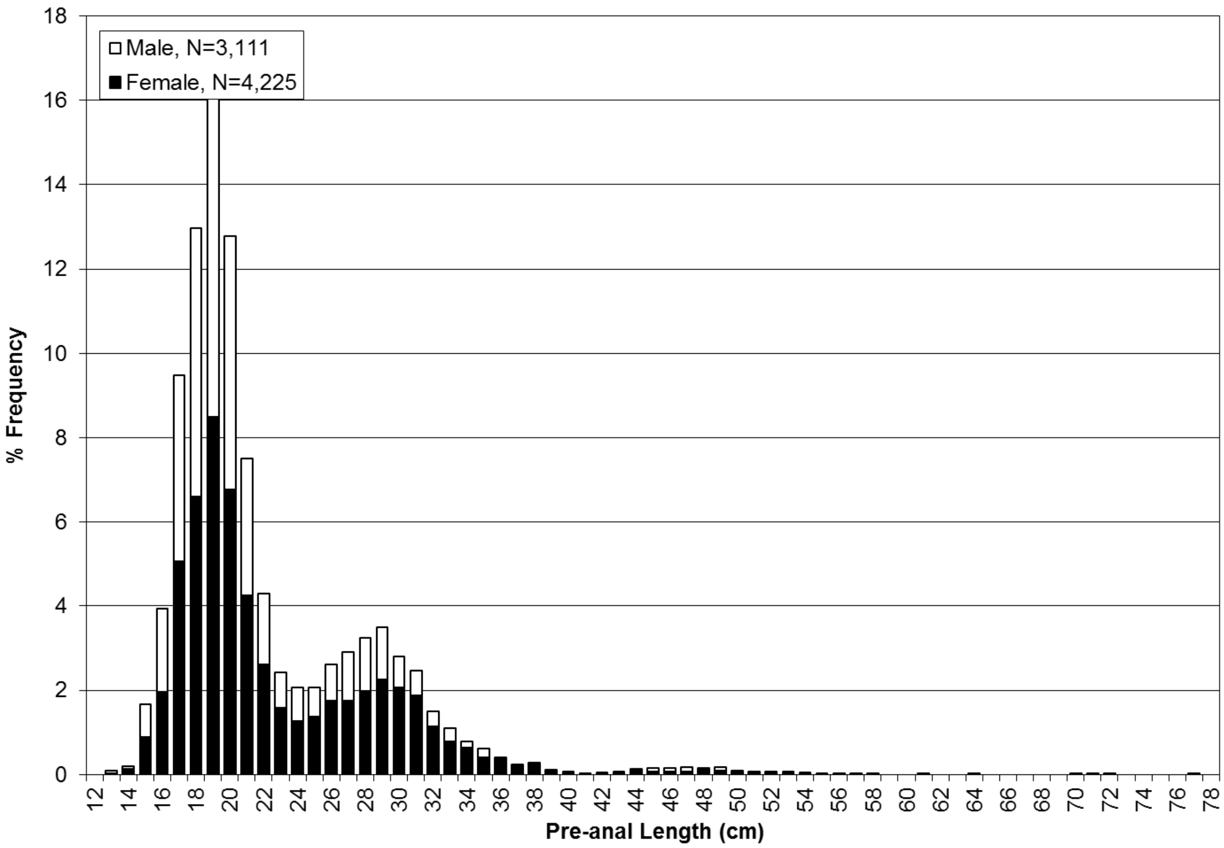


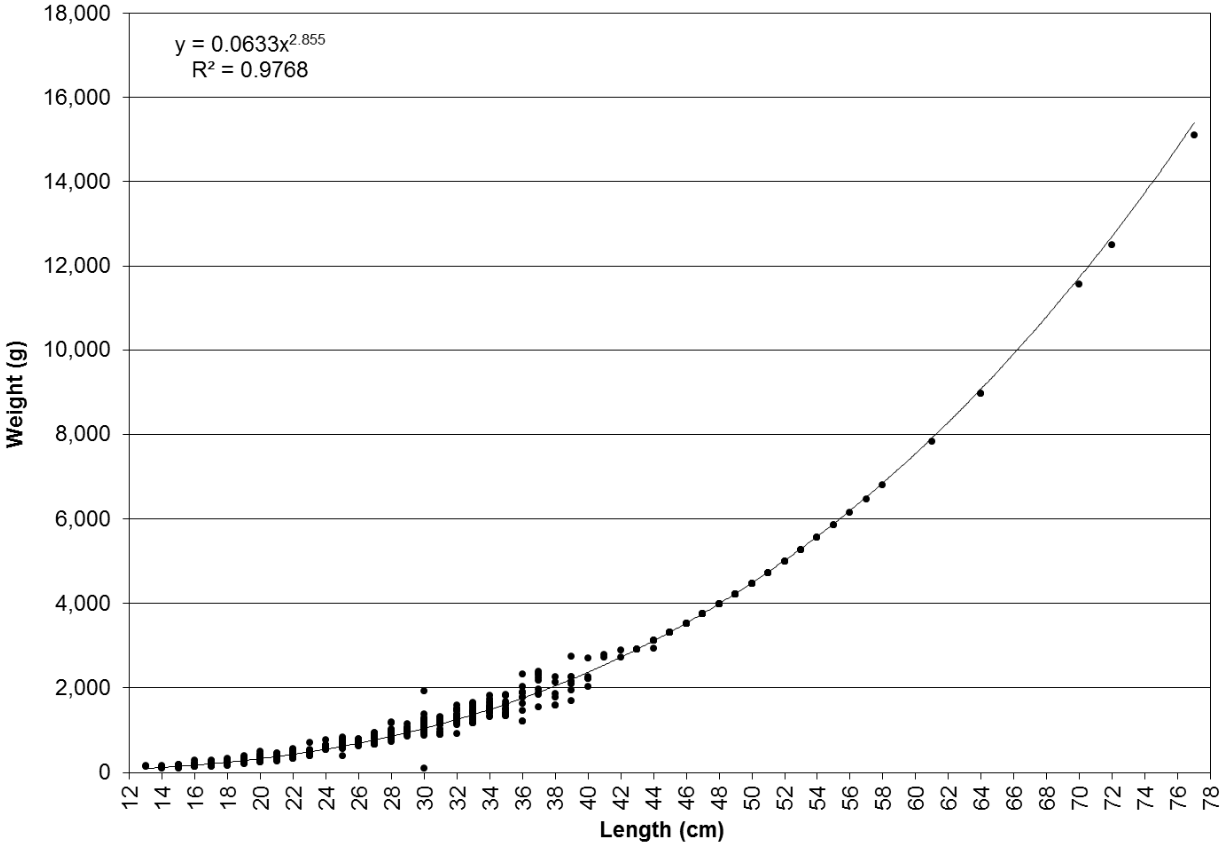
Macruronus magellanicus
First Season 2018 (01 Jan to 30 Jun)



Macruronus magellanicus—Hoki

Length– frequency distribution and length-weight relationship in 2018





Salilota australis - Red cod

Table H.1 Total catch (tonnes) by vessel type and year

VESSEL TYPE	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
LO	-	-	0	-	0	-	-	-	-	-
TR	5,120	3,129	4,210	4,629	5,164	3,467	3,340	3,143	1,379	1,654
	5,120	**3,129**	**4,210**	**4,629**	**5,164**	**3,467**	**3,340**	**3,143**	**1,379**	**1,654**

Table H.2 Total catch (tonnes) by month and year

MONTH	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
January	148	29	100	62	215	-	0	143	33	-
February	328	193	236	351	480	114	63	479	24	47
March	530	387	157	341	311	221	557	181	101	64
April	480	649	438	340	325	477	685	270	245	154
May	603	215	749	370	514	768	310	527	138	451
June	159	69	213	125	77	398	131	198	38	102
July	214	75	309	150	162	135	174	138	134	200
August	669	361	605	656	1,199	376	161	369	223	134
September	662	340	474	580	1,299	195	329	135	248	108
October	819	284	273	615	283	532	631	562	144	163
November	378	321	436	626	230	189	200	74	40	129
December	131	207	221	411	68	63	99	66	12	103
	5,120	**3,129**	**4,210**	**4,629**	**5,164**	**3,467**	**3,340**	**3,143**	**1,379**	**1,654**

Table H.3 Total catch (tonnes) by fishing fleet and year

FISHING FLEET	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
ES	3,778	2,267	2,851	3,441	3,592	2,530	2,776	2,237	1,027	1,071
FK	1,308	801	1,317	1,167	1,522	874	505	878	319	565
JP	0	0	0	-	-	-	-	-	-	-
KR	11	19	6	16	33	57	47	18	14	17
UK	23	41	36	5	17	5	12	10	18	0
	5,120	**3,129**	**4,210**	**4,629**	**5,164**	**3,467**	**3,340**	**3,143**	**1,379**	**1,654**

Salilota australis - Red cod

Table H.4 Total catch (tonnes) by gross registered tonnage (GRT) and year

GRT	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<400	-	-	-	-	-	-	-	-	-	-
400-599	-	-	-	-	-	-	-	-	-	-
600-799	598	327	484	633	467	508	401	480	143	360
800-999	610	403	444	618	610	600	648	783	275	336
1,000-1,499	2,034	1,323	1,889	2,004	2,584	1,399	1,387	793	409	516
1,500-1,999	1,747	1,012	1,268	1,285	1,256	881	869	1,053	469	424
2,000-2,999	131	64	124	89	248	77	34	34	83	17
>2,999	0	0	0	-	-	2	-	0	-	-
	5,120	**3,129**	**4,210**	**4,629**	**5,164**	**3,467**	**3,340**	**3,143**	**1,379**	**1,654**

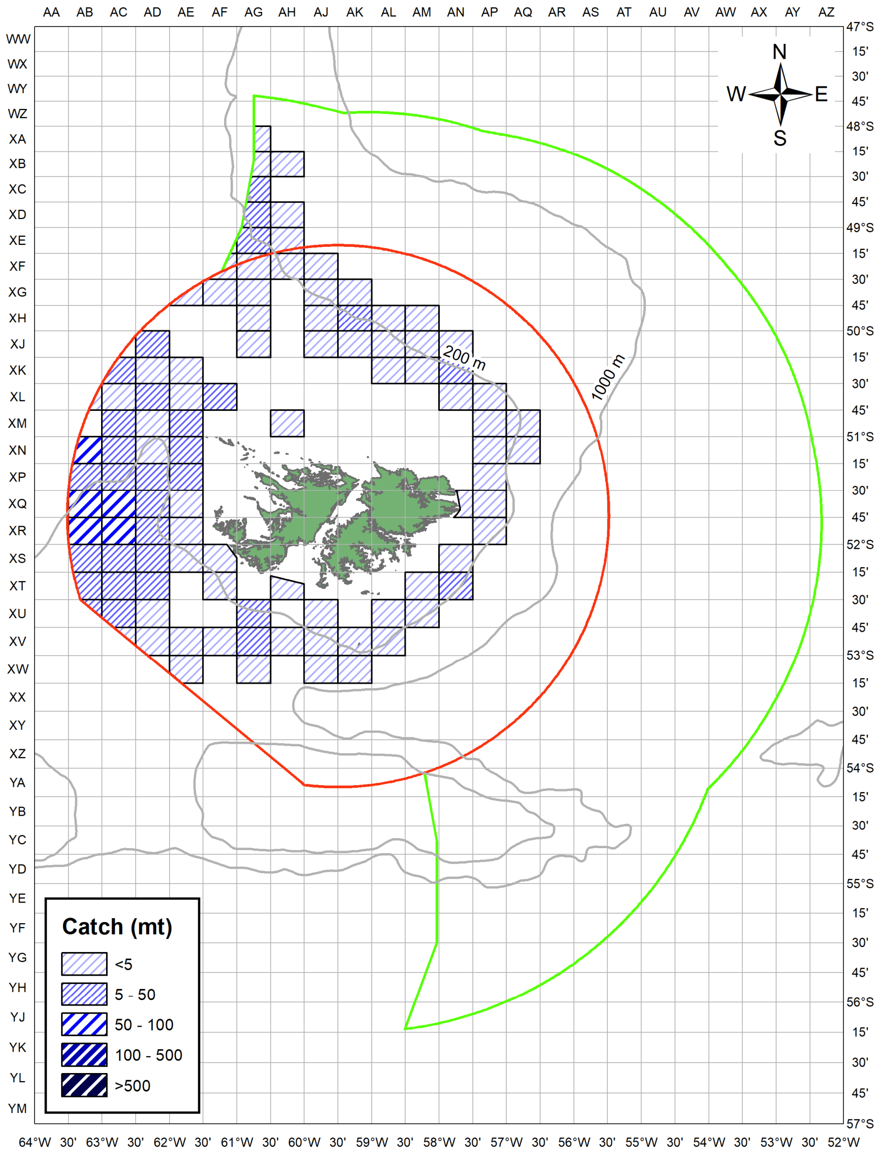
Table H.5 Total catch (tonnes) by length overall (m) (LOA) and year

LOA	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<45	145	17	78	-	9	3	8	56	-	2
45-49	555	291	339	578	403	453	340	495	129	397
50-54	246	220	353	488	475	478	400	470	155	229
55-59	751	630	886	837	706	334	501	340	219	183
60-64	1,275	586	966	1,058	1,772	929	786	587	243	418
65-69	1,434	1,057	1,178	1,268	1,048	769	818	637	349	227
70-79	648	304	350	329	628	476	480	558	265	192
80-89	12	4	4	2	20	16	3	0	4	5
>89	53	19	55	68	103	9	5	2	15	-
	5,120	**3,129**	**4,210**	**4,629**	**5,164**	**3,467**	**3,340**	**3,143**	**1,379**	**1,654**

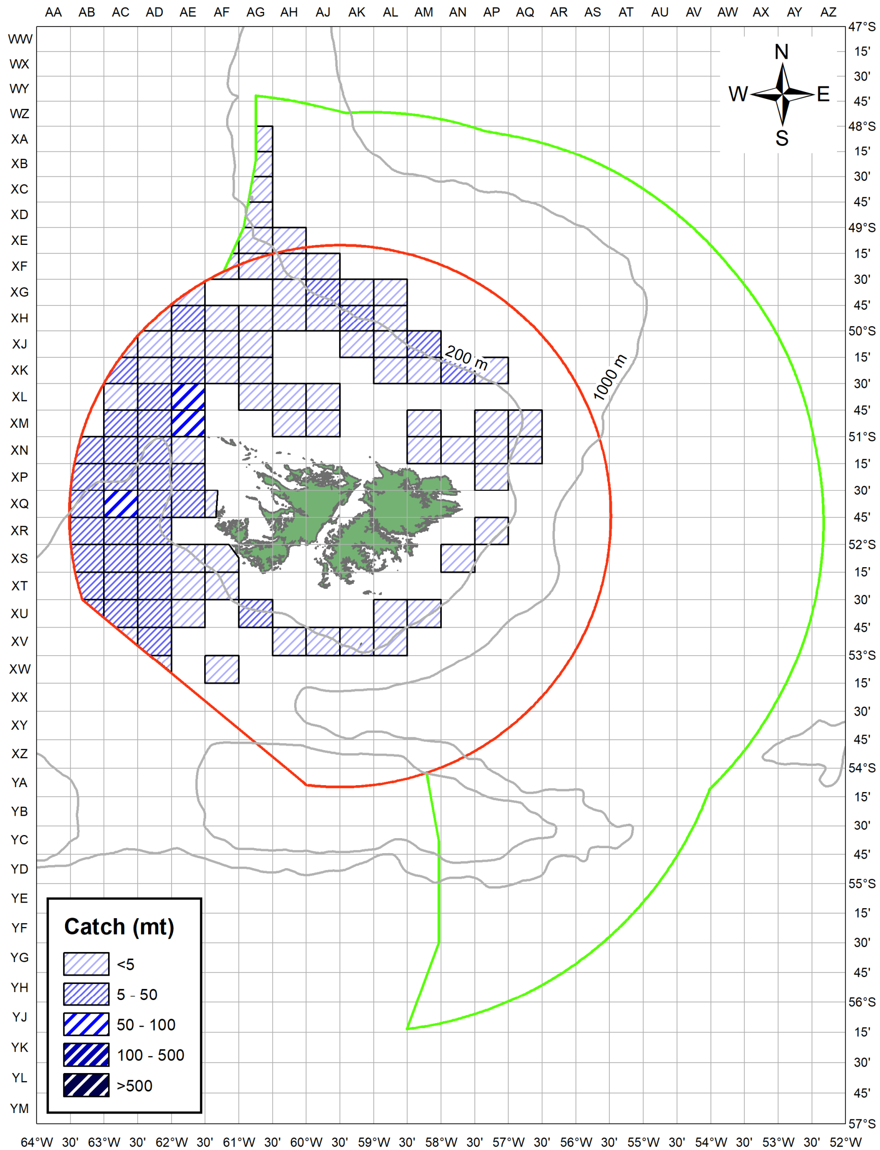
Table H.6 Total catch (tonnes) by brake horsepower (BHP) and year

