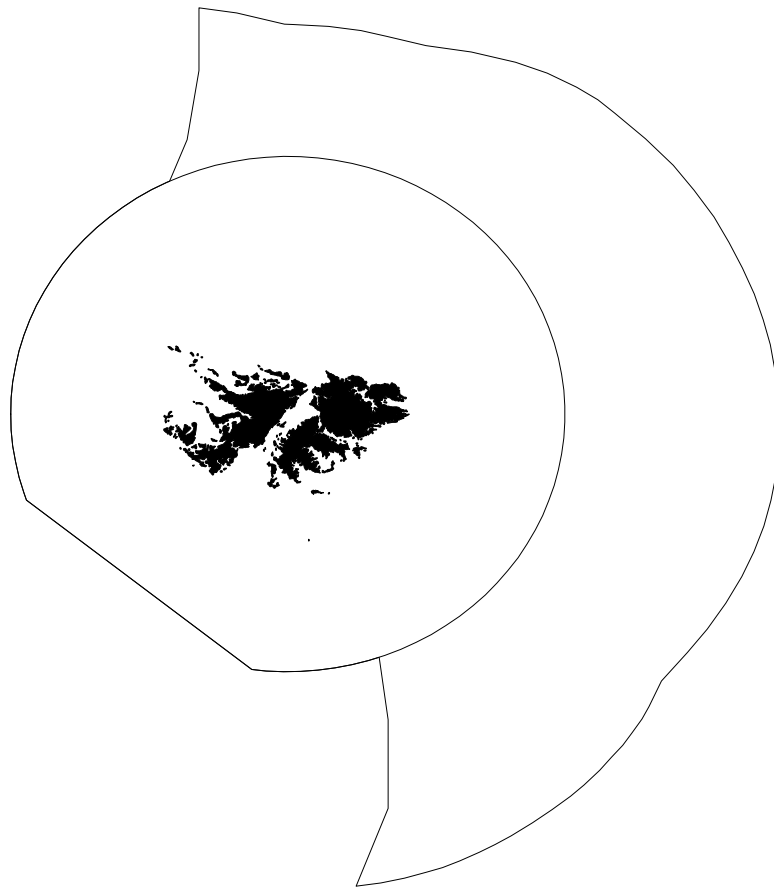


FALKLAND ISLANDS GOVERNMENT



FISHERY STATISTICS

2020

Volume 25

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FOREWORD

1 The Falkland Islands Fishery - 2020

The total annual catch in 2020 (~182,540 t) was about 40,000 t short of the average annual Falkland catch over the last decade. As usual, squid landings (*Illex* and *Doryteuthis* combined) constituted a majority of the total catch (67.6%, 123,395 t). The abundance of the early maturing South Patagonian Stock of *Illex* was quite low that gave a total catch of 62,657 t. The abundance of the autumn-spawning cohort of *D. gahi* (so-called first cohort) was significantly lower than in the previous two years, giving a total of 60,738 t of squid taken by all fleets in 2020. Abundance of common hakes was similar to previous two years, but low fishing effort during the most productive winter time resulted in a significantly lower total catch (43,376 t). Catches of all other finfish species remained low.

1.1 *Illex argentinus* – *Illex* squid

Similar to the three previous years of 2017-2019, the South Patagonian Stock (SPS) of *Illex* showed further recovery from the year of extremely low abundance (2016). Interestingly, only early-maturing group of SPS was recovering, whereas late-maturing group had still very low abundance.

The oceanographic situation in January was not favourable for *Illex* migrations in the high seas area of 45-47°S. The Falkland Current was intensified and shifted to the west, preventing inflows of warm water to spread outside the Argentinean EEZ. According to some sporadic information received by the Falkland Islands Fisheries Department, the catches of *Illex* on the high seas were very poor and did not exceed a few tonnes per day. On the contrary, catches of the Argentinean jigging fleet that worked 50-70 miles inside the Argentinean EEZ at the same latitudes as high seas were up to 30 mt per day. That was an indication that the abundance of *Illex* SPS during the 2020 fishing season should be at medium level.

Quite similar to 2019, strong negative anomalies of sea surface temperatures (SST) observed in the high seas prevented migrations of SPS squid to that area in February. Catches of *Illex* were quite poor both for jiggers and trawlers, and most Falkland-licensed trawlers fished for finfish in the FICZ/FOCZ. Similarly to February 2019, the warm water inflow appeared early in the northwest part of FICZ, and brought squid to the Falkland waters. The jigging fishing season started as usual on 15 February, but the entire fleet (104 vessels) initiated fishing activity in the last two days of the month, due to late licencing process. Good catches of *Illex* were observed subsequent to 23 February, in the northern part of FICZ in the area of confluence between the warm inflow and Falkland Current. Mean daily CPUEs peaked on 24-26 February (30-32 t per vessel/night), but

then decreased to 15-17 t in the last two days of the month. Sizes of squid were slightly smaller than those observed in the last year (23-25 cm mantle length, ML). The total monthly *Illex* catch (11,914 t) in the FICZ/FOCZ was the second highest monthly catch taken in February in the last decade.

In March, the strong inflow of warmer waters from the northern part of the Patagonian Shelf formed well resolved gradient zones with an intensified Falkland Current in the northern part of FICZ. This oceanographic situation favoured aggregations of early maturing SPS (ESPS) of squid immigrating into this area from the Argentinean EEZ. As during the last year, the whole jigging fleet worked along the 200-m isobath in the northeastern part of FICZ during the first three weeks of March and had reasonable catches of *Illex*, varying from 20-25 t in the first week to 10-12 t of squid per vessel/night in the third week. Maximum CPUEs attained 102 t per vessel/night. In the last 10 days of the month, larger squid of Late Maturing SPS (LSPS) appeared in the western part of FICZ, with some jigging vessels having up to 18 t per night there. However, the abundance of this squid was relatively low, and the majority of the jigging fleet carried on fishing in the north-east region of FICZ, having an average of 12-13 t per vessel/night. Trawlers fished under B- and G-licenses in the northeast of FICZ and had quite high CPUEs of 20-25 t per vessel/day (maximum 52 t per vessel/day) in the first half of the month, decreasing to 15-20 t per vessel/day in the second half of the month. A total of 42,061 t of *Illex* was taken in the Falkland waters in March, which was the fourth highest catch for March in the last decade.

Temperatures of the shelf water inflow in the northern part of FICZ lowered in April, indicating the end of the feeding period of the ESPS of *Illex*. Aggregations of squid moved further north outside Falkland waters. The whole jigging fleet (105 licensed vessels) continued to work in the northern part of FICZ, but relatively good catches (mean 10 t per vessel/night) were observed only on 1st April. After April 1st, the catch declined, with mean daily catches varying between 2 and 4 t per vessel/night. In the middle of the month, a few jiggers had relatively good catches of LSPS squid in the western part of FICZ (10-15 t per vessel/night). However, the abundance of LSPS squid was low. In the last week of the month, jigging vessels started to leave the fishing grounds and sailed either to the high seas or finished their fishing operations for this year. G-licensed trawlers had reasonable catches of *Illex* (10-15 t per vessel/day) when targeting the squid in the north-eastern part of FICZ. A total of 8,213 t of *Illex* was taken in April, making it the fourth lowest catch for this month in the last decade.

During the first week of May, remaining 40-50 vessels had catches between 10-12 t per night. However, subsequent catches decreased sharply to 1-2 t per day. By 11th May, no jigging vessels remained fishing in FICZ/FOCZ and some of these vessels ventured to the high seas to check the fishing there. On the 21st May, six jiggers returned to FICZ/FOCZ to try to capture the last migrating squid, but without much success (1-2 t per vessel/night), and they left the zones again on 24th May.

Overall, the total catch of *Illex* in 2020 was the second highest observed over the last five years reaching 62,656 t. However, even the highest catch in these last five years (67,445 t observed in 2017) was far behind of even the minimum annual total of 73,557 t observed between 2011 and 2015. As in 2019, there was no reimbursement of licence fees due to high market price.

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

Patagonian longfin squid, or Falkland calamari (*Doryteuthis gahi*), is a domestic squid resource managed exclusively by the Falkland Islands Government Fisheries Department.

In 2020, a biomass survey for first season recruitment was carried out on-board the fishing vessel *Argos Cies* from the 8 to 22 February. Fifty-nine scientific trawls were taken during the survey, catching 268.4 t of squid. A biomass estimate of 27,991 t of *D. gahi* was calculated for the fishing zone, of which 7,306 t were estimated north of 52°S, and 20,685 t were estimated south of 52°S.

The first commercial calamari season started on 24th February. Fifteen trawlers fished for *D. gahi* in the southern part of the *Loligo* Box. Fishing this year occurred a bit deeper than usual, with squid aggregations found at 140-180 m depths from the east of Beauchene all the way to the western part of the Box. The catches were lower than in the last year, but quite stable with mean CPUE of 46 t per vessel/day. Maximum CPUE (101 t per vessel/day) was taken on 26th February. Sixteenth trawler joined the fleet on 27 February due to late arrival to the fishing grounds. In the northern sub-area, commercial fishing started on 28th February with 12 vessels. The same fishing concentration near the centre of the *Loligo* Box partially overlapped the north sub-area and was inferred to represent a new immigration start in the north. Total monthly catch attained 4,867 t, which is the second highest catch for February in the last decade. All vessels had seal observers and fished without SEDs, as there were no interactions observed between seals and trawlers. All vessels embarked seal observers.

In March, aggregations of *D. gahi* were mainly fished in the southern and middle parts of the *Loligo* Box. The highest average daily CPUE was recorded on 3 March (59 t per vessel/day, maximum CPUE of 100 t per vessel/day). This increase in catches was inferred to represent a new immigration start, and on 9th March (day 69) a sudden decrease and increase of individual squid size, followed by increasing CPUE, was also inferred to represent a new immigration start. During first two weeks of the month, CPUEs gradually decreased down to 25-28 t per vessel/day. On 17th March, a sharp increase in CPUE (mean 43.6 t, with maximum CPUE of 72.8 t per vessel/day) was concurrent with increasing, rather than decreasing, individual sizes and maturities of squid, and therefore was not inferred as a further immigration. Catches of squid were rather stable until the end of the month with an average CPUE of 25 t per vessel/day. The northern part of the *Loligo* Box was briefly fished in the beginning of the month, but dense concentrations of squid were not found and captains preferred to fish in the south. Two sea lion mortalities triggered the obligatory usage of Seal Exclusion Devices (SEDs) in the northern part of the *Loligo* Box since 6th March, and another two mortalities of fur seals that occurred in the south made obligatory use of SEDs within the whole *Loligo* Box after 18th March. Only one Southern sea lion mortality was recorded after SED implementation.

In April, catches of squid were quite variable, and also lower than those observed in March. Average catch for the month attained 23 t per vessel/day. At the end of March and beginning of April, CPUEs dropped to 15-16 t per vessel/day, leading the Fisheries Department to issue a one week warning about possible early closure of the fishery, if the situation persisted and if the model would show a biomass projection falling below 10,000 t. However, as usual for the first season, another wave of abundance of squid appeared in the fishing grounds on 7th April (day 98). On 15th April (day 106), another peak of CPUE was observed followed a day of zero fishing (stormy weather), and corresponded, in hindsight, to a sustained dip in individual squid sizes inferred as a

new immigration. On 26th April individual squid sizes and maturities bottomed out at a decrease over several days, and when CPUE increased substantially the following day (27th April, day 118) this date was inferred as the final immigration of the season. In the northern sub-area, fishing by more than a single vessel in the north resumed on 2nd April (day 93) for the first time in nearly two weeks. This resulted in substantially higher catches than previously; implying that more squid must have entered into the northern sub-area. Because of the gap in fishing effort, an exact date of new immigration was difficult to ascertain and was assigned to day 93 by default. As CPUEs then continued to increase, albeit at a modest level, a mini-immigration was inferred to have started on 12th April (day 103), when individual squid sizes decreased, and then increased again. Another mini-immigration was inferred on 16th April (day 107), with higher CPUE and again a decrease in squid sizes. Fishing was closed early north of 52°S, on 23rd April, because of small sizes of the squid. The aggregate (north + south) biomass estimate to the end of the season was 19,822 t of squid remaining in the fishing zone. Model variability estimation showed <0.1% risk of the true biomass being <10,000 tonnes on 1 May. However, estimation also shows that on 1st April, risk of the true biomass being <10,000 tonnes was 13.4%, justifying the caution that was exercised for the second half of the season. Total monthly catch of *D. gahi* reached 10,471 t, and was close to the average catch in April in the last decade.

Total catch of *D. gahi* in the 2020 first season reached 29,116 t, the lowest first season catch since 2016 but above the median for catches since 2004, when management was assumed by the FIFD.

A biomass survey for the second season recruitment was carried out on-board the fishing vessel *Beagle FI* from 14th to 28th July. Fifty-five scientific trawls were taken during the survey, catching 575 t of *D. gahi* squid; the highest for a second-season survey since at least 2006. The results of the survey obtained an estimate of 92,194 t of squid present in the fishing zone, of which 53,017 t were estimated north of 52°S, and 39,177 t were estimated south of 52°S; an uncommon distribution of higher biomass north than south.

The commercial season started on 30th July, with a one-day delay brought about by the logistic difficulties of requiring marine mammal observers to be transported to the Falkland Islands by military flight. Fifteen X –licensed trawlers started the season, split between the northern and southern parts of the ‘Loligo Box’, while one vessel delayed entry by a day to complete crew health tests. Ultimately, marine mammal observers could not be released from quarantine in time to join season opening, and the arrangement was made for vessels to start fishing with SEDs but return to port on 6th August to pick up their observer. With observers embarked, the requirement for SEDs was lifted and vessels resumed fishing on 7th August. Hours later, six pinniped mortalities had been reported from the south sub-area of the *Loligo* Box (south of 52°), and the use of SEDs was reinstated in the south with immediate effect. By noon, a pinniped mortality had been reported from the north sub-area, and the use of SEDs was reinstated in the north with effect from the start of 8th August. Of 60 X-licence commercial trawls carried out on 7th August, 28 trawls were equipped with a SED (some in the north voluntarily), and this season overall presented the most comprehensive mandate for SEDs since the start of the pinniped problem in 2017.

Similar to last year, exceptionally high catches of *D. gahi* were observed during the first few days of August. The whole fleet fished in the southern area and had daily mean CPUEs of 60-90 t. During the following two weeks, the CPUEs gradually decreased to 25-27 t per day, with vessels fishing both in the northern and southern areas of the *Loligo* Box. Strong storm stopped the fishery on 6th August. The second wave of abundance occurred in the northern part of the Box on 19th Au-

gust, with mean CPUEs attaining 52 t per day. Later, CPUEs decreased to 30 t per day and stayed quite stable until the end of the month. The size of squid was good with modal length of 12-13 cm mantle length (ML).

Sixteen trawlers fished for the squid until 24th September, when the effort of f/v Petrel was met, and she left the fishery. Overall, the catches were much lower than in August, but still rarely below the 20 t per vessel/day mark. Two peaks of catches were observed in September. The first peak took place on the 6th September with mean CPUE attaining 34.3 t per vessel/day (maximum 55 t per vessel/day). The second peak took place on 22nd September with mean CPUE of 24.6 t per vessel/day. As in August, the fishery has been disrupted by several days of bad weather occurring between 16th and 20th September, with no vessels fishing on 19th September and only two vessels fishing on 20th September. Interestingly the majority of catches were observed in the middle part of the *Loligo* Box (grid squares XS** and XT**, but not in the southern part of the Box (XV** and XW**), as happened before. The total monthly catch of *D. gahi* (9,029 t) was at the higher quarter of catches for this month in the last decade, indicating a good abundance of the second cohort of squid this year.

The second season was extended to the beginning of October due to three days of bad weather encountered earlier in the season in August and September, in addition to some vessels starting the season later. Southern gale force winds impacted the fishing performance on 1st October, with vessels having an average of 11 t of squid per vessel/day. In the next four days, the fishing improved to 18-22 t per vessel/day (maximum 47 t per vessel/day). During the last day of the second season, only one vessel fished and it had a good catch of 42 t. A total of 1,212 t was caught in the beginning of October, bringing the total catch for the second season to 30,727 t and making it the third highest second season catch in the last 10 years after prolific 2012 and 2018 seasons. The estimated escapement biomass of *D. gahi* remaining after the end of the first season was 11,867 t, with an 8.8% risk of the escapement biomass falling below the threshold limit of 10,000 t.

An additional 1,862 t of *D. gahi* were caught in Falkland fisheries other than C- or X-licensed during 2020. The total catch for the year thus attained 60,737 t, the lowest annual total since 2016 but well above the median since 2004.

1.3 *Martialia hyadesi* – Martialia squid

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. Spawning takes place during September and October, and spawning grounds are located to the south of the Falkland Islands and at the southern coast of Chile.

Chilean BLU catch increased from 1987 to 1998 with a subsequent decrease since 1999. Argentine and Falkland Islands BLU catches have declining trends since the early 1990's. As a consequence, in 1999 the South Atlantic Fisheries Commission recommended a reduction of the fishing mortality on this stock to meet conservation targets. Catches in the Falkland Islands have remained low and a ban of any fishing activity on the Falkland spawning grounds was established for conservation reasons since 2010. For the total Argentine and Falklands BLU production, the 10-year aver-

age contribution by nation from 2011 to 2020 was $20 \pm 15\%$ (mean \pm SD) for the Falkland Islands and $80 \pm 15\%$ for Argentina.

Catches of BLU in Falkland Islands waters have averaged 21,991 t per year since 1987. The maximum catch was observed in 1990 (72,351 t), followed by a constant decrease to reach the lowest catch in 2020 (69 t). The 10-year mean annual catch from 2011 to 2020 was 2,394 t, and the 5-year mean annual catch from 2016 to 2020 was even lower (1,861 t). This decline may also be in part because surimi vessels have not fished in Falkland Islands waters since 2017.

In 2020, this species was caught mainly in the finfish fishery by W-licensed vessels (55 t; 81%). A- (198 kg; 0.3%) and G-licences (0 kg; 0%) reported nearly null BLU catches. The second-highest catch in the year (11 t; 16%) was reported during research surveys under E-licence. Small amounts were reported by the ‘*Loligo*’ fishery, i.e. C- (50 kg; 0.1%) and X-licensed vessels (2.3 t; 3.4%). All licences had less catches in 2020 compared with 2019.

The mean CPUE per month across years since 1987 indicates greater abundance of BLU in austral spring (October to December). CPUE decreases through summer (January to March), and the lowest abundance occurs during autumn (April to June) and early winter (July). However, in 2020 the highest CPUEs per month were detected in early summer (January and February; 58 kg/h and 56 kg/h, respectively), with a smaller peak in early spring (October; 29 kg/h). W-licensed vessels, with the highest contribution to BLU catch, had a peak of CPUE in October (113 kg/h), with < 59 kg/h the rest of the year. Most BLU catches occurred to the southwest of West Falkland.

1.5 *Macruronus magellanicus* - hoki

Hoki is one of the most abundant pelagic fish on the Patagonian shelf. Genetic studies and otolith microchemistry analysis suggest connectivity within the Southwest Atlantic, and between the Southwest Atlantic and Southeast Pacific. Hence, it is likely that the same stock is targeted in Chilean, Argentine, and Falkland Islands waters. Spawning occurs during the austral winter (July to September), mainly in Chilean waters between 43°S and 48°S . Most hoki migrates out of Falkland Islands waters to spawn during winter, although small spawning areas have been detected at the platform edge east of the Falkland Islands. This species is not highly abundant in Falkland Islands waters as the FICZ is at the edge of the species distribution. However, hoki is targeted mainly by trawlers during spring (October to December), summer (January to March) and autumn (April to June) in deep waters to the southwest of West Falkland when it is relatively abundant in the area.

In Chile, landings of hoki increased from 1987 to 1998, followed by a steep decline. In Argentina, catches of hoki averaged 60,428 t per year from 1987 to 2020. Catches had an increasing trend from 1987 to 2000, were relatively stable from 2000 to 2009, and declined from the year 2010. In the Falkland Islands, catches of hoki averaged 14,905 t per year from 1987 to 2020, with an increasing trend from 1987 to reach a maximum of 26,975 t in 2002. There was a gradual decline to 4,052 t in 2017, followed by annual catch increases to reach 7,643 t in 2020. Average annual catch in Falkland Island waters was 10,504 t over the last 10 years (2011 – 2020), whereas the 5-year average (2016 – 2020) was 7,021 t. The Falkland Islands had the smallest annual contribution ($18 \pm 5.5\%$; mean \pm SD) to the total Argentine and Falklands hoki catch over the last 10 years (2011 – 2020), whereas Argentina contributed $82 \pm 5.5\%$ of the total catch. Average proportions by nation have remained over the last 5 years, from 2016 to 2020.

In the Falkland Islands, a total of 7,643 t of hoki was caught in 2020; this is the eight-lowest annual catch observed since 1987. However, it is the fifth highest catch over the last 10 years (2011 – 2020), and the second highest catch over the last 5 years (2016 – 2020). Most hoki caught in Falkland Islands waters during 2020 were reported by the finfish fishery, with W– (5,938 t; 78%) and G– (1,446 t; 19%) licensed vessels contributing most of the catch. Total annual catch was higher in 2020 compared with 2019 due to the increase in catch of C–, E–, G– and X–licences from one year to the other.

The mean CPUE per month across years since 1987 indicates greater abundance of hoki in summer, with the lowest abundance during winter, which is consistent with the CPUE pattern detected during 2020. In 2020, monthly CPUE fluctuated from 79 kg/h to 1,798 kg/h, with the highest CPUE in January. CPUE under W–licence had peaks in January (1,798 kg/h) and February (1,430 kg/h), and remained relatively high (> 900 kg/h) from April to June, and in October. CPUE under G–licence, used from March through May, reached up to 807 kg/h in May. From a regional perspective, most hoki catches took place to the southwest of West Falkland.

1.6 *Merluccius hubbsi*, *Merluccius australis* – Hakes

Two hake species occur in Falkland Islands waters, common hake *Merluccius hubbsi* and southern hake *Merluccius australis*. Southern hake is commercially more valuable than common hake, but common hake is between one and two orders of magnitude more abundant in Falkland Islands waters and therefore produces much higher catches and revenue. Both hake species migrate between Argentine and Falkland Islands waters in the Atlantic. Common hake is more abundant in Argentine waters from November to March during the spawning season, and then migrate to their foraging grounds in Falkland Islands waters from March and April. In Falkland Islands waters common hake is most abundant in the northwest of the FICZ north of 51°S and west of 60°W. This area is closed to restricted finfish and skate trawl fisheries during the six months of peak abundance of common hake. Southern hake is at the edge of its distribution range in Falkland Islands waters, and mostly encountered in deeper waters to the southwest of West Falkland. This species is taken as bycatch in the finfish trawl fisheries as low abundance precludes it from being a primary target.

The highest annual total catch of common hake was reported in 2019 with 53,554 tonnes. Last year, 2020, the annual reported total catch decreased to 43,438 tonnes, which was still the second-highest annual total catch since 1988. However despite fewer fishing days, A–licence hake CPUE was only 17% lower in 2020 than in 2019, and W–licence hake CPUE was 4% lower in 2020 than in 2019. Cumulatively, common hake made up over 85% of finfish catches and was the most abundant species from March through November, peaking in May, June and July with 7334, 6949, and 7027 tonnes respectively. Despite spatial restrictions, common hake made up >75% of catches by W–licensed vessels from April through November. In contrast to last year, a substantial number of W–licence days were still available to the fleet in November, resulting in the largest common hake catch in November since 2004.

In the FICZ/FOCZ, common hake in 2020 was caught primarily in the finfish trawl fisheries: A– (20,863 t; 47.9%), W– (13,236 t; 30.4%), and G– (8,254 t; 19.0%) licences. Lesser amounts were reported caught in the 'Loligo' (C– and X– licences; 373 t; 0.9%), skate (F–licence; 494 t; 1.1%), and *Illex* (B–licence; 26 t; 0.1%) trawl fisheries.

Total catches of southern hake have decreased from 94 t in 2019 to 48 t in 2020. The highest recent southern hake catches were taken in 2016, when vessels targeted grenadier in deep water in the southwest of the FICZ. Regulatory changes have reduced that fishing activity, and the southern hake catch reported in 2020 was the lowest since 2015.

1.7 *Genypterus blacodes* – kingclip

Kingclip is caught in the Southwest Atlantic by Argentina and the Falkland Islands. In Argentina, kingclip catches were on average 16,106 t per year from 1987 to 2020. Catches increased from 1987 to reach a maximum in 1990 (34,775 t), followed by a declining trend to reach 2,890 t in 2020. In the Falkland Islands, kingclip catches averaged 2,074 t per year from 1987 to 2020. There was an increasing trend in catches from 1987 to reach a maximum of 3,977 t in 2013, year after which catches declined. The Falkland Islands had the smallest annual contribution ($26 \pm 7.3\%$; mean \pm SD) to the total Argentine and Falklands kingclip production over the last 10 years (2011 – 2020), whereas Argentina contributed $74 \pm 7.3\%$ of the total catch. However, within over the last 5 years (2016 – 2020), the Falkland Islands catch proportion increased to $36 \pm 6.5\%$.

The total annual catch of kingclip in Falkland Islands waters for 2020 was 1,625 t. This is the twelfth lowest total annual catch since 1987 with 450 t less than the long-term average since 1987, and it is the third lowest catch over the last 10 years (2011 – 2020) and also over the last 5 years (2016 – 2020). In 2020, this species was caught primarily in the finfish fishery: A– (635 t; 39%), W– (572 t; 35%), and G– (328 t; 20%) licences. Lesser amounts were reported by the 'Loligo' (C– and X–licences, 6 t; $< 1\%$), *Illex* (B–licence, 2 t; $< 1\%$), and skate (F–licence, 77 t; 5%) fisheries. All licences had less catches in 2020 compared with 2019, except for A– and F–licences.

Monthly CPUE of all licences combined fluctuated from 32 kg/h to 78 kg/h during the year, with the highest CPUE in November. CPUE under A–licence had a peak in June (71 kg/h) and remained over 45 kg/h during April and May, and from July through October. CPUE under W–licence had a peak in April (171 kg/h), with over 55–88 kg/h from May through November; January and February had the lowest monthly CPUE with 32 kg/h each. CPUE under G–licence reached up to 86 kg/h in May. While effort on A–licence (10,804 h) exceeded that of W– (9,225 h) and G– (5,683 h) licences, CPUEs were relatively similar (59, 62, and 58 kg/h, respectively).