BHP	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<1,000	-	-	-	-	5	-	-	-	-	72
1,000-1,199	-	17	22	-	9	3	8	56	-	-
1,200-1,399	83	58	89	100	77	54	43	-	-	-
1,400-1,599	851	448	749	934	744	800	779	1,003	319	480
1,600-1,799	529	451	419	358	359	279	313	281	103	148
1,800-1,999	1,827	1,346	1,710	2,082	1,800	1,017	1,142	745	420	469
2,000-2,499	1,657	676	1,011	825	1,696	1,021	853	826	333	328
2,500-2,999	63	33	102	303	303	215	156	106	102	101
3,000-3,999	88	82	101	23	142	61	38	42	82	52
>3,999	20	17	7	4	29	17	6	84	19	5
	5,120	**3,129**	**4,210**	**4,629**	**5,164**	**3,467**	**3,340**	**3,143**	**1,379**	**1,654**

Salilota australis
Second Season 2018 (01 Jul to 31 Dec)

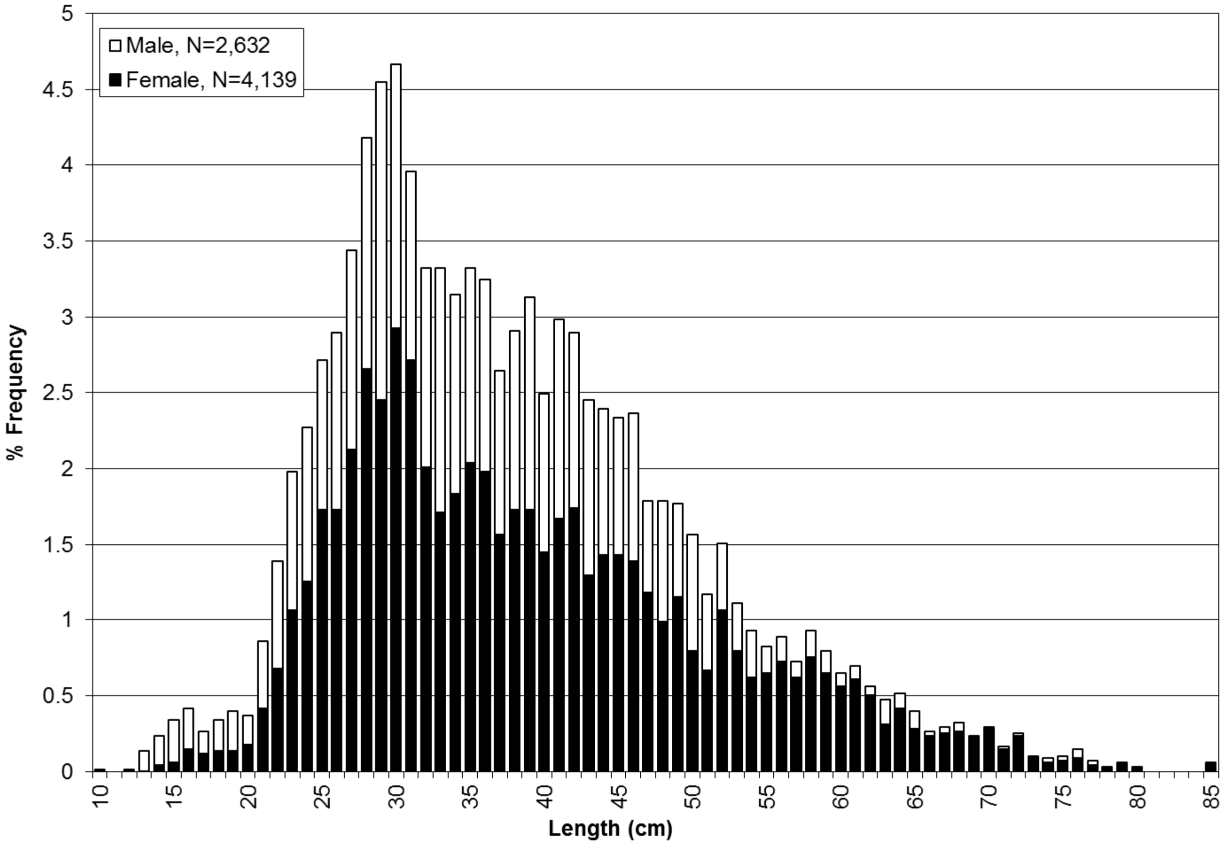


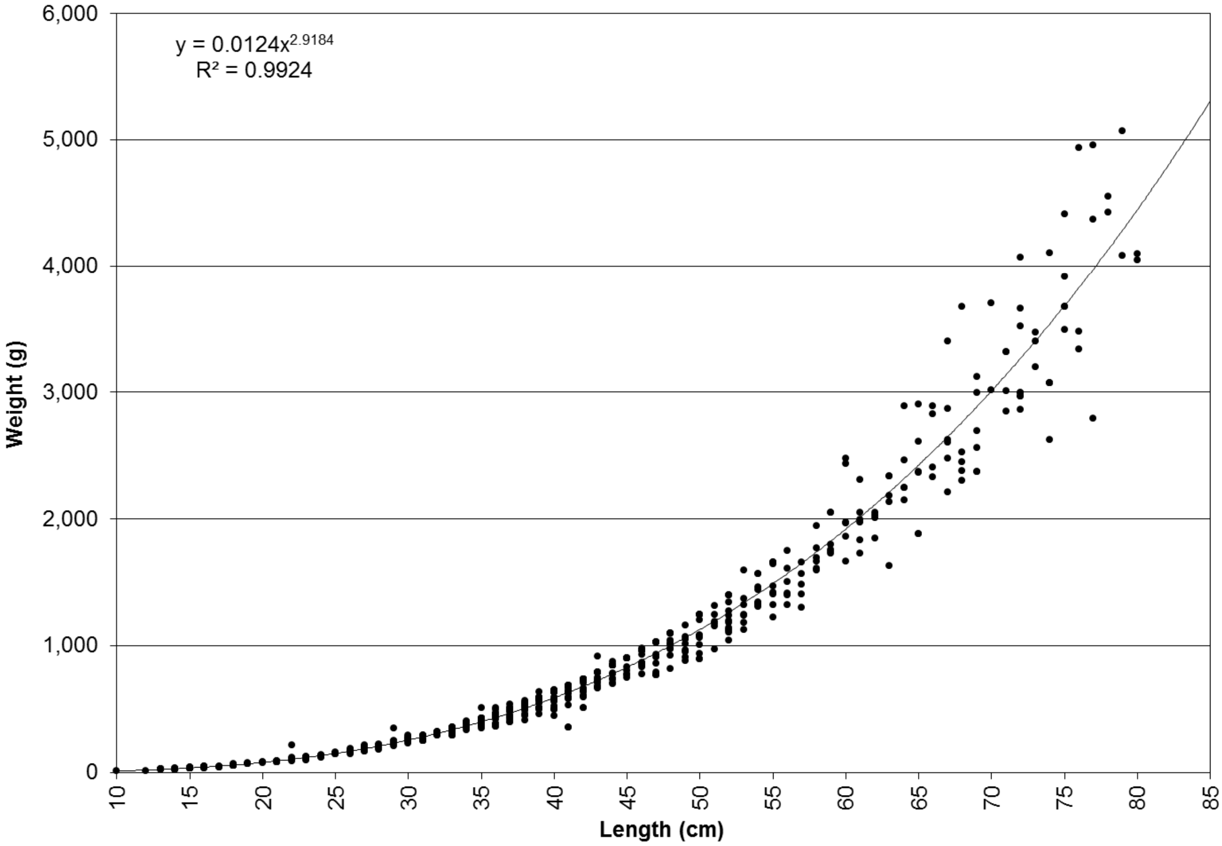
Salilota australis
First Season 2018 (01 Jan to 30 Jun)



Salilota australis - Red cod

Length– frequency distribution and length-weight relationship in 2018





Merluccius spp - Hakes

Table I.1 Total catch (tonnes) by vessel type and year

VESSEL TYPE	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
LO	-	-	-	-	0	-	-	-	-	-
TR	13,049	13,606	9,904	10,489	12,308	14,875	21,068	23,894	15,759	27,091
	13,049	**13,606**	**9,904**	**10,489**	**12,308**	**14,875**	**21,068**	**23,894**	**15,759**	**27,091**

Table I.2 Total catch (tonnes) by month and year

MONTH	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
January	38	3	12	4	56	-	1	62	10	-
February	152	106	199	65	166	30	29	231	11	12
March	474	873	260	517	232	224	382	155	237	144
April	2,059	2,492	2,005	1,388	1,169	680	1,266	821	2,236	1,130
May	2,667	2,584	1,947	1,895	1,615	3,168	3,277	5,847	2,589	5,183
June	1,044	773	726	1,125	1,129	2,506	1,912	3,500	1,696	4,130
July	1,238	1,340	858	946	1,225	2,065	3,508	3,461	2,875	5,239
August	1,413	2,245	1,145	2,473	2,460	2,717	3,619	3,453	1,821	3,830
September	2,340	2,145	1,598	1,260	2,638	2,431	5,153	3,273	3,414	4,124
October	1,488	853	930	644	1,480	862	1,823	3,054	840	3,177
November	131	168	201	151	135	189	62	27	23	107
December	5	23	22	21	4	3	36	10	5	15
	13,049	**13,606**	**9,904**	**10,489**	**12,308**	**14,875**	**21,068**	**23,894**	**15,759**	**27,091**

Table I.3 Total catch (tonnes) by fishing fleet and year

FISHING FLEET	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
CL	-	-	-	-	-	0	-	-	-	-
ES	8,036	8,459	5,987	6,950	7,245	10,465	15,429	18,858	11,019	19,432
FK	4,696	4,565	3,506	3,185	4,884	4,196	5,072	4,739	4,443	7,337
JP	-	0	1	-	-	-	-	-	-	-
KR	90	181	221	283	130	159	351	191	199	210
UK	228	401	190	71	50	56	215	106	98	112
	13,049	**13,606**	**9,904**	**10,489**	**12,308**	**14,875**	**21,068**	**23,894**	**15,759**	**27,091**

Merluccius spp - Hakes

Table I.4 Total catch (tonnes) by gross registered tonnage (GRT) and year

GRT	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<400	-	-	-	-	-	-	-	-	-	-
400-599	-	-	-	-	-	-	-	-	-	-
600-799	1,211	1,439	1,138	1,178	1,251	1,815	2,201	2,171	2,336	3,085
800-999	1,762	1,167	872	762	1,715	2,055	3,843	4,452	2,699	8,380
1,000-1,499	6,728	7,908	5,875	6,943	7,140	7,927	10,035	12,016	5,998	10,614
1,500-1,999	2,842	2,839	1,904	1,483	2,125	3,030	4,115	5,034	4,516	4,920
2,000-2,999	505	253	90	42	70	41	874	213	210	92
>2,999	-	0	25	81	7	7	-	9	-	-
	13,049	**13,606**	**9,904**	**10,489**	**12,308**	**14,875**	**21,068**	**23,894**	**15,759**	**27,091**

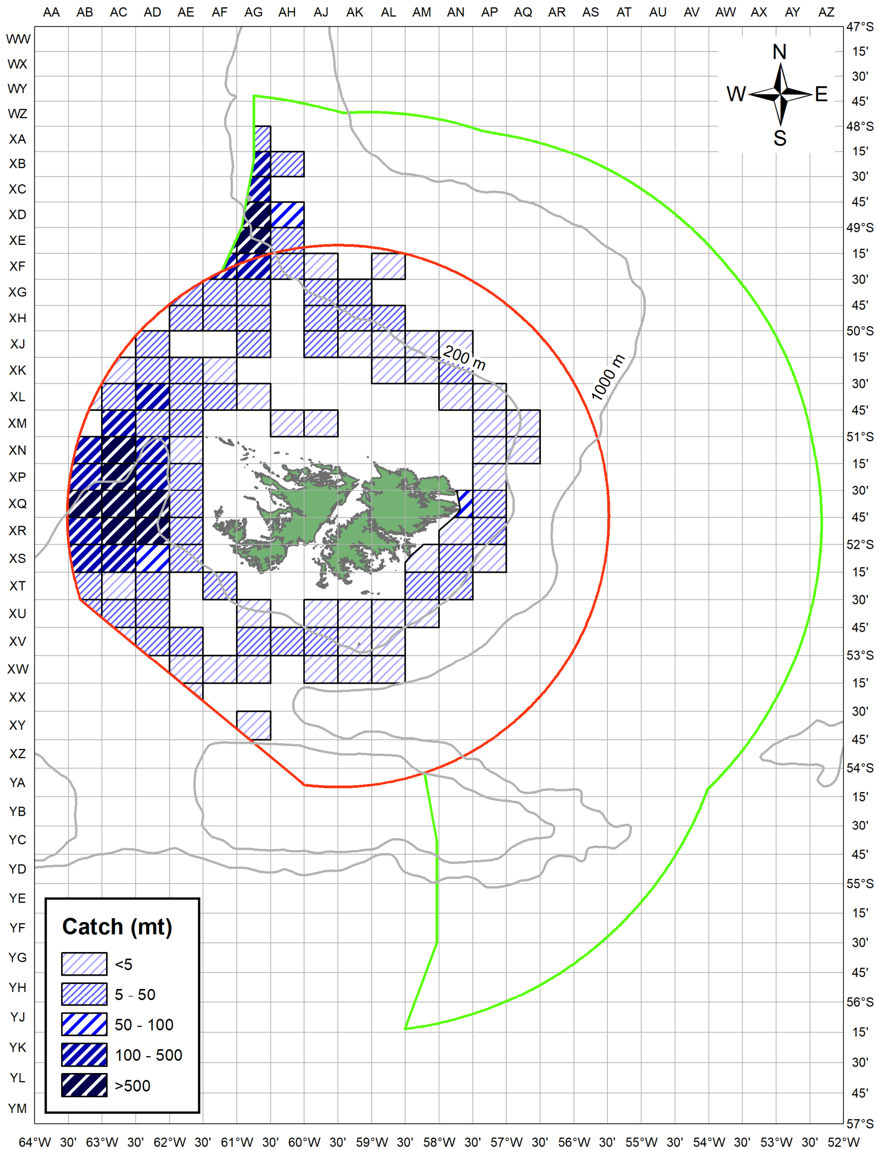
Table I.5 Total catch (tonnes) by length overall (m) (LOA) and year