Consistent with previous years, kingclip abundance began to peak in April, corresponding to their autumn migration into the FICZ where it was most abundant to the west of the Falkland Islands. In winter (July to September), it was abundant to the north, northwest, and west of the Falkland Islands, when it migrates to their feeding grounds, and generally remains abundant in the FICZ during spring (October to December).

1.8 *Salilota australis* – red cod

Red cod is another commercial by-catch species with a trend of declining catches and abundance in the southwest Atlantic. Due to the declining trend in abundance, conservation measures for this species were initiated in 2009, and later expanded, leading to a complete fishing ban in their spawning grounds from the end of August to the middle of October.

For 2020, a total of 1,418.2 t of red cod was taken by all fisheries in the Falkland fishing zones. The majority of catches were reported from the finfish trawl fisheries, with 733.5 t (51.7%) taken under W–licence, 297.2 t (21.0%) on A–licence, and 259.4 t (18.3 %) on G–licence. Lesser quanti-

ties were caught in the *Doryteuthis* (C- and X-licences; 94 t; 6.6%), skate (F-licence; 29 t; 2.1%), and *Illex* (B-licence; 0.4 t; <0.1%) trawl fisheries. A further 4.4 t (0.3%) was taken on E-licence during research cruises. Catches were primarily from Spanish-flagged vessels (1,122 t; 79.1%), followed by Falkland Islands-flagged vessels (292.0 t; 20.6%).

After three consecutive years of increasing catches in Falkland waters (2017-2019), red cod catch has decreased again in 2020 to 1,418.2 t, the second lowest catch in the last decade (2011 to 2020). This represents only 47.0% of the last decade mean of 3,017.3 t. In 2020, peak catch was taken in February (302.6 t), and monthly catches fluctuated throughout the year without a clear trend. The third and fourth largest monthly catches were taken in September and October, during the fishing ban period in red cod spawning grounds, partially due to the large catches taken on X-licence in Loligo-box in September (highest since 2013 and second highest in the last decade). A significant disparity in CPUEs between licences was noted (A-licence: 26.4 kg/hr, range of 15.6 to 37.7 kg/hr; G-licence: 39.8 kg/hr, range of 1.8 to 68.5 kg/hr; W-licence: 74.0 kg/hr, range of 41.4 to 121.4 kg/hr).

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-catch of juvenile toothfish in the finfish trawl fisheries, on the continental shelf and shelf break, are not certified and are therefore, far less valuable: being sold with other white-fleshed fish for less than US\$5/kg. Furthermore, juvenile toothfish are by-caught by the *Doryteuthis* trawl fishery, where most are discarded, thus potentially affecting future recruitment of the species in the longline fishery.

For 2020, a total of 1,246.3 t of toothfish was taken by all fisheries in the Falkland fishing zones, with 1,043.5 t (83.7%) taken by targeted longline fishery, 152.9 t (12.3%) under W-licence, 22.1 t (1.8%) under A-licence, 21.2 t (1.7 %) under G-licence, 4 t (0.3%) under C- and X-licences, and 1.3 t (0.1%) under F-licence. A further 1.4 t (0.1%) was taken under E-licence during research survey. The majority of toothfish catches were taken by Falkland-flagged vessels, 1,092 t (87.6%), primarily in the longline fishery. This was followed by 153 t (12.2%) on Spanish-flagged vessels (all in the trawl fisheries) and 2.3 t (0.2%) on UK-flagged vessel (primarily from the W-licence finfish fishery).

A single longliner (CFL Hunter) operated in Falkland waters throughout the year (except between May and September when it was in Spain for maintenance) for a total of 198 fishing days on L-licence and three days on E-licence (broodstock fishing trip), alternating between the north-eastern and southern parts of FICZ/FOCZ. Toothfish catches averaged 5.3 t per day in the longline fishery, while CPUE was 4.26 kg/umbrella; the fifth highest annual CPUE in this fishery in the last decade. During 2020, monthly CPUE ranged from 2.87 to 5.33 kg/umbrella, peaking in April and October.

For a fourth consecutive year, toothfish catches in the finfish trawl fisheries (A-, G- and W-licences) decreased, reaching 196.2 t in 2020; for a third consecutive year, this amount is below the 300 t expected to be caught by the finfish trawl fisheries for the purpose of stock assessment calculations. Situation was similar in the *Doryteuthis* trawl fishery (C- and X-licences), with toothfish catches decreasing for a fourth consecutive year to reach 4 t in 2020; for a fourth consecutive year, this amount is below the 30 t expected to be caught by the *Doryteuthis* trawl fisheries for the

purpose of stock assessment calculations. This decrease can be attributed, at least in part, to new bycatch measures limiting grenadiers to 10% and Patagonian toothfish to 1.5% of the total daily catch per vessel, first introduced in 2018. Bycatch above these levels trigger a move-on rule with respective grid squares becoming restricted for ten full days. As such, fishing behaviours that led to an increase in toothfish by-catch have been curtailed.

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. The 1,040 t TAC was exceeded by 3.5 t in 2020, but since 57.6 t was carried forward from 2019, 54.2 t will be carried forward to 2021.

Highly variable recruitment has been characterised by high recruitment pulses, such as those that occurred during 2015 and 2017, largely supporting the shelf population thereafter. Low recruitment levels have characterised the shelf-based toothfish population between 2018 and 2020 (i.e. few age 0+ fish and weak progressive cohorts of age-1, 2 and 3 year old fish, respectively). The drivers of this variability are not yet clearly understood, but are thought to largely be influenced by oceanographic and environmental factors. This suggests that careful monitoring may be required to ensure that bycatch levels do not exceed precautionary levels within the finfish and *Doryteuthis* trawl fisheries.

1.10 Rajidae – Skates

In 2020, 1,396.0 t of skate were caught in the Falklands Islands Conservation Zones. The total annual catch was the lowest since 1998, the second-lowest since skate catches were first recorded in 1989, and the fifth consecutive year of decrease. Target catch in 2020 decreased by 4 t from the year before, and non-target bycatch decreased by nearly 100 t from the year before. Approximately 2.3% of the 2020 total catch (32 t) was harvested as target catch (F licence), representing the lowest percentage of target catch since skate licences were issued in 1994. F-licence allocated days and utilized days increased in 2020 from the year before. The actual fishing effort also increased proportionally: in 2020 59 F-licence fishing days were taken out of 157 days allocated (37.6% licence utilization rate). By comparison, licence utilization rates were <25% in 2018 – 2019, >50% in 2016 – 2017, and >95% as recently as 2015.

The 2020 target catch was taken by four Spanish-registered vessels averaging 43 kg/hr. Among the four vessels target effort and catch were strongly concentrated in October (55.9% of effort, 76.4% of catch) and November (37.3% of effort, 19.7% of catch). Each of these four vessels also held A, G and W finfish licences, which accounted for 91.3% of their aggregate fishing activity in 2020. Skate licence fishing was thus a minor activity for Spanish-registered vessels in 2020. These four F-licence vessels took 27.7% of the total skate bycatch under finfish licence, compared to the 31.3% 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, 582 t of skate were taken under A licence (increase of 38 t from the year before), 206 t under G licence (decrease of 117 t from the year before), and 515 t under W licence (increase of 6 t from the year before). Approximately 2.5% of aggregate finfish skate bycatch was reported discarded. Additionally 24 t of skate were caught in the *D. gahi* fishery, just slightly less than last year (25 t). Twenty-four tonnes of skate were caught in the toothfish longline fishery, 7 t were caught under experimental licence (which included the *D. gahi* pre-season surveys, finfish surveys, and a toothfish live-capture trip), and 6 t were caught in the *Illex* fishery (all by trawl – none by jig. Skates caught in the longline fishery were almost entirely discarded (>97%).

In all commercial fisheries, a total of 6,777 skates were identified to 15 species by observers on 21 vessels. In finfish-target trawls, three species represented at least 10% each of the sampled species composition by numbers: Broadnose Skate (*Bathyraja brachyurops*) (35%), Yellownose Skate (*Zearaja chilensis*) (31%), and White-spotted Skate (*Bathyraja albomaculata*) (11%). By weight, three species represented a different combination of at least 10%: *Z. chilensis* (32%), *B. brachyurops* (30%), and the Graytail Skate (*Bathyraja griseocauda*) (13%). In *D. gahi* trawls, *B. brachyurops* represented 63% of the sampled species composition by numbers, and *Bathyraja macloviana* 15%; *B. brachyurops* represented 54% of the sampled species composition by weight and *B. albomaculata* 15% by weight. In the longline fishery Antarctic Starry Skate (*Amblyraja georgiana*) represented 67% of skate bycatch by numbers and 62% by weight; Whitemouth Skate (*Bathyraja papilionifera*) represented 28% of skate bycatch by numbers and 28% by weight. No observer cover had been assigned to skate-target trawls in 2020, given the low employment of that fishery for the second year in a row.

1.11 *Patagonotothen ramsayi* – Rock cod

Following the record low 2019 the 2020 catch fell further. The total catch of rock cod was 737 t. The largest catch was in the *D. gahi* fishery, with more than 50% of the total catch (407 t). The *D. gahi* vessels discarded 99.9% of the catch. The average length of the rock cod on *D. gahi* trawlers was 15.49 cm. Finfish vessels (A, W and G- licenses) caught 315 t. The highest catch in the finfish targeting fleet was by the W licenced vessels with 254 t, 30 t were discards. Vessels fishing under G licences caught 42 t and discarded 13 t, whilst A-licensed vessels caught 18 t and discarded 13 t. The highest catch was in the first quarter when 468 t were caught, this decreased 104 t in the second quarter, then 149 t in the third quarter and finally 17 t in the last quarter.

1.12 Macrouridae - Grenadiers

There was neither a target fishery, nor a research cruise for grenadiers in 2020. Total annual catch of grenadiers was 609 t taken as by-catch during longline (53 t) and finfish (556 t) fisheries. The long-liner catch reflected fishing effort, with low catches in the quarters with low effort. In the finfish fishery, the majority of the catch was in the first quarter. This reflected the increased effort in the first quarter in the southwest of the zone with vessels targeting hoki in deeper water. The trawl fishery was split between *Macrourus* spp. (generally *M. carinatus*, with few *M. holotrachys*) which made up 81% of the observed catch weight, whereas *Coelorhynchus* (*Coelorhynchus fasciatus*) made up 19% of the observed catch weight. The trawler fishery discarded 97 t from the 556 t caught. The longliner discarded 43 t from the catch of 53 t.

1.13 *Zygochlamys patagonica* - Patagonian scallop

No directed scallop fishery in Falkland Island waters occurred in 2020 although 1.5 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).

1.15 *Paralomis granulosa* - Snow crab

There is an experimental licence available for snow crabs; this was not used in 2020.

1.16 Others

Butterfish (*Stromateus brasiliensis*), redbfish (*Sebastes oculatus*), lobster krill (*Munida* spp.), drift-fish (*Seriotelella porosa*), various other squid and fish as well as jellyfish are included into this category. The total annual catch of each are summarized in table O.7.

2 Fisheries Department research cruises in 2020

In 2020, two research cruises were conducted by the Fisheries Department using the chartered fishing vessel *Castelo*.

2.1 Demersal biomass survey ZDLT1-02-2020

The regular ground fish survey was conducted from 2 to 22 February 2020 on board the F/V *Castelo* for the eighth time since 2010, every time concurrently with the first season “*Loligo*” pre-recruitment survey. The first four trawl stations of the cruise were dedicated to surveying for juvenile toothfish in inshore waters in areas identified as recruitment areas. The remaining 80 stations were repeated from the 2018 survey. During the survey, a total of 54 t of biomass (representing 124 taxa) was caught. The most abundant species by weight was the squid *I. argentinus* (caught mostly to the north and northeast), followed by *M. magellanicus* and *D. gahi*.

It was found that the biomass of *P. ramsayi* has been decreasing at every groundfish survey since 2011; from an estimated high of 1,090,655 t to an estimated low of 22,335 t in 2020. This trend was reflected also from total catch of *P. ramsayi* during the demersal survey as catches decreased from 116 t in 2011 to 1.8 t in 2020. *Illex argentinus* biomass estimate during the cruise for 2020 (148,023 t) was the second highest since 2015 (253,660 t). Catches during the biomass survey reflected this with catches in 2020 equalling 17.9 t, the second-highest ever recorded during this survey, except for 2015, when 31.7 t were caught. The warm water inflow into the northwest seems to have brought *I. argentinus* into Falkland waters in early February hence the good catches during the survey. Size of *I. argentinus* females was slightly smaller than last year (modal size of 24.5 cm in 2019 compared to 24.0 cm in 2020) with similar proportions of mature individuals (Stage V). Biomasses of the majority of finfish species had negative trends comparing with previous years.

2.2 Hake biomass and biological survey ZDLT1-07-2020

The hake survey was conducted aboard the F/V *Castelo* from July 12th to 27th (15 fishing days). Overall, 45 trawl stations were conducted including high seas areas of 42°S and 45-47°S.

The main objective of this research cruise was to collect biological data (length, sex, maturity, otoliths), genetic samples, and diet samples for common hake during its peak in abundance on the Patagonian Shelf. These data will be used to better understand the demography (age and length structure of the population, total mortality rate), genetic structure (stock discrimination, contribution of different stocks to Falkland Islands Fisheries) and feeding (ontogenetic shifts in diet, extent of feeding grounds for different stocks). Secondary objectives included: (1) collect biological data on other common commercial and bycatch species; (2) conduct an oceanographic survey

(pressure, temperature, conductivity, oxygen, fluorescence) of the study area; and (3) carry out trials of the new setup for deploying the Isaac-Kidd plankton net aboard the *F/V Castelo*.

During the survey, a total of 50 t of biomass (representing 136 taxa) was caught from a total swept area of 9.33 km². The most abundant species by weight was the common hake, followed by the squid *D. gahi* and congrid eels. The latter dominated catches at 42°S, was relatively absent from the rest of the survey area, and all were discarded. Overall, the total catch of common hake was the only one to have exceeded 10 t.

Generally, hake was most abundant in Falkland waters within the “Hake Box” and just south of 51°S and in waters between 150 m and 400 m depths. Larger individuals of both sexes were found in deeper waters and further south in the FICZ than in other areas. The sex ratio of common hake was more skewed towards females in deeper waters than shallow waters. Additionally, hake in the high seas between 45°S and 46°S showed the presence of three distinct cohorts, including a greater abundance of individuals in the 20 cm to 30 cm range (females) than in other areas, depicting most likely the presence of younger fish at those stations relative to the FICZ. A greater proportion of spent females was observed on the High Seas at 42°S and a greater proportion of maturing/mature individuals was observed in the FICZ suggesting the presence of different stocks in our sample.

Opportunistic observations of stomach contents during this survey revealed a greater proportion of individuals feeding on *D. gahi* within the FICZ and a greater proportion of common hake feeding on myctophids (lanternfish), e.g. *Gymnoscopelus nicholsi* in the high seas. The detailed qualitative and quantitative analyses of stomach samples should address potential ontogenetic shifts in diet and variability in diet by common hake size, depth distribution, and areas of their feeding range.

3 Fisheries Department research contracts in 2020

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 2020 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 2019”.

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

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

4 Seabird and marine mammal bycatch mitigation in the Falkland Islands

4.1 Longlining

Seabird bycatch mitigation measures implemented in the toothfish fishery have resulted in zero seabird hooking observed since 2005. During setting, bycatch mitigation strongly relies on the use of netted umbrellas (originally implemented to diminish orca and sperm whale depredation) that reduce seabird direct access to baited hooks; halting fish-processing discards that attract seabirds; and the use of a bird scaring line (tori line). During hauling seabird interactions with the fishing gear are mitigated by the absence of discards on the hauling side of the vessel and the use of several bird scaring streamers in surrounding the hauling bay (Brickle curtain). For the period July 2019 - June 2020 toothfish fishing occurred on 232 days, of which 92 (39.6%) counted with observer coverage, with a total of 207 fishing events observed. Dedicated seabird and marine mammal observing effort was carried out for 25 stations (12%), while random setting observations occurred on 90 fishing lines (43%) (Table 1). A total of 2,117 light interactions were recorded with ACAP vulnerable seabird species (2,084 during setting; 11 during hauling). One black-browed albatross entanglement was recorded in the tori line, however the bird was safely freed alive by the deck boson. No seabird mortalities were recorded for the period.

4.2 Trawl fishery

4.2.1 Finfish

Between July 2019-June 2020, observations of seabird interactions with the demersal finfish fleet were conducted on 26 days, comprising an effective sampling effort of 99.94 h in 55 stations, which represents 1.94 % of the fleet's total fishing day effort. Due the low observer coverage, no mortalities were observed. However, 48 "minor injury" contacts of ACAP-listed species were recorded (44 black-browed albatross, 3 wandering albatross, 1 giant petrel). These heavy interactions were all related to the warp cables and took place while the vessel was trawling and the factory was processing the catch (i.e. with discards attracting seabirds). The rate of contacts with unknown outcomes to real mortalities had been estimated to be approximately 3 to 1 (Parker et al., 2013). If we apply this rate to the 48 "minor injury" contacts observed, 16 of them could have resulted in actual mortalities. Extrapolating this value to the entire year finfish fishing effort, this would equate to 825 mortalities (759 black-browed albatross, 50 wandering albatross, 16 giant petrel) (Table 1). One giant petrel arrived on deck on top of the net and was safely released by crew. Several seal sightings were reported. Opportunistic seal observations involved South American sea lions following the vessel on several occasions (presumably foraging on discards) and directly eating from the net during hauling. South American fur seals were seen attending vessels during hauling on three occasions, being one individual caught alive and safely released by crew after cutting the net. Besides, on two occasions fur seals were seen following the vessel. Seal mortalities were neither recorded by the observers nor reported to FIFD by the vessels.

4.2.2 Falklands calamari

Since 2017 the Falklands calamari fishery has 100% marine mammal observer (MMO) coverage and requires the use of seal exclusion devices (SEDs) after two seal mortalities from the fishing of

the whole fleet. The MMO monitoring program is funded in partnership with fishing industry; MMOs monitor at least three trawls per day (i.e. shoot and haul) and record seal-gear interactions, behaviour, live SED escapees, live deck releases and incidental mortalities. In addition, MMOs dedicate one hour daily for bird scaring line (i.e. either tori lines or fixed aerial array) monitoring. The MMO monitoring program observed a total of 4,445 seal stations, covering 99% of the fleet's total fishing day effort. Bird scaring line monitoring comprised 1,376.3 h of gantry/stern deck observations during trawling.

FIFD Scientific Observers also continue to monitor the fishery, with dedicated seabird observations every fourth day. From July 2019 to June 2020, 76 seabird stations were monitored by FIFD observers, comprising 130.75 h of effort, which equals to 1.94% of the fleet's total fishing day effort. Neither mortalities nor "*minor injury*" contacts were recorded by the observers; however 4 black-browed albatross were caught during hauling (2 inside the SED, 2 in the net wings), being safely released alive.

Bycatch of ACAP-listed species included 40 individuals (35 black-browed albatross, 3 white-chinned petrel, 2 giant petrel), of which seven were released alive and 33 were mortalities (31 black-browed albatross, 2 white-chinned petrel). The breakdown of mortalities were 61% net-related, 28% involved warp cables and trawl doors, and 8% resulted from entanglements in the bird scaring lines (i.e. orange semi-flexible streamers). Taking into account Parker et al. (2013) cryptic mortality factor, the estimation of seabird mortalities for the year in this fishery are 99 seabirds (93 black-browed albatross, 6 white-chinned petrel) (Table 1). There were 6,567 seals sighted (70% South American fur seal, 20% South American sea lion, 10% unknown species), with 35 SED escapees observed during hauling and eight live deck releases. The amount of SED escapees during shooting remains unknown. Twelve seal mortalities were recorded (7 South American fur seal, 5 South American sea lion), of which six occurred pre-SED implementation. Of the post-SED mortalities, three occurred during shooting (i.e. SED escape passage was blocked due to reduced tension in the net while manoeuvring); two happened after propeller contact; and the last corresponded to a carcass in decomposition.

4.2.3 Skate

No observations were carried out on the 16 skate fishing effort days for the period.

4.2.4 Illex Trawling

During 2020 24 stations were monitored within 12 seabird days, comprising 53.6 h of effort, which equals to 2.3% of the *Illex* bottom-trawling total fishing day effort. Seven black-browed albatross mortalities were observed. All the mortalities were related to trawling, being four carcasses found in the trawl doors; one seen submerging after attaching to the warp cable (presumably entangled in a warp splice); one attached to the warp cable and killed upon reaching the pulley; one entangled in the tori line buoy. If extrapolated to the total fishing effort carried out within the year (506 fishing days), mortalities would equate to 295 individuals. Added to these mortalities eight black-browed albatross "*minor injury*" contacts were recorded, seven with warp cables and one with the bird scaring line. Applying Parker et al. (2013) factor for cryptic mortality, 2.66 of the observed contacts could have resulted in actual mortalities. Extrapolating this "*minor injury*" value to the fishing effort, this would equate to a further 112 black-browed albatross mortalities. After

adding the estimated observed mortalities and the estimated “*minor injury*” contacts, the total estimated black-browed albatross mortality for the period is 407 individuals (Table 1).

Table 1. Observer coverage and ACAP-listed seabird species estimates of mortality per fleet.

Longlining					
Effort (stations)	Effort (h)	Fleet coverage (%)	‘minor injury’ contacts	Nº mortalities observed	Estimated mortalities
25	NA	12	0	0	Negligible
Finfish					
55	99.94	1.94	48	0	825*
Falklands calamari					
4,521	1,507.05	99	0	33	99
Illex (bottom-trawling)					
24	53.6	2.3	8	7	407**
Total mortalities:				40	1,331
*Recorded outside seabird dedicated days; not used in mortality estimation.					
** Precautionary number, calculated based on observed possible minor injury contacts.					

As cryptic events like seabird mortalities cannot be detected with low observing effort (< 4%; Parker et al., 2013), an accurate estimation of mortalities for the finfish fleet cannot be made. However, possible *minor injury* contacts were used as a mortality proxy, being seabird mortality numbers in finfish fully *precautionary*.

4.3 Improvements to seabird and marine mammal mitigation

4.3.1 Fixed aerial array (FAA)

Up to June 2020, 13 vessels of the calamari fleet had an avian deterrent devices fitted on their stern, entailing the use of five different FAA models. Ten of the vessels had an FAA, based on the original 2012 model -with parallel booms- mounted above the warp cables, while three had been fitted with the 2016 model -with spread booms. It was noted that the performance of the latter is better, as streamers are less prone to entanglement in the warp cables. This translates in less crew maintenance requirements (i.e. streamer cleaning, repair, and replacement) and more efficiency to maintain the warp cable dangerous zone protected under crossed winds, particularly if using red semi-flexible weighted streamers.

4.3.2 Discard management

A total of 12 trawlers (9 calamari, 3 finfish) had been fitted with discard storage tanks. Although bird presence during trawling has reduced, an increment in net interactions has been particularly detected in the calamari fishery. Several discard storage tank problems were noticed regarding waste input and tank discharge mechanism.

4.4 Compliance

Although bycatch mitigation regulations began in 2012 and intensive efforts had been carried out

while working closely with the trawl fleet, observer reports indicate compliance might be poor, particularly when no observer is aboard. Lack of bird scaring line maintenance (i.e. covered in oil) was observed in two vessels targeting *Illex* and in one calamari vessel. Also the presence of warp splices was confirmed for at least one calamari trawler, with splices being closely related to seabird warp mortalities.

4.4.1 Discarding regulations

Non-compliance events to discard regulations were recorded across the trawl fleet. Discarding during manoeuvres (shoot, turn, haul) were observed during three finfish trips, during two trips targeting *Illex*, and in one calamari vessel that regularly failed to close the discard storage tank's chute.

4.4.2 Net cleaning

Poor or absence of net cleaning was recorded in two finfish and one *Illex* trips. Although net cleaning can vary regarding weather conditions and bycatch, overall compliance in the calamari fishery was fair, except for one particular vessel in which net cleaning was poor. These low standards are quite worrying, as seabird net entanglements in the calamari fleet are currently high.

Reference

Parker, G., Crofts, S., Pomper, J., Wolfaardt, A., Brickle, P. (2013). In the wake of a factory trawler: research into undetected seabird mortality. *Tech. Rep. FIG Fisheries Dept.*, Stanley, Falkland Islands. 25p.

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 occurring in the FICZ/FOCZ and, opportunistically, on the high seas surrounding the Falkland Islands waters. Observers also take part in the research cruises conducted regularly by the FIFD and participate in various scientific projects on land according to the needs of the scientists of the FIFD. 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 (2017-2020) is summarized in Table 2. COVID19 preventive measures caused logistical issues regarding observer deployments; however FIFD managed to secure continuous collection of biological data throughout the fleets. There has been a net percentage-increase in both, FIFD observer coverage and the amount of data collected in 2020 in comparison with 2019. In addition to coverage of FIFD observers, external observers were mandated on the fleet fishing for Falkland calamari under C- and X-licence same as in previous years. This year, the fishing effort of trawlers targeting mainly finfish under A-, G- and W-licence has decreased by 8.6%. Fishing effort of jiggers targeting *Illex* has been increased compared to 2019 and is comparable with 2017 and 2018 seasons. Skates-targeting trawler effort (F- licence) has been low; as F-licence effort has been used by vessels only on punctual basis – hence the poverty of observer coverage for this fishery in last years. Finally, the longliner (L-licence) fishing effort has stayed comparable to those of previous years, as it has been the case for observer coverage which

shown a slight increase in terms of percentage and remained close to the target of 50 % of coverage.

Table 2 - Observer coverage for 2017 - 2020 FICZ / FOCZ

	2016			2017			2018			2019		
Licence	Fishing Days	Obs days		Fishing Days	Obs days		Fishing Days	Obs days		Fishing Days	Obs days	
A/G/W	2350	243	10.3%	1770	241	13.6%	1752	236	13.4%	2176	171	7.9 %
B	1714	6	0.4%	6055	86	1.4%	7513	51	0.7%	6424	69	1.1 %
C/X	2024	207	10.2%	1997	282	14.1%	1953	173	8.9%	1589	134	8.4 %
F	152	29	19.1%	133	26	19.5%	64	7	10.9%	27	-	-
L	197	98	49.7%	191	106	55.5%	185	123*	66.5%*	206	96	46.6 %
S	4	4	100%	0	0	0%	4	0	0%	0	-	-
E surveys	53	53**	100%	90	90**	100%	60	60**	100%	69	69**	100%**
Totals	6494	640	9.9%	10236	931	9.1%	11531	650	5.6%	13491	539	4.0%

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

**As several observers are embarked simultaneously on the same research cruises, the real number of observer days for E–licence was 153 d in 2020.

***Observers spent additional 21 days sampling on trawlers on high seas, outside FICZ/FOCZ

In 2020, there were 30 observer trips on commercial vessels, two Falkland calamari *D. gahi* pre-recruitment surveys and three research cruises. Table 3 provides an updated four year summary of individual specimens sampled for size/ sex/maturity and optionally weight/otoliths/statoliths. Four-

	2017- 2020		2017 %		2018 %		2019 %		2020 %	
<i>Doryteuthis gahi</i>	376,337	35.31%	142,588	38.22%	73,471	31.18%	68,606	35.15%	91,672	34.99%
<i>Patagonotothen ramsayi</i>	183,082	17.18%	70,927	19.01%	40,898	17.35%	31,014	15.89%	40,243	15.36%
<i>Merluccius hubbsi</i>	117,814	11.05%	27,783	7.45%	25,637	10.88%	25,127	12.87%	39,268	14.99%
<i>Illex argentinus</i>	88,542	8.31%	27,535	7.38%	22,988	9.75%	14,823	7.59%	23,196	8.85%
<i>Dissostichus eleginoides</i>	48,295	4.53%	24,644	6.61%	11,245	4.77%	4,851	2.49%	7,555	2.88%
<i>Salilota australis</i>	33,780	3.17%	9,892	2.65%	6,590	2.80%	7,516	3.85%	9,797	3.74%
<i>Genypterus blacodes</i>	30,447	2.86%	4,566	1.22%	4,816	2.04%	5,911	3.03%	15,154	5.78%
<i>Macruronus magellanicus</i>	24,168	2.27%	7,028	1.88%	7,330	3.11%	4,520	2.32%	5,290	2.02%
<i>Bathyraxa brachyrops</i>	21,576	2.02%	8,836	2.37%	6,561	2.78%	2,992	1.53%	3,187	1.22%
<i>Bathyraxa albomaculata</i>	13,675	1.28%	7,335	1.97%	2,558	1.09%	3,280	1.68%	502	0.19%
<i>Coelorinchus fasciatus</i>	11,675	1.10%	2,380	0.64%	4,676	1.98%	1,901	0.97%	2,719	1.04%
<i>Stromateus brasiliensis</i>	10,219	0.96%	854	0.23%	383	0.16%	3,747	1.92%	5,235	2.00%
<i>Macrourus holotrachys</i>	10,092	0.95%	1,276	0.34%	1,995	0.85%	3,105	1.59%	3,716	1.42%
<i>Micromesistius australis</i>	10,041	0.94%	4,176	1.12%	3,494	1.48%	1,237	0.63%	1,134	0.43%
<i>Zearaja chilensis</i>	9,259	0.87%	2,194	0.59%	4,756	2.02%	1,102	0.56%	1,207	0.46%
<i>Amblyraxa doellojuradoi</i>	8,074	0.76%	2,767	0.74%	2,077	0.88%	3,008	1.54%	222	0.08%
<i>Champscephalus exox</i>	7,926	0.74%	6,433	1.72%	686	0.29%	206	0.11%	601	0.23%
<i>Macrourus carinatus</i>	7,635	0.72%	1,677	0.45%	1,623	0.69%	2,785	1.43%	1,550	0.59%
<i>Bathyraxa macloviana</i>	7,411	0.70%	2,276	0.61%	2,923	1.24%	1,642	0.84%	570	0.22%

year totals of less than 150 specimens per species were grouped into “Others”.

	2017- 2020	%	2017	%	2018	%	2019	%	2020	%
Bathyrāja griseocauda	6,553	0.61%	2,726	0.73%	1,210	0.51%	2,213	1.13%	404	0.15%
Antimora rostrata	5,042	0.47%	743	0.20%	1,186	0.50%	1,073	0.55%	2,040	0.78%
Cotto-perca gobio	3,625	0.34%	1,865	0.50%	663	0.28%	638	0.33%	459	0.18%
Patagonotothen tessellata	3,173	0.30%	1,308	0.35%	142	0.06%	349	0.18%	1,374	0.52%
Bathyrāja scaphiops	3,120	0.29%	1,278	0.34%	908	0.39%	779	0.40%	155	0.06%
Notophycis marginata	2,915	0.27%	408	0.11%	2,401	1.02%	104	0.05%	2	0.01%
Schroederichthys bivi-us	2,738	0.26%	152	0.04%	59	0.03%	456	0.23%	2,071	0.79%
Bathyrāja cousseauae	2,413	0.23%	1,099	0.29%	364	0.15%	742	0.38%	208	0.08%
Psammobatis spp.	1,704	0.16%	193	0.05%	880	0.37%	311	0.16%	320	0.12%
Sprattus fuegensis	950	0.09%	685	0.18%	207	0.09%	17	0.01%	41	0.02%
Onykia ingens	920	0.09%	109	0.03%	733	0.31%	3	0.01%	75	0.03%
Bathyrāja multispinis	894	0.08%	302	0.08%	351	0.15%	171	0.09%	70	0.03%
Gymnoscopelus nicholsi	886	0.08%	757	0.20%	100	0.04%	16	0.01%	13	0.01%
Squalus acanthias	878	0.08%	35	<0.01	103	0.04%	162	0.08%	578	0.22%
Patagolycus melastomus	567	0.05%	445	0.12%	122	0.05%	0	-	0	-
Merluccius australis	556	0.05%	289	0.08%	139	0.06%	67	0.03%	61	0.02%
Seriocella porosa	494	0.05%	65	0.02%	30	0.01%	295	0.15%	104	0.04%
Sebastes oculatus	470	0.04%	189	0.05%	78	0.03%	97	0.05%	106	0.04%
Pseudocyttus maculatus	455	0.04%	434	0.12%	20	0.01%	1	0.01%	0	-
Bathyrāja magellanica	319	0.03%	208	0.06%	32	0.01%	34	0.02%	45	0.02%
Allothunnus fallai	312	0.03%	135	0.04%	138	0.06%	7	0.01%	32	0.01%
Congiopodus peruvianus	304	0.03%	103	0.03%	199	0.08%	0	-	2	0.01%
Iluocoetes/Patagolycus	216	0.02%	209	0.06%	6	0.01%	0	-	1	0.01%
P. guntheri	211	0.02%	179	0.05%	0	-	0	-	32	0.01%
Amblyrāja georgiana	201	0.02%	76	0.02%	38	0.02%	28	0.01%	59	0.02%
Zearaja argentinensis	186	0.02%	46	0.01%	95	0.04%	40	0.02%	5	0.01%
Cottunculus granulosus	150	0.01%	63	0.02%	83	0.04%	0	-	4	0.01%
Others	5,577	0.52%	3,780	1.01%	675	0.29%	204	0.10%	918	0.35%
Total	1,065,877		373,048		235,669		195,180		261,997	

Table 3 - Fish, squid, skate and invertebrate specimens sampled by observers & scientists

6 Fishing Effort and Catch Limits

Total Allowable Effort (TAE) and Total Allowable Catch (TAC) were set and published by the FIG Fisheries Department for the 2021 calendar year.

7 Participation in Scientific Workshops, Conferences and Symposia in 2020

Due to COVID19 pandemic travel restrictions, no-one from the Fisheries Department attended any scientific meeting in 2020.

8 Publications from scientific work carried out in FIG Fisheries Department in 2020 (or in collaboration with FIG personnel)

8.1 Peer-reviewed publications (appeared in 2020)

- Arkhipkin, A.I., Hendrickson, L., Payá, I., Pierce, G.J., Roa-Ureta, R., Robin, J.P., Winter, A. 2020. Stock assessment and management of cephalopods: advances and challenges for short-lived fishery resources. *ICES Journal of Marine Science*, doi: 10.1093/icesjms/fsaa038.
- Bradley, K.A., Arkhipkin, A.I. 2020. Age and growth of slender tuna (*Allothunnus fallai*) in an unexploited temperate population. *Journal of Fish Biology*, **97**(4): 1257-1261.
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- Busbridge, T.A.J., Marshall, C.T., Arkhipkin, A.I., Shcherbich, Z., Marriott, A.L., Brickle, P. 2020. Can otolith microstructure and elemental fingerprints elucidate the early life history stages of the gadoid southern blue whiting (*Micromesistius australis australis*)? *Fisheries Research*, **228**: 105572.
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8.2 Technical reports

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- Iriarte V. 2020. LOL 2020-C MMO Monitoring Report. *Tech. Rep. FIG Fish. Dept.*, Stanley, Falkland Islands. 20 pp.
- Lee, B., Shcherbich, Z., Randhawa, H. 2020. Towards the development of an ageing strategy for finfish in the Falkland Islands trawl fisheries. AGE-2020-FIN. *Tech. Rep. FIG Fisheries Dept.*, Stanley, Falkland Islands. 24 pp.
- Lee, B., Skeljo. 2020. Patagonian Toothfish Tag-recapture Program Update Report: June 2016 – July 2020. TAG-2020-TOO. *Tech. Rep. FIG Fisheries Dept.*, Stanley, Falkland Islands. 16 pp.
- Lee, B. 2020. Age structure for Patagonian toothfish *Dissostichus eleginoides* from Falkland Island waters: January – December 2017. *Tech. Rep. FIG Fisheries Dept.*, Stanley, Falkland Islands. 18 pp.

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- Lee, B. 2020. Age structure for Rock cod *Patagonotothen ramsayi* from Falkland Island waters: January – December 2015. *Tech. Rep. FIG Fisheries Dept.*, Stanley, Falkland Islands. 15 pp.
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- Randhawa, H.S., Goyot, L., Blake, A., Ramos, J.E., Roberts, G., Brewin, J., Evans, D. 2020. Cruise Report ZDLT1-02-2020: 2020 Demersal Biomass Survey. *Tech. Rep. FIG Fisheries Dept.*, Stanley, Falkland Islands. 97 pp.
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Alexander Arkhipkin (Editor), sections 1.1-1.3; 2; 3; 6; 7; 8

Alex Blake, sections 1.11-1.16

Verónica Iriarte, section 4

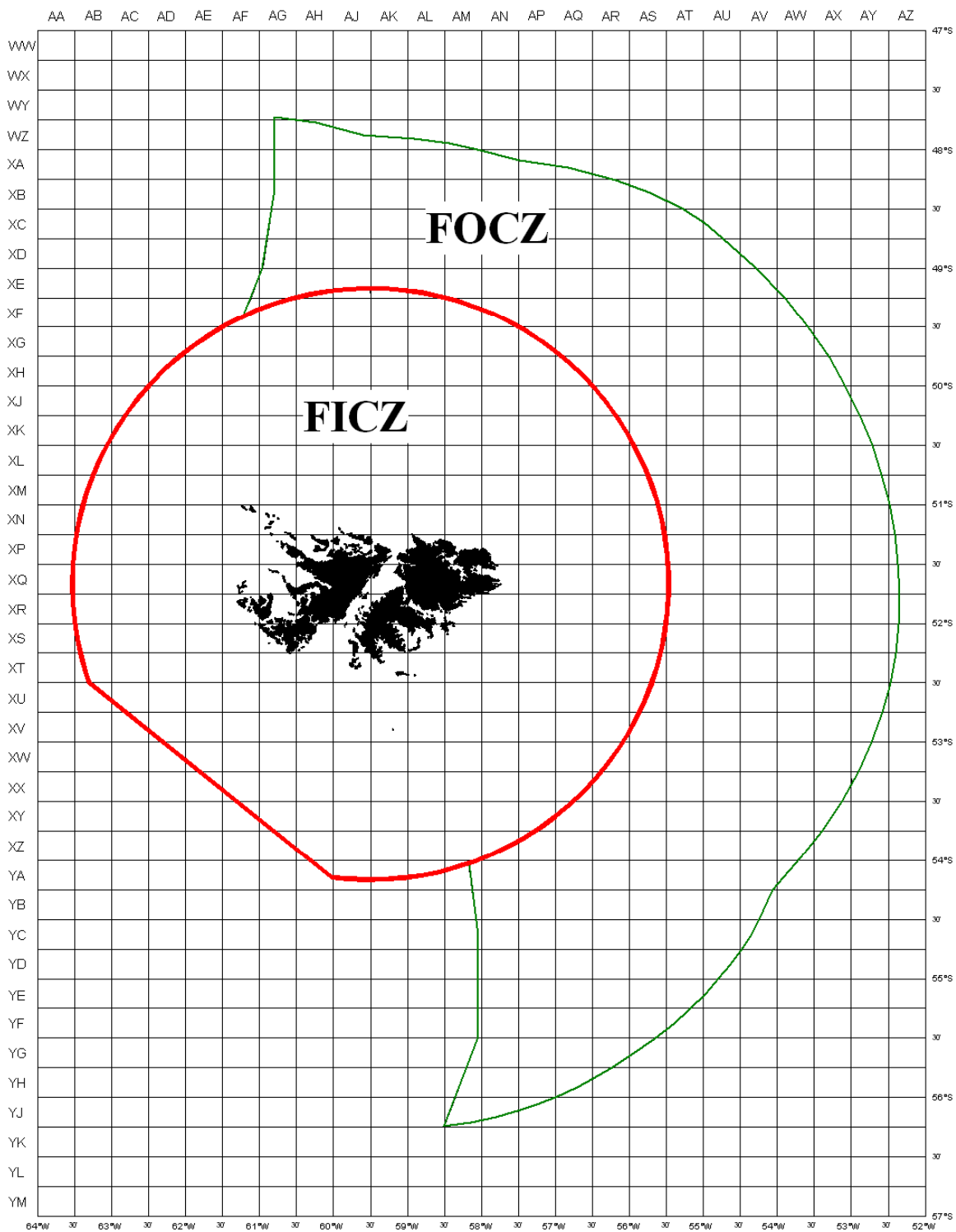
Jorge Ramos, sections 1.4-1.5; 1.7

Frane Skeljo: sections 1.8-1.9

Toni Trevisan: section 5

Andreas Winter, sections 1.2; 1.6; 1.10.

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

Introduction

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 - 2019

Licence	Target species	Period of application
First Season		
A	Unrestricted finfish	1989—2007
B	<i>Illex</i> squid	1989 - 1992
	<i>Illex</i> and <i>Martialia</i> squid	1993 -
C	Falkland Calamari (<i>Loligo</i>)	1989 -
F	Skates and rays	1995 –2007
G	<i>Illex</i> 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 (<i>Loligo</i>)	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 longliners 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 2020

FISHERY									
Quota	Squid			Squid &			Squid		
Owner	Finfish	Scallops	Jig or Trawl <i>Illex argentinus</i>	<i>Loligo gahi</i> (Summer)	Skate	Restricted Finfish	Restricted Finfish Pelagic	Restricted Finfish	Toothfish Longline <i>Loligo gahi</i> (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%
Sullivan 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%

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	1999
A	40	33	17	13	4	10	5	5	4	9	11
B	161	144	170	165	156	164	120	113	92	79	86
C	46	38	16	20	21	22	17	19	15	14	17
E	8	5	-	2	1	6	6	5	6	9	8
F	-	-	-	-	-	-	4	5	-	-	-
G	-	-	-	-	-	-	-	-	19	27	30
L	-	-	-	-	-	-	-	-	-	-	-
R	-	-	-	-	-	9	10	11	10	2	8
S	-	-	-	-	-	-	-	-	-	-	2
W	-	-	11	16	14	30	29	28	9	16	21
X	23	20	19	23	30	27	23	24	21	20	18
Y	70	17	15	6	5	10	9	6	11	8	8
Z	24	35	40	46	43	47	60	43	36	27	34
	372	292	288	291	274	325	283	259	223	211	243

LICENCE	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
A	10	6	6	6	8	9	11	11	23	21	22
B	109	116	125	122	90	71	43	56	44	21	76
C	17	16	17	16	16	16	16	16	17	17	18
E	5	1	1	8	8	12	8	6	4	7	5
F	4	1	9	4	7	4	-	1	8	8	8
G	16	19	19	24	17	12	20	18	23	27	23
L	3	6	6	8	5	4	6	6	2	1	1
R	7	9	8	10	11	11	11	10	-	-	-
S	3	3	4	3	4	2	2	2	3	4	3
W	11	13	10	23	25	17	21	14	27	30	30
X	15	19	17	18	18	16	16	17	19	18	17
Y	4	8	8	12	9	12	16	18	-	-	-
Z	27	18	18	22	23	18	24	25	-	-	-
	231	235	248	276	241	204	194	200	170	154	203

LICENCE	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
A*	29	29	31	29	26	22	28	27	20	29
B	94	100	99	106	106	104	106	109	106	106
C	17	18	17	17	16	17	18	17	16	16
E	5	6	8	5	8	4	13	6	5	6
F**	7	8	8	8	8	8	7	6	5	7
G	25	25	25	22	21	22	18	18	17	18
L	1	1	2	2	1	1	3	1	1	1
S	1	3	1	1	1	1	-	1	-	-
W***	27	25	28	26	28	26	22	24	25	22
X	17	16	16	17	16	17	16	17	17	17
	223	231	235	233	231	222	231	226	212	222

* - 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	2004
AU	-	-	-	-	-	-	-	-	-	3	3	-	-	-	-	-
BG	9	14	8	6	2	-	-	-	-	-	-	-	-	-	-	-
BZ	-	-	-	-	-	-	1	-	-	-	2	5	2	1	3	1
CB												2	1	1	1	1
CL	1	1	-	3	2	8	8	4	3	2	3	1	1	1	1	2
CN	-	-	-	-	-	-	-	-	-	2	4	9	20	25	21	7
EE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
ES	99	72	66	74	74	108	100	69	52	64	76	41	45	48	46	48
FK	7	4	2	3	3	8	19	37	32	43	49	47	55	48	80	71
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	7
KR	30	32	42	55	60	86	105	112	98	48	71	84	67	70	62	59
NA	-	-	-	-	-	-	-	-	3	1	2	-	-	-	-	2
NL	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NO	-	2	-	-	-	-	-	1	1	-	-	-	-	-	-	-
NZ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
PA	-	-	5	4	3	3	2	3	1	1	2	-	-	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	34
UK	11	1	1	-	1	3	2	5	3	3	5	3	3	3	4	4
UR	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
US	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
UY												-	1	1	2	2
VC												-	1	-	-	-
	372	292	288	291	274	325	283	259	223	211	243	231	235	248	276	241

Licences

Table B.2 Licence allocations by fishing fleet and year

FISHING FLEET	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
BZ	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
CB	-	-	-	-	-	1	1	2	1	-	-	-	-	-	-	-
CL	-	1	2	1	-	1	-	-	-	2	-	-	2	-	-	-
CN	3	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
DE	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
EE	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ES	36	59	65	59	61	55	61	63	67	64	64	59	54	52	48	52
FK	73	69	62	54	55	58	58	57	60	52	52	49	61	60	53	60
GH	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
JP	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-
KR	43	42	41	38	21	34	35	35	36	36	35	32	32	32	30	29
NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NZ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PA	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
RU	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
SH	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-
SL	-	-	-	-	-	2	-	1	-	-	-	-	-	-	-	-
TW	34	10	19	13	8	45	61	67	65	71	71	73	73	75	73	75
UK	6	4	4	4	6	4	4	4	4	4	5	4	5	3	4	4
UY	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VU	2	-	-	-	-	1	2	-	2	4	4	4	4	4	4	2
	204	194	200	170	154	203	223	231	235	233	231	221	231	226	212	222

Table B.3 Licence 'A' (Unrestricted finfish - first season, 1999-2007; both seasons since 2008)

FISHING FLEET	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ES	15	17	19	17	15	14	17	16	12	18
FK	12	11	11	11	10	7	10	10	7	10
KR	1	-	-	-	-	-	-	-	-	-
UK	1	1	1	1	1	1	1	1	1	1
	29	29	31	29	26	22	28	27	20	29

Licences

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

FISHING FLEET	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
CB	1	2	1	-	-	-	-	-	-	-
FK	1	-	-	-	-	-	-	-	-	-
KR	29	30	31	31	31	27	29	30	29	29
SL	-	1	-	-	-	-	-	-	-	-
TW	61	67	65	71	71	73	73	75	73	75
VU	2	-	2	4	4	4	4	4	4	2
	94	100	99	106	106	104	106	109	106	106

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

FISHING FLEET	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ES	2	2	1	2	1	2	3	2	1	-
FK	14	15	15	14	14	14	14	14	14	15
UK	1	1	1	1	1	1	1	1	1	1
	17	18	17	17	16	17	18	17	16	16

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

FISHING FLEET	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
DE	-	1	-	-	-	-	-	-	-	-
ES	1	-	-	-	1	-	-	-	-	-
FK	4	5	8	5	5	4	12	6	5	6
KR	-	-	-	-	1	-	-	-	-	-
UK	-	-	-	-	1	-	1	-	-	-
	5	6	8	5	8	4	13	6	5	6

Licences

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

FISHING FLEET	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ES	3	4	4	4	6	5	2	3	4	5
FK	-	-	-	-	-	-	3	2	1	2
KR	4	4	4	4	2	3	2	1	-	-
	7	8	8	8	8	8	7	6	5	7

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

FISHING FLEET	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ES	18	21	21	20	20	18	16	15	15	13
FK	7	4	4	2	1	4	2	3	2	5
	25	25	25	22	21	22	18	18	17	18

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

FISHING FLEET	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
CL	-	-	-	1	-	-	2	-	-	-
FK	1	1	2	1	1	1	1	1	1	1
	1	1	2	2	1	1	3	1	1	1

Licences

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

FISHING FLEET	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
CL	-	-	-	1	-	-	-	-	-	-
FK	-	2	1	-	1	1	-	1	-	-
JP	1	1	-	-	-	-	-	-	-	-
	1	3	1	1	1	1	-	1	-	-

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

FISHING FLEET	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ES	20	18	21	19	20	19	15	15	15	15
FK	5	5	5	5	6	4	5	8	8	6
KR	1	1	1	1	1	2	1	1	1	-
UK	1	1	1	1	1	1	1	-	1	1
	27	25	28	26	28	26	22	24	25	22

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

FISHING FLEET	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ES	2	1	1	2	1	2	1	1	1	1
FK	14	14	14	14	14	14	14	15	15	15
UK	1	1	1	1	1	1	1	1	1	1
	17	16	16	17	16	17	16	17	17	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	2019	2020
A	1,129,012	1,129,012	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	12,325,740	14,000,000
C	2,133,230	2,133,230	2,133,230	2,133,230	2,133,230	2,240,100	2,352,105	3,528,158
E	-	-	-	-	-	-	-	-
F	247,121	247,121	247,121	247,121	247,121	247,121	222,409	177,927
G	845,900	845,900	845,900	845,900	845,900	761,300	761,300	761,300
L	836,770	836,770	836,770	836,770	836,770	920,500	966,525	1,449,787
S	181,257	60,419	60,419	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	1,146,650	1,089,318
X	4,242,082	4,242,082	4,242,082	4,242,082	4,242,082	4,454,000	4,676,700	7,015,050
	21,553,816	21,451,726	22,044,173	14,182,161	21,928,980	22,266,978	23,640,860	29,210,971

* - 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	1999
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	254,026
LO	-	-	-	131	10	2,855	1,901	992	1,241	1,787	2,077
TR	172,270	143,561	115,853	147,601	106,257	126,262	177,332	119,303	77,542	128,976	120,935
	426,814	284,516	304,503	314,957	251,605	196,798	245,172	194,991	230,326	210,874	377,038

VESSEL TYPE	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
JI	182,925	146,066	13,001	101,754	1,661	7,775	81,766	157,637	100,348	3	11,645
LO	2,092	1,684	1,754	1,832	2,076	1,791	1,622	1,539	1,511	1,254	1,061
PO	-	-	-	-	-	-	295	85	-	-	2
TR	134,089	117,449	86,224	105,511	99,361	117,551	129,832	142,907	168,193	152,386	196,463
	319,107	265,198	100,979	209,097	103,098	127,118	213,516	302,169	270,051	153,643	209,171

VESSEL TYPE	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
JI	73,577	84,619	139,137	291,784	332,863	2,297	63,807	51,590	41,589	59,253
LO	1,406	1,222	1,476	1,367	1,258	1,160	1,126	1,083	1,162	1,151
PO	-	-	6	7	5	-	-	0	-	-
TR	150,530	180,192	123,985	157,824	128,363	108,033	103,242	124,160	153,598	122,133
	225,513	266,033	264,604	450,983	462,489	111,490	168,175	176,833	196,344	182,537

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

SPECIES	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
BAC	2,814	2,778	2,880	7,055	6,224	4,043	9,084	6,925	4,649	8,121	9,313
BLU	43,468	72,326	50,491	34,078	24,900	38,697	39,154	23,539	26,296	31,483	28,564
ILL	224,022	102,417	174,745	160,016	145,185	66,996	64,122	79,724	149,763	84,993	266,201
KIN	977	850	949	1,952	1,643	899	1,985	1,682	1,392	2,217	2,602
LOL	118,720	82,990	53,817	83,384	52,279	65,757	98,417	61,374	26,122	51,559	34,866
MAR	-	4	141	1	33	-	5,803	111	2,099	-	29
HAK	16,480	11,900	6,759	4,070	3,029	1,414	1,988	1,649	1,554	-	-
PAT	-	-	-	-	-	-	-	-	-	3,502	4,224
RAY	1,749	1,500	6,923	8,108	8,523	5,542	5,432	3,475	3,320	1,077	4,785
TOO	236	208	980	912	393	2,963	2,069	685	1,208	2,103	2,988
WHI	13,313	7,553	4,499	14,188	8,506	10,064	15,603	13,813	13,006	22,378	18,765
OTH	5,036	1,989	2,317	1,192	890	423	1,514	2,015	916	3,443	4,701
	426,814	284,516	304,503	314,957	251,605	196,798	245,172	194,991	230,326	210,874	377,038