LOA	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<45	270	5	165	-	6	15	42	51	-	109
45-49	2,232	1,544	1,171	1,102	1,579	1,826	2,804	3,012	2,948	4,828
50-54	334	673	552	941	1,045	1,512	2,712	3,028	1,550	5,222
55-59	2,281	2,629	2,107	2,395	3,082	1,952	2,492	3,123	2,170	5,118
60-64	3,873	3,767	2,983	3,274	3,735	5,534	6,584	8,060	3,117	6,567
65-69	1,631	2,600	1,642	1,547	1,226	1,976	3,072	3,721	2,888	2,675
70-79	2,388	2,386	1,248	1,108	1,625	2,053	3,358	2,880	2,904	2,525
80-89	20	2	6	39	1	0	2	2	8	37
>89	20	0	31	83	9	7	2	16	174	10
	13,049	**13,606**	**9,904**	**10,489**	**12,308**	**14,875**	**21,068**	**23,894**	**15,759**	**27,091**

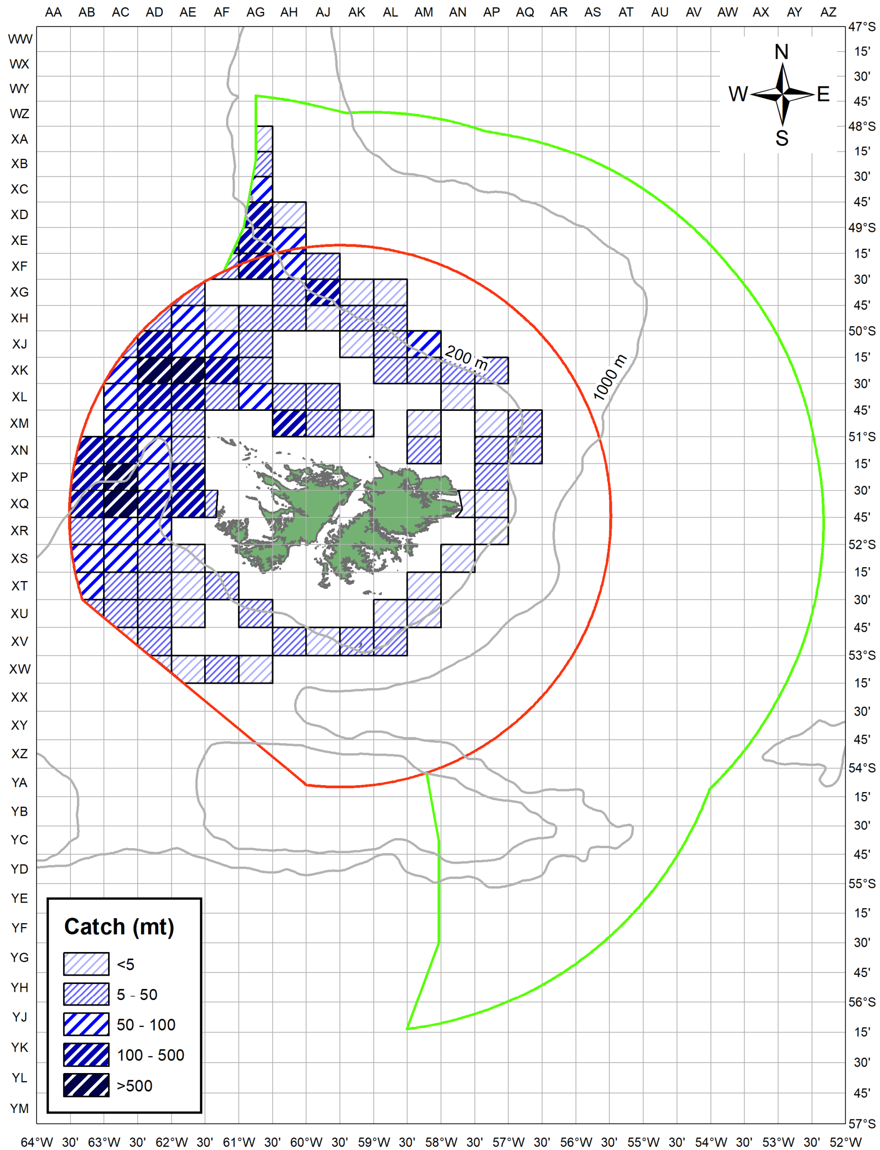
Table I.6 Total catch (tonnes) by brake horsepower (BHP) and year

BHP	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<1,000	-	-	-	-	-	-	-	-	-	204
1,000-1,199	-	5	54	-	6	15	42	51	-	-
1,200-1,399	173	326	128	307	405	338	454	-	-	-
1,400-1,599	1,684	1,302	1,165	1,340	1,690	2,735	3,752	4,484	3,537	7,315
1,600-1,799	2,104	2,773	1,671	1,526	1,789	2,339	2,503	3,864	1,067	2,973
1,800-1,999	4,528	5,209	4,059	5,084	5,180	5,414	6,883	9,084	6,230	8,393
2,000-2,499	3,745	3,163	2,328	1,626	2,703	3,400	5,453	4,891	3,881	5,781
2,500-2,999	101	170	196	414	412	532	894	1,105	905	2,091
3,000-3,999	693	651	292	154	124	103	1,086	318	126	287
>3,999	21	5	11	39	1	0	2	96	13	48
	13,049	**13,606**	**9,904**	**10,489**	**12,308**	**14,875**	**21,068**	**23,894**	**15,759**	**27,091**

Merluccius spp.
Second Season 2018 (01 Jul to 31 Dec)

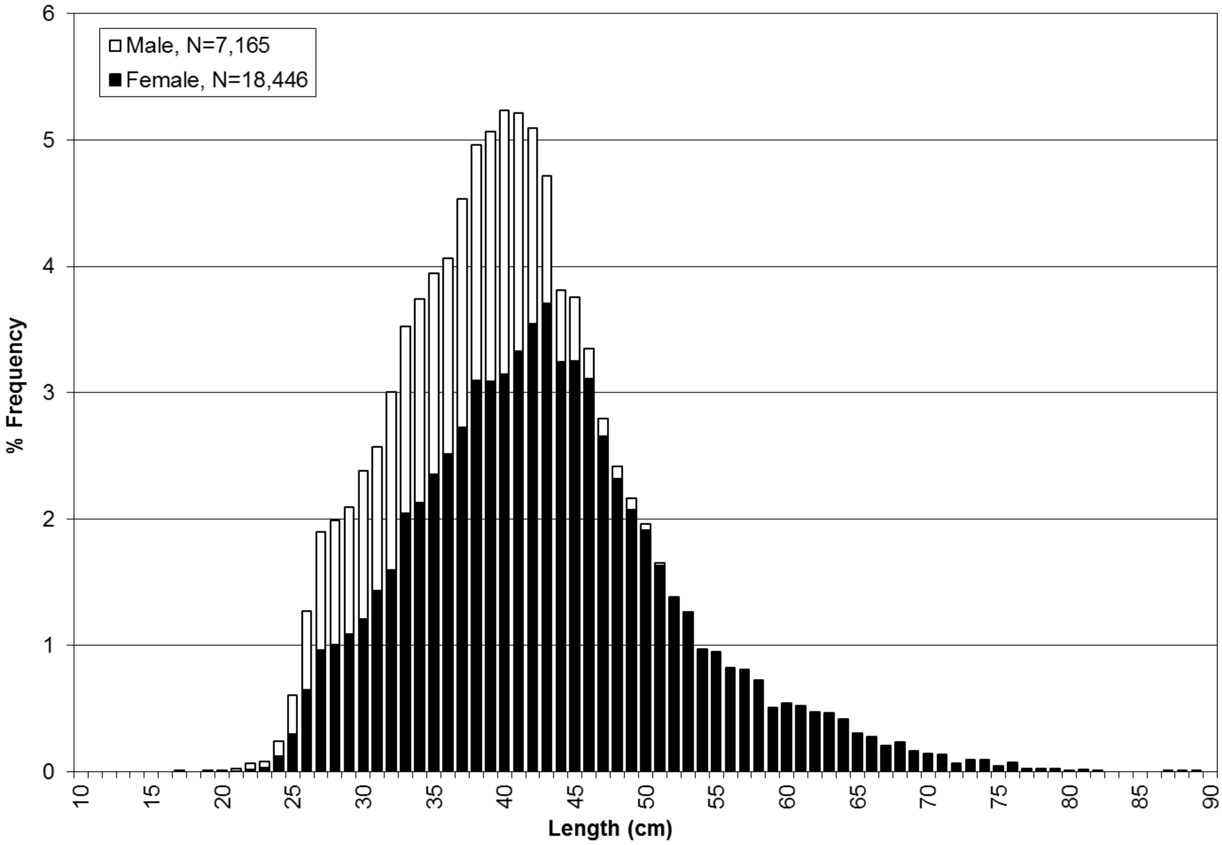


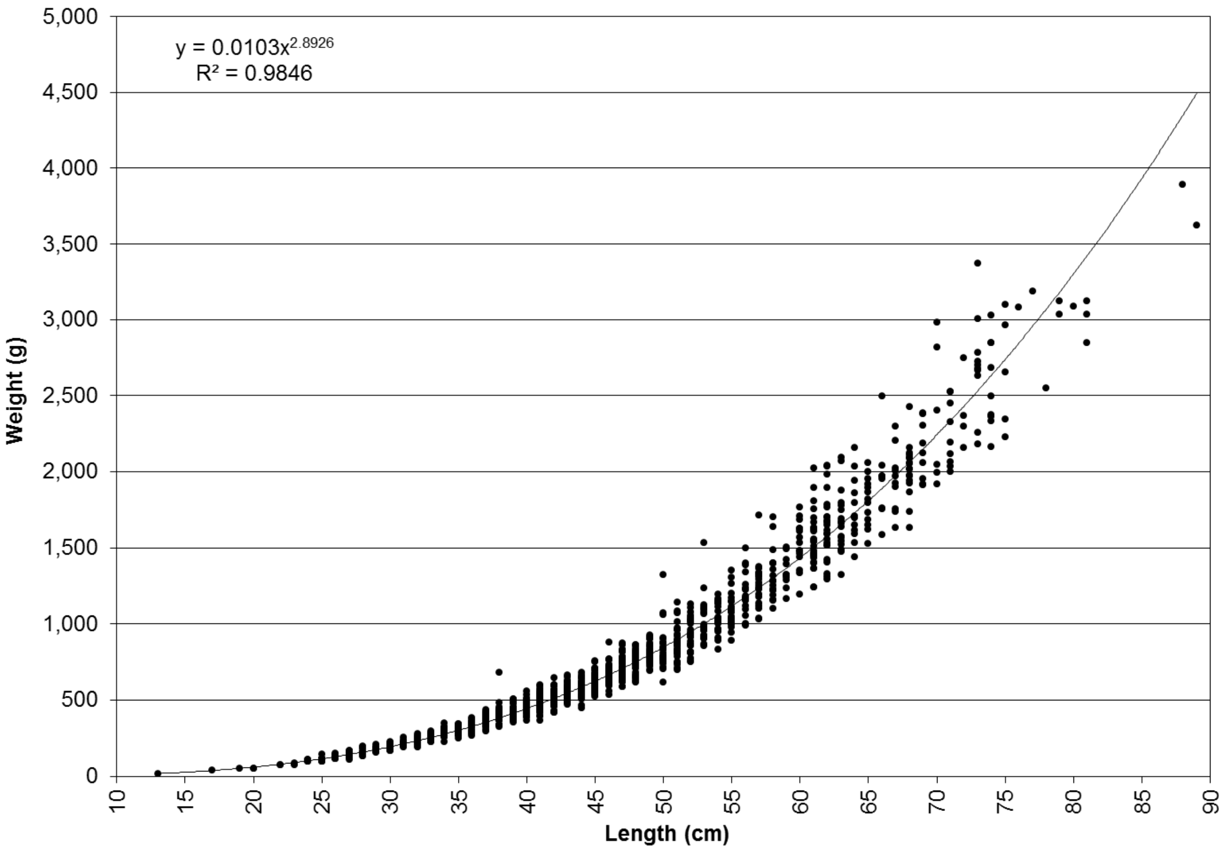
Merluccius spp.
First Season 2018 (01 Jan to 30 Jun)



Merluccius spp - Hakes

Length– frequency distribution and length-weight relationship in *M.hubbsi* in 2018





Genypterus blacodes - Kingclip

Table J.1 Total catch (tonnes) by vessel type and year

VESSEL TYPE	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
TR	3,390	3,639	3,867	3,510	3,977	2,881	2,983	1,612	1,632	1,445
	3,390	**3,639**	**3,867**	**3,510**	**3,977**	**2,881**	**2,983**	**1,612**	**1,632**	**1,445**

Table J.2 Total catch (tonnes) by month and year

MONTH	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
January	70	15	163	12	108	-	1	62	12	-
February	138	110	296	138	188	65	50	175	7	22
March	209	300	214	277	153	141	200	52	67	41
April	320	580	429	338	281	189	250	134	110	110
May	437	416	728	389	358	372	314	205	107	276
June	179	202	141	134	114	324	288	78	42	115
July	258	89	226	170	140	296	159	154	168	222
August	481	366	421	570	835	387	226	234	251	156
September	428	446	462	390	843	357	491	142	410	134
October	548	377	309	420	653	491	503	337	310	209
November	195	445	310	432	234	203	265	23	142	106
December	126	294	167	240	67	57	237	15	8	54
	3,390	**3,639**	**3,867**	**3,510**	**3,977**	**2,881**	**2,983**	**1,612**	**1,632**	**1,445**

Table J.3 Total catch (tonnes) by fishing fleet and year

FISHING FLEET	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
ES	2,619	2,835	2,933	2,583	3,053	2,219	2,370	1,280	1,386	1,072
FK	726	677	851	858	843	548	502	312	225	351
JP	1	0	0	-	-	-	-	-	-	-
KR	33	101	47	62	72	107	90	19	10	18
UK	11	26	35	7	9	7	22	1	11	4
	3,390	**3,639**	**3,867**	**3,510**	**3,977**	**2,881**	**2,983**	**1,612**	**1,632**	**1,445**

Genypterus blacodes - Kingclip

Table J.4 Total catch (tonnes) by gross registered tonnage (GRT) and year

GRT	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<400	-	-	-	-	-	-	-	-	-	-
400-599	-	-	-	-	-	-	-	-	-	-
600-799	675	460	481	518	410	291	338	141	146	186
800-999	431	467	404	456	904	710	612	434	204	347
1,000-1,499	1,451	1,664	2,000	1,905	1,888	1,181	1,350	543	710	541
1,500-1,999	814	1,034	972	625	760	683	648	465	552	369
2,000-2,999	18	15	11	5	14	13	36	30	20	2
>2,999	1	0	0	1	0	2	-	0	-	-
	3,390	**3,639**	**3,867**	**3,510**	**3,977**	**2,881**	**2,983**	**1,612**	**1,632**	**1,445**