Catch summary tables

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

SPECIES	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
BAC	6,551	3,896	2,617	2,285	2,781	2,467	3,472	5,195	4,076	5,120	3,129
BLU	23,371	25,735	24,908	20,798	28,554	17,047	20,532	22,204	13,209	10,395	6,471
COX	-	-	-	-	-	8,641	21,012	30,386	60,601	58,236	76,451
ILL	189,709	150,631	13,411	103,375	1,720	7,937	85,622	161,506	106,189	44	12,111
KIN	1,875	1,625	1,224	1,275	1,841	1,936	2,822	3,592	2,227	3,390	3,639
LOL	64,493	53,560	23,712	47,422	26,835	58,813	43,064	42,003	52,260	31,474	66,543
MAR	-	147	1	31	24	-	-	4	-	0	-
HAK	-	-	-	-	-	-	8,410**	11,909*	8,806*	13,049	13,606
PAT	3,069	1,978	1,678	1,967	1,926	2,735*	23***	-	-	0	0
RAY	3,853	4,309	3,364	3,988	5,151	5,698	4,683	5,669	3,861	5,873	5,891
TOO	2,318	1,754	1,793	1,707	2,002	1,677	1,568	1,520	1,429	1,418	1,404
WHI	19,831	19,471	26,970	23,815	25,905	16,723	19,769	16,669	15,908	23,404	19,227
GRX	-	-	-	-		778	800	629	943	965	455
ZYP	-	76	59	685	1,279	1,358	1,161	14	6	13	3
OTH	4,037	2,018	1,242	1,748	5,080	1,309	578	869	536	263	241
	319,107	265,198	100,979	209,097	103,098	127,118	213,516	302,169	270,051	153,643	209,171

SPECIES	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
BAC	4,210	4,629	5,164	3,467	3,340	3,143	1,379	1,655	1,768	1,418
BLU	3,940	1,596	2,698	3,612	2,790	5,415	2,309	992	518	69
COX	55,705	63,509	32,436	56,709	29,086	7,039	2,521	2,216	950	737
ILL	79,264	87,002	142,619	306,122	357,724	2,355	67,445	54,603	43,449	62,658
KIN	3,867	3,510	3,977	2,881	2,983	1,612	1,632	1,443	1,711	1,625
LOL	34,675	70,897	40,168	48,700	30,317	46,447	64,677	79,996	81,908	60,737
MAR	-	-	-	10	0	0	0	-	0	1
HAK	9,936	10,486	12,317	14,865	21,054	23,363	15,589	27,023	53,378	43,327
PAT	0	0	0	-	14	531	170	71	96	48
RAY	6,972	6,652	5,933	5,554	6,393	5,906	3,189	1,995	1,504	1,397
TOO	1,560	1,311	1,421	1,297	1,227	1,499	1,519	1,259	1,317	1,246
WHI	22,979	15,867	16,849	7,392	6,845	11,562	4,053	4,439	7,407	7,643
GRX	2,062	225	517	216	367	2,336	3,273	484	414	609
ZYP	11	0	0	1	1	8	4	4	2	16
OTH	331	347	506	155	348	274	415	654	1,930	1,006
	225,513	266,033	264,604	450,983	462,489	111,490	168,175	176,833	196,344	182,537

* - *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	1999
January	2,475	.	5,128	5,217	3,723	9,149	7,810	5,217	7,918	7,687	6,605
February	30,652	26,620	19,493	21,028	6,789	13,273	28,800	15,782	8,660	19,942	29,626
March	89,952	74,890	88,553	96,826	39,900	52,894	46,084	49,887	29,199	47,799	98,631
April	131,835	56,338	83,954	79,745	79,365	27,654	49,391	48,971	60,718	63,064	104,827
May	73,998	28,475	32,258	24,303	51,777	18,914	21,514	19,526	68,234	22,936	73,790
June	11,913	1,017	112	107	437	2,002	1,786	1,211	10,474	2,821	12,665
July	5,265	2,437	2,538	223	1,577	2,172	2,937	1,418	2,625	1,596	2,313
August	24,987	13,196	14,895	22,415	20,227	18,151	25,736	16,451	10,019	13,012	13,364
September	26,143	33,653	21,075	26,933	16,111	19,569	25,540	13,562	8,668	11,157	11,853
October	14,221	17,836	13,123	19,839	11,891	16,105	14,486	8,315	7,960	7,778	9,857
November	8,909	19,119	9,832	10,736	11,056	8,805	11,881	7,406	8,381	6,395	7,138
December	6,463	10,934	13,542	7,585	8,751	8,111	9,205	7,245	7,470	6,689	6,370
	426,814	284,516	304,503	314,957	251,605	196,798	245,172	194,991	230,326	210,874	377,038

MONTH	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
January	5,213	6,497	3,536	5,881	2,901	1,712	2,181	2,381	4,072	3,804	2,742
February	47,924	10,926	12,306	16,612	9,405	7,562	10,867	11,142	14,326	12,427	12,883
March	94,536	81,574	17,335	91,036	15,081	27,436	48,141	40,210	38,998	20,338	40,981
April	63,840	71,936	13,811	37,830	11,292	10,581	46,987	86,244	65,736	18,753	30,748
May	48,684	38,621	15,504	5,680	4,930	3,870	28,058	69,293	46,779	17,809	16,803
June	2,854	2,199	1,473	1,385	727	712	1,840	8,694	16,356	5,955	6,948
July	2,502	1,299	253	877	6,771	11,786	10,168	12,356	10,254	14,481	17,796
August	16,528	17,380	11,863	21,491	14,344	22,575	23,414	26,175	20,967	16,506	28,251
September	16,874	15,306	5,751	14,513	10,571	17,115	15,654	20,049	23,084	15,139	22,304
October	8,333	12,413	5,668	8,831	13,552	11,010	13,520	14,000	15,444	13,499	12,286
November	7,306	4,933	8,638	3,981	8,412	9,646	8,895	9,768	9,967	9,328	9,881
December	4,513	2,112	4,841	980	5,114	3,113	3,790	1,856	4,070	5,605	7,548
	319,107	265,198	100,979	209,097	103,098	127,118	213,516	302,169	270,051	153,643	209,171

MONTH	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
January	4,973	625	3,758	142	217	3,458	497	127	5,091	2,310
February	11,110	17,747	8,684	4,130	18,850	10,225	2,901	6,371	21,506	21,996
March	75,786	75,158	39,918	84,270	132,218	15,693	51,813	59,664	60,521	57,730
April	37,109	54,366	72,662	155,782	164,810	19,478	53,615	34,646	33,875	23,799
May	18,711	26,086	68,741	102,396	89,798	9,302	9,674	11,335	12,894	9,504
June	8,222	7,749	7,817	23,929	11,276	4,871	2,359	4,525	10,860	8,098
July	15,423	13,012	8,022	16,834	6,453	6,614	6,794	9,824	15,167	11,462
August	18,736	30,540	18,447	22,033	14,286	19,333	16,881	28,271	26,964	22,272
September	13,130	19,045	20,019	18,973	9,711	13,089	14,890	14,534	7,850	16,506
October	10,381	12,185	8,966	10,816	5,224	6,789	5,145	4,869	1,107	7,529
November	6,693	5,829	4,275	8,682	3,761	1,281	2,800	964	130	1,176
December	5,237	3,689	3,294	2,997	5,885	1,357	806	1,702	385	157
	225,513	266,033	264,604	450,983	462,489	111,490	168,175	176,833	196,344	182,537

Catch summary tables

Table C.4 Total catch (tonnes) by licence used and year

Licence Used	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
A	27,390	20,970	18,363	22,467	18,529	20,767	14,235	23,465	29,411	22,797
B	74,538	86,114	139,178	293,762	335,071	2,297	64,471	52,162	42,175	60,197
C	19,272	35,949	20,408	29,021	33,439	24,045	40,344	44,237	56,034	29,646
E	2,858	1,339	1,258	903	1,678	694	1,291	1,105	1,496	1,453
F	4,280	5,239	3,509	4,819	4,089	2,782	1,477	683	262	674
G	28,908	35,689	22,774	26,849	32,042	13,928	9,468	9,063	15,955	13,328
L	1,406	1,222	1,476	1,367	1,258	1,157	1,126	1,083	1,162	1,145
S	4,745	133	1	1,365	2	21	-	0	-	-
W	40,019	42,272	35,014	46,992	24,776	20,371	9,857	8,156	24,859	22,947
X	22,098	37,106	22,623	23,438	11,604	25,429	25,907	36,878	24,995	30,350
	225,513	266,033	264,604	450,983	462,489	111,490	168,175	176,833	196,344	182,537

Table C.5 Total catch (tonnes) by gross tonnage (GT) and year

GRT	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<400	-	-	6	7	5	-	-	0	-	-
400-599	761	936	1,245	2,579	-	-	-	-	-	-
600-799	30,329	35,335	42,597	69,018	55,821	5,025	11,143	9,313	10,513	8,392
800-999	61,453	71,471	102,421	213,020	264,132	21,482	58,510	48,463	44,231	46,260
1,000-1,499	68,654	76,217	69,032	102,123	90,293	31,278	34,371	43,982	56,939	61,965
1,500-1,999	38,032	44,253	27,628	35,706	28,176	29,271	32,893	35,631	44,599	36,319
2,000-2,999	21,060	37,005	21,246	26,848	24,062	24,364	31,258	39,445	40,067	29,601
>2,999	5,225	816	428	1,681	-	70	-	-	-	-
	225,513	266,033	264,604	450,983	462,489	111,490	168,175	176,833	196,344	182,537

Table C.6 Total catch (tonnes) by length overall (m) (LOA)

LOA	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<45	2,831	936	1,720	2,823	640	980	-	122	-	407
45-49	12,256	16,447	18,793	25,519	24,364	4,186	5,227	5,556	1,833	2,124
50-54	27,085	34,323	34,789	62,054	48,615	10,231	11,169	10,288	12,706	11,646
55-59	34,008	36,054	43,901	61,079	60,879	6,316	14,998	11,720	18,510	11,560
60-64	37,730	43,878	48,833	71,260	72,552	12,110	14,748	18,028	23,874	24,676
65-69	50,627	56,227	48,495	92,152	102,163	29,818	43,196	44,145	47,559	47,769
70-79	42,939	57,385	55,973	119,367	140,424	33,393	61,539	61,825	67,766	65,799
80-89	6,480	8,790	5,509	7,152	5,776	6,457	9,707	11,514	10,930	9,098
>89	11,556	11,993	6,591	9,576	7,074	7,999	7,590	13,634	13,173	9,458
	225,513	266,033	264,604	450,983	462,489	111,490	168,175	176,833	196,344	182,537

Catch summary tables

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

FLEET	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
AU	-	-	-	-	-	-	-	-	-	3593	3,711
BG	13,503	22,369	21,888	8,981	2,976	-	-	-	-	-	-
BZ	-	-	-	-	-	-	585	-	-	-	4,511
CL	1,150	1,884	-	3,145	1,514	5,223	9,997	6,638	8,199	8849	5,491
CN	-	-	-	-	-	-	-	-	-	1177	7,301
ES	82,345	65,908	57,605	87,763	58,143	67,191	89,284	40,842	20,510	40307	35,909
FK	781	5,853	1,470	1,846	1,978	5,906	27,184	31,520	17,117	43578	39,131
FR	-	-	-	-	-	1,945	7,369	4,600	1,545	4177	2,381
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	57,971
KR	51,133	32,996	61,614	72,489	65,228	42,987	63,236	73,861	129,546	45082	207,795
NA	-	-	-	-	-	-	-	-	303	676	746
NL	4,587	3,369	-	-	-	-	-	-	-	-	-
NO	-	1,384	-	-	-	-	-	319	210	-	-
PA	-	-	2,425	4,027	1,060	598	459	706	-	1098	61
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	8,771
UK	11,685	1,383	1,992	-	445	1,255	2,083	4,357	2,302	3575	3,259
UR	-	-	-	-	-	21	-	-	-	-	-
UY	-	-	-	-	-	-	-	-	-	36	-
	426,814	284,516	304,503	314,957	251,605	196,798	245,172	194,991	230,326	210,874	377,038

FLEET	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
BZ	6,729	2,581	136	2,788	42	61	-	2,285	-	-	-
CB	2,768	1,204	33	857	17	-	-	-	-	-	94
CL	2,749	8,014	9,252	6,490	9,752	-	2,131	3,948	1,640	-	-
CN	11,641	18,838	1,203	12,652	99	99	3,555	8,575	-	-	-
EE	-	-	-	-	226	-	1,427	-	-	-	-
ES	30,732	29,170	23,972	20,169	22,488	24,559	42,057	56,187	72,152	80,267	88,060
FK	62,947	59,820	35,732	60,596	43,320	71,204	65,255	65,809	76,969	58,549	93,191
FR	2,053	-	-	-	-	-	-	-	-	-	-
GH	-	-	-	-	-	-	1,244	-	-	-	-
JP	41,737	27,913	14,485	18,923	15,062	11,230	12,049	9,042	8,820	7,443	6,018
KR	128,940	86,587	12,637	53,677	6,008	10,076	61,748	101,162	81,267	3,317	9,407
NA	-	-	-	-	1,181	-	-	-	-	-	-
NZ	-	-	-	69	-	-	-	-	-	-	-
PA	-	-	-	-	-	194	585	1,254	-	-	-
PT	66	-	-	-	-	-	-	-	-	-	-
RU	-	228	-	6,891	31	-	-	-	-	-	2
SL	-	-	-	-	-	-	-	-	-	-	178
TW	23,243	25,380	1,190	22,057	866	3,106	18,554	49,985	24,353	-	5,808
UK	5,501	3,564	2,279	3,238	2,703	5,100	3,742	3,923	4,850	4,067	6,271
UY	-	81	61	690	1,303	1,369	1,169	-	-	-	-
VC	-	1,820	-	-	-	-	-	-	-	-	-
VU	-	-	-	-	-	120	-	-	-	-	142
	319,107	265,198	100,979	209,097	103,098	127,118	213,516	302,169	270,051	153,643	209,171

Catch summary tables

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

FISHING FLEET	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
CB	1,144	1,695	1,468	-	-	-	-	-	-	-
CL	-	-	-	1,729	-	-	276	-	-	-
ES	77,895	84,914	59,011	81,264	68,438	48,165	34,021	35,023	63,640	53,040
FK	62,196	85,829	60,473	67,685	52,458	55,263	63,892	84,051	85,444	65,624
JP	4,745	109	-	-	-	-	-	-	-	-
KR	26,310	32,786	52,216	107,343	101,309	2,743	17,902	13,476	9,972	14,296
SL	-	340	-	-	-	-	-	-	-	-
TW	48,540	55,327	86,147	178,389	223,339	2,058	45,209	36,681	30,696	44,810
UK	2,861	5,033	2,968	3,528	3,749	3,184	4,212	4,902	5,090	3,676
VU	1,821	-	2,322	11,044	13,195	77	2,664	2,700	1,507	1,091
	225,513	266,033	264,604	450,983	462,489	111,490	168,175	176,833	196,344	182,537

***Illex argentinus*—Illex squid**

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

VESSEL TYPE	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
JI	73,577	84,619	139,137	291,774	332,863	2,297	63,807	51,590	41,589	59,244
TR	5,688	2,383	3,481	14,348	24,861	57	3,638	3,012	1,860	3,413
	79,264	87,002	142,619	306,122	357,724	2,355	67,445	54,603	43,449	62,658

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

MONTH	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
January	-	1	-	-	-	1	0	-	-	-
February	987	9,247	195	7	13,918	77	9	3,828	11,161	11,834
March	60,836	40,558	20,910	66,670	110,741	2,055	29,892	34,214	29,333	42,061
April	17,382	29,213	57,455	137,647	153,163	199	33,121	14,779	2,843	8,214
May	59	7,959	59,361	87,696	75,544	19	4,415	1,780	110	548
June	0	23	4,695	14,007	4,352	2	8	1	-	-
July	-	-	2	94	6	0	0	0	0	0
August	-	-	2	1	0	0	0	0	1	0
September	-	-	0	0	1	0	0	0	0	0
October	-	0	-	-	-	1	0	-	-	-
November	0	-	-	-	-	-	-	-	-	-
December	0	-	-	-	-	0	0	0	-	-
	79,264	87,002	142,619	306,122	357,724	2,355	67,445	54,603	43,449	62,658

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

FISHING FLEET	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
CB	1,144	1,695	1,468	-	-	-	-	-	-	-
ES	2,035	509	2,798	9,527	9,809	46	2,800	1,545	1,161	2,000
FK	2,828	572	650	2,870	11,889	12	278	946	163	514
KR	22,892	28,554	49,236	104,257	98,584	162	16,491	12,731	9,921	14,246
SL	-	340	-	-	-	-	-	-	-	-
TW	48,540	55,327	86,147	178,389	223,339	2,058	45,209	36,681	30,696	44,807
UK	4	6	0	36	909	-	3	0	0	-
VU	1,821	-	2,322	11,044	13,195	77	2,664	2,700	1,507	1,091
	79,264	87,002	142,619	306,122	357,724	2,355	67,445	54,603	43,449	62,658

Illex argentinus*—*Illex squid

Table D.4 Total catch (tonnes) by license used and year

Licence Used	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
A	689	48	193	1,071	624	8	73	61	12	5
B	74,396	85,915	139,172	293,690	334,973	2,297	64,364	52,110	42,124	60,143
C	2,217	30	-	0	12,036	5	17	29	5	5
E	1	11	1	23	570	0	2	10	9	16
F	2	19	11	50	18	0	0	5	0	19
G	1,902	894	3,208	10,960	9,265	41	2,967	2,262	1,166	2,352
S	-	-	-	-	-	-	-	0	-	-
W	58	85	34	278	239	3	21	125	131	117
X	-	-	0	50	-	1	0	0	1	0
	79,264	87,002	142,619	306,122	357,724	2,355	67,445	54,603	43,449	62,658

Table D.5 Total catch (tonnes) by gross tonnage (GT) and year

GRT	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<400	-	-	-	-	-	-	-	-	-	-
400-599	761	936	1,245	2,579	-	-	-	-	-	-
600-799	21,395	24,365	35,080	61,707	49,495	72	7,625	4,945	3,611	4,717
800-999	46,325	54,022	85,758	192,671	246,467	2,036	49,872	37,281	27,911	34,836
1,000-1,499	8,428	7,576	19,714	46,916	49,307	233	9,251	11,912	11,656	22,489
1,500-1,999	1,184	102	821	2,131	5,474	11	691	438	268	587
2,000-2,999	1,173	1	0	119	6,981	2	6	27	4	30
>2,999	-	-	-	0	-	-	-	-	-	-
	79,264	87,002	142,619	306,122	357,724	2,355	67,445	54,603	43,449	62,658

Table D.6 Total catch (tonnes) by length overall (m) (LOA) and year

LOA	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<45	871	936	1,245	2,579	-	-	-	-	-	-
45-49	5,096	6,637	11,610	19,372	18,956	16	2,938	3,018	1,833	2,124
50-54	17,426	20,267	24,481	51,038	37,730	23	5,442	3,465	2,686	4,659
55-59	19,736	20,256	30,693	52,880	53,750	355	10,282	5,429	3,522	2,728
60-64	17,115	19,929	29,740	49,074	56,735	232	9,354	6,950	7,505	9,392
65-69	12,850	13,351	21,415	54,216	76,182	742	17,352	16,194	13,023	18,082
70-79	5,283	5,626	23,434	76,947	110,597	986	22,074	19,520	14,877	25,669
80-89	503	-	-	6	1,637	1	1	0	0	4
>89	384	-	0	11	2,137	1	2	26	3	1
	79,264	87,002	142,619	306,122	357,724	2,355	67,445	54,603	43,449	62,658

***Illex argentinus*—Illex squid**

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

GRT	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<400	-	-	-	-	-	-	-	-	-	-
400-599	761	936	1,245	2,579	-	-	-	-	-	-
600-799	21,000	24,327	34,767	60,488	48,489	68	7,266	4,505	3,460	3,994
800-999	45,065	52,609	85,278	188,197	242,582	2,028	48,762	35,833	27,199	33,503
1,000-1,499	6,751	6,748	17,848	40,510	41,792	202	7,779	11,252	10,930	21,748
1,500-1,999	-	-	-	-	-	-	-	-	-	-
2,000-2,999	-	-	-	-	-	-	-	-	-	-
>2,999	-	-	-	-	-	-	-	-	-	-
	73,577	84,619	139,137	291,774	332,863	2,297	63,807	51,590	41,589	59,244

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

LOA	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<45	761	936	1,245	2,579	-	-	-	-	-	-
45-49	4,973	6,610	11,326	18,786	18,136	15	2,938	2,518	1,833	2,124
50-54	16,346	18,870	24,287	48,080	34,429	20	4,359	2,388	1,999	2,938
55-59	19,081	19,894	30,141	51,404	52,549	348	9,505	5,117	3,214	2,514
60-64	16,409	19,619	28,849	45,361	53,966	210	9,015	6,783	7,403	9,324
65-69	12,164	13,163	20,896	50,906	71,209	725	16,231	15,581	12,686	17,419
70-79	3,843	5,529	22,393	74,658	102,574	980	21,759	19,203	14,455	24,926
80-89	-	-	-	-	-	-	-	-	-	-
>89	-	-	-	-	-	-	-	-	-	-
	73,577	84,619	139,137	291,774	332,863	2,297	63,807	51,590	41,589	59,244

Illex argentinus*—*Illex squid

Table D.9 Total catch (tonnes) of trawlers by license used and year

Licence Used	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
A	689	48	193	1,071	624	8	73	61	12	5
B	819	1,296	34	1,916	2,232	-	557	519	535	899
C	2,217	30	-	0	12,036	5	17	29	5	5
E	1	11	1	23	448	0	2	10	9	16
F	2	19	11	50	18	0	0	5	0	19
G	1,902	894	3,208	10,960	9,265	41	2,967	2,262	1,166	2,352
S	-	-	-	-	-	-	-	0	-	-
W	58	85	34	278	239	3	21	125	131	117
X	-	-	0	50	-	1	0	0	1	0
	5,688	2,383	3,481	14,348	24,861	57	3,638	3,012	1,860	3,413

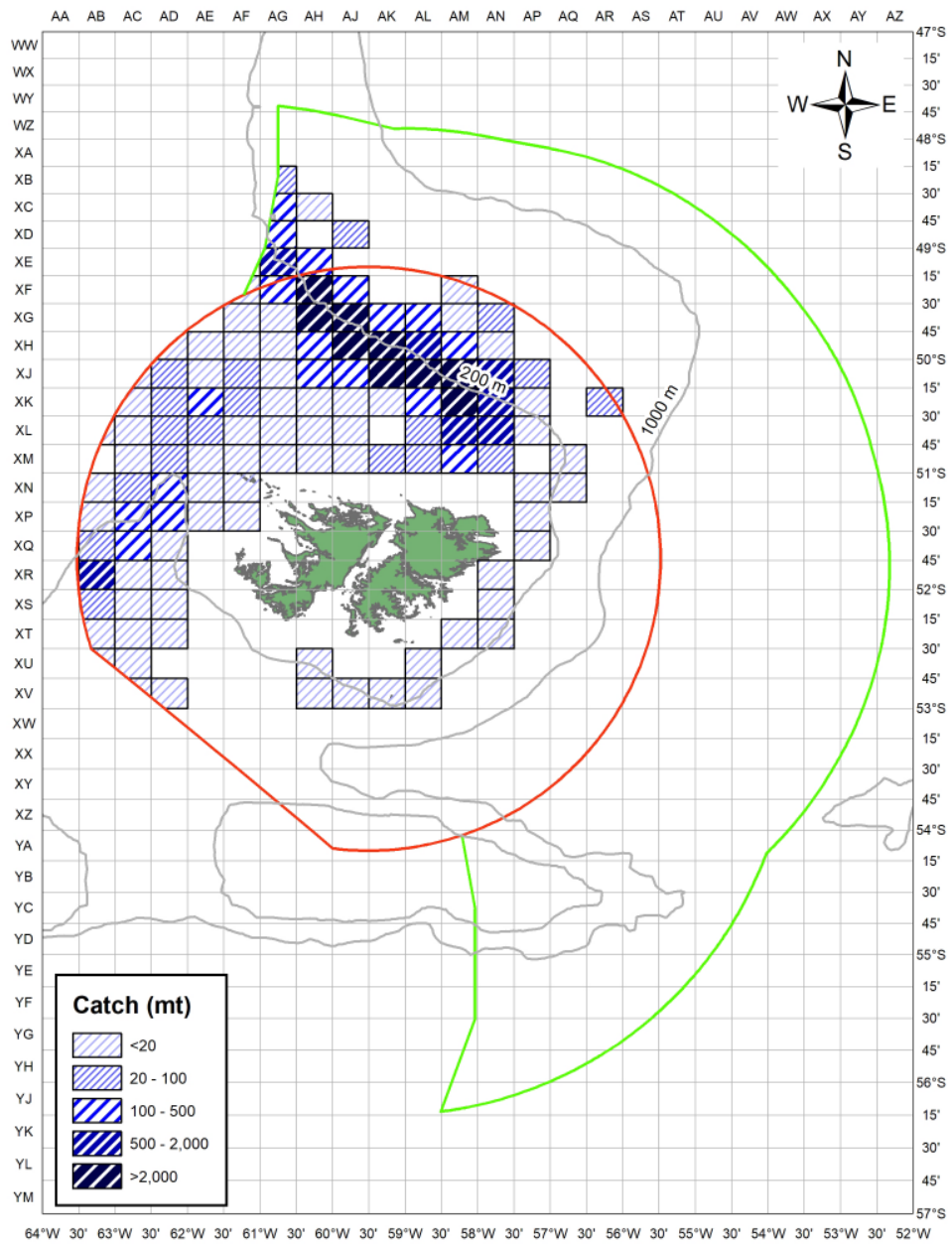
Table D.10 Total catch (tonnes) of trawlers by gross tonnage (GT) and year

GRT	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<400	-	-	-	-	-	-	-	-	-	-
400-599	-	-	-	-	-	-	-	-	-	-
600-799	394	38	314	1,219	1,006	4	359	440	150	723
800-999	1,259	1,413	480	4,474	3,885	9	1,109	1,448	712	1,333
1,000-1,499	1,678	828	1,866	6,406	7,515	32	1,473	659	726	741
1,500-1,999	1,184	102	821	2,131	5,474	11	691	438	268	587
2,000-2,999	1,173	1	0	119	6,981	2	6	27	4	30
>2,999	-	-	-	0	-	-	-	-	-	-
	5,688	2,383	3,481	14,348	24,861	57	3,638	3,012	1,860	3,413