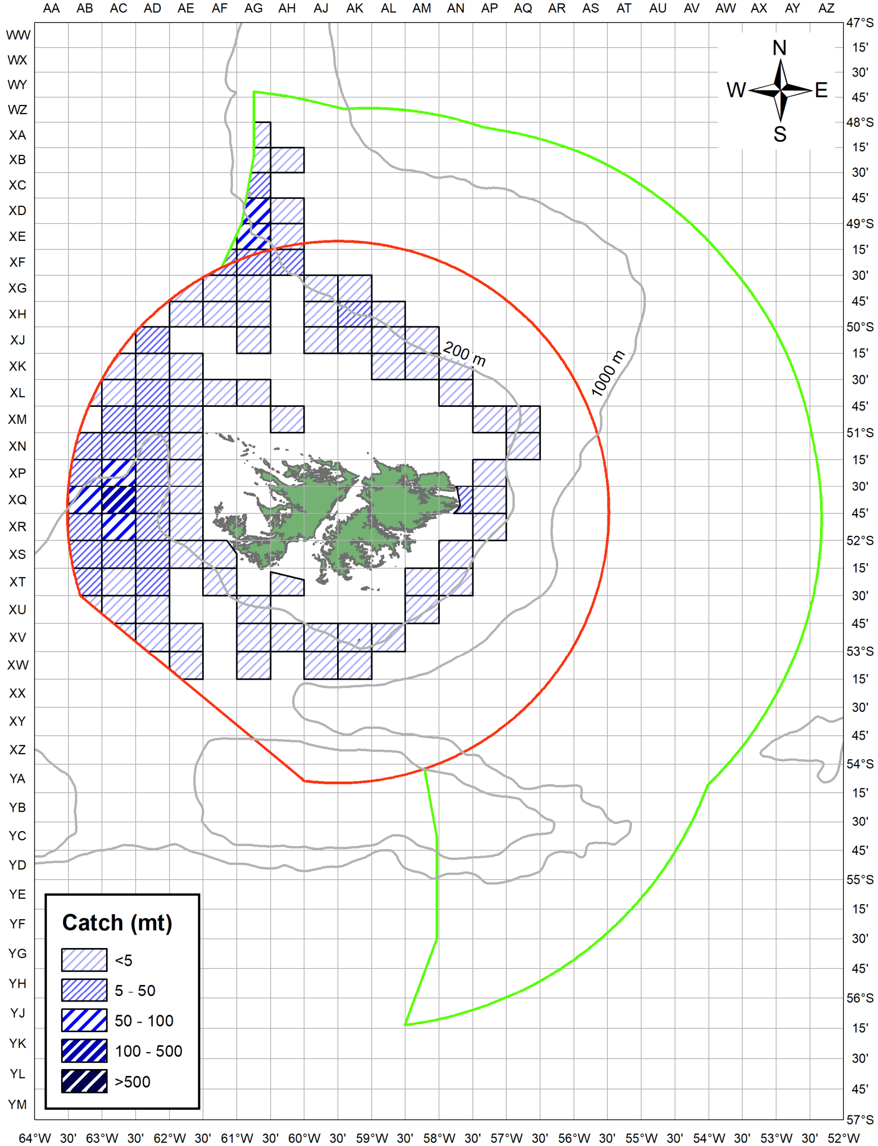
Table J.5 Total catch (tonnes) by length overall (m) (LOA) and year

LOA	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<45	209	12	101	-	11	13	24	41	-	6
45-49	504	364	314	394	329	170	342	142	156	252
50-54	330	364	367	514	610	620	407	274	105	192
55-59	420	578	830	856	874	404	374	221	191	258
60-64	927	867	1,012	960	1,218	682	847	370	168	341
65-69	655	1,069	883	544	578	710	674	300	600	246
70-79	343	385	360	237	354	278	315	265	400	148
80-89	1	-	0	0	0	2	-	-	0	1
>89	1	1	1	4	3	2	-	0	12	-
	3,390	**3,639**	**3,867**	**3,510**	**3,977**	**2,881**	**2,983**	**1,612**	**1,632**	**1,445**

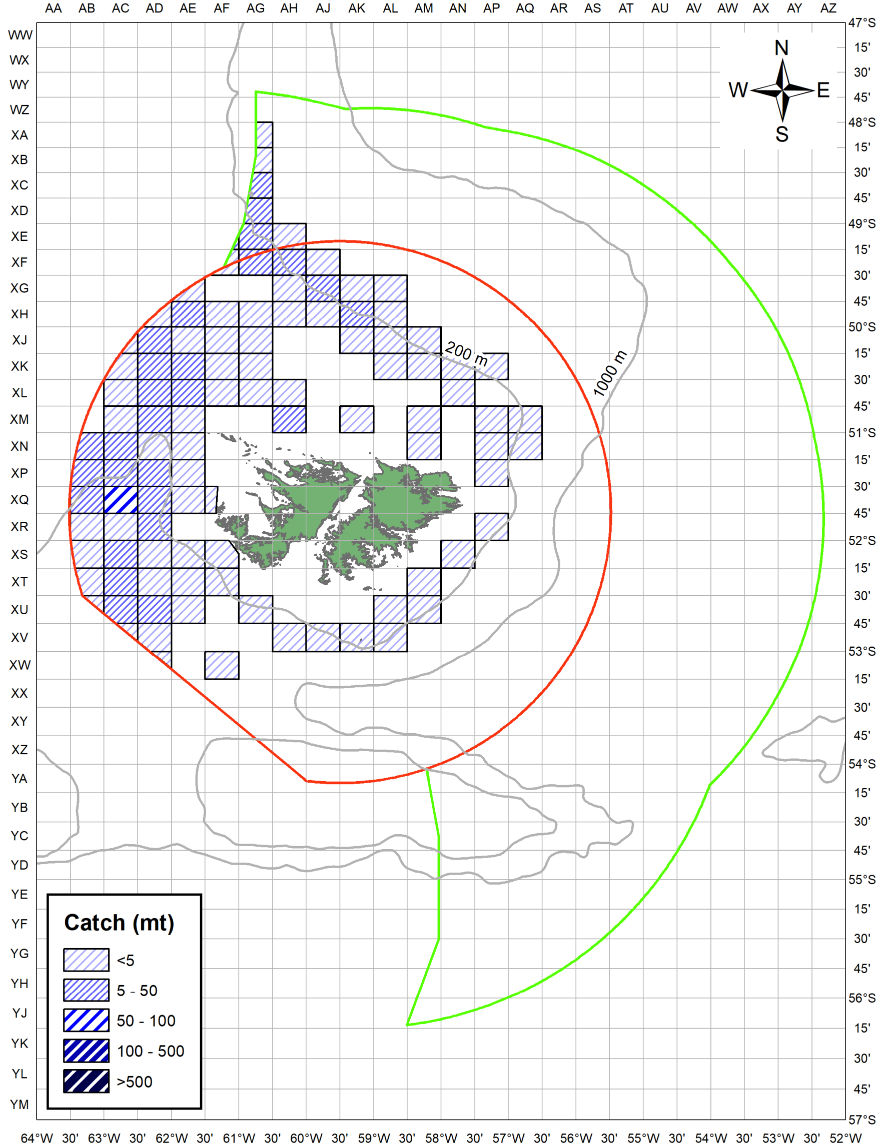
Table J.6 Total catch (tonnes) by brake horsepower (BHP) and year

BHP	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<1,000	-	-	-	-	18	-	-	-	-	43
1,000-1,199	-	12	29	-	11	13	24	41	-	-
1,200-1,399	127	113	77	107	86	45	34	-	-	-
1,400-1,599	914	513	643	799	821	609	631	384	261	312
1,600-1,799	338	608	474	289	288	217	245	172	66	130
1,800-1,999	1,036	1,552	1,597	1,345	1,353	972	1,085	448	757	552
2,000-2,499	912	726	928	776	1,081	691	717	393	451	282
2,500-2,999	32	73	74	183	298	312	190	119	78	104
3,000-3,999	28	41	45	10	20	21	58	31	19	20
>3,999	2	0	0	1	0	2	-	25	2	1
	3,390	**3,639**	**3,867**	**3,510**	**3,977**	**2,881**	**2,983**	**1,612**	**1,632**	**1,445**

Genypterus blacodes
Second Season 2018 (01 Jul to 31 Dec)

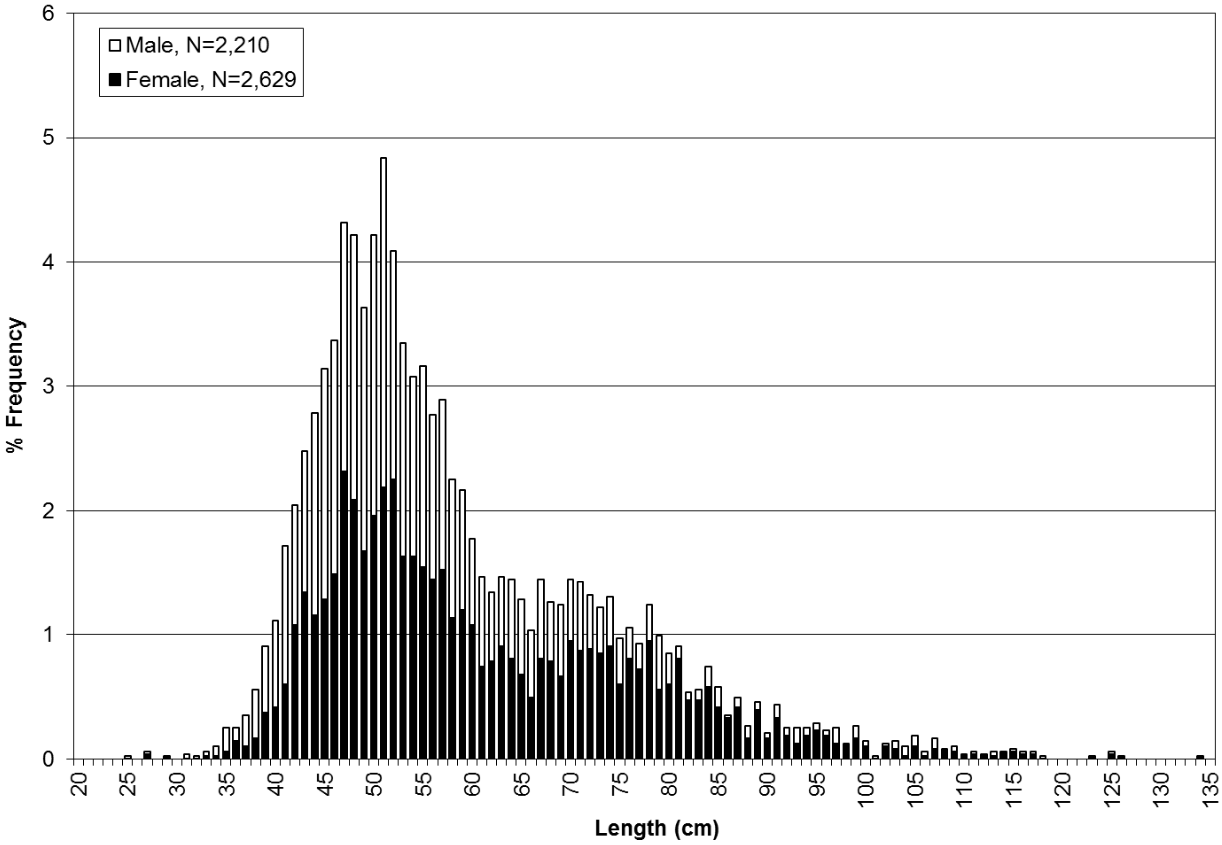


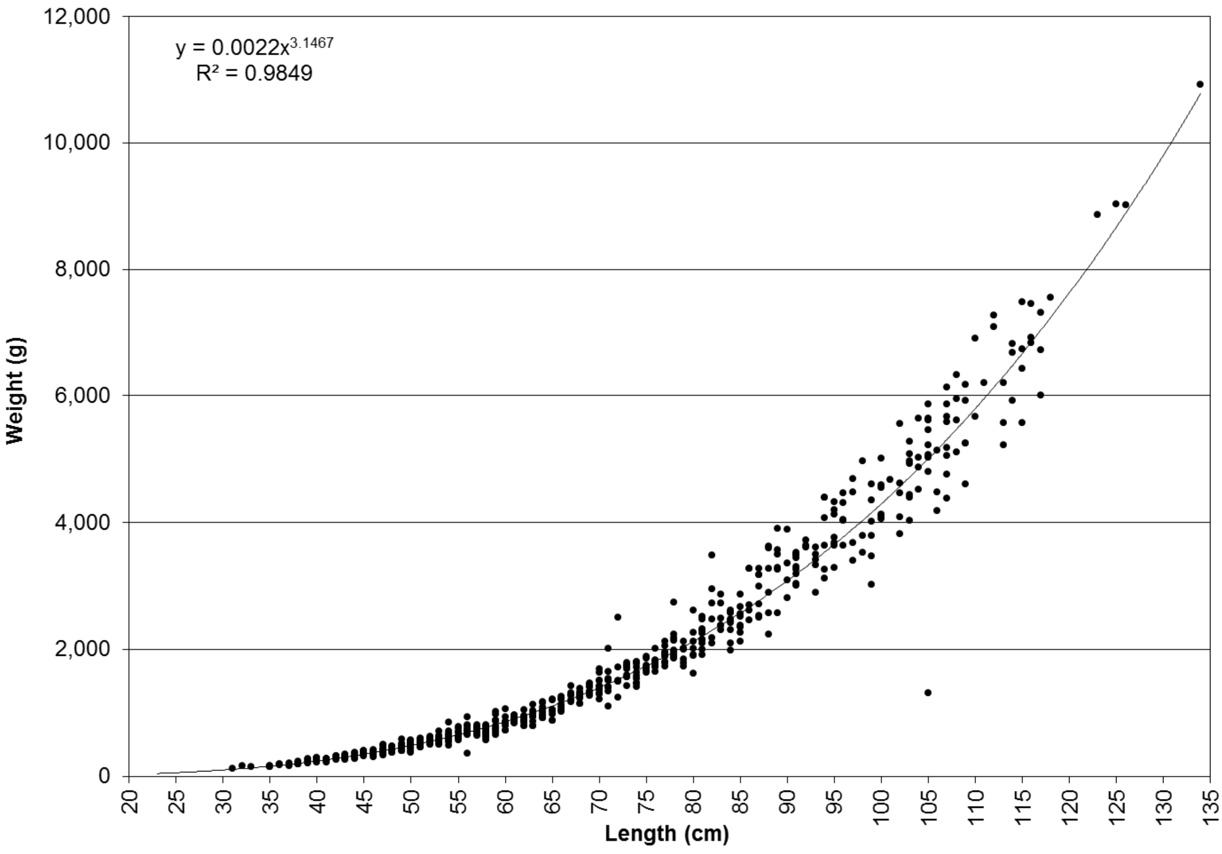
Genypterus blacodes
First Season 2018 (01 Jan to 30 Jun)



Genypterus blacodes - Kingclip

Length– frequency distribution and length-weight relationship in 2018





Dissostichus eleginoides - Toothfish

Table K.1 Total catch (tonnes) by vessel type and year

VESSEL TYPE	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
LO	1,134	944	1,221	1,085	1,301	1,252	1,123	1,023	1,030	982
PO	-	0	-	-	-	-	-	-	-	-
TR	285	460	339	226	120	45	103	476	489	277
	1,418	**1,404**	**1,560**	**1,311**	**1,421**	**1,297**	**1,227**	**1,499**	**1,519**	**1,259**

Table K.2 Total catch (tonnes) by month and year

MONTH	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
January	123	129	131	136	140	125	161	172	24	116
February	163	141	138	159	91	109	111	146	9	40
March	210	207	84	122	133	73	142	218	23	163
April	84	169	182	159	193	121	118	157	37	161
May	116	167	161	131	153	36	71	156	174	56
June	98	62	82	91	22	72	49	105	72	7
July	91	136	180	133	128	130	134	160	168	30
August	129	100	216	162	196	37	130	217	39	27
September	184	106	165	101	207	234	34	30	115	148
October	80	23	55	19	2	115	19	46	241	200
November	26	52	30	23	8	107	18	36	384	157
December	115	113	136	76	146	139	239	55	233	154
	1,418	**1,404**	**1,560**	**1,311**	**1,421**	**1,297**	**1,227**	**1,499**	**1,519**	**1,259**

Table K.3 Total catch (tonnes) by fishing fleet and year

FISHING FLEET	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
CL	-	-	-	-	-	353	-	-	249	-
ES	203	366	260	155	81	34	87	367	396	206
FK	1,210	1,030	1,287	1,150	1,339	911	1,134	1,122	833	1,045
KR	-	6	7	7	1	0	5	10	40	6
RU	-	0	-	-	-	-	-	-	-	-
UK	5	2	6	0	-	-	0	-	1	1
	1,418	**1,404**	**1,560**	**1,311**	**1,421**	**1,297**	**1,227**	**1,499**	**1,519**	**1,259**

Dissostichus eleginoides - Toothfish

Table K.4 Total catch (tonnes) by gross registered tonnage (GRT) and year

GRT	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<400	-	-	-	-	-	-	-	-	-	-
400-599	-	-	-	-	-	-	-	-	-	-
600-799	33	45	31	44	10	7	5	35	19	34
800-999	1,166	983	1,263	1,118	1,197	906	1,141	1,198	98	61
1,000-1,499	106	234	84	66	166	370	51	77	482	93
1,500-1,999	88	135	176	82	44	15	29	173	909	1,067
2,000-2,999	25	6	6	2	3	-	1	16	10	4
>2,999	-	-	-	-	-	-	-	-	-	-
	1,418	**1,404**	**1,560**	**1,311**	**1,421**	**1,297**	**1,227**	**1,499**	**1,519**	**1,259**

Table K.5 Total catch (tonnes) by length overall (m) (LOA) and year

LOA	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<45	3	2	7	-	-	-	5	21	-	-
45-49	31	34	21	41	10	4	4	26	17	37
50-54	1,146	976	1,243	1,109	1,187	905	1,135	1,146	70	42
55-59	28	46	35	33	136	4	5	47	822	1,005
60-64	36	62	87	24	35	365	38	45	442	88
65-69	74	179	114	66	28	15	24	137	139	63
70-79	90	105	53	36	24	5	16	73	25	22
80-89	6	-	-	1	-	-	-	0	2	0
>89	5	0	-	1	0	-	-	4	2	1
	1,418	**1,404**	**1,560**	**1,311**	**1,421**	**1,297**	**1,227**	**1,499**	**1,519**	**1,259**

Table K.6 Total catch (tonnes) by brake horsepower (BHP) and year

BHP	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<1,000	-	0	-	-	-	-	-	-	-	8
1,000-1,199	-	2	5	-	-	-	5	21	-	-
1,200-1,399	-	9	4	0	117	1	0	-	-	-
1,400-1,599	1,191	1,012	1,272	1,149	1,204	1,262	1,135	1,182	170	64
1,600-1,799	20	30	15	6	9	6	5	6	224	40
1,800-1,999	67	206	122	87	40	16	26	127	178	88
2,000-2,499	110	131	121	56	46	10	48	115	104	53
2,500-2,999	5	6	8	12	1	2	6	29	829	1,000
3,000-3,999	19	8	12	0	3	-	1	12	9	6
>3,999	6	-	-	1	-	-	0	7	6	0
	1,418	**1,404**	**1,560**	**1,311**	**1,421**	**1,297**	**1,227**	**1,499**	**1,519**	**1,259**

Dissostichus eleginoides - Toothfish

Table K.7 Total catch (tonnes) of longliners by gross registered tonnage (GRT) and year

GRT	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
800-999	1,134	944	1,221	1,085	1,184	900	1,123	1,023	-	-
1,000-1,499	-	-	-	-	117	353	-	-	249	-
1,500-1,999	-	-	-	-	-	-	-	-	781	982
	1,134	**944**	**1,221**	**1,085**	**1,301**	**1,252**	**1,123**	**1,023**	**1,030**	**982**

Table K.8 Total catch (tonnes) of longliners by length overall (m) (LOA) and year

LOA	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
50-54	1,134	944	1,221	1,085	1,184	900	1,123	1,023	-	-
55-59	-	-	-	-	117	-	-	-	781	982
60-64	-	-	-	-	-	353	-	-	249	-
	1,134	**944**	**1,221**	**1,085**	**1,301**	**1,252**	**1,123**	**1,023**	**1,030**	**982**

Table K.9 Total catch (tonnes) of longliners by brake horsepower (BHP) and year

BHP	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1,200-1,399	-	-	-	-	117	-	-	-	-	-
1,400-1,599	1,134	944	1,221	1,085	1,184	1,252	1,123	1,023	99	-
1,600-1,799	-	-	-	-	-	-	-	-	150	-
2,500-2,999	-	-	-	-	-	-	-	-	781	982
	1,134	**944**	**1,221**	**1,085**	**1,301**	**1,252**	**1,123**	**1,023**	**1,030**	**982**

Table K.10 Total catch (tonnes) of trawlers by gross registered tonnage (GRT) and year

GRT	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
600-799	33	45	31	44	10	7	5	35	19	34
800-999	33	39	41	33	13	6	18	175	98	61
1,000-1,499	106	234	84	66	49	17	51	77	233	93
1,500-1,999	88	135	176	82	44	15	29	173	128	85
2,000-2,999	25	6	6	2	3	-	1	16	10	4
	285	**460**	**339**	**226**	**120**	**45**	**103**	**476**	**489**	**277**

Table K.11 Total catch (tonnes) of trawlers by length overall (m) (LOA) and year

LOA	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<45	3	2	7	-	-	-	5	21	-	-
45-49	31	34	21	41	10	4	4	26	17	37
50-54	12	32	22	24	4	5	12	123	70	42
55-59	28	46	35	33	19	4	5	47	41	24
60-64	36	62	87	24	35	12	38	45	193	88
65-69	74	179	114	66	28	15	24	137	139	63
70-79	90	105	53	36	24	5	16	73	25	22
80-89	6	-	-	1	-	-	-	0	2	0
>89	5	0	-	1	0	-	-	4	2	1
	285	**460**	**339**	**226**	**120**	**45**	**103**	**476**	**489**	**277**

Dissostichus eleginoides - Toothfish

Table K.12 Total catch (tonnes) of trawlers by brake horsepower (BHP) and year

BHP	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<1,000	-	-	-	-	-	-	-	-	-	8
1,000-1,199	-	2	5	-	-	-	5	21	-	-
1,200-1,399	-	9	4	0	-	1	0	-	-	-
1,400-1,599	58	68	51	64	20	10	11	159	70	64
1,600-1,799	20	30	15	6	9	6	5	6	74	40
1,800-1,999	67	206	122	87	40	16	26	127	178	88
2,000-2,499	110	131	121	56	46	10	48	115	104	53
2,500-2,999	5	6	8	12	1	2	6	29	48	18
3,000-3,999	19	8	12	0	3	-	1	12	9	6
>3,999	6	-	-	1	-	-	0	7	6	0
	285	**460**	**339**	**226**	**120**	**45**	**103**	**476**	**489**	**277**

Table K.13 Total catch (tonnes) of potting vessels by gross registered tonnage (GRT) and year

GRT	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
600-799	-	0	-	-	-	-	-	-	-	-
	-	**0**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

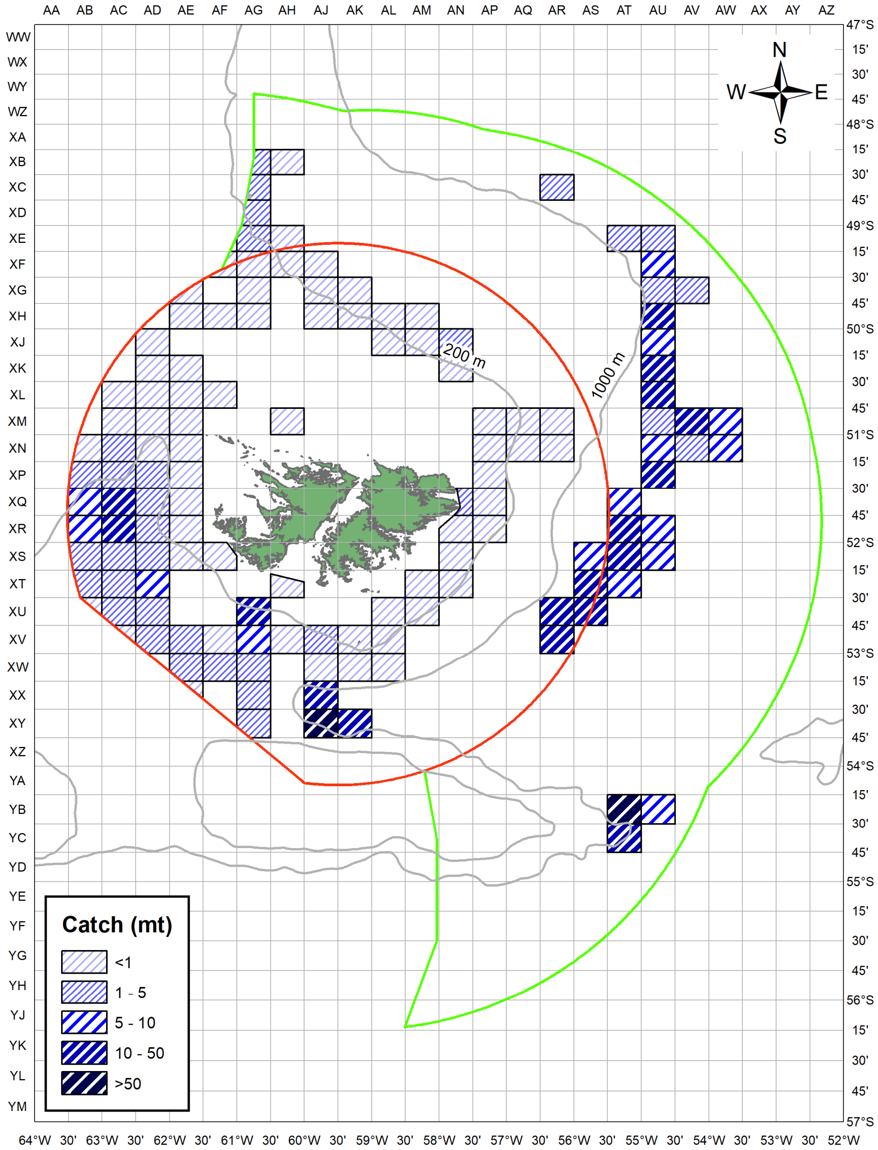
Table K.14 Total catch (tonnes) of potting vessels by length overall (m) (LOA) and year

LOA	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
50-54	-	0	-	-	-	-	-	-	-	-
	-	**0**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

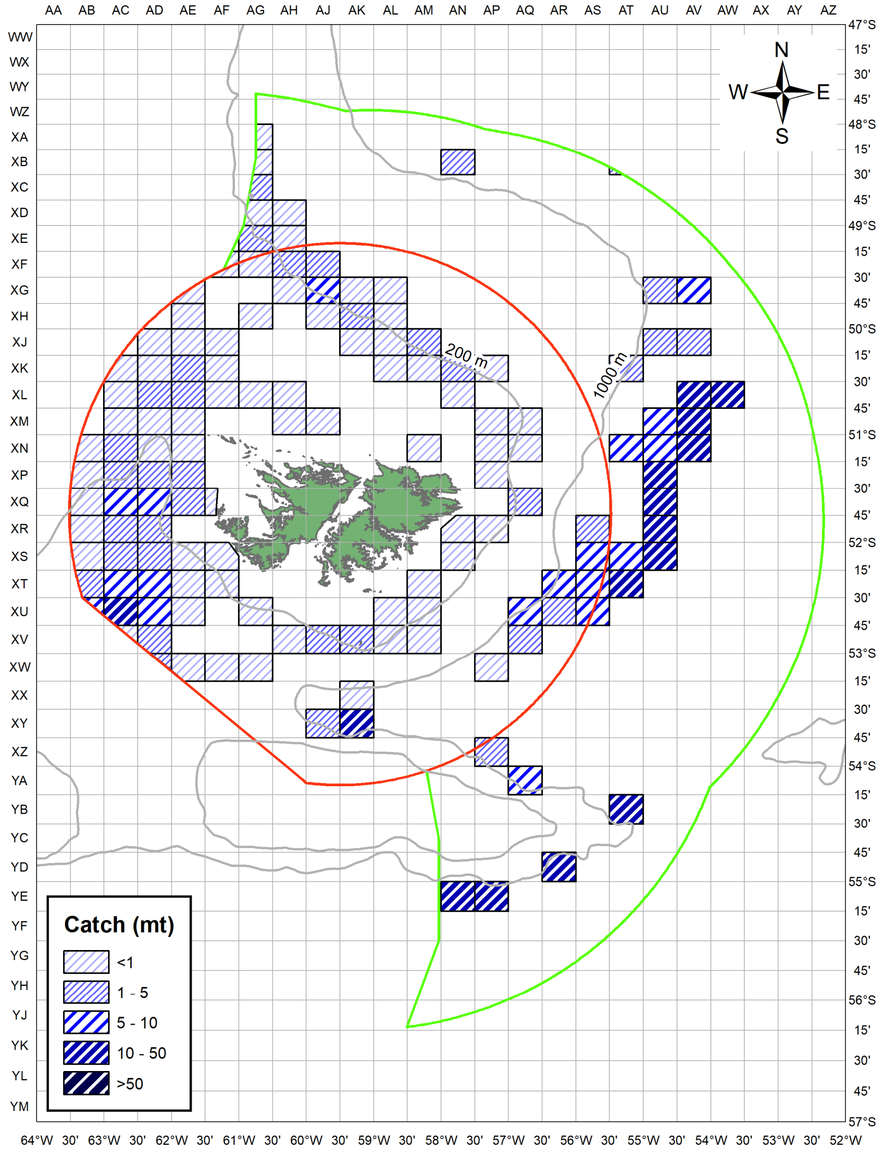
Table K.15 Total catch (tonnes) of potting vessels by brake horsepower (BHP) and year

BHP	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<1,000	-	0	-	-	-	-	-	-	-	-
	-	**0**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