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

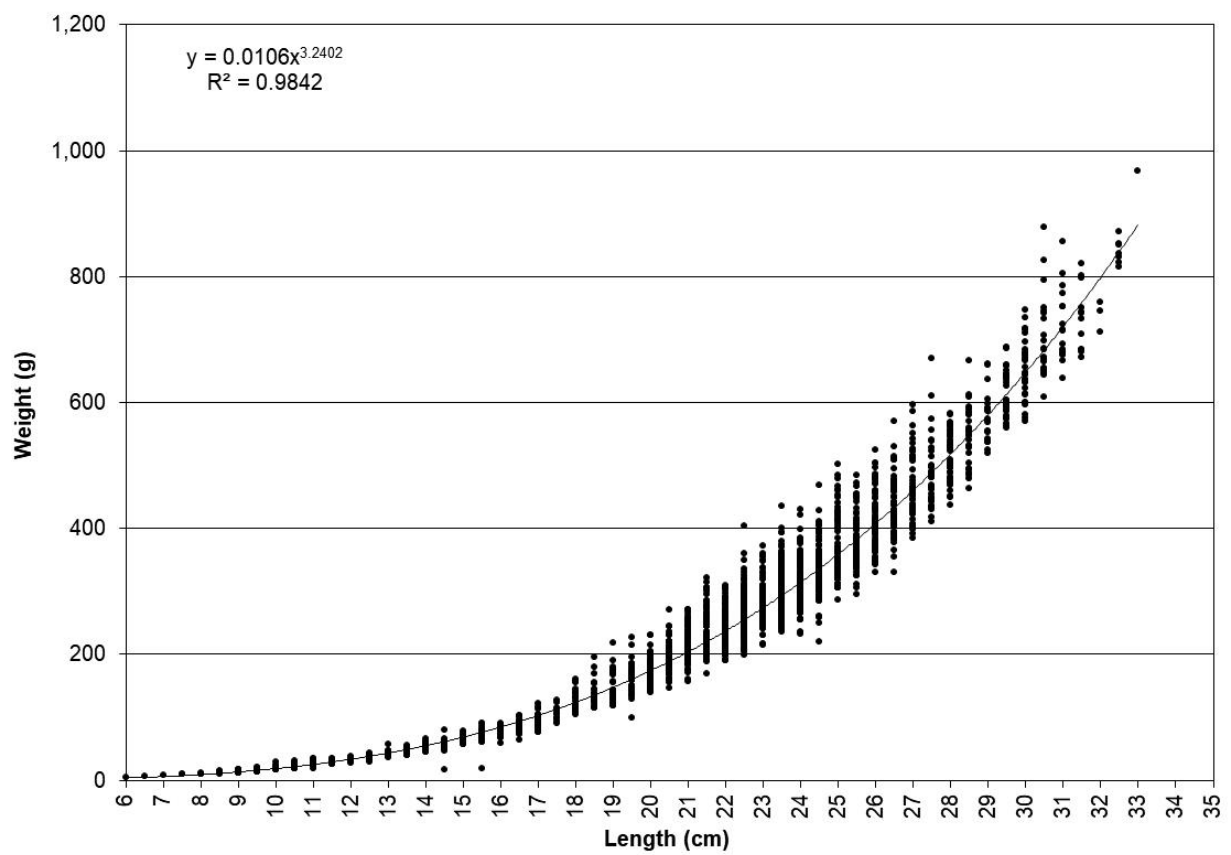
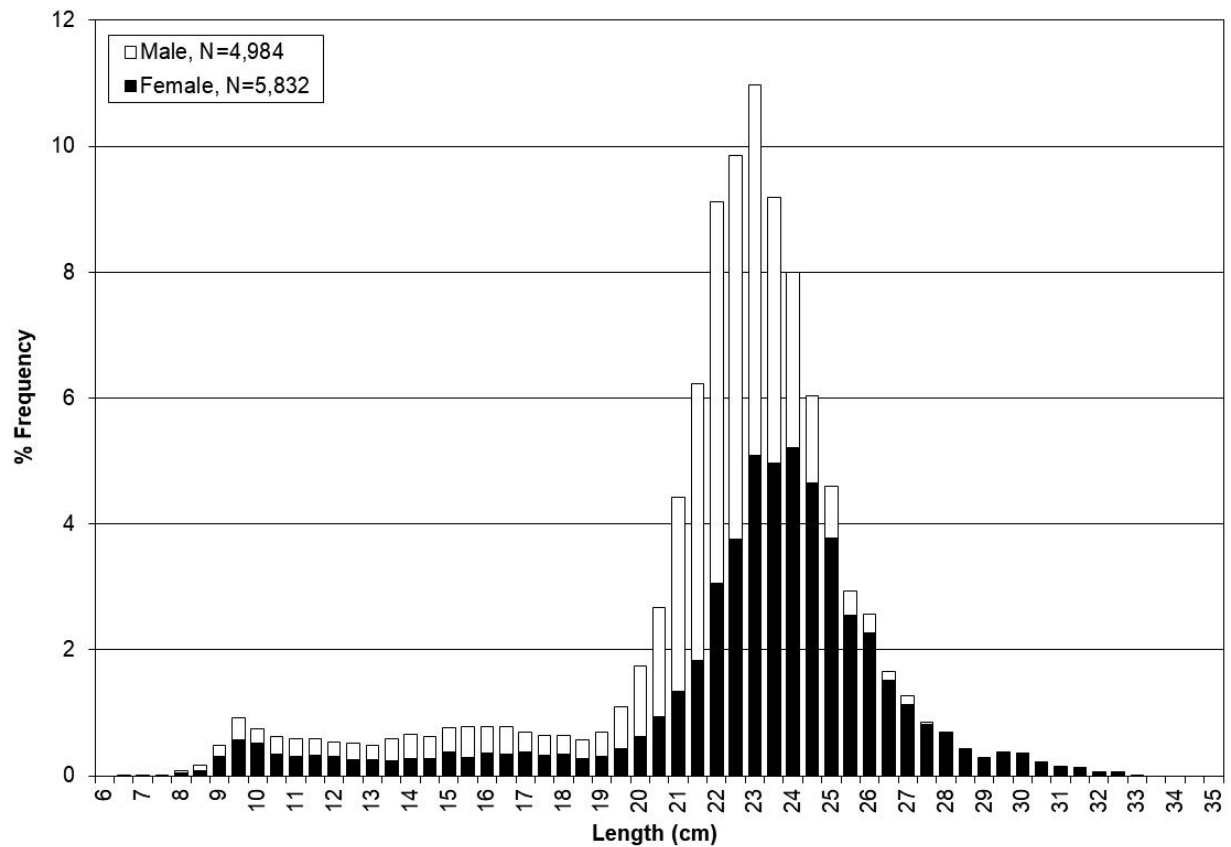
LOA	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<45	110	-	-	-	-	-	-	-	-	-
45-49	123	27	285	586	820	1	0	500	-	-
50-54	1,080	1,397	194	2,958	3,300	4	1,083	1,077	687	1,721
55-59	656	362	553	1,475	1,201	7	777	312	308	214
60-64	705	311	891	3,713	2,768	22	339	167	102	68
65-69	686	188	519	3,310	4,973	17	1,121	614	338	663
70-79	1,440	98	1,041	2,289	8,024	6	315	317	423	743
80-89	503	-	-	6	1,637	1	1	0	0	4
>89	384	-	0	11	2,137	1	2	26	3	1
	5,688	2,383	3,481	14,348	24,861	57	3,638	3,012	1,860	3,413

Illex argentinus
First Season 2020 (01 Jan to 30 Jun)



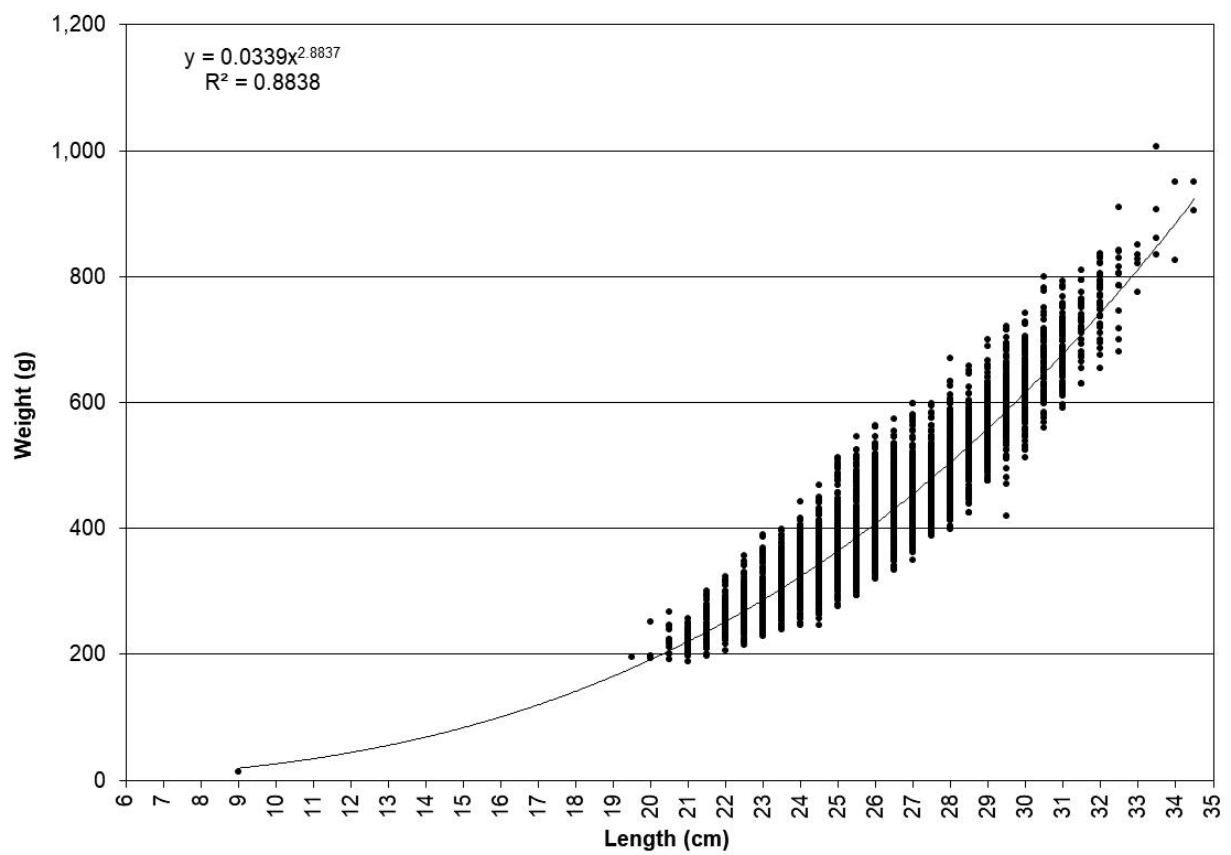
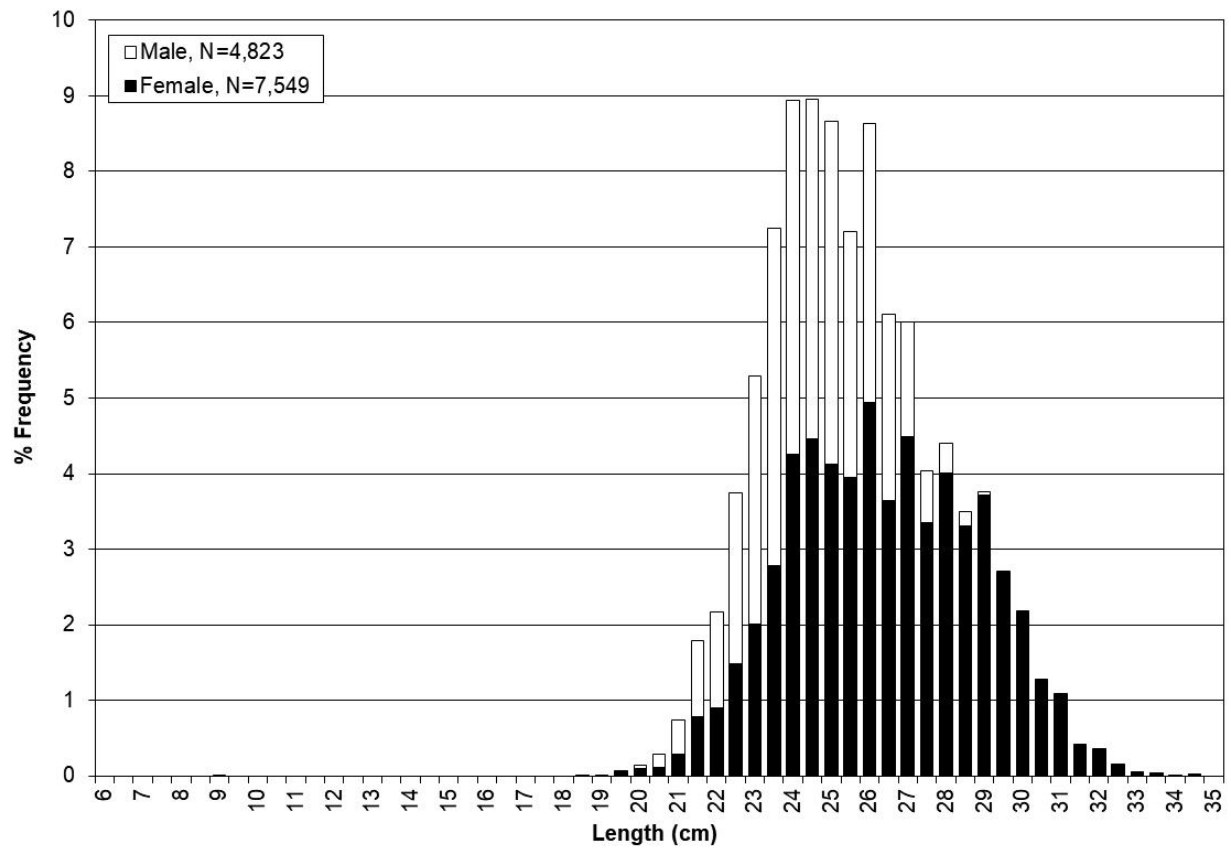
Illex argentinus—*Illex squid*

Length– frequency distribution and length-weight relationship in trawler fleet in 2020



Illex argentinus—Illex squid

Length– frequency distribution and length-weight relationship in jigger fleet in 2020



***Doryteuthis gahi* - Falkland Calamari**

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

VESSEL TYPE	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
TR	34,675	70,897	40,168	48,700	30,317	46,447	64,677	79,996	81,908	60,732
JI	-	-	-	-	-	-	-	-	-	5
	34,675	70,897	40,168	48,700	30,317	46,447	64,677	79,996	81,908	60,737

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

MONTH	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
January	-	-	-	-	-	0	5	-	2	1
February	1,308	3,885	1,293	2,167	2,048	1,222	2,224	1,407	6,377	4,866
March	10,276	21,154	12,983	13,832	14,630	8,713	20,244	23,412	26,926	14,459
April	3,826	9,917	5,724	12,318	3,007	12,832	16,322	16,852	22,638	10,487
May	20	18	35	47	115	55	1,081	1,715	516	141
June	11	22	9	15	4	17	24	15	23	51
July	7,075	6,362	5,006	4,800	1,176	1,879	2,509	3,745	4,537	3,668
August	8,186	17,595	7,740	9,641	8,056	12,746	12,432	22,910	18,877	16,818
September	3,856	11,784	7,223	5,778	1,204	7,763	9,016	9,273	2,002	9,029
October	99	145	132	92	55	1,217	817	657	8	1,211
November	18	15	21	11	20	2	2	7	0	7
December	-	1	1	-	3	-	0	2	-	-
	34,675	70,897	40,168	48,700	30,317	46,447	64,677	79,996	81,908	60,737

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

FISHING FLEET	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ES	2,614	3,353	2,261	2,442	1,676	2,851	6,677	4,615	4,026	859
FK	30,580	62,671	35,243	42,927	26,478	40,823	54,039	70,680	73,148	56,427
KR	54	87	34	39	2	7	12	1	2	12
UK	1,426	4,786	2,629	3,292	2,161	2,767	3,948	4,699	4,732	3,439
	34,675	70,897	40,168	48,700	30,317	46,447	64,677	79,996	81,908	60,737

***Doryteuthis gahi* - Falkland Calamari**

Table E.4 Total catch (tonnes) by license used and year

Licence Used	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
A	113	185	147	169	49	142	143	63	60	164
B	14	20	-	-	-	-	6	0	2	12
C	15,288	34,727	19,906	28,117	19,424	22,619	39,425	43,086	55,586	29,116
E	379	662	278	513	523	421	856	878	1,254	1,287
F	37	66	42	42	15	10	9	1	2	17
G	37	70	42	48	20	50	62	91	141	254
S	-	0	0	-	-	-	-	0	-	-
W	81	140	133	156	96	115	89	49	116	128
X	18,726	35,026	19,620	19,656	10,190	23,090	24,085	35,828	24,748	29,759
	34,675	70,897	40,168	48,700	30,317	46,447	64,677	79,996	81,908	60,737

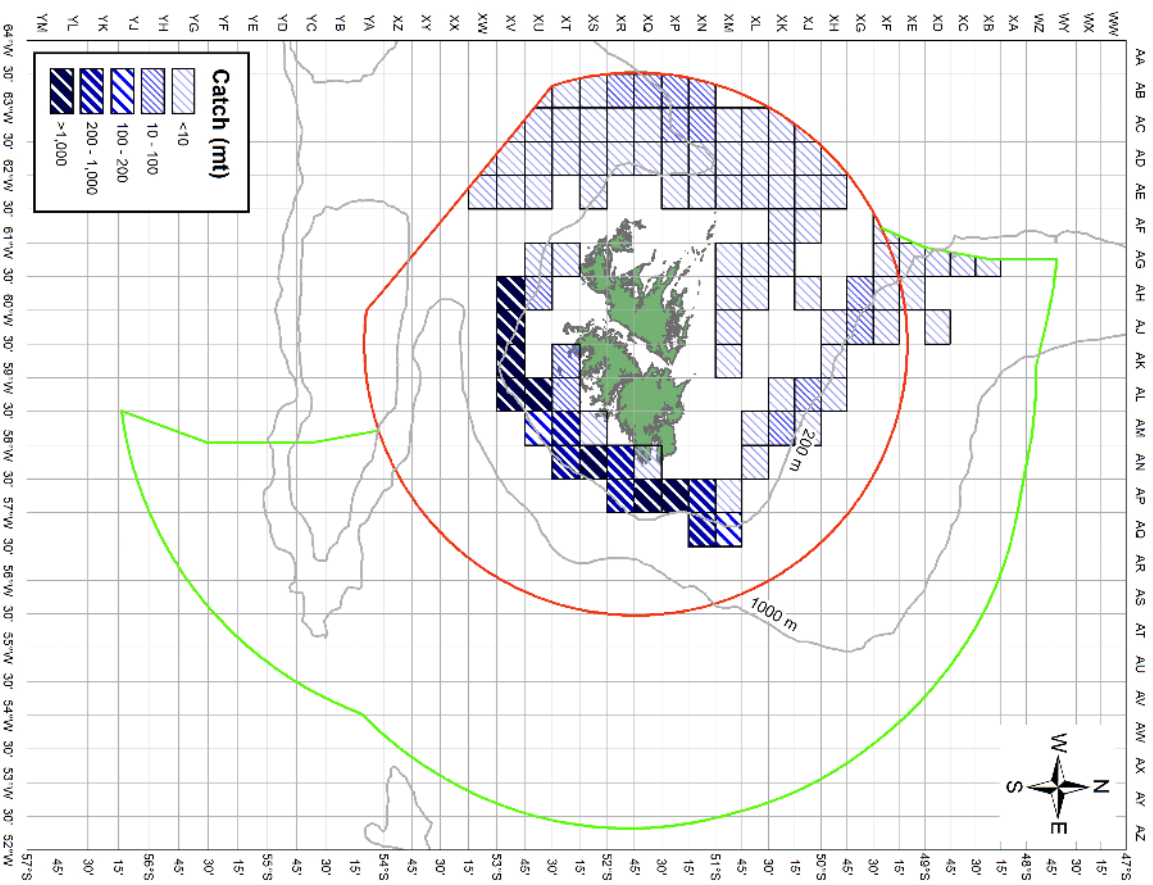
Table E.5 Total catch (tonnes) by gross tonnage (GT) and year

GRT	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<400	-	-	-	-	-	-	-	-	-	-
400-599	-	-	-	-	-	-	-	-	-	-
600-799	45	97	58	30	13	48	62	22	29	66
800-999	1,892	3,405	2,157	2,371	1,598	2,509	2,666	65	57	87
1,000-1,499	5,967	11,167	6,988	7,906	5,056	7,935	10,897	16,263	16,448	13,410
1,500-1,999	9,554	21,284	11,990	14,603	9,377	13,775	21,467	25,104	26,130	18,810
2,000-2,999	17,212	34,932	18,969	23,784	14,272	22,180	29,584	38,542	39,244	28,364
>2,999	4	13	7	5	-	-	-	-	-	-
	34,675	70,897	40,168	48,700	30,317	46,447	64,677	79,996	81,908	60,737

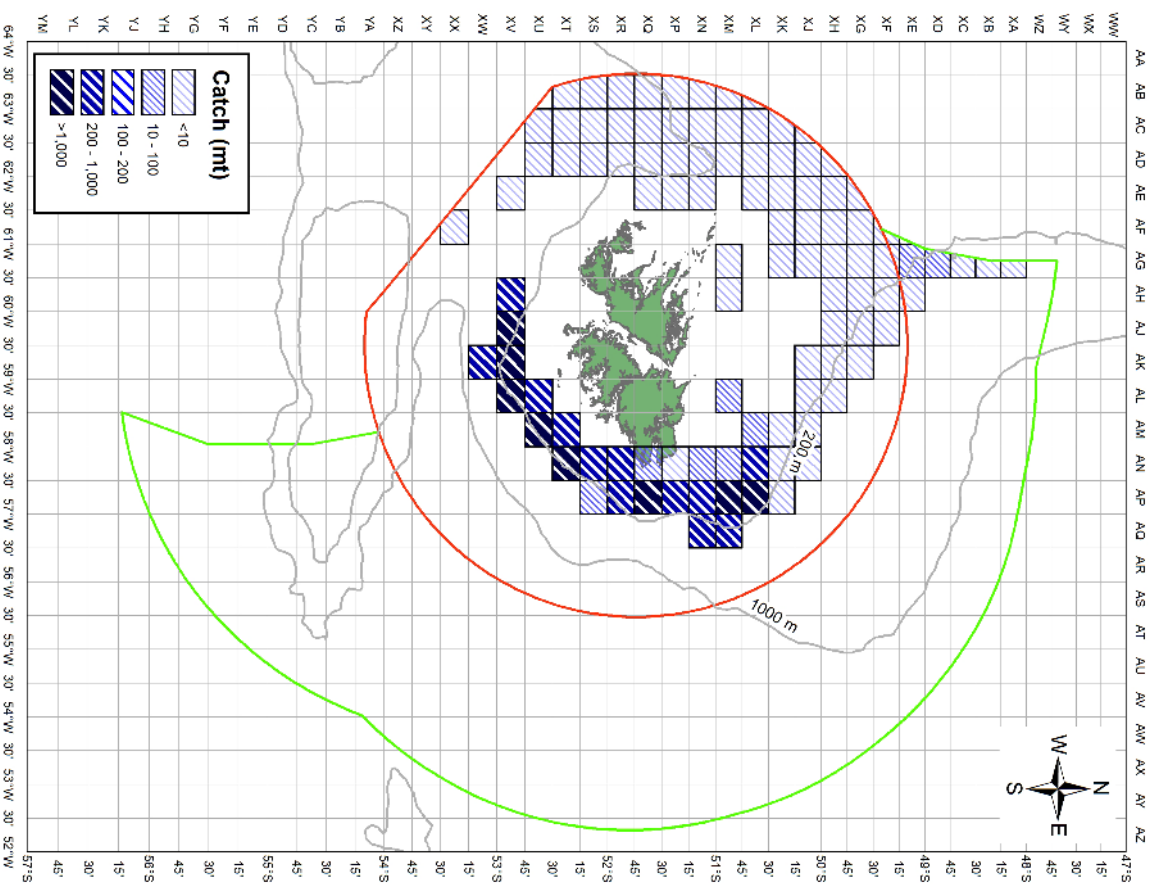
Table E.6 Total catch (tonnes) by length overall (m) (LOA) and year

LOA	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<45	12	-	1	0	3	2	-	0	-	6
45-49	1,702	3,321	2,111	2,318	1,577	2,431	1,368	41	-	-
50-54	79	175	86	66	15	59	74	21	31	79
55-59	169	63	33	20	3	74	47	24	42	17
60-64	27	801	340	252	36	278	16	4,735	4,828	4,205
65-69	6,729	15,702	9,404	11,389	7,275	10,677	15,970	16,474	12,620	10,255
70-79	16,643	32,318	18,060	21,758	13,623	20,214	31,793	34,588	40,846	28,781
80-89	4,335	8,114	4,772	5,937	3,381	5,471	8,317	10,800	10,479	8,396
>89	4,979	10,403	5,361	6,959	4,403	7,241	7,092	13,312	13,061	8,998
	34,675	70,897	40,168	48,700	30,317	46,447	64,677	79,996	81,908	60,737

Doryteuthis gahi
First Season 2020 (01 Jan to 30 Jun)

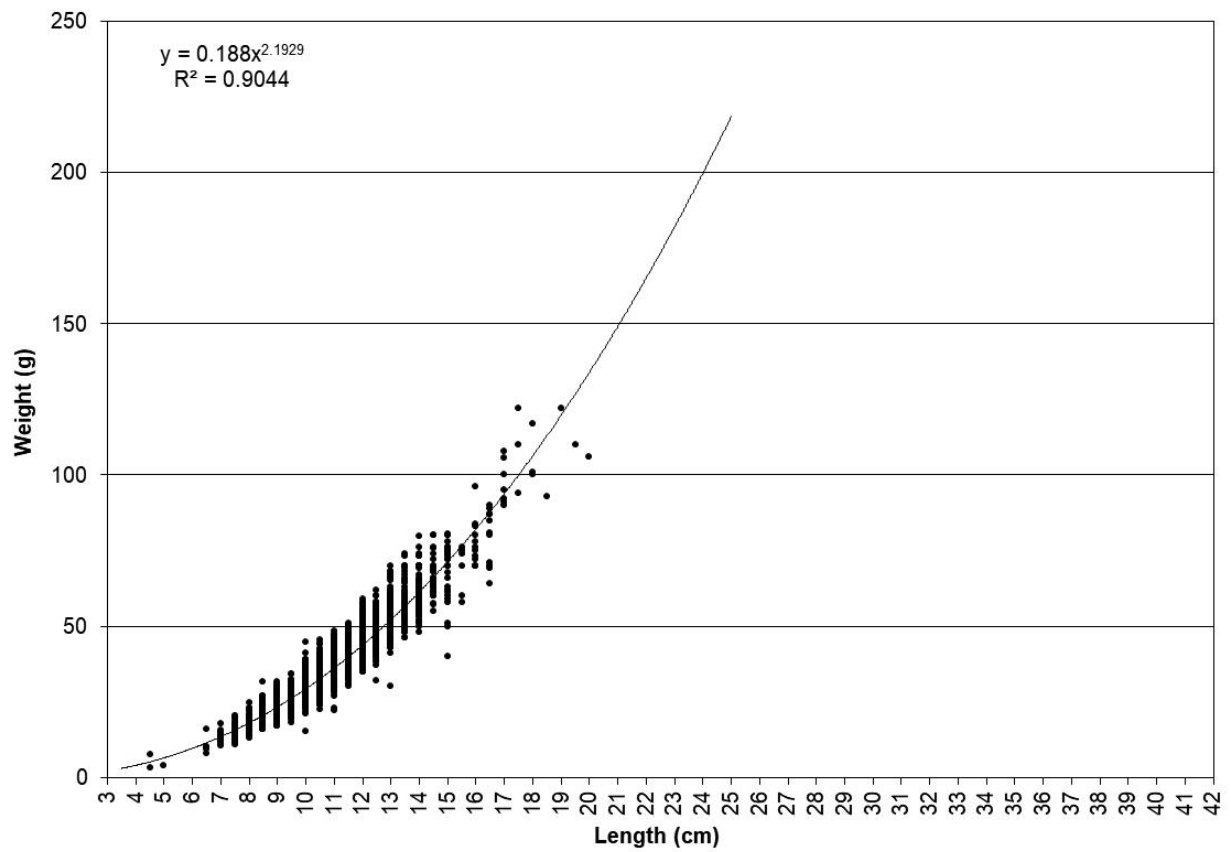
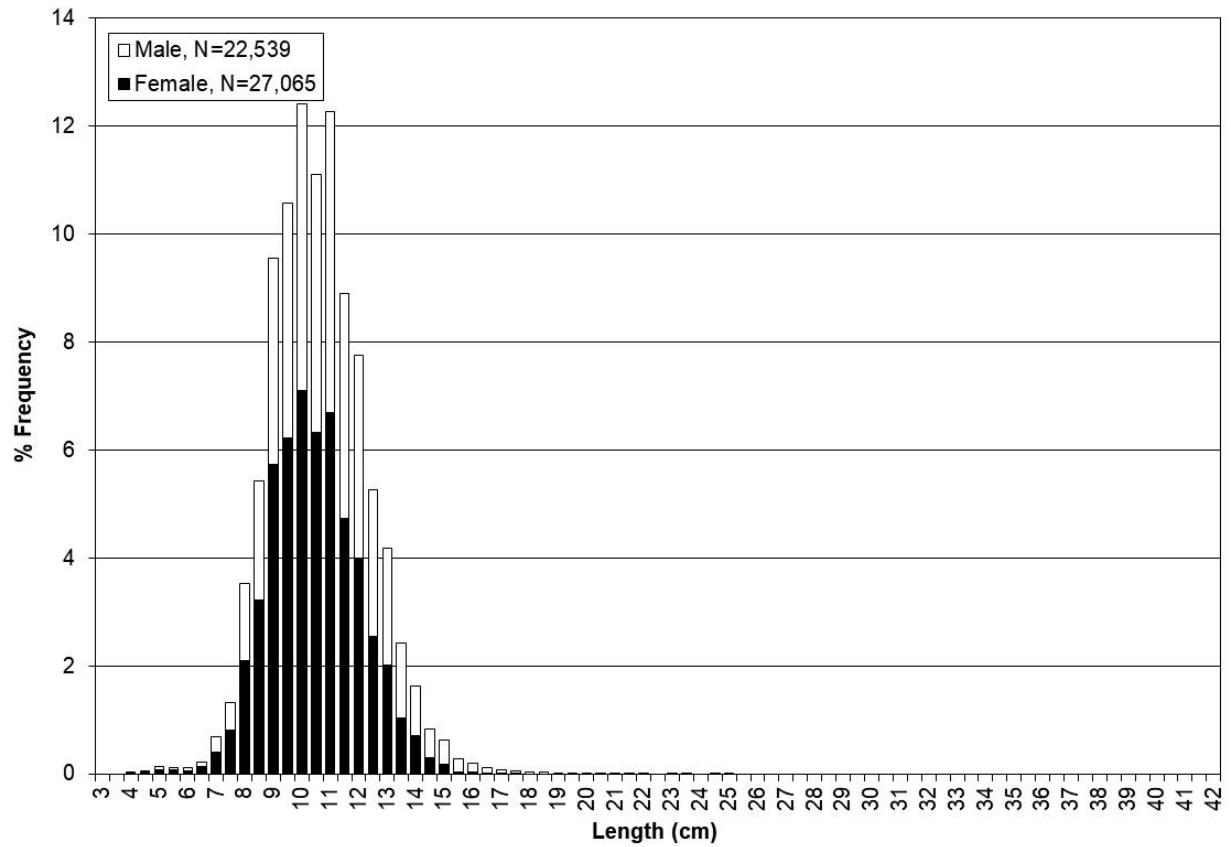


Doryteuthis gahi
Second Season 2020 (01 Jul to 31 Dec)



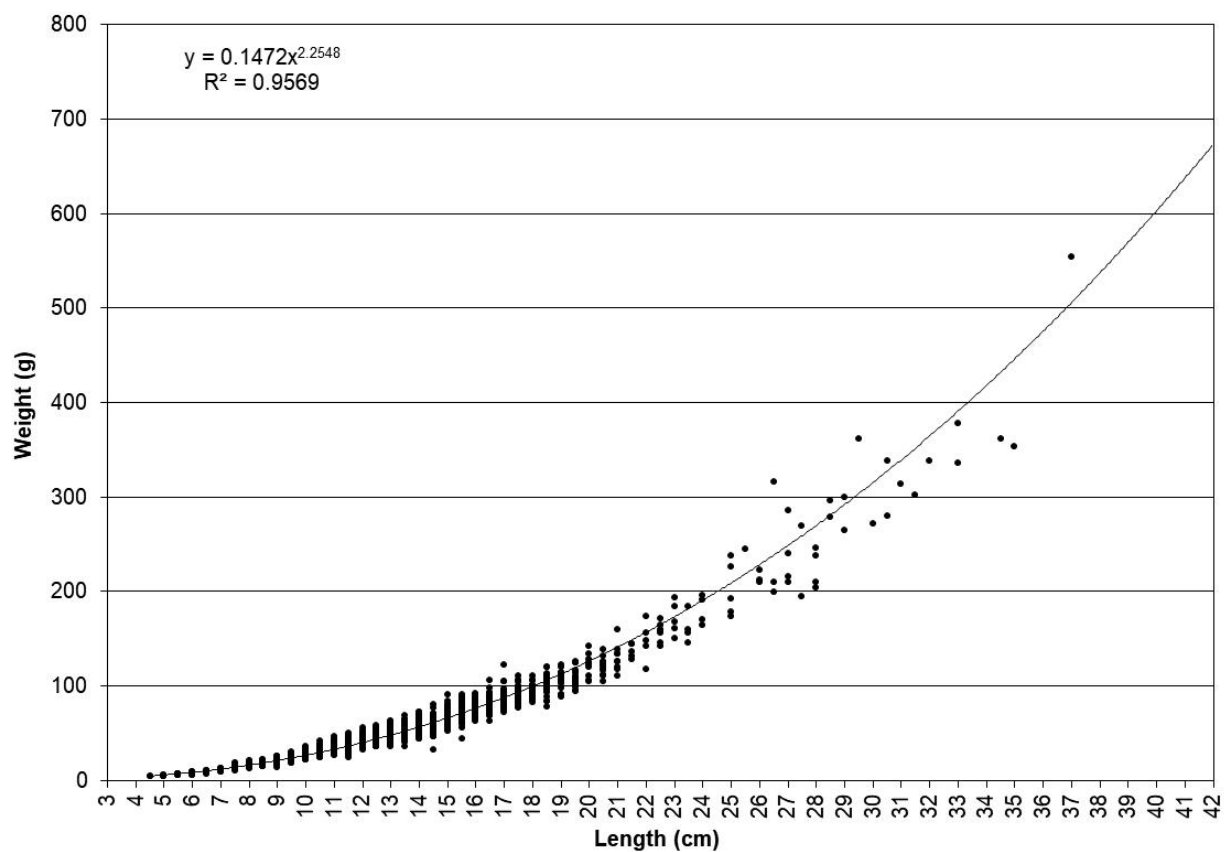
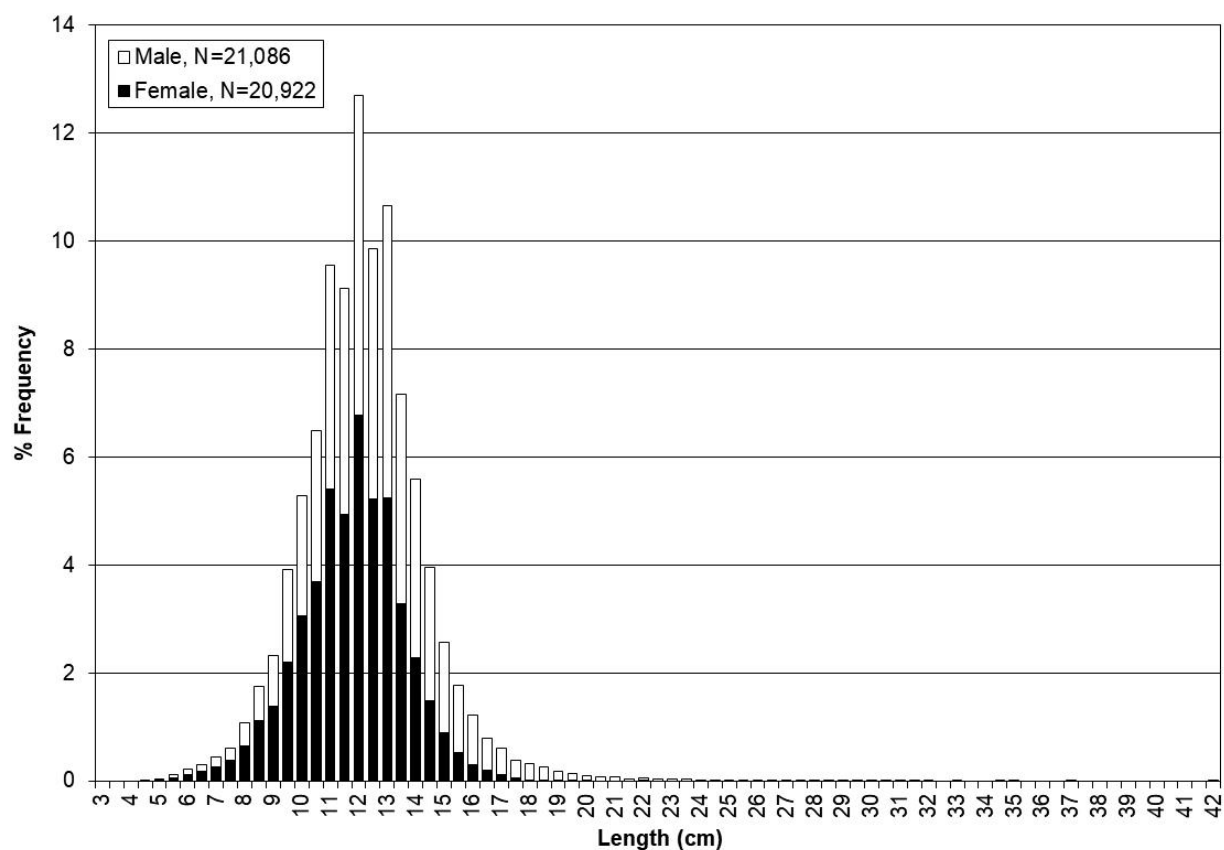
Doryteuthis gahi - Falkland Calamari

Length– frequency distribution and length-weight relationship during First Season 2020



Doryteuthis gahi - Falkland Calamari

Length– frequency distribution and length-weight relationship during Second Season 2020



***Micromesistius australis* - Southern Blue Whiting**

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

VESSEL TYPE	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
TR	3,940	1,596	2,698	3,612	2,790	5,415	2,309	992	518	69
	3,940	1,596	2,698	3,612	2,790	5,415	2,309	992	518	69

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

MONTH	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
January	199	36	162	-	-	1,189	157	-	190	25
February	233	39	375	123	184	1,420	283	59	132	31
March	26	219	205	137	28	1,002	176	64	3	0
April	220	95	116	127	5	816	14	21	1	0
May	27	7	84	0	4	83	1	12	0	0
June	10	3	8	15	-	1	-	-	0	-
July	7	9	47	14	1	2	3	1	0	1
August	543	727	897	55	97	580	616	704	192	0
September	496	138	758	1,670	121	116	515	52	0	2
October	5	211	14	212	147	40	482	2	0	10
November	1,369	31	1	1,211	1,687	52	60	2	-	0
December	805	81	32	47	517	114	2	76	-	-
	3,940	1,596	2,698	3,612	2,790	5,415	2,309	992	518	69

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

FISHING FLEET	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
CL	-	-	-	1,155	-	-	-	-	-	-
ES	818	1,157	834	578	2,488	4,578	1,796	925	431	49
FK	764	412	1,669	1,795	273	800	509	67	87	20
JP	2,282	24	-	-	-	-	-	-	-	-
KR	31	3	32	2	0	8	-	-	-	-
UK	45	1	163	82	29	29	4	0	-	0
	3,940	1,596	2,698	3,612	2,790	5,415	2,309	992	518	69

***Micromesistius australis* - Southern Blue Whiting**

Table F.4 Total catch (tonnes) by license used and year

Licence Used	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
A	331	155	161	38	193	404	32	28	5	0
C	0	1	28	46	15	0	7	-	0	0
E	63	20	84	85	32	85	98	30	14	11
F	31	11	2	3	68	8	0	-	-	-
G	193	253	306	196	26	1,566	154	53	4	-
S	2,282	47	1	1,155	0	18	-	-	-	-
W	565	912	799	412	2,266	3,204	1,740	846	495	55
X	475	197	1,316	1,677	190	130	278	35	0	2
	3,940	1,596	2,698	3,612	2,790	5,415	2,309	992	518	69

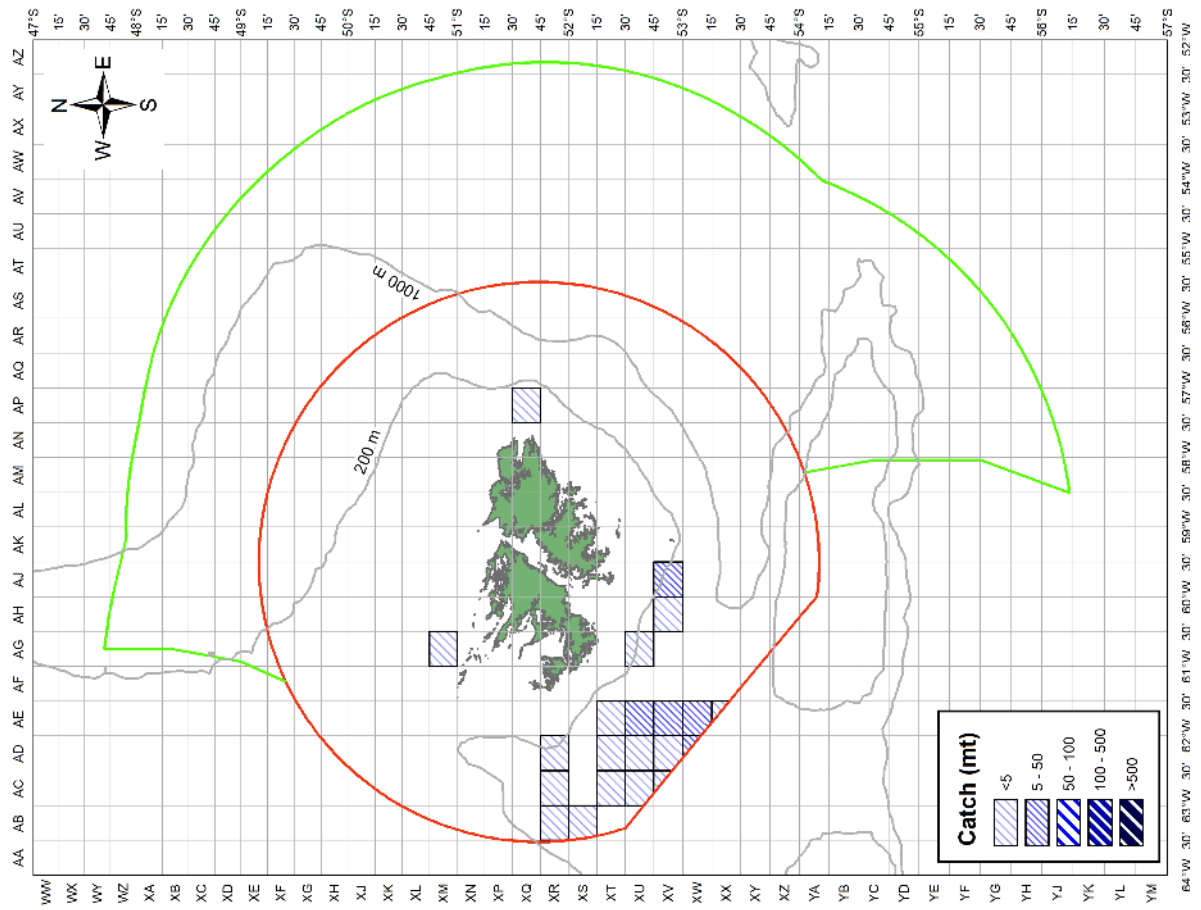
Table F.5 Total catch (tonnes) by gross tonnage (GT) and year

GRT	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<400	-	-	-	-	-	-	-	-	-	-
400-599	-	-	-	-	-	-	-	-	-	-
600-799	65	165	127	29	28	499	65	2	0	0
800-999	115	142	299	171	569	1,118	195	52	40	10
1,000-1,499	229	225	657	810	1,449	1,845	857	204	211	21
1,500-1,999	1,024	882	910	455	597	1,812	956	724	214	37
2,000-2,999	226	158	705	991	148	141	237	9	52	1
>2,999	2,282	24	-	1,155	-	-	-	-	-	-
	3,940	1,596	2,698	3,612	2,790	5,415	2,309	992	518	69

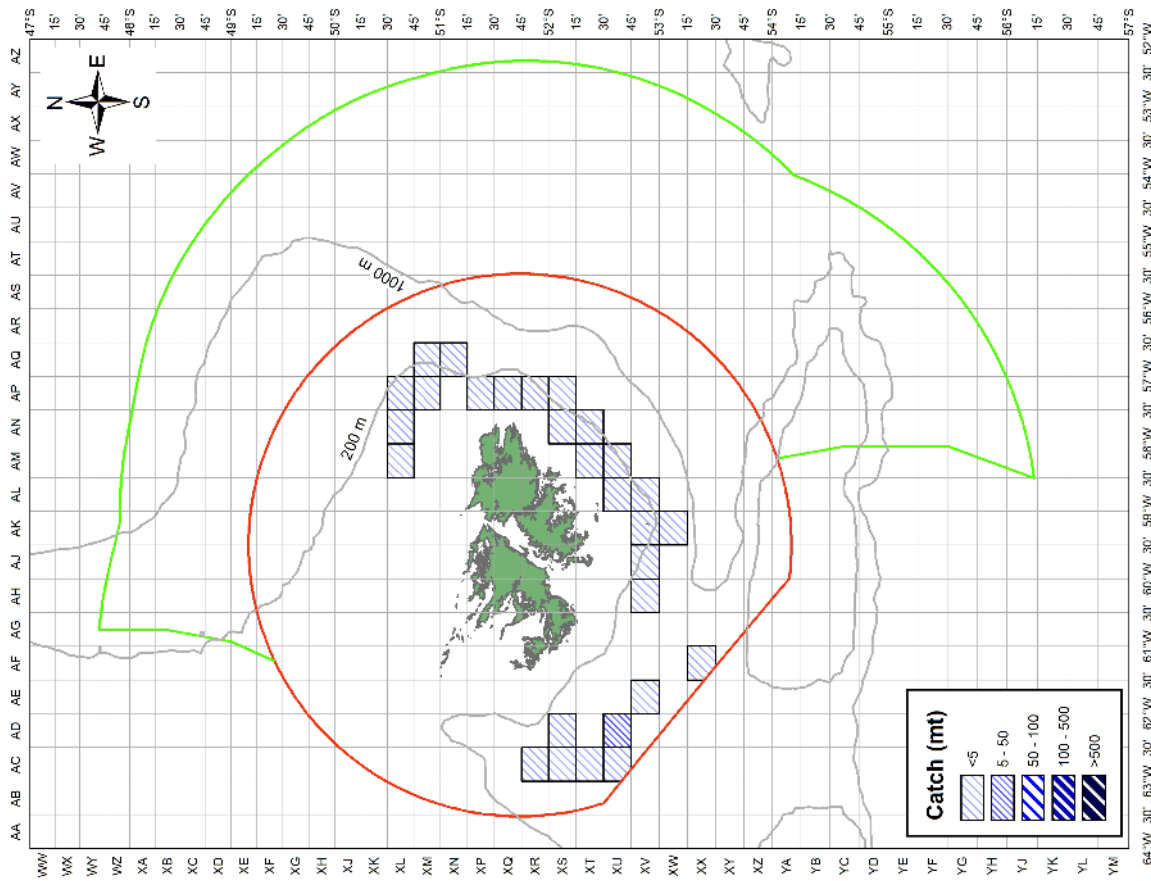
Table F.6 Total catch (tonnes) by length overall (m) (LOA) and year

LOA	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<45	1	-	-	-	132	26	-	-	-	-
45-49	14	47	80	96	57	23	1	1	-	-
50-54	93	164	209	41	34	527	105	1	0	0
55-59	85	129	337	35	189	400	121	5	22	-
60-64	22	112	133	101	590	1,317	432	144	106	11
65-69	695	873	661	709	887	2,060	1,061	806	310	30
70-79	343	158	640	539	792	1,032	409	25	80	27
80-89	211	50	240	490	32	5	107	5	-	1
>89	2,475	62	397	1,602	78	25	72	3	-	0
	3,940	1,596	2,698	3,612	2,790	5,415	2,309	992	518	69

Micromesistius australis
First Season 2020 (01 Jan to 30 Jun)

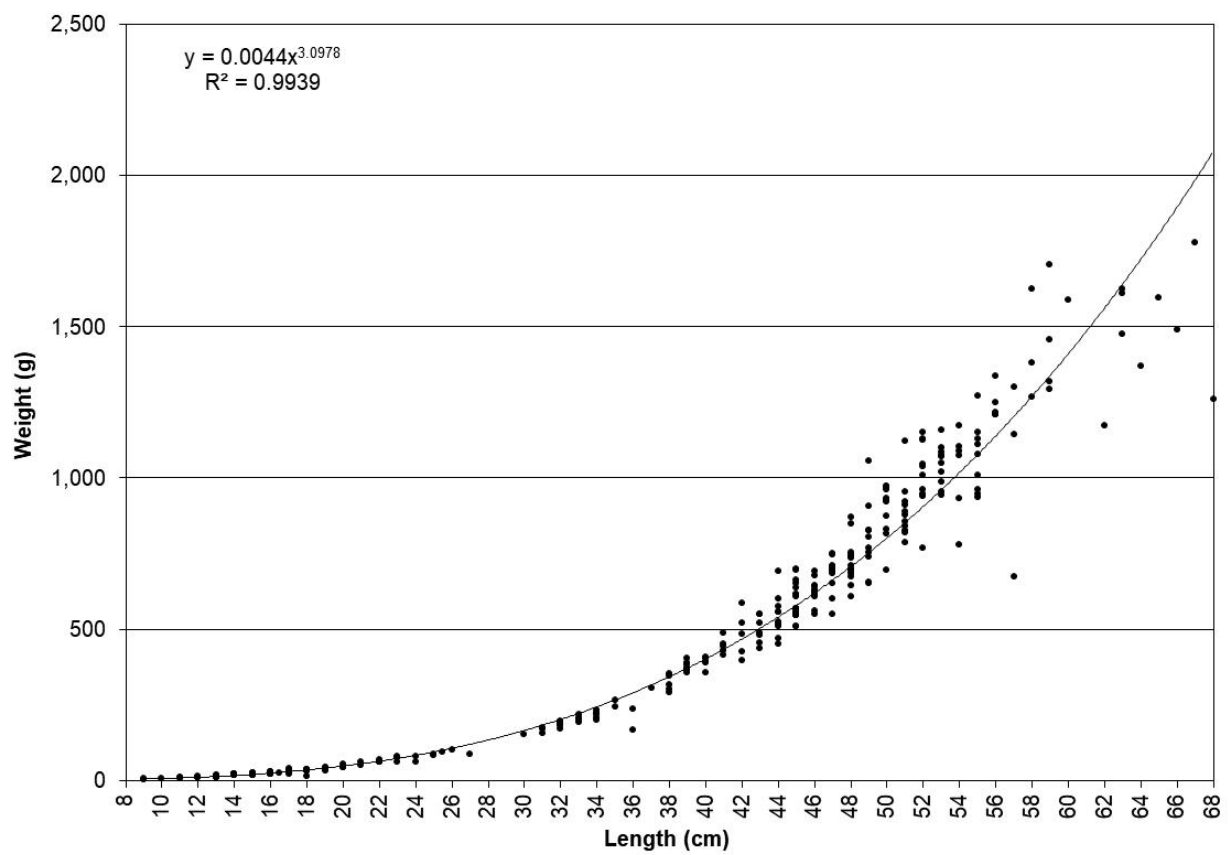
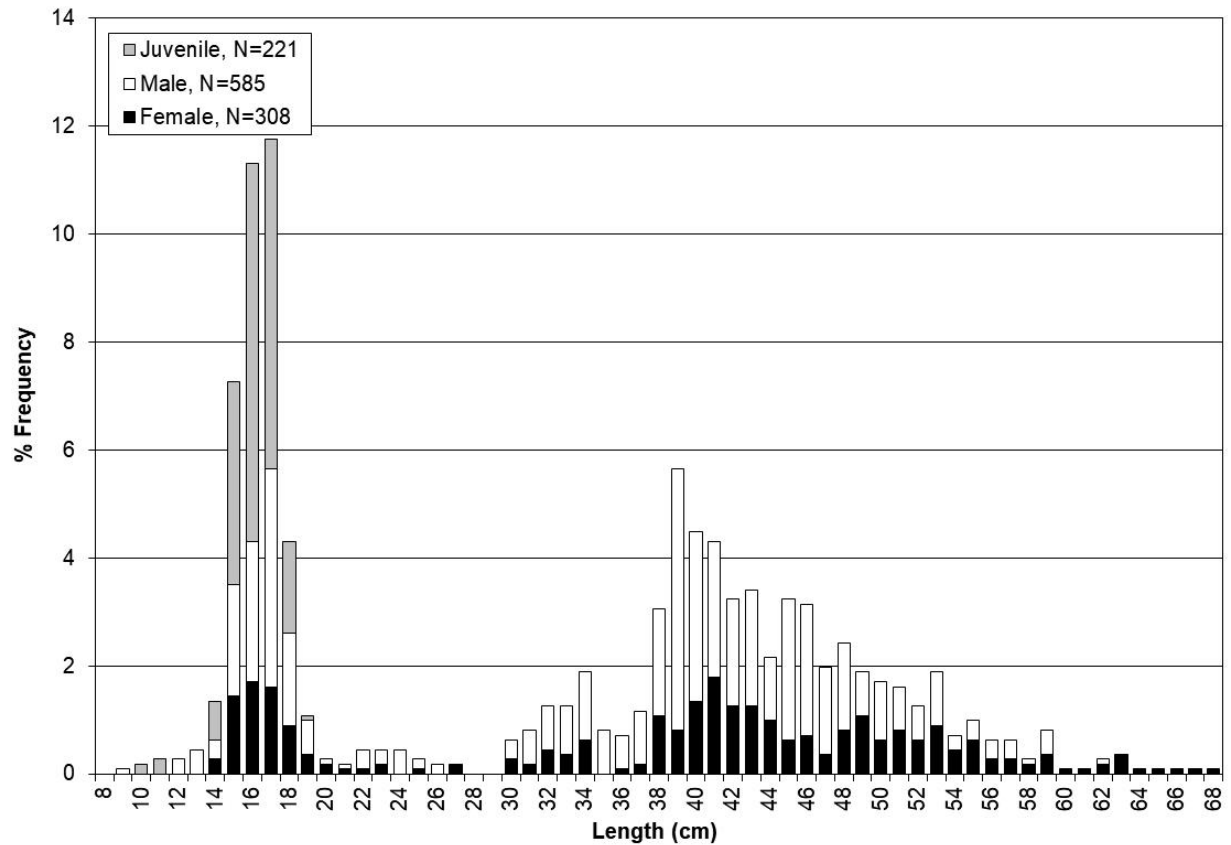