Dissostichus eleginoides
Second Season 2018 (01 Jul to 31 Dec)1.4

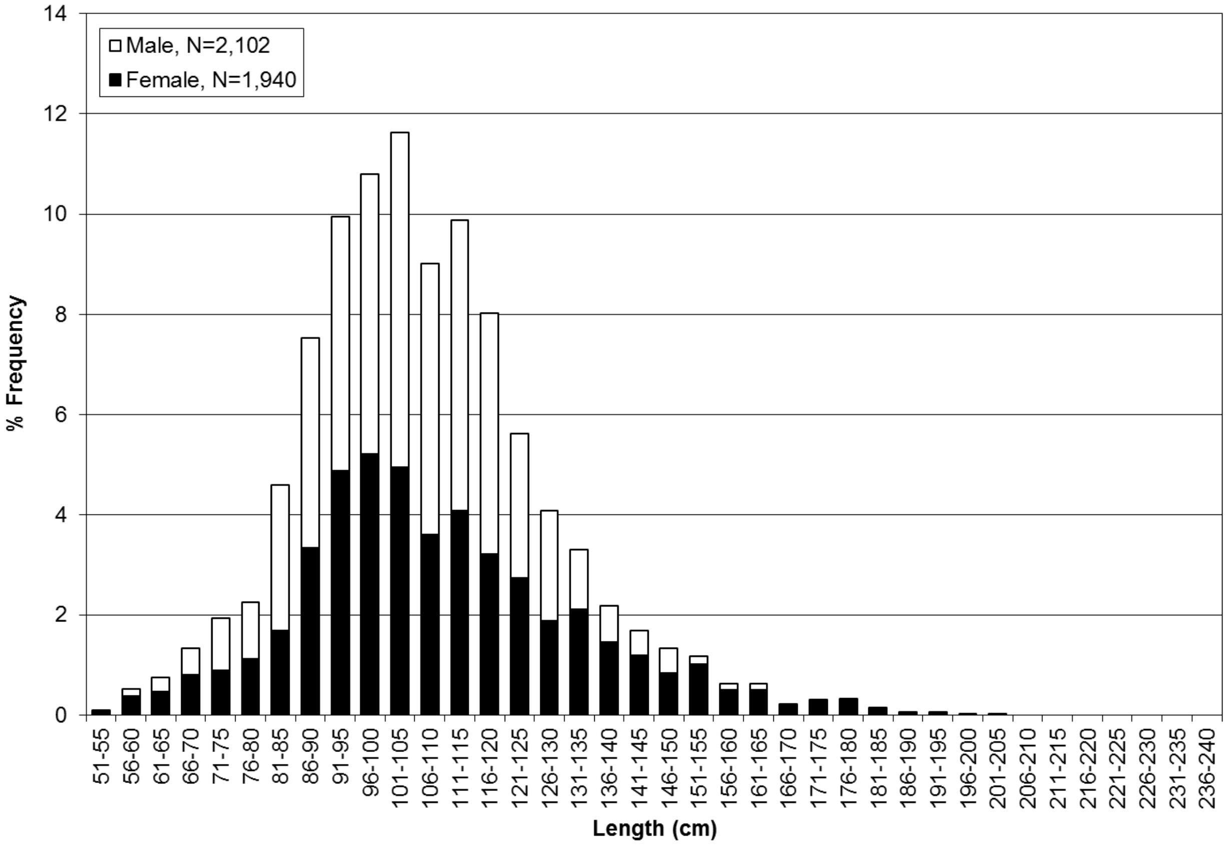


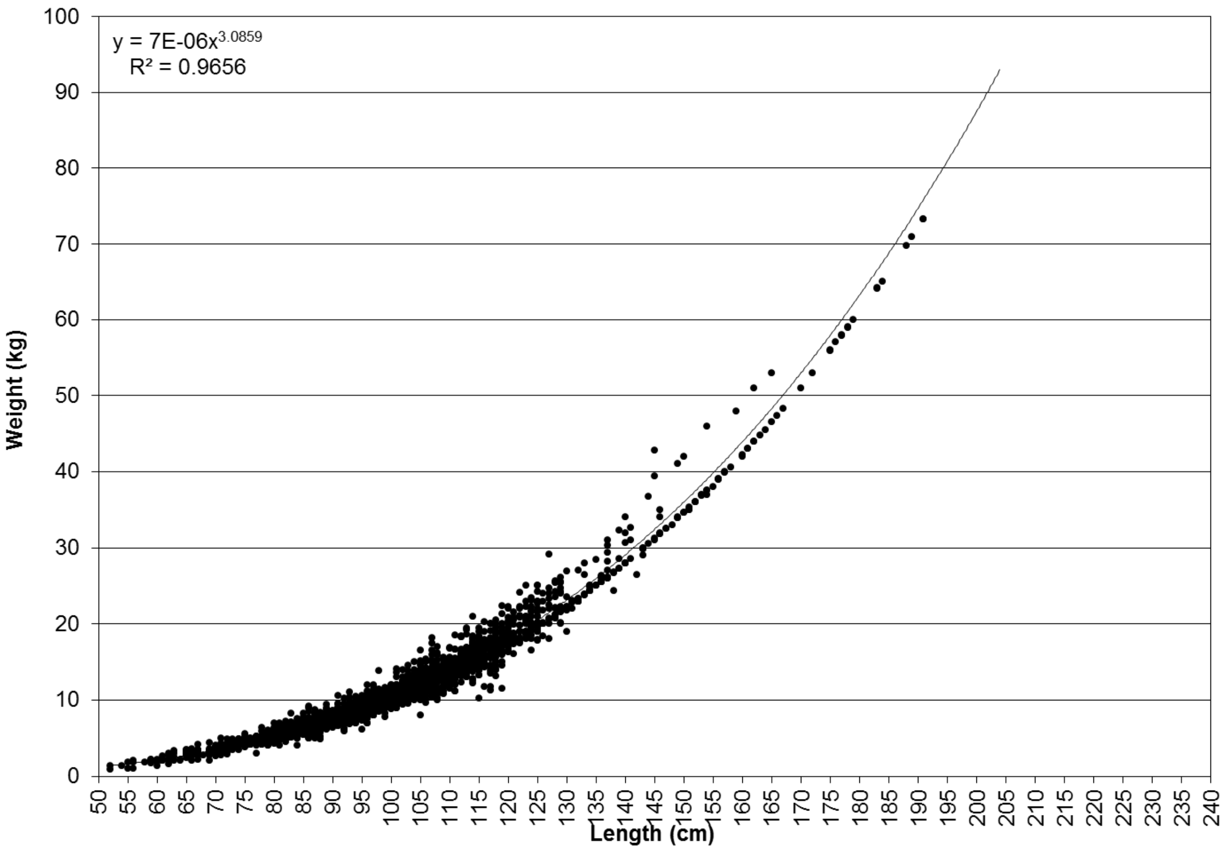
Dissostichus eleginoides
First Season 2018 (01 Jan to 30 Jun)



Dissostichus eleginoides - **Toothfish**

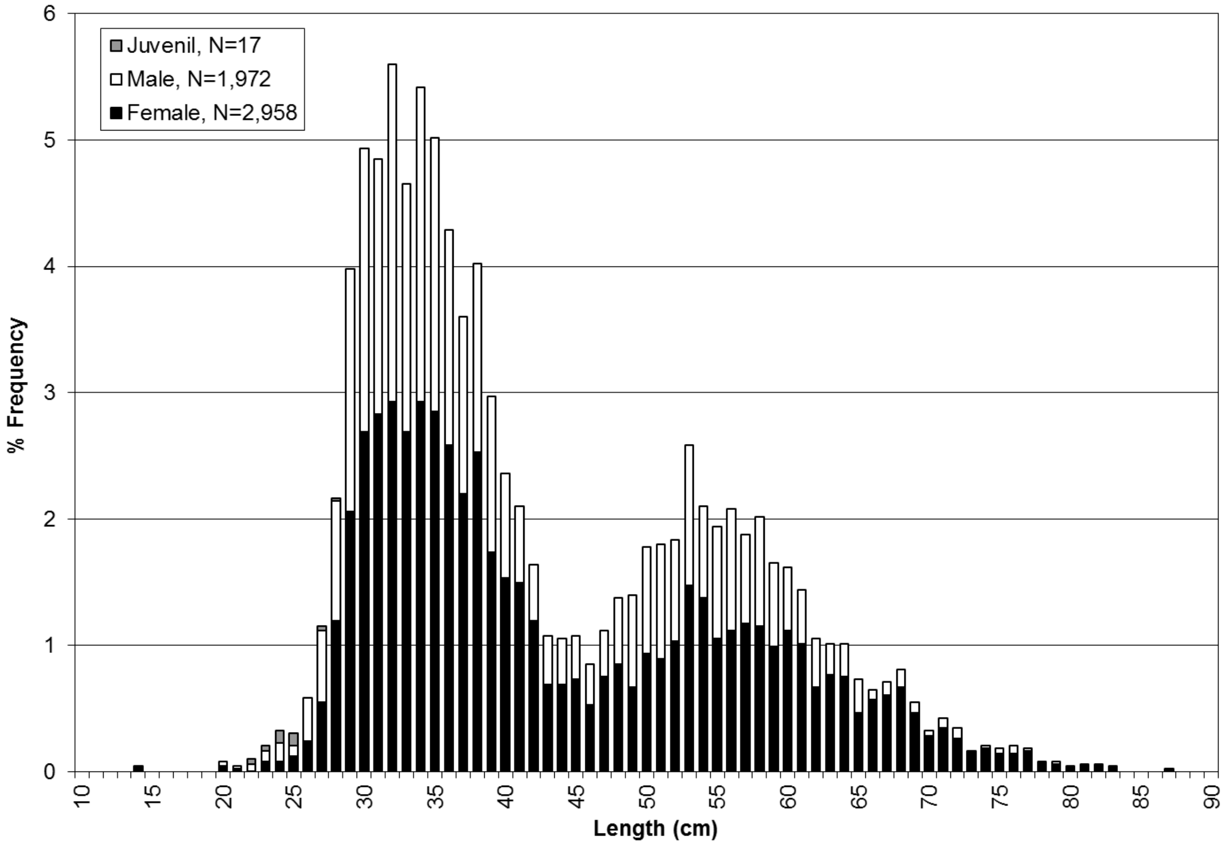
Length– frequency distribution and length-weight relationship in longliner fleet in 2018

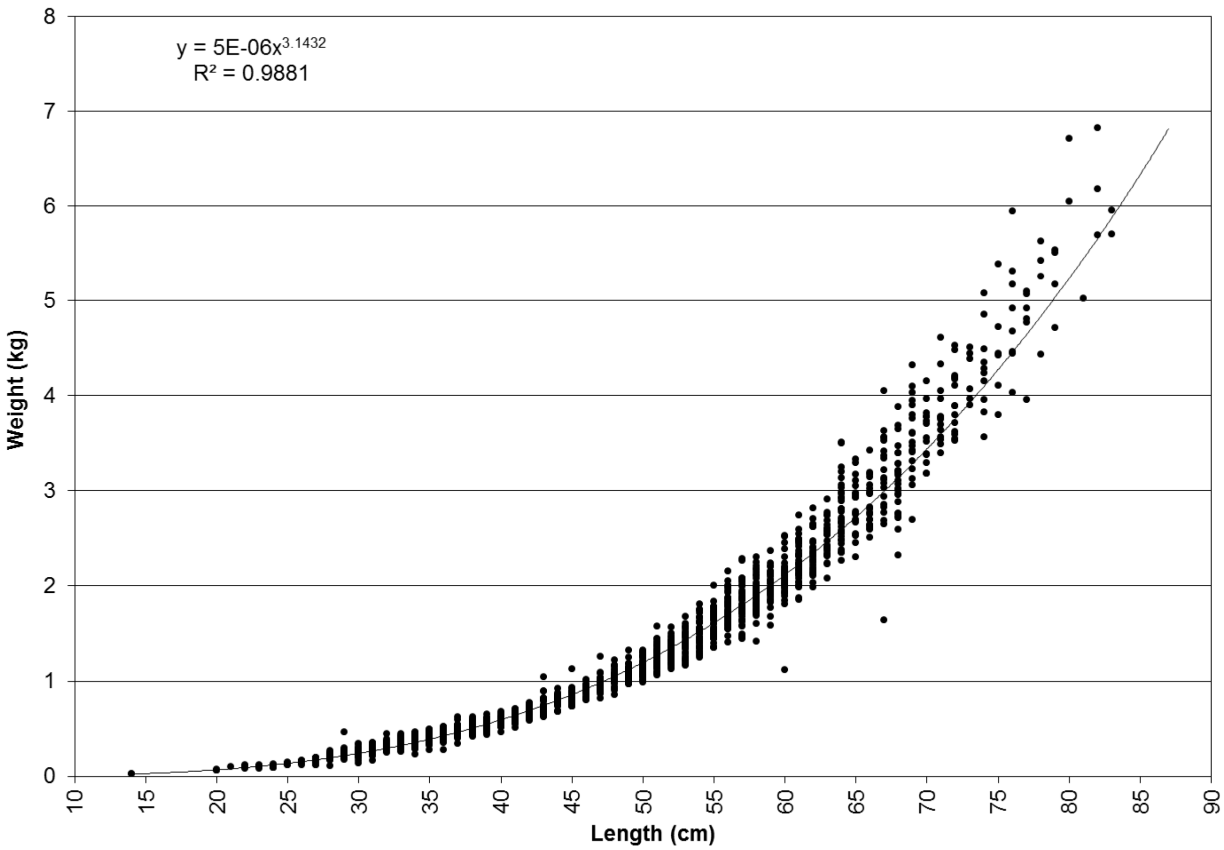




Dissostichus eleginoides - Toothfish

Length– frequency distribution and length-weight relationship in trawler fleet in 2018





Rajidae - Skates and Rays

Table L.1 Total catch (tonnes) by vessel type and year

VESSEL TYPE	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
LO	22	23	55	32	78	32	28	29	28	28
PO	-	0	-	-	-	-	-	-	-	-
TR	5,851	5,868	6,915	6,622	5,854	5,523	6,365	5,877	3,161	1,966
	5,873	**5,891**	**6,970**	**6,655**	**5,932**	**5,555**	**6,393**	**5,906**	**3,189**	**1,994**

Table L.2 Total catch (tonnes) by month and year

MONTH	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
January	96	43	185	15	278	5	8	592	27	1
February	179	167	360	216	288	125	154	440	8	27
March	178	168	126	511	219	144	119	129	67	79
April	304	332	588	320	413	208	184	225	205	130
May	555	474	878	398	428	394	348	663	285	398
June	662	338	398	404	267	267	693	669	390	133
July	570	323	849	703	394	289	878	522	466	268
August	1,330	1,650	1,446	1,568	1,227	1,373	1,110	627	436	130
September	851	1,146	992	802	867	1,479	1,359	585	420	130
October	407	326	691	1,099	868	560	829	1,201	626	211
November	511	418	317	438	369	523	330	120	96	121
December	229	505	141	181	313	188	380	132	163	366
	5,873	**5,891**	**6,970**	**6,655**	**5,932**	**5,555**	**6,393**	**5,906**	**3,189**	**1,994**

Table L.3 Total catch (tonnes) by fishing fleet and year

FISHING FLEET	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
CL	-	-	-	-	-	3	-	-	15	-
ES	2,665	2,514	2,843	2,490	2,284	2,244	3,637	3,208	1,487	1,058
FK	902	912	1,837	1,332	1,742	1,120	837	665	602	458
KR	2,262	2,394	2,219	2,797	1,884	2,174	1,894	1,995	1,077	477
RU	-	0	-	-	-	-	-	-	-	-
UK	44	71	71	35	23	13	24	38	8	1
	5,873	**5,891**	**6,970**	**6,655**	**5,932**	**5,555**	**6,393**	**5,906**	**3,189**	**1,994**

Rajidae - Skates and Rays

Table L.4 Total catch (tonnes) by gross registered tonnage (GRT) and year

GRT	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<400	-	-	-	-	-	-	-	-	-	-
400-599	-	-	-	-	-	-	-	-	-	-
600-799	1,214	1,133	616	731	449	592	220	167	324	178
800-999	1,747	1,723	1,871	2,237	1,749	1,899	2,755	2,865	1,435	914
1,000-1,499	2,211	2,220	2,908	2,326	2,588	2,080	2,537	1,754	732	595
1,500-1,999	610	775	1,033	823	682	639	743	987	647	303
2,000-2,999	91	40	119	47	67	58	138	73	51	5
>2,999	-	-	424	489	396	287	-	59	-	-
	5,873	**5,891**	**6,970**	**6,655**	**5,932**	**5,555**	**6,393**	**5,906**	**3,189**	**1,994**

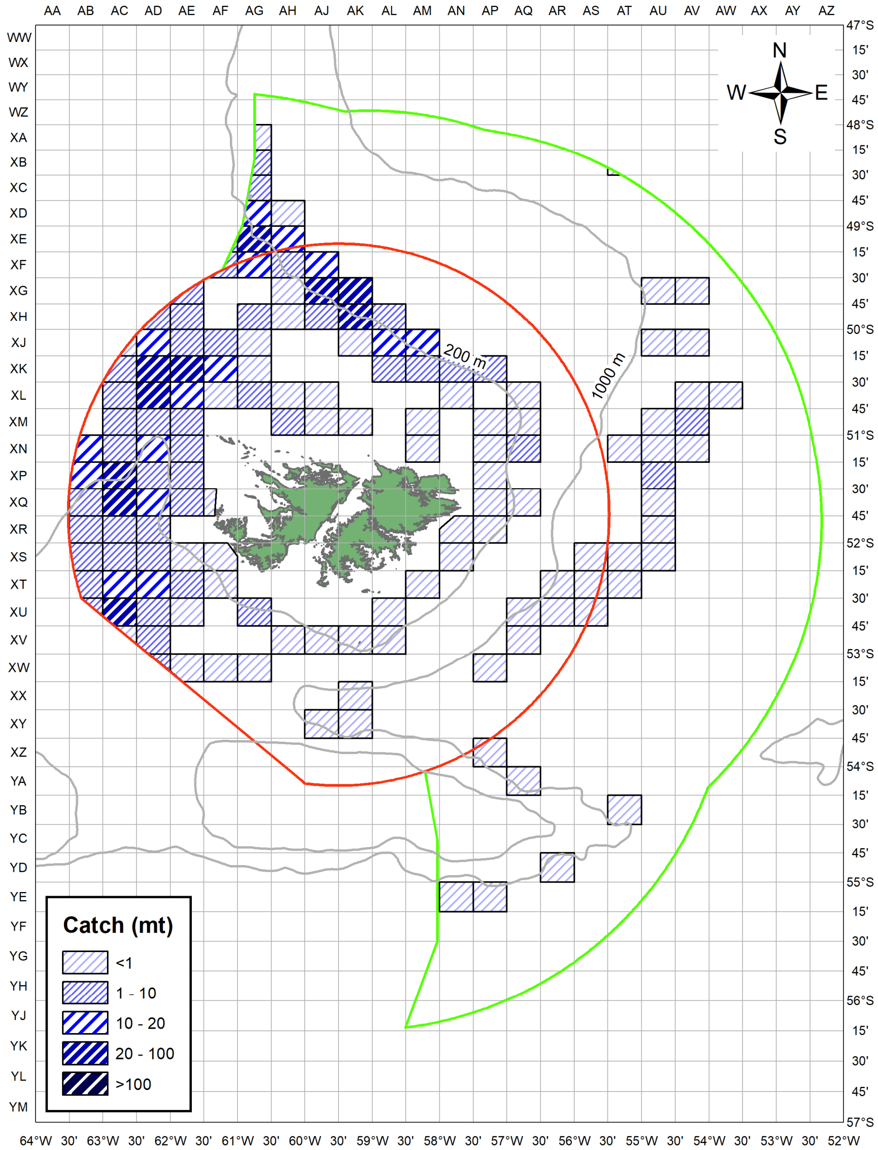
Table L.5 Total catch (tonnes) by length overall (m) (LOA) and year