Micromesistius australis
Second Season 2020 (01 Jul to 31 Dec)



Micromesistius australis - Southern Blue Whiting

Length– frequency distribution and length-weight relationship in 2020



***Macruronus magellanicus*—Hoki**

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

VESSEL TYPE	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
TR	22,979	15,867	16,849	7,392	6,845	11,562	4,053	4,439	7,407	7,643
	22,979	15,867	16,849	7,392	6,845	11,562	4,053	4,439	7,407	7,643

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

MONTH	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
January	635	230	2,010	-	-	211	22	-	3,988	1,682
February	1,289	535	2,196	754	484	4,655	146	639	2,078	3,378
March	1,264	2,414	1,745	1,521	3,836	2,277	530	901	1,046	267
April	5,769	2,508	3,043	2,811	1,610	2,596	770	503	77	766
May	2,609	652	3,414	774	256	1,082	733	1,162	8	821
June	1,143	311	553	350	36	99	19	4	3	465
July	2,775	839	233	56	5	25	273	29	2	136
August	2,387	1,739	761	82	64	90	316	2	5	30
September	978	557	1,239	800	181	6	47	28	9	34
October	357	3,617	362	9	35	45	878	127	9	62
November	1,082	2,183	1,091	229	239	290	311	217	0	3
December	2,690	283	203	6	101	185	9	827	182	-
	22,979	15,867	16,849	7,392	6,845	11,562	4,053	4,439	7,407	7,643

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

FISHING FLEET	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
CL	-	-	-	207	-	-	-	-	-	-
ES	15,867	11,628	11,569	5,275	5,705	8,886	3,548	3,880	6,114	5,997
FK	3,808	3,433	4,755	1,889	959	2,378	467	555	1,291	1,531
JP	2,457	85	-	-	-	-	-	-	-	-
KR	594	712	481	20	147	211	19	3	2	0
UK	253	10	45	1	35	87	18	0	0	115
	22,979	15,867	16,849	7,392	6,845	11,562	4,053	4,439	7,407	7,643

***Macruronus magellanicus*—Hoki**

Table G.4 Total catch (tonnes) by license used and year

Licence Used	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
A	4,160	2,524	2,423	701	757	1,421	259	234	176	128
B	24	26	3	6	26	-	8	1	2	0
C	162	57	27	5	1	0	1	0	8	88
E	72	52	133	56	63	53	79	31	9	14
F	518	475	136	25	64	55	21	4	1	-
G	8,015	4,791	7,036	4,090	4,932	5,232	1,858	1,779	941	1,446
S	2,457	85	-	207	2	3	-	-	-	-
W	7,299	7,784	7,028	2,300	884	4,799	1,775	2,364	6,262	5,938
X	272	74	63	1	117	0	51	26	7	29
	22,979	15,867	16,849	7,392	6,845	11,562	4,053	4,439	7,407	7,643

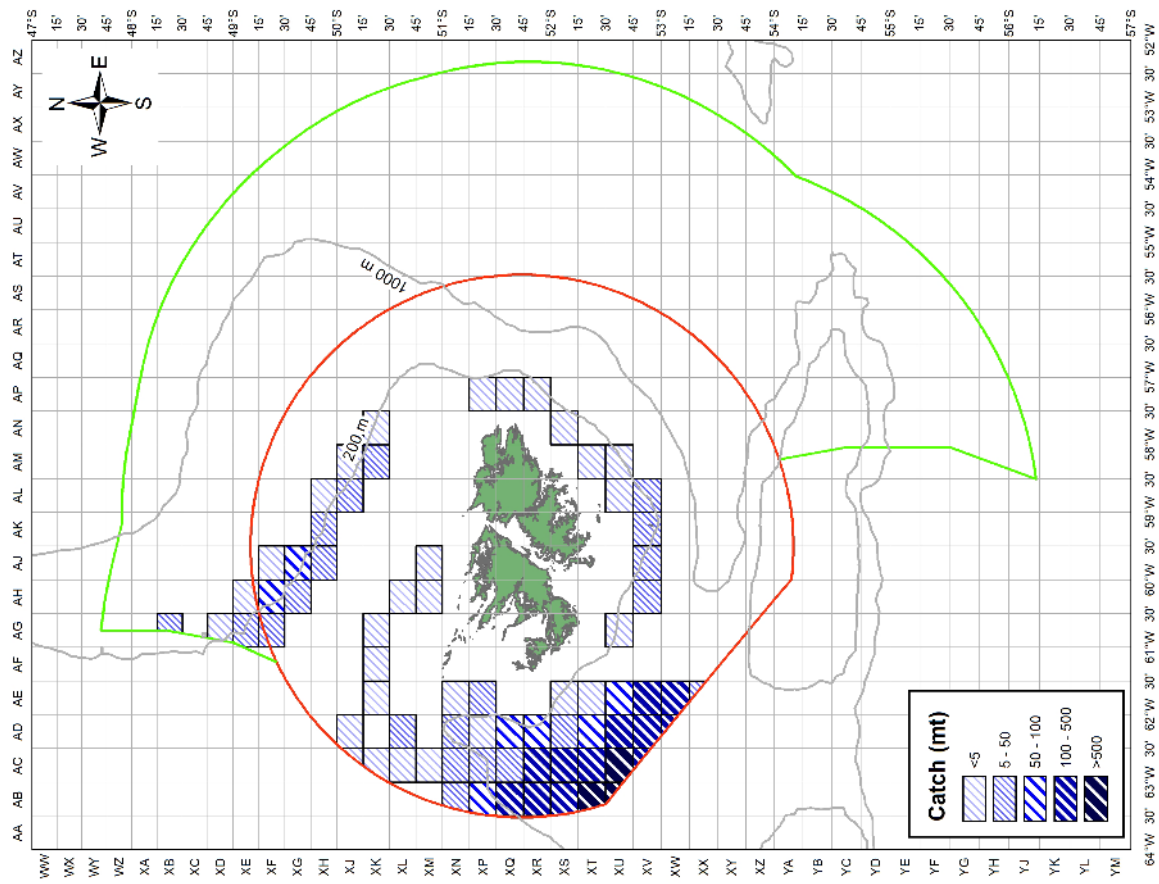
Table G.5 Total catch (tonnes) by gross tonnage (GT) and year

GRT	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<400	-	-	-	-	-	-	-	-	-	-
400-599	-	-	-	-	-	-	-	-	-	-
600-799	2,714	2,568	1,478	497	1,051	1,155	323	307	110	263
800-999	3,119	3,532	3,238	1,634	1,845	3,569	615	768	1,999	1,288
1,000-1,499	8,562	6,957	8,740	3,477	3,055	2,992	2,371	2,163	4,009	3,461
1,500-1,999	5,894	2,529	3,177	1,566	858	3,813	644	1,201	934	2,473
2,000-2,999	221	100	214	8	38	31	100	0	354	158
>2,999	2,469	181	2	210	-	1	-	-	-	-
	22,979	15,867	16,849	7,392	6,845	11,562	4,053	4,439	7,407	7,643

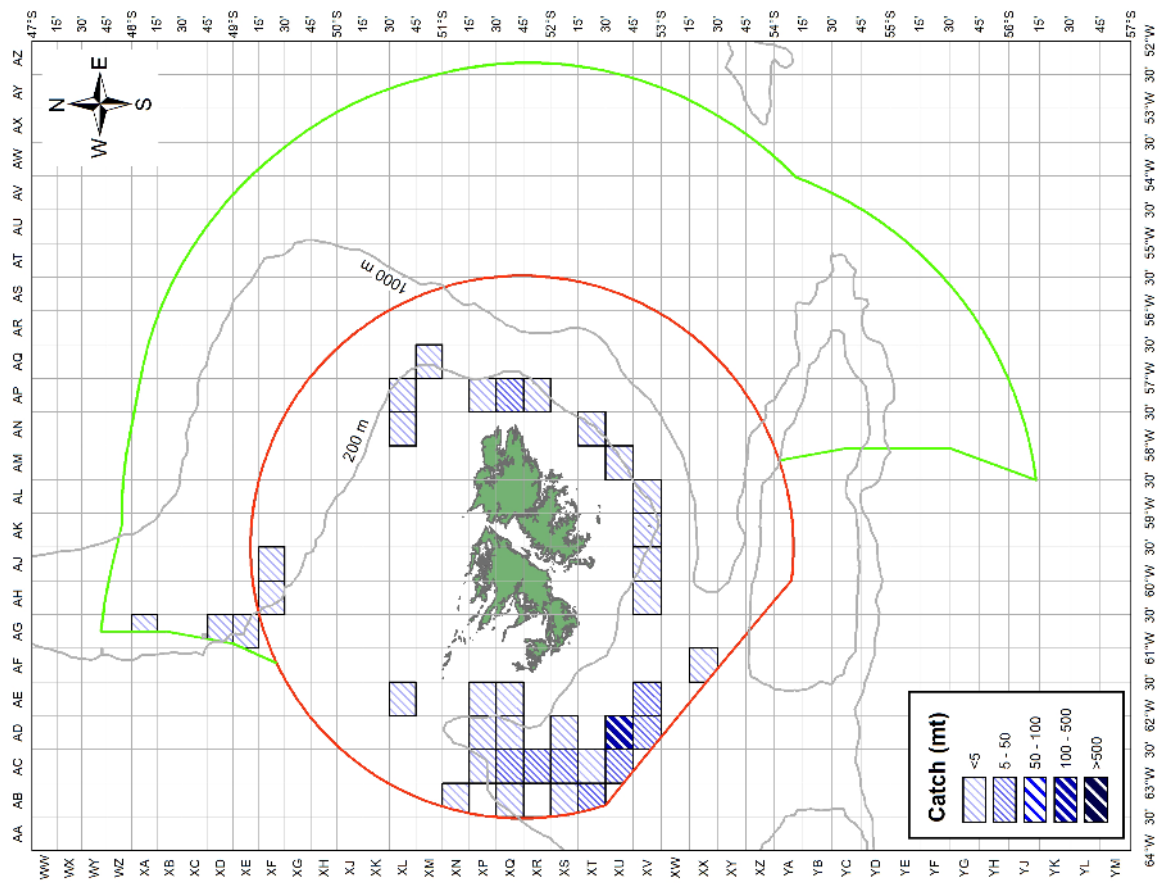
Table G.6 Total catch (tonnes) by length overall (m) (LOA) and year

LOA	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<45	217	-	-	-	10	167	-	-	-	-
45-49	843	855	507	77	156	234	0	56	-	-
50-54	2,746	3,502	2,142	775	1,655	1,619	355	305	112	601
55-59	3,304	3,012	3,337	800	1,641	1,203	699	647	1,408	126
60-64	4,506	3,308	3,680	1,479	1,209	1,694	1,487	1,420	1,693	1,485
65-69	4,735	2,375	3,545	2,973	740	3,792	1,144	1,235	3,238	3,685
70-79	3,472	2,550	3,571	999	1,386	2,805	267	719	948	1,655
80-89	597	61	9	79	40	45	79	56	0	80
>89	2,559	204	57	211	8	1	22	0	7	11
	22,979	15,867	16,849	7,392	6,845	11,562	4,053	4,439	7,407	7,643

Macruronus magellanicus
First Season 2020 (01 Jan to 30 Jun)

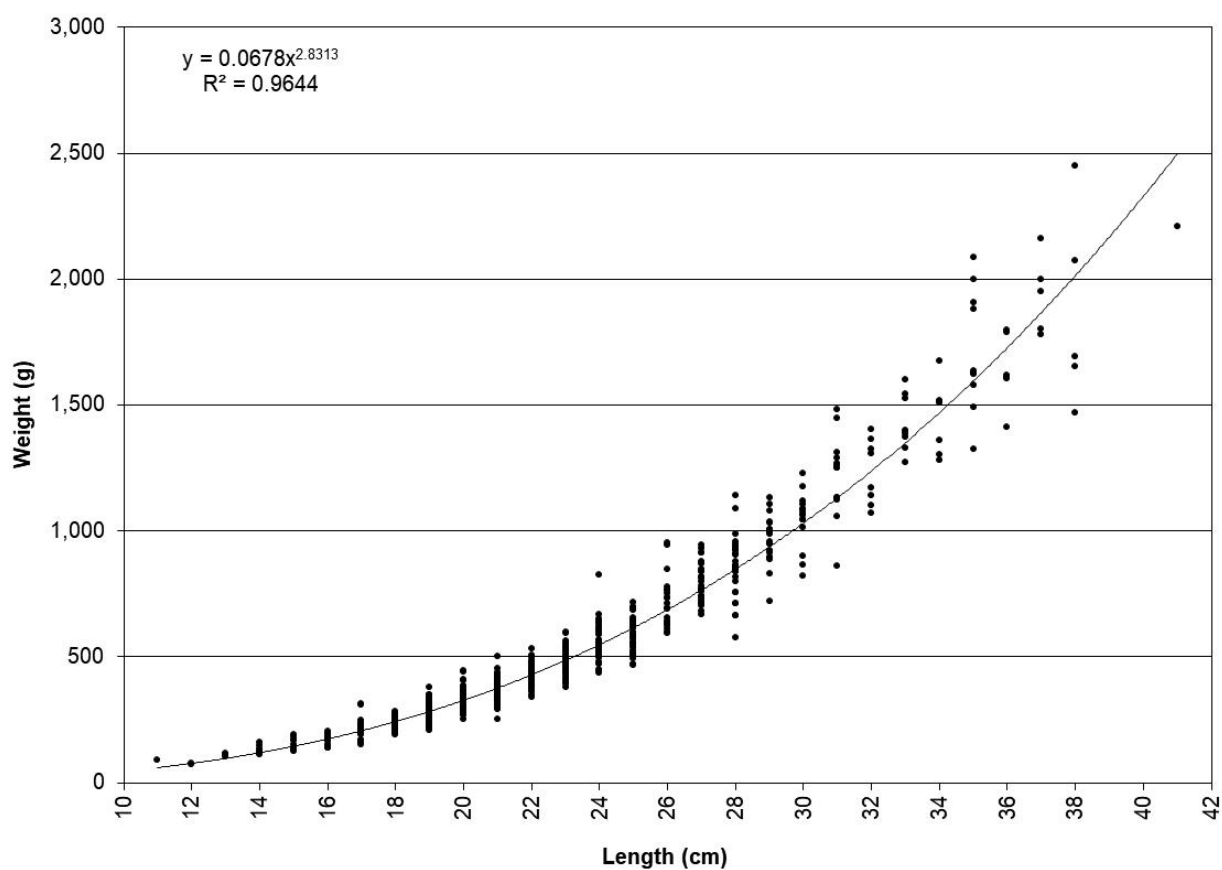
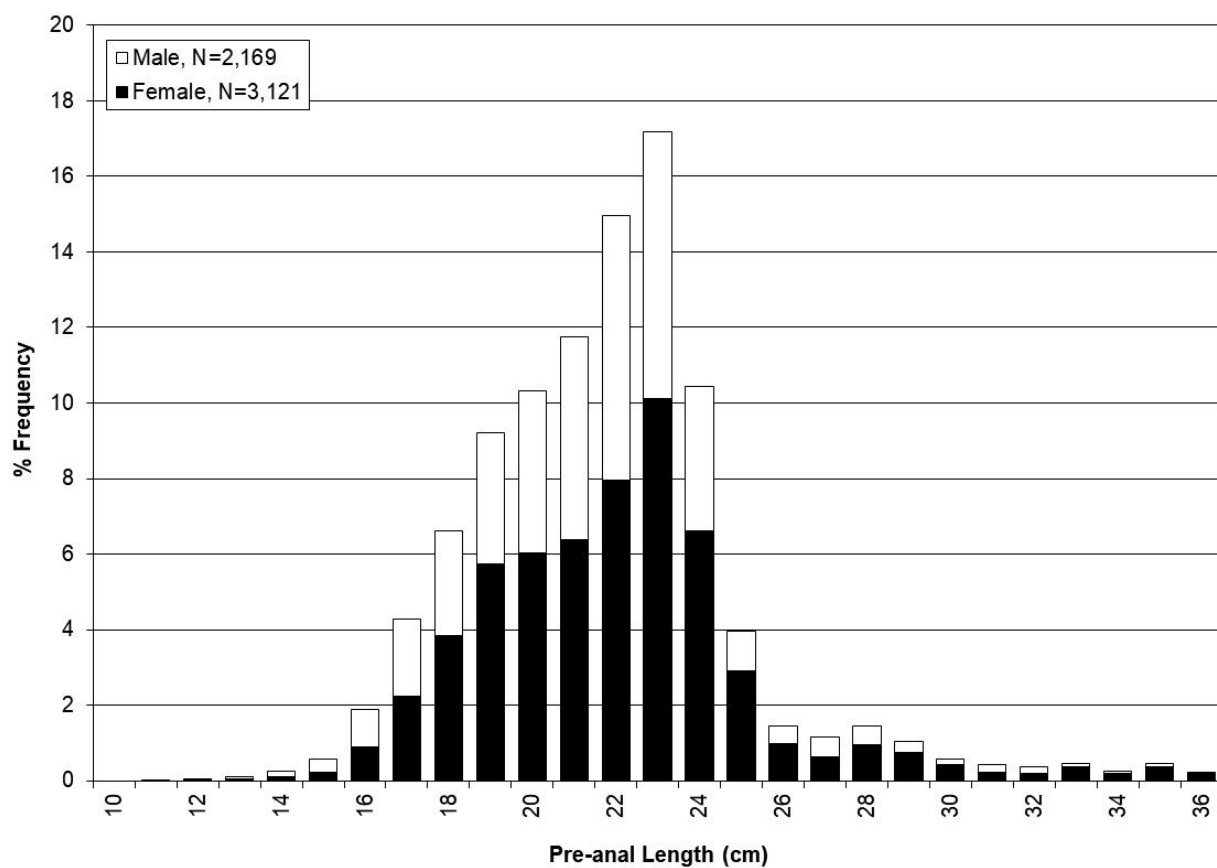


Macruronus magellanicus
Second Season 2020 (01 Jul to 31 Dec)



Macrurus magellanicus—Hoki

Length– frequency distribution and length-weight relationship in 2020



***Salilota australis* - Red cod**

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

VESSEL TYPE	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
LO	0	-	0	-	-	-	-	-	-	0
TR	4,210	4,629	5,164	3,467	3,340	3,143	1,379	1,655	1,768	1,418
	4,210	4,629	5,164	3,467	3,340	3,143	1,379	1,655	1,768	1,418

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

MONTH	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
January	100	62	215	-	0	143	33	-	310	101
February	236	351	480	114	63	479	24	47	367	306
March	157	341	311	221	557	181	101	64	220	42
April	438	340	325	477	685	270	245	154	169	110
May	749	370	514	768	310	527	138	451	168	175
June	213	125	77	398	131	198	38	102	116	144
July	309	150	162	135	174	138	134	200	131	103
August	605	656	1,199	376	161	369	223	134	167	65
September	474	580	1,299	195	329	135	248	108	72	168
October	273	615	283	532	631	562	144	163	26	166
November	436	626	230	189	200	74	40	129	3	37
December	221	411	68	63	99	66	12	103	19	0
	4,210	4,629	5,164	3,467	3,340	3,143	1,379	1,655	1,768	1,418

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

FISHING FLEET	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ES	2,851	3,441	3,592	2,530	2,776	2,237	1,027	1,073	1,400	1,122
FK	1,317	1,167	1,522	874	505	878	319	565	353	292
JP	0	-	-	-	-	-	-	-	-	-
KR	6	16	33	57	47	18	14	17	1	0
UK	36	5	17	5	12	10	18	0	15	4
	4,210	4,629	5,164	3,467	3,340	3,143	1,379	1,655	1,768	1,418

***Salilota australis* - Red cod**

Table H.4 Total catch (tonnes) by license used and year

Licence Used	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
A	975	1,151	927	714	430	602	253	738	297	297
B	2	1	-	5	11	-	3	1	1	0
C	71	2	4	26	70	4	50	3	18	2
E	26	38	61	20	27	21	16	18	42	4
F	3	11	41	36	77	24	14	11	2	29
G	1,084	877	949	902	1,272	838	397	401	409	259
L	0	-	0	-	-	-	-	-	-	-
S	0	-	-	-	-	-	-	-	-	-
W	1,842	2,448	2,779	1,676	1,425	1,590	574	471	963	733
X	207	100	403	88	28	64	71	11	35	92
	4,210	4,629	5,164	3,467	3,340	3,143	1,379	1,655	1,768	1,418

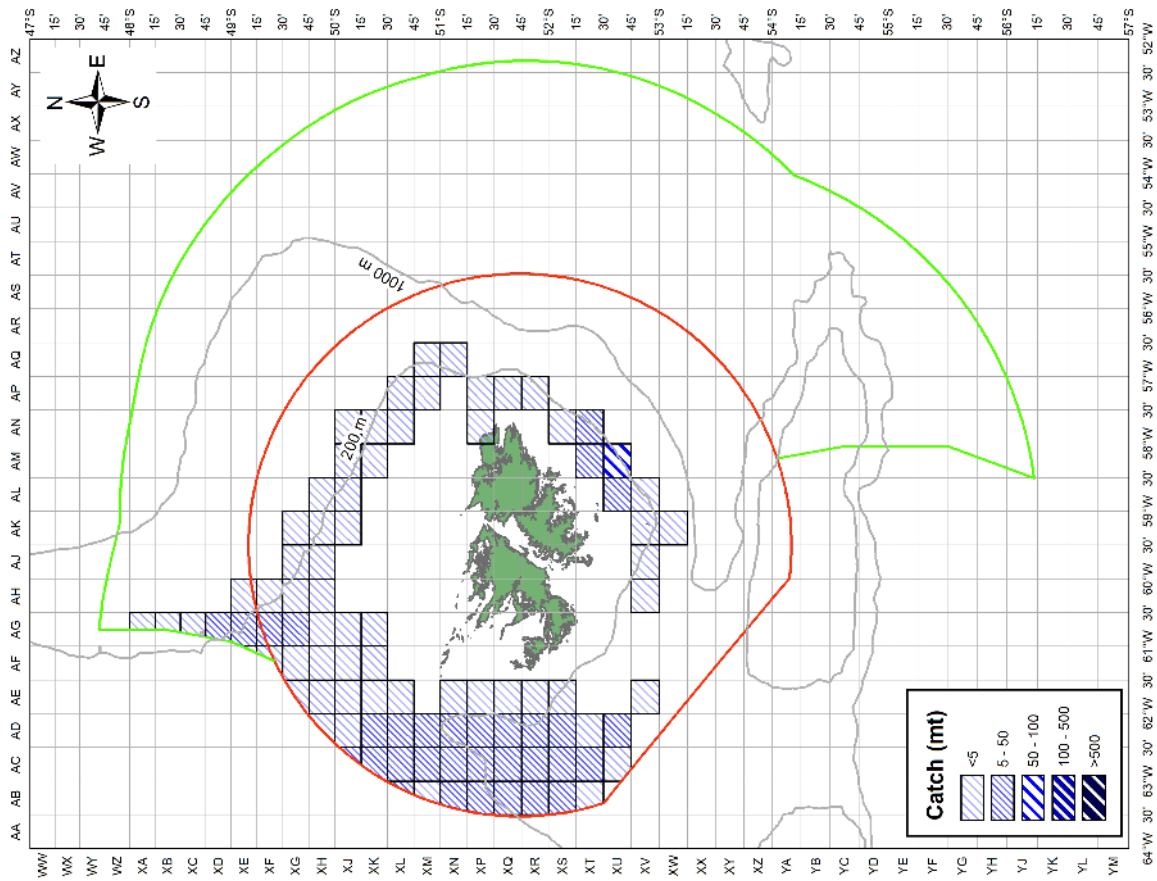
Table H.5 Total catch (tonnes) by gross tonnage (GT) and year