LOA	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<45	76	18	54	-	19	1	46	46	-	4
45-49	990	782	419	371	370	232	253	209	360	247
50-54	1,574	2,009	2,064	2,636	1,746	2,203	2,543	2,610	1,272	781
55-59	805	542	984	822	934	337	684	471	271	291
60-64	1,116	953	1,209	1,025	1,208	1,288	1,517	1,256	450	374
65-69	468	824	802	619	632	589	570	741	456	212
70-79	842	762	1,014	687	627	614	776	510	361	84
80-89	-	-	-	0	-	-	-	1	2	0
>89	1	0	426	495	396	291	4	62	18	0
	5,873	**5,891**	**6,970**	**6,655**	**5,932**	**5,555**	**6,393**	**5,906**	**3,189**	**1,994**

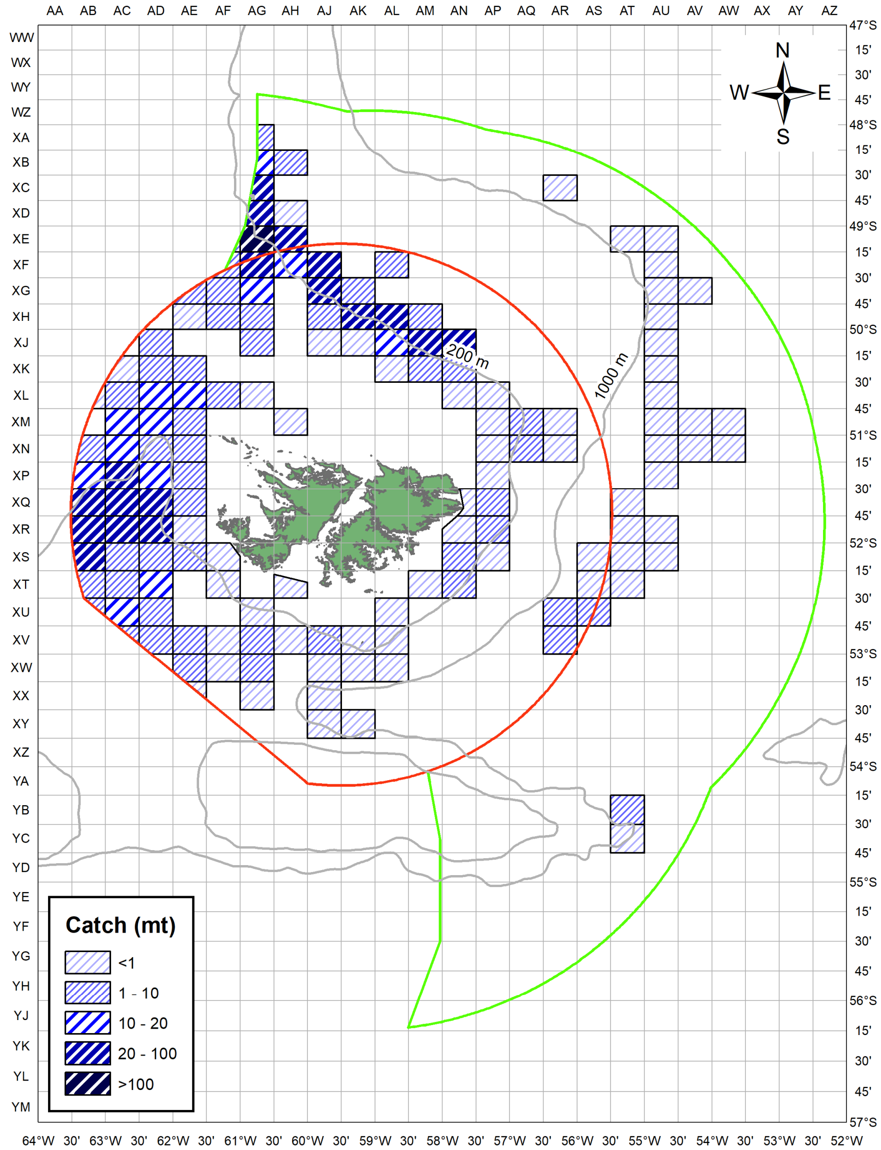
Table L.6 Total catch (tonnes) by brake horsepower (BHP) and year

BHP	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<1,000	-	0	-	-	24	-	-	-	-	50
1,000-1,199	-	18	35	-	19	1	46	46	-	-
1,200-1,399	52	40	42	49	62	20	19	-	-	-
1,400-1,599	556	304	490	568	491	545	900	923	588	438
1,600-1,799	437	689	562	648	611	451	712	712	154	101
1,800-1,999	894	1,215	1,528	1,414	1,360	774	1,142	1,040	751	513
2,000-2,499	1,837	1,451	2,137	1,362	1,464	1,848	1,477	958	498	316
2,500-2,999	1,962	2,062	1,558	2,044	1,412	1,563	1,930	2,003	1,144	555
3,000-3,999	134	111	612	566	486	354	158	166	40	21
>3,999	1	-	7	4	3	1	8	58	13	1
	5,873	**5,891**	**6,970**	**6,655**	**5,932**	**5,555**	**6,393**	**5,906**	**3,189**	**1,994**

Rajidae
First Season 2018 (01 Jan to 30 Jun)



Rajidae
Second Season 2018 (01 Jul to 31 Dec)



Patagonotothen ramsayi—Rock Cod

Table M.1 Total catch (tonnes) by vessel type and year

VESSEL TYPE	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
PO	-	0	-	-	-	-	-	-	-	-
TR	58,236	76,451	55,705	63,510	32,435	56,693	29,086	7,039	2,520	2,213
	58,236	**76,451**	**55,705**	**63,510**	**32,435**	**56,693**	**29,086**	**7,039**	**2,520**	**2,213**

Table M.2 Total catch (tonnes) by month and year

MONTH	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
January	2,746	892	3,521	112	743	-	32	933	40	-
February	6,061	5,674	5,993	3,086	3,197	560	1,780	1,024	141	154
March	4,961	10,163	2,502	9,016	2,847	1,251	1,527	750	415	472
April	9,532	13,402	6,205	10,051	3,837	1,170	4,442	1,167	434	622
May	11,050	11,580	11,150	14,240	2,751	9,128	9,544	536	85	173
June	3,136	5,281	4,578	5,500	922	5,940	3,806	131	19	10
July	2,801	4,449	2,571	3,680	675	8,922	390	226	109	36
August	2,820	4,027	3,697	4,945	2,935	7,334	756	923	564	234
September	3,811	6,007	4,036	3,288	4,898	5,984	729	992	545	357
October	6,637	8,929	7,536	5,352	5,086	7,925	1,093	235	127	56
November	3,239	2,064	2,889	1,877	2,111	5,997	841	72	31	70
December	1,442	3,984	1,028	2,361	2,435	2,482	4,146	51	11	28
	58,236	**76,451**	**55,705**	**63,510**	**32,435**	**56,693**	**29,086**	**7,039**	**2,520**	**2,213**

Table M.3 Total catch (tonnes) by fishing fleet and year

FISHING FLEET	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
CL	-	-	-	-	-	0	-	-	-	-
ES	42,580	52,869	39,646	52,389	25,024	45,833	23,986	3,581	669	701
FK	14,610	22,388	15,051	10,754	7,079	10,314	4,605	3,205	1,765	1,470
JP	-	0	-	-	-	-	-	-	-	-
KR	110	337	215	255	305	511	170	119	5	6
RU	-	0	-	-	-	-	-	-	-	-
UK	937	857	794	111	28	36	325	133	82	37
	58,236	**76,451**	**55,705**	**63,510**	**32,435**	**56,693**	**29,086**	**7,039**	**2,520**	**2,213**

Patagonotothen ramsayi—Rock Cod

Table M.4 Total catch (tonnes) by gross registered tonnage (GRT) and year

GRT	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<400	-	-	-	-	-	-	-	-	-	-
400-599	-	-	-	-	-	-	-	-	-	-
600-799	3,907	5,439	3,263	5,020	3,247	3,504	2,052	176	66	158
800-999	7,226	5,987	4,965	5,017	4,520	9,916	4,384	1,141	158	158
1,000-1,499	36,103	45,252	32,535	36,898	17,962	29,919	15,803	2,369	621	668
1,500-1,999	7,620	14,991	13,063	14,962	5,769	11,617	5,342	1,770	835	666
2,000-2,999	3,380	4,782	1,864	1,586	921	1,727	1,504	1,582	841	562
>2,999	-	0	14	26	16	10	-	0	-	-
	58,236	**76,451**	**55,705**	**63,510**	**32,435**	**56,693**	**29,086**	**7,039**	**2,520**	**2,213**

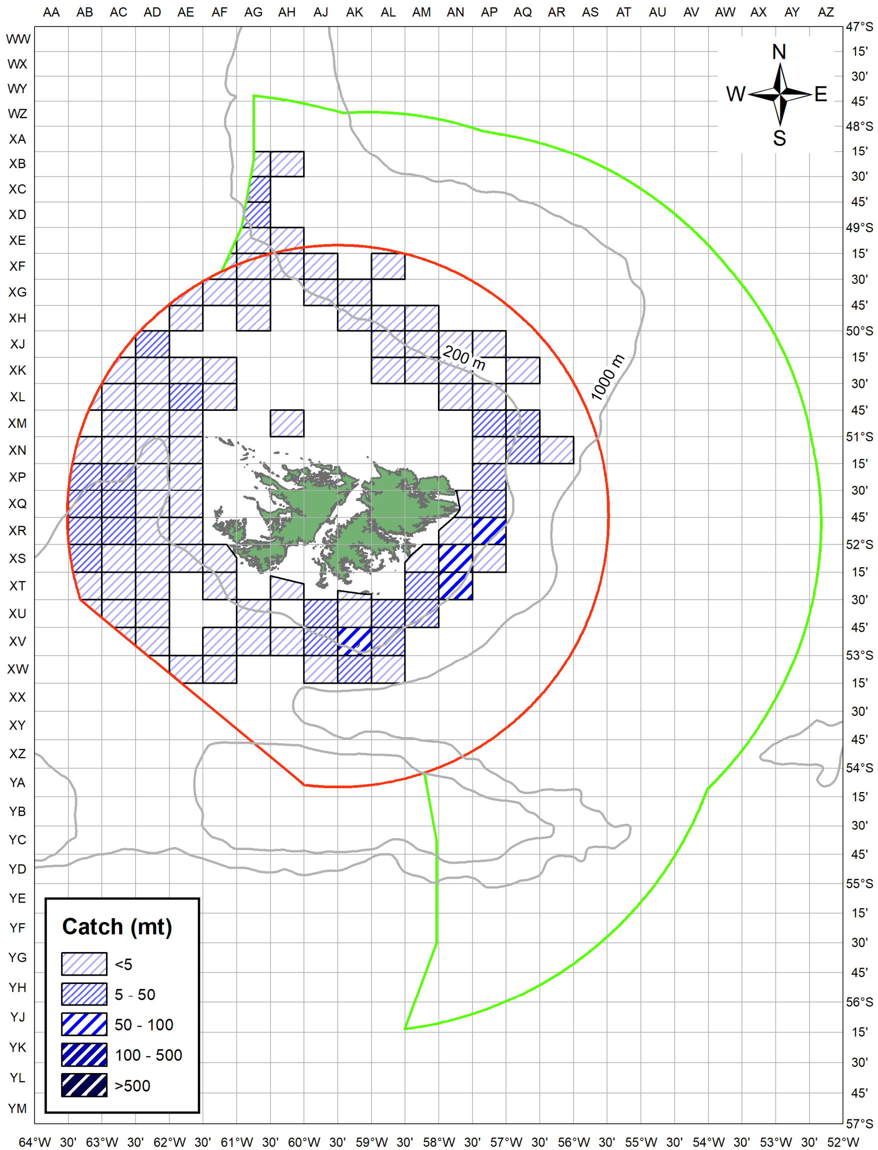
Table M.5 Total catch (tonnes) by length overall (m) (LOA) and year

LOA	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<45	581	406	1,320	-	423	206	341	32	-	-
45-49	6,985	6,398	4,042	5,446	3,589	3,586	2,304	392	90	206
50-54	3,382	4,559	4,022	6,086	2,357	6,457	2,313	615	88	82
55-59	8,982	14,261	9,111	8,607	5,175	5,094	2,776	511	185	129
60-64	17,626	19,211	15,229	17,588	10,483	17,822	9,724	1,722	686	757
65-69	11,095	18,160	12,406	14,543	6,245	12,916	6,317	1,618	565	344
70-79	9,318	13,009	8,946	10,628	3,926	10,176	4,893	1,525	754	524
80-89	129	127	463	308	111	161	150	209	87	90
>89	138	320	167	302	125	276	268	414	65	80
	58,236	**76,451**	**55,705**	**63,510**	**32,435**	**56,693**	**29,086**	**7,039**	**2,520**	**2,213**

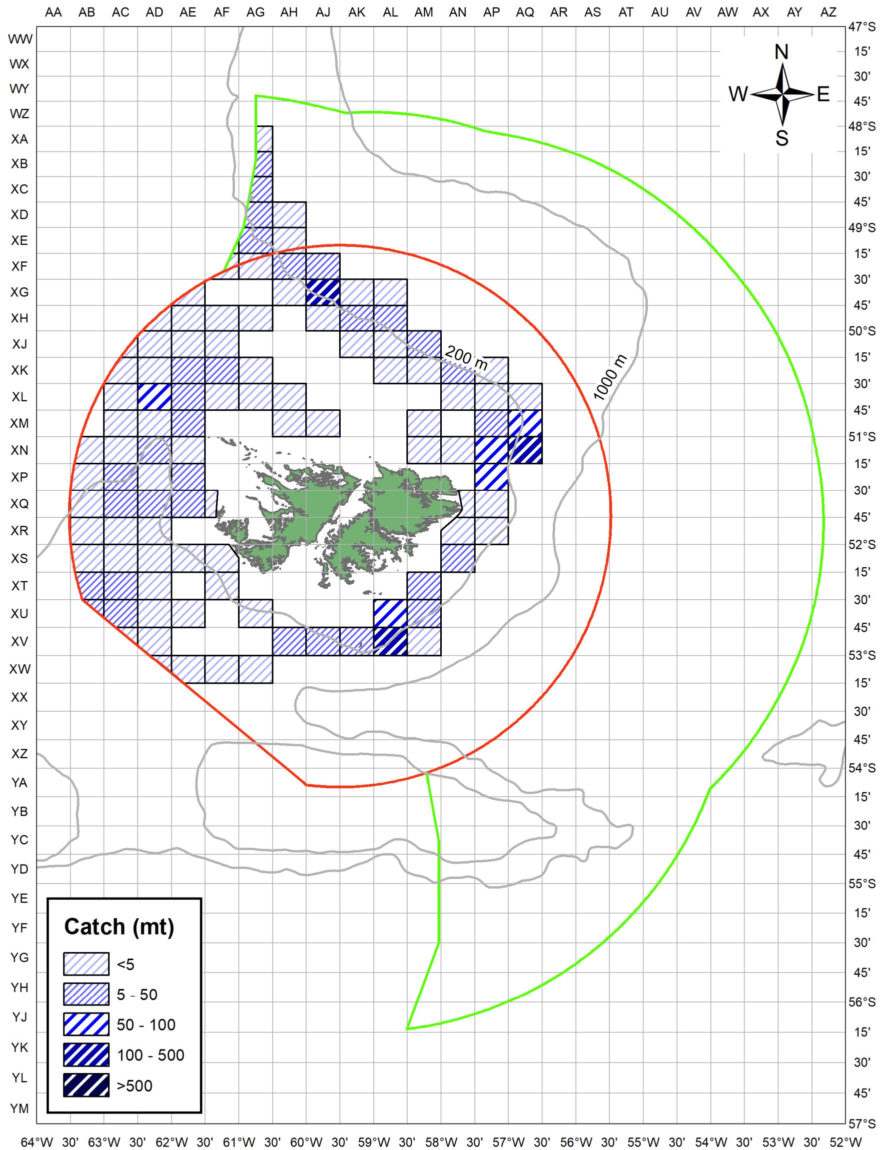
Table M.6 Total catch (tonnes) by brake horsepower (BHP) and year