GRT	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<400	-	-	-	-	-	-	-	-	-	-
400-599	-	-	-	-	-	-	-	-	-	-
600-799	484	633	467	508	401	480	143	360	171	100
800-999	444	618	610	600	648	783	275	336	372	202
1,000-1,499	1,889	2,004	2,584	1,399	1,387	793	409	517	790	560
1,500-1,999	1,268	1,285	1,256	881	869	1,053	469	425	399	459
2,000-2,999	124	89	248	77	34	34	83	17	36	96
>2,999	0	-	-	2	-	0	-	-	-	-
	4,210	4,629	5,164	3,467	3,340	3,143	1,379	1,655	1,768	1,418

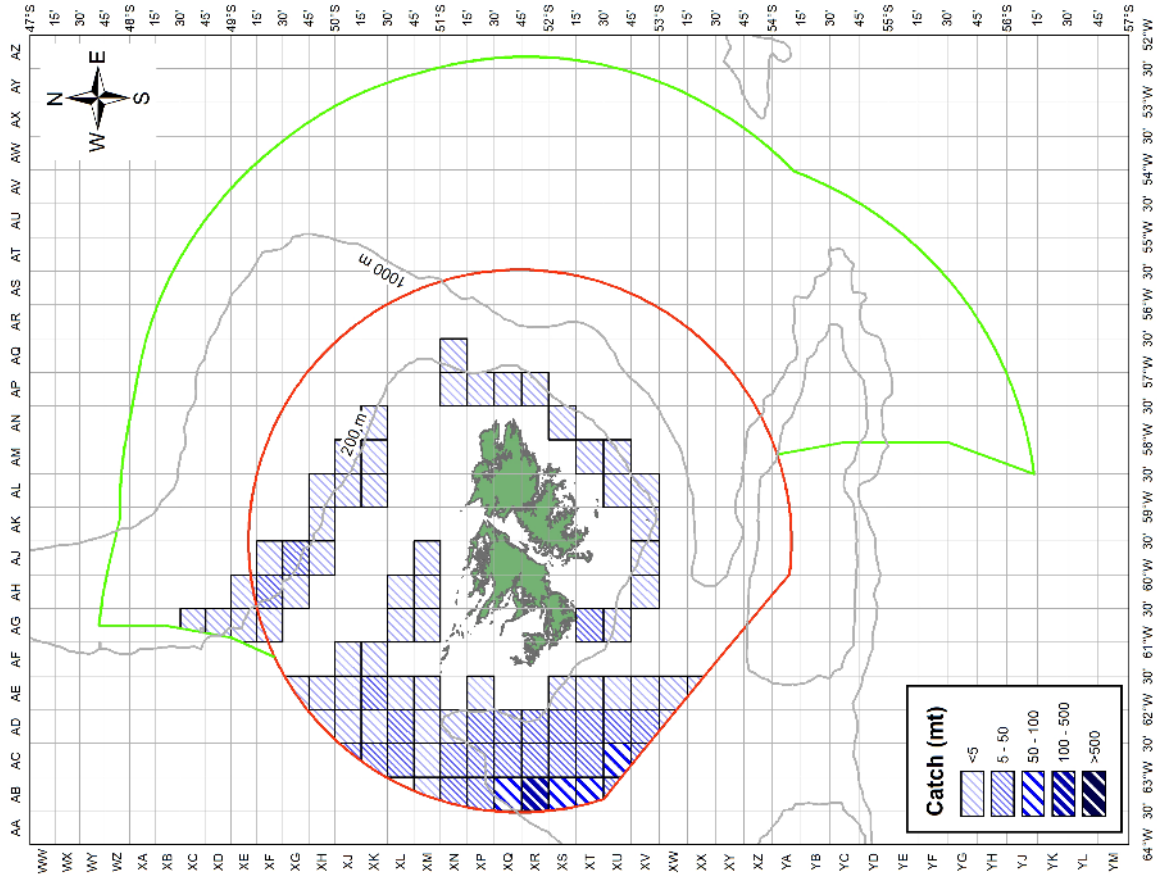
Table H.6 Total catch (tonnes) by length overall (m) (LOA) and year

LOA	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<45	78	-	9	3	8	56	-	2	-	8
45-49	173	214	123	98	111	99	12	114	-	-
50-54	331	719	585	662	509	584	230	390	239	182
55-59	819	827	652	309	418	293	177	137	314	84
60-64	731	868	1,333	720	493	351	122	250	250	235
65-69	1,508	1,435	1,418	1,005	1,086	939	421	398	619	513
70-79	452	483	903	630	695	772	369	305	336	319
80-89	59	12	18	16	12	48	28	54	4	30
>89	59	70	123	25	8	2	19	5	6	47
	4,210	4,629	5,164	3,467	3,340	3,143	1,379	1,655	1,768	1,418

Salilota australis
Second Season 2020 (01 Jul to 31 Dec)

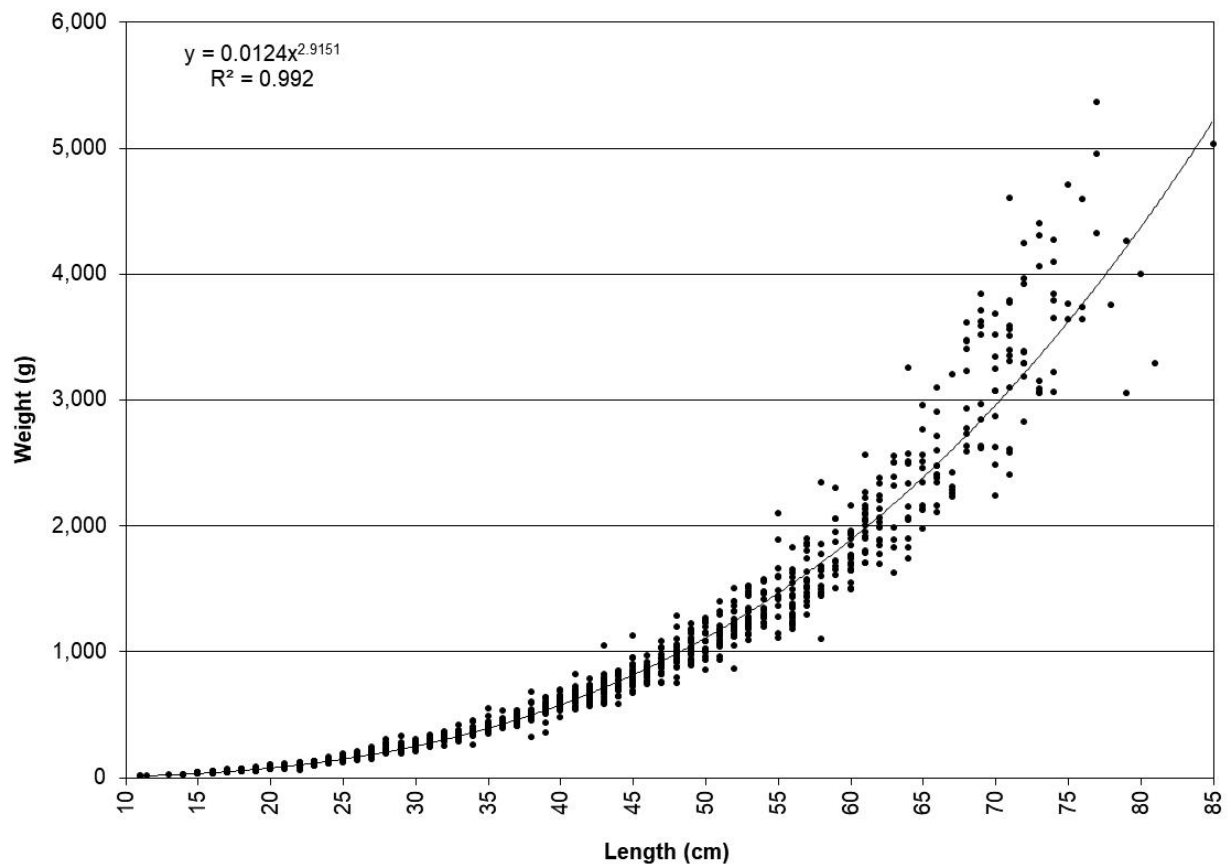
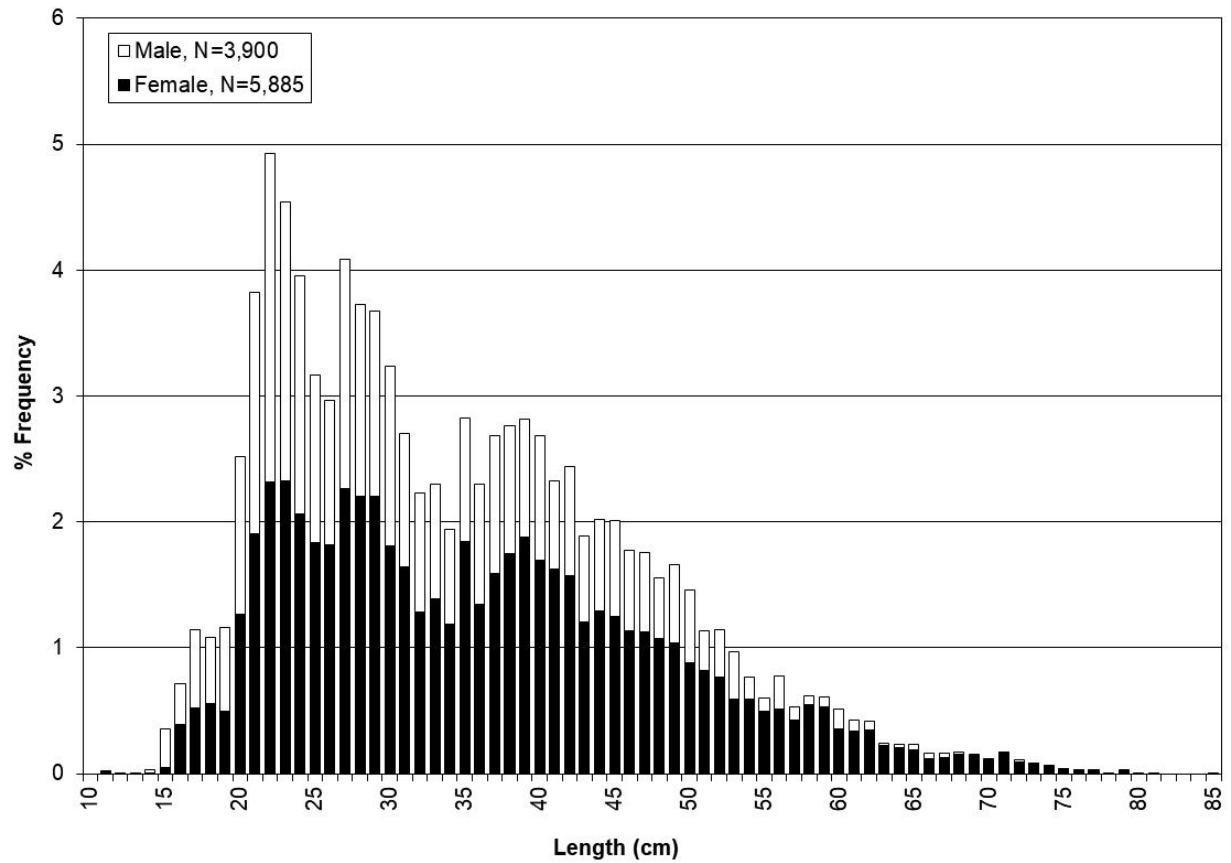


Salilota australis
First Season 2020 (01 Jan to 30 Jun)



Salilota australis - Red cod

Length– frequency distribution and length-weight relationship in 2020



***Merluccius* spp - Hakes**

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

VESSEL TYPE	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
LO	-	-	0	-	-	-	-	-	-	-
TR	9,936	10,486	12,317	14,865	21,068	23,894	15,759	27,094	53,474	43,375
	9,936	10,486	12,317	14,865	21,068	23,894	15,759	27,094	53,474	43,375

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

MONTH	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
January	12	4	56	-	1	62	10	-	42	18
February	199	65	166	30	29	231	11	12	164	50
March	260	517	232	224	382	155	237	144	1,708	294
April	2,005	1,388	1,169	680	1,266	821	2,236	1,130	6,642	3,640
May	1,979	1,895	1,615	3,168	3,277	5,847	2,589	5,183	11,418	7,335
June	726	1,125	1,129	2,506	1,912	3,500	1,696	4,130	10,181	6,949
July	858	942	1,225	2,065	3,508	3,461	2,875	5,242	9,947	7,025
August	1,145	2,473	2,468	2,706	3,619	3,453	1,821	3,830	7,215	5,000
September	1,598	1,260	2,638	2,431	5,153	3,273	3,414	4,124	5,403	6,769
October	930	644	1,480	862	1,823	3,054	840	3,177	743	5,379
November	201	151	135	189	62	27	23	107	9	917
December	22	21	4	3	36	10	5	15	3	-
	9,936	10,486	12,317	14,865	21,068	23,894	15,759	27,094	53,474	43,375

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

FISHING FLEET	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
CL	-	-	-	0	-	-	-	-	-	-
ES	6,019	6,950	7,253	10,454	15,429	18,858	11,019	19,434	45,145	38,963
FK	3,506	3,182	4,884	4,196	5,072	4,739	4,443	7,338	7,981	4,300
JP	1	-	-	-	-	-	-	-	-	-
KR	221	283	130	159	351	191	199	210	25	26
UK	190	71	50	56	215	106	98	112	322	85
	9,936	10,486	12,317	14,865	21,068	23,894	15,759	27,094	53,474	43,375

***Merluccius* spp - Hakes**

Table I.4 Total catch (tonnes) by license used and year

Licence Used	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
A	5,055	5,322	6,934	8,475	12,231	15,620	11,181	20,405	27,260	20,863
B	49	64	0	22	29	-	76	46	25	26
C	16	1	-	2	-	8	11	69	125	117
E	14	58	69	4	11	3	33	39	92	81
F	236	301	269	313	716	406	191	116	214	494
G	2,250	2,229	1,792	1,977	2,962	3,285	3,034	3,285	11,207	8,255
L	-	-	0	-	-	-	-	-	-	-
S	1	-	-	0	0	-	-	-	-	-
W	2,267	2,470	3,233	4,070	5,088	4,530	1,174	3,047	14,461	13,284
X	47	41	20	2	31	42	60	88	90	255
	9,936	10,486	12,317	14,865	21,068	23,894	15,759	27,094	53,474	43,375

Table I.5 Total catch (tonnes) by gross tonnage (GT) and year

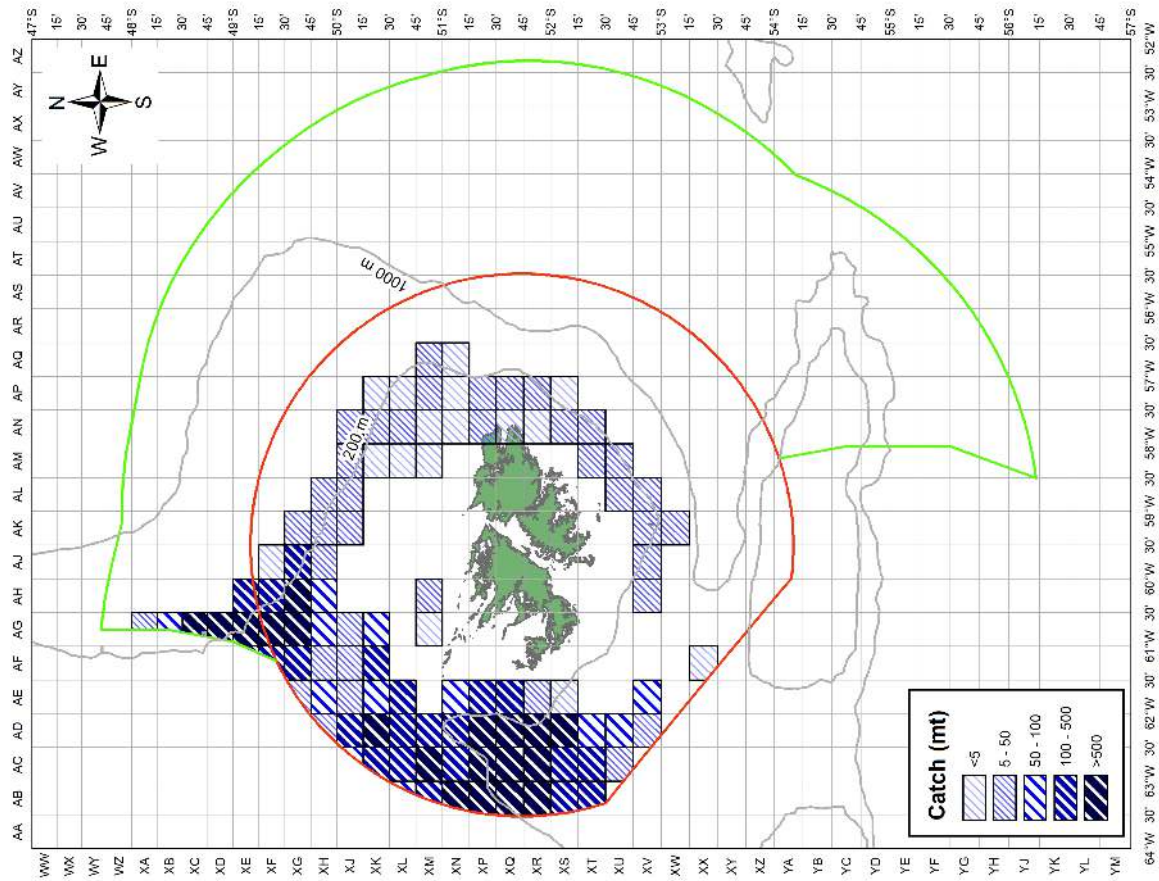
GRT	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<400	-	-	-	-	-	-	-	-	-	-
400-599	-	-	-	-	-	-	-	-	-	-
600-799	1,138	1,178	1,251	1,815	2,201	2,171	2,336	3,085	6,069	2,840
800-999	872	762	1,715	2,055	3,843	4,452	2,699	8,379	12,741	8,986
1,000-1,499	5,907	6,939	7,149	7,916	10,035	12,016	5,998	10,607	20,446	19,712
1,500-1,999	1,904	1,483	2,125	3,030	4,115	5,034	4,516	4,931	14,125	11,171
2,000-2,999	90	42	70	41	874	213	210	92	92	667
>2,999	25	81	7	7	-	9	-	-	-	-
	9,936	10,486	12,317	14,865	21,068	23,894	15,759	27,094	53,474	43,375

Table I.6 Total catch (tonnes) by length overall (m) (LOA) and year

LOA	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<45	165	-	6	15	42	51	-	109	-	377
45-49	641	496	852	564	1,358	990	767	1,961	-	-
50-54	839	1,195	1,256	2,009	2,640	3,269	3,067	4,963	8,922	5,422
55-59	1,719	2,218	2,760	1,836	1,856	2,760	2,147	3,911	10,772	7,063
60-64	2,100	2,747	2,813	4,415	4,671	6,149	1,640	3,835	8,285	8,422
65-69	2,698	2,100	2,160	2,892	5,786	6,329	3,747	7,278	15,758	13,458
70-79	1,606	1,605	2,304	3,127	4,498	4,063	3,489	4,798	9,311	7,898
80-89	133	3	155	-	212	265	720	193	389	403
>89	36	122	10	7	4	18	182	47	37	333
	9,936	10,486	12,317	14,865	21,068	23,894	15,759	27,094	53,474	43,375

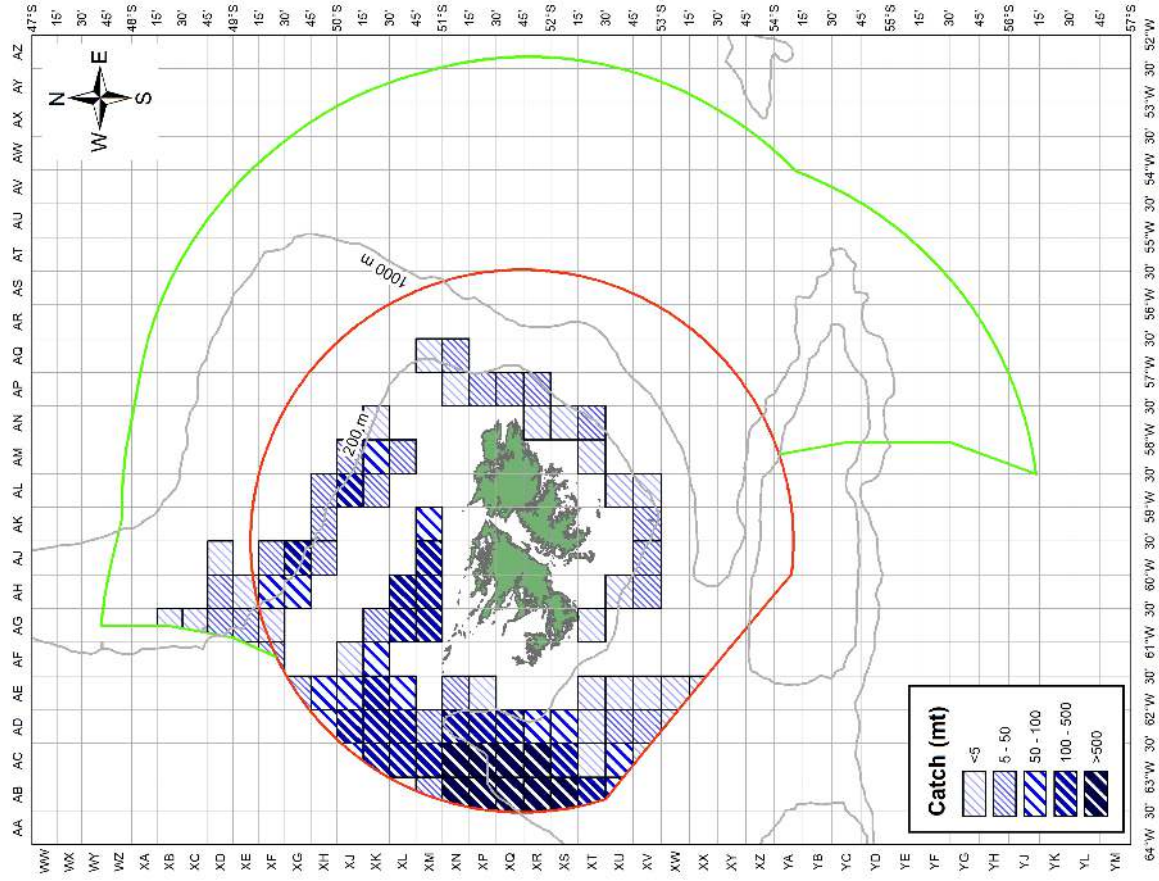
Merluccius spp.

Second Season 2020 (01 Jul to 31 Dec)



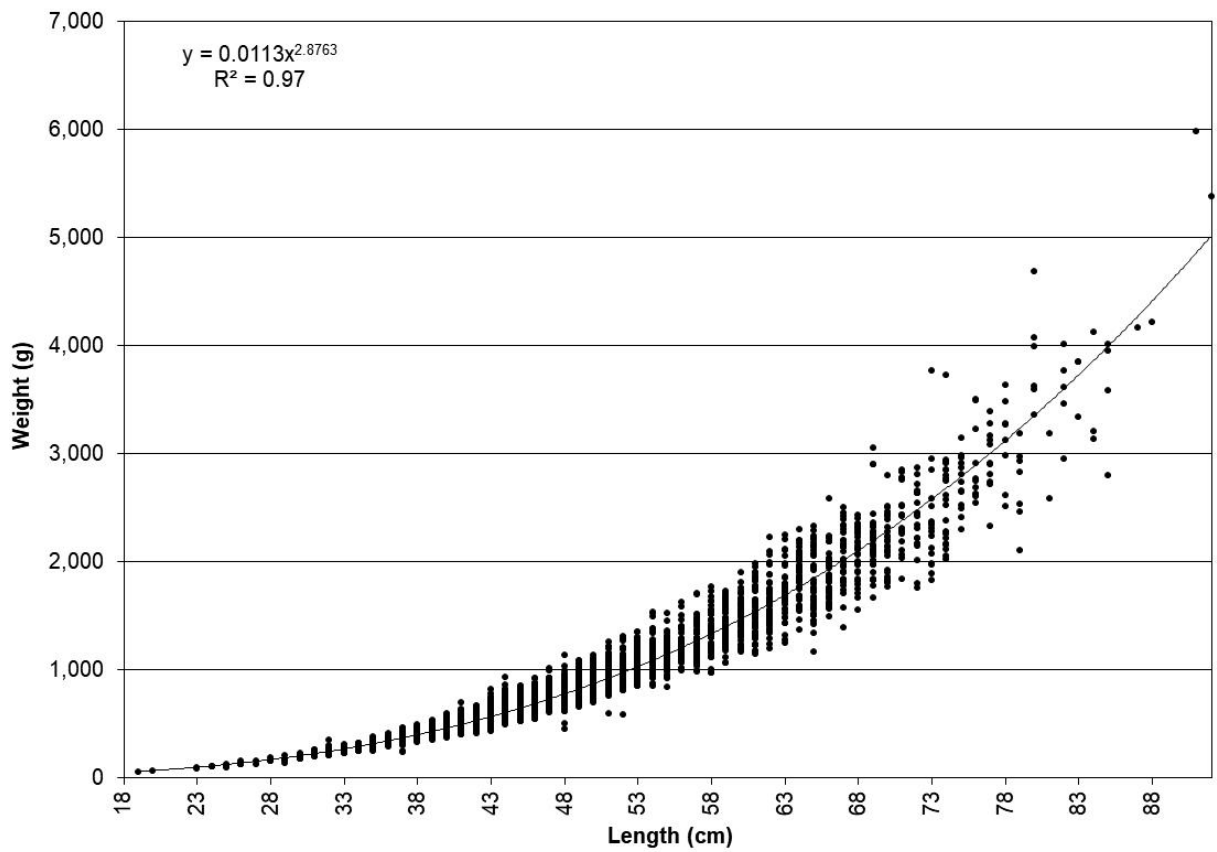