BHP	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<1,000	-	0	-	-	777	-	-	-	-	30
1,000-1,199	-	406	829	-	423	206	341	32	-	-
1,200-1,399	1,278	1,759	1,116	2,358	1,442	1,829	804	-	-	-
1,400-1,599	7,987	7,410	6,276	7,034	2,940	8,277	3,326	863	150	183
1,600-1,799	9,680	11,480	6,858	8,410	4,838	6,066	2,516	607	58	62
1,800-1,999	19,088	30,393	20,282	24,136	10,812	17,336	9,710	1,890	430	508
2,000-2,499	15,482	18,777	16,983	17,959	8,803	18,926	9,548	1,669	717	634
2,500-2,999	241	573	571	2,011	1,345	2,321	1,125	551	101	130
3,000-3,999	4,050	5,192	2,056	1,140	746	1,345	1,412	1,092	771	465
>3,999	430	462	733	463	309	387	303	333	294	201
	58,236	**76,451**	**55,705**	**63,510**	**32,435**	**56,693**	**29,086**	**7,039**	**2,520**	**2,213**

Patagonotothen ramsayi
Second Season 2018 (01 Jul to 31 Dec)

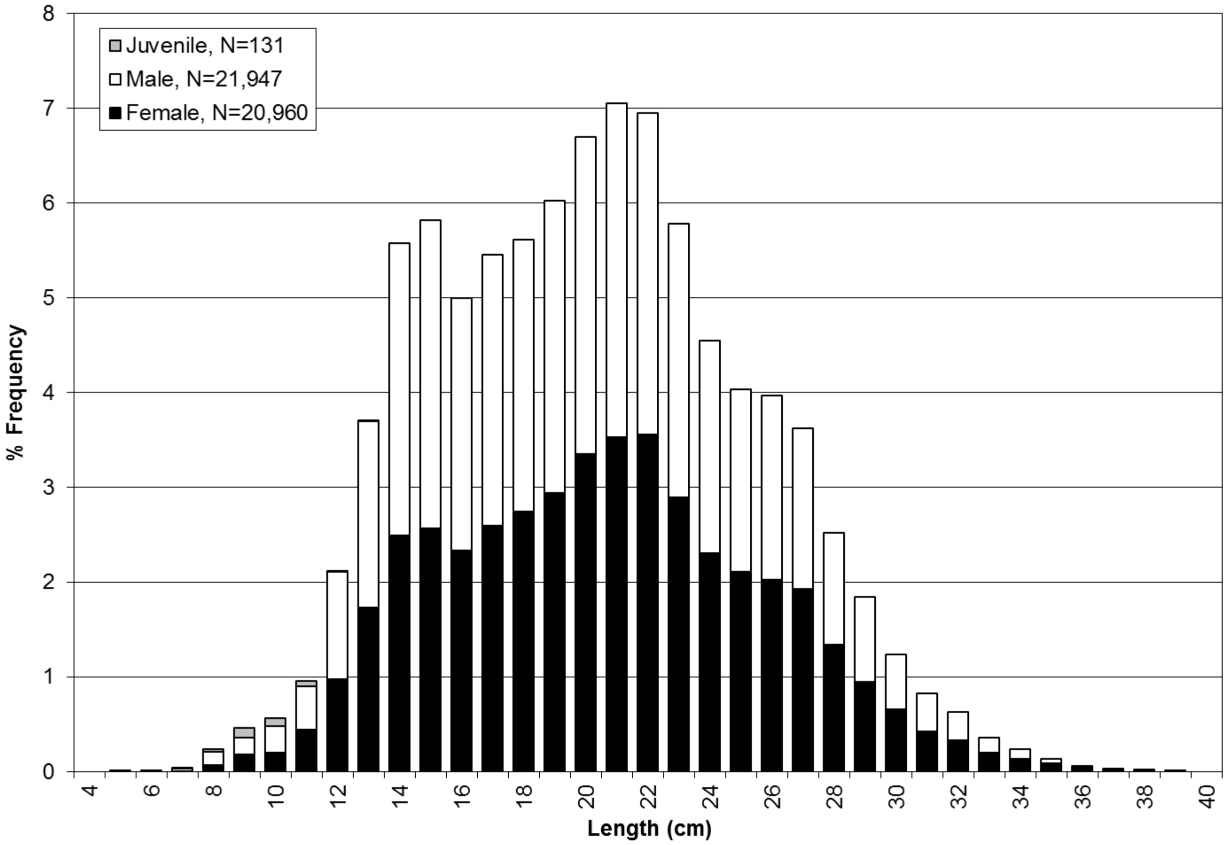


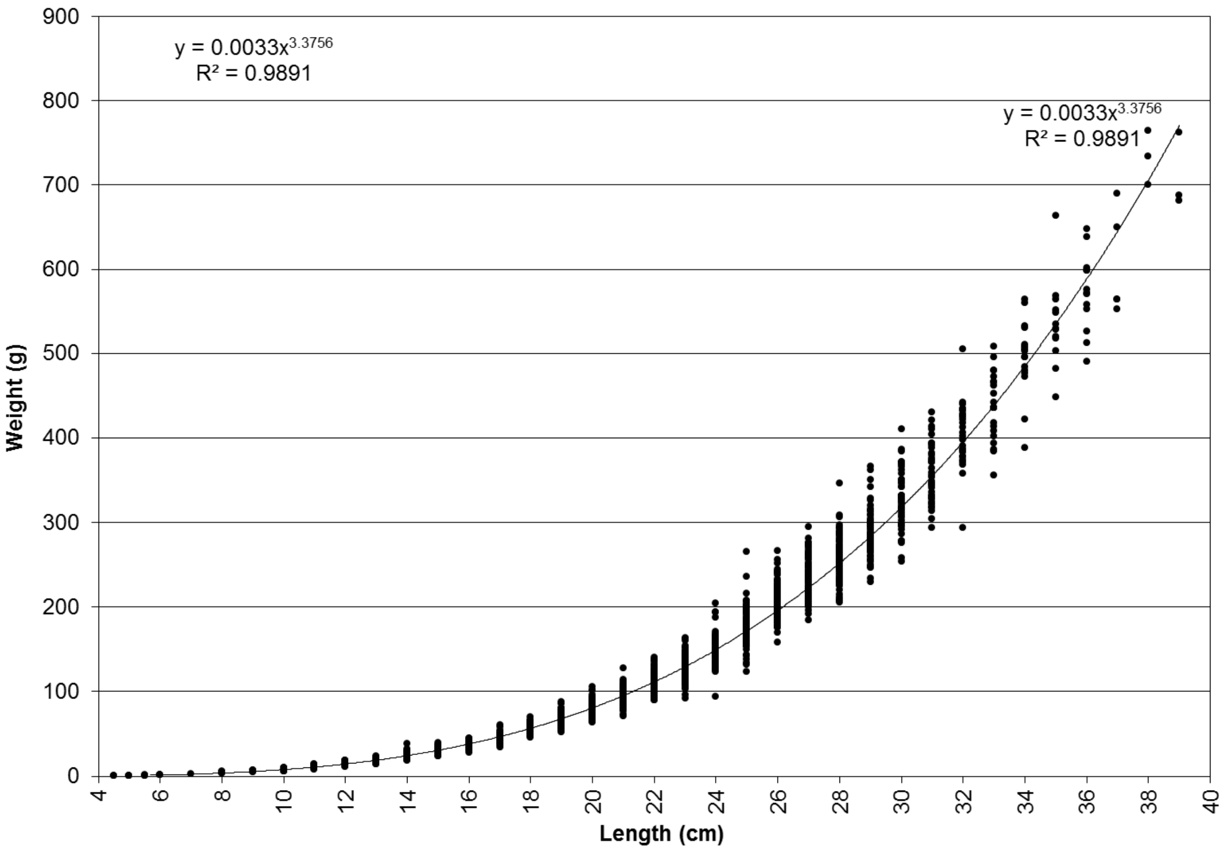
Patagonotothen ramsayi
First Season 2018 (01 Jan to 30 Jun)



Patagonotothen ramsayi—Rock Cod

Length– frequency distribution and length-weight relationship in 2018





Others

Table N.1 Total catch (tonnes) by vessel type and year

VESSEL TYPE	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
LO	99	94	130	104	97	83	107	109	68	73
PO	-	1	-	-	6	7	5	-	-	0
TR	1,130	600	2,264	468	920	281	603	2,501	3,620	1,065
	1,229	**696**	**2,393**	**572**	**1,023**	**371**	**715**	**2,609**	**3,688**	**1,138**

Table N.2 Total catch (tonnes) by month and year

MONTH	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
January	59	14	28	18	45	12	13	93	166	10
February	700	36	69	24	216	76	30	356	40	134
March	171	72	32	30	179	45	57	158	60	108
April	55	77	66	38	106	34	79	260	119	180
May	33	16	350	26	28	11	17	127	64	128
June	18	7	921	10	21	35	5	70	49	9
July	9	17	573	26	11	33	23	46	90	55
August	21	178	90	104	185	26	67	92	186	144
September	56	118	73	145	47	45	109	47	161	181
October	45	20	126	63	85	20	89	51	680	66
November	41	99	40	54	75	22	100	583	1,710	49
December	22	42	26	34	26	13	127	727	363	75
	1,229	**696**	**2,393**	**572**	**1,023**	**371**	**715**	**2,609**	**3,688**	**1,138**

Table N.3 Total catch (tonnes) by fishing fleet and year

FISHING FLEET	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
CL	-	-	-	-	-	10	-	-	12	-
ES	970	318	2,008	258	261	114	475	2,274	3,214	510
FK	234	324	358	300	748	241	203	321	407	573
JP	2	38	5	0	-	-	-	-	-	-
KR	14	10	23	11	9	6	19	3	34	7
RU	-	1	-	-	-	-	-	-	-	-
UK	9	4	0	3	5	0	17	12	20	48
	1,229	**696**	**2,393**	**572**	**1,023**	**371**	**715**	**2,609**	**3,688**	**1,138**

Others

Table N.4 Total catch (tonnes) by gross registered tonnage (GRT) and year

GRT	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<400	-	-	-	-	6	7	5	-	-	0
400-599	-	-	-	-	-	-	-	-	-	-
600-799	11	66	97	16	20	27	16	80	34	33
800-999	184	141	183	162	275	87	270	1,375	292	101
1,000-1,499	168	239	142	154	595	133	264	720	2,042	414
1,500-1,999	827	203	1,954	196	93	86	125	373	1,206	405
2,000-2,999	36	9	12	43	34	28	34	60	114	185
>2,999	2	38	6	0	-	3	-	-	-	-
	1,229	**696**	**2,393**	**572**	**1,023**	**371**	**715**	**2,609**	**3,688**	**1,138**

Table N.5 Total catch (tonnes) by length overall (m) (LOA) and year

LOA	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<45	4	0	6	-	6	7	30	539	-	0
45-49	54	67	107	32	20	7	33	70	46	46
50-54	116	137	161	129	259	104	221	622	177	74
55-59	76	77	104	73	98	6	19	249	241	140
60-64	81	76	1,764	66	366	101	218	453	1,719	446
65-69	803	119	148	145	219	94	110	536	1,333	210
70-79	86	177	95	105	48	25	70	121	158	153
80-89	1	2	1	16	3	9	2	3	11	39
>89	10	41	6	6	4	19	11	16	2	30
	1,229	**696**	**2,393**	**572**	**1,023**	**371**	**715**	**2,609**	**3,688**	**1,138**

Table N.6 Total catch (tonnes) by brake horsepower (BHP) and year

BHP	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<1,000	-	1	-	-	6	7	5	-	-	21
1,000-1,199	-	0	1	-	0	-	25	539	-	-
1,200-1,399	-	3	1	2	9	1	1	-	-	-
1,400-1,599	174	198	180	138	286	114	211	801	268	93
1,600-1,799	45	83	71	7	334	91	78	366	555	69
1,800-1,999	792	138	181	173	259	77	117	504	1,775	278
2,000-2,499	156	209	1,920	180	78	44	198	209	815	284
2,500-2,999	21	13	23	27	13	22	33	124	103	111
3,000-3,999	36	9	11	25	32	3	37	53	122	202
>3,999	4	40	6	20	6	12	9	13	50	81
	1,229	**696**	**2,393**	**572**	**1,023**	**371**	**715**	**2,609**	**3,688**	**1,138**

Others

Table N.7 Total catch (tonnes) of others by species in 2018

Common name	Latin Name	Catch mt
Blue Antimora	*Antimora rostrata*	20.7
Butterfish	*Stromateus brasiliensis*	8.0
Chinese Baby Face	*Neophrynichthys marmoratus*	0.0
Common Smelt	*Austromenidia smitti*	0.1
Crab	*Lithodes murrayi*	0.0
Crab	*Paralomis spp*	0.2
Dogfish	*Squalidae*	1.4
Dogfish, Spurdog	*Squalus acanthias*	28.4
Dogfish/Catshark	*Schroederichthys bivius*	26.4
Driftfish	*Seriolella porosa*	0.2
Dwarf Codling	*Physiculus marginatus*	28.8
Eelpout	*Iluocoetes fimbriatus*	1.7
Falkland Herring	*Sprattus fuegensis*	0.8
Flat fish	*Mancopstta tricholepsis*	0.1
Frogmouth	*Cottoperca gobio*	48.4
Greater Hooked Squid	*Moroteuthis ingens*	4.4
Greenland Shark	*Somniosus microcephalus*	4.7
Hagfish	*Myxinidae*	0.0
Horsefish	*Congiopodus peruvianus*	0.6
Icefish	*Champsocephalus esox*	1.4
Kingcrab	*Lithodes turkayi*	0.1
Lanternfish	*Myctophidae*	0.3
Lobster Krill	*Mundia gregaria*	449.8
Moonfish	*Lampris immaculatus*	0.6
Mullet	*Eleginops maclovinus*	0.1
Notothenid	*Patagonotothen tessellata*	4.8
Octopus	*Octopus/eledone spp.*	5.1
Pomfret Bream	*Bramidae*	0.2
Porbeagle	*Lamna nasus*	1.3
Red Fish	*Sebastes oculatus*	1.4
Sculpin	*Cottunculus granulosus*	0.1
Slender Tuna	*Allothunnus fallai*	12.7
Snapper Golden	*Chrysophyrs auratus*	0.0
Others	Others	1.0
Grand Total	Grand Total	653.8

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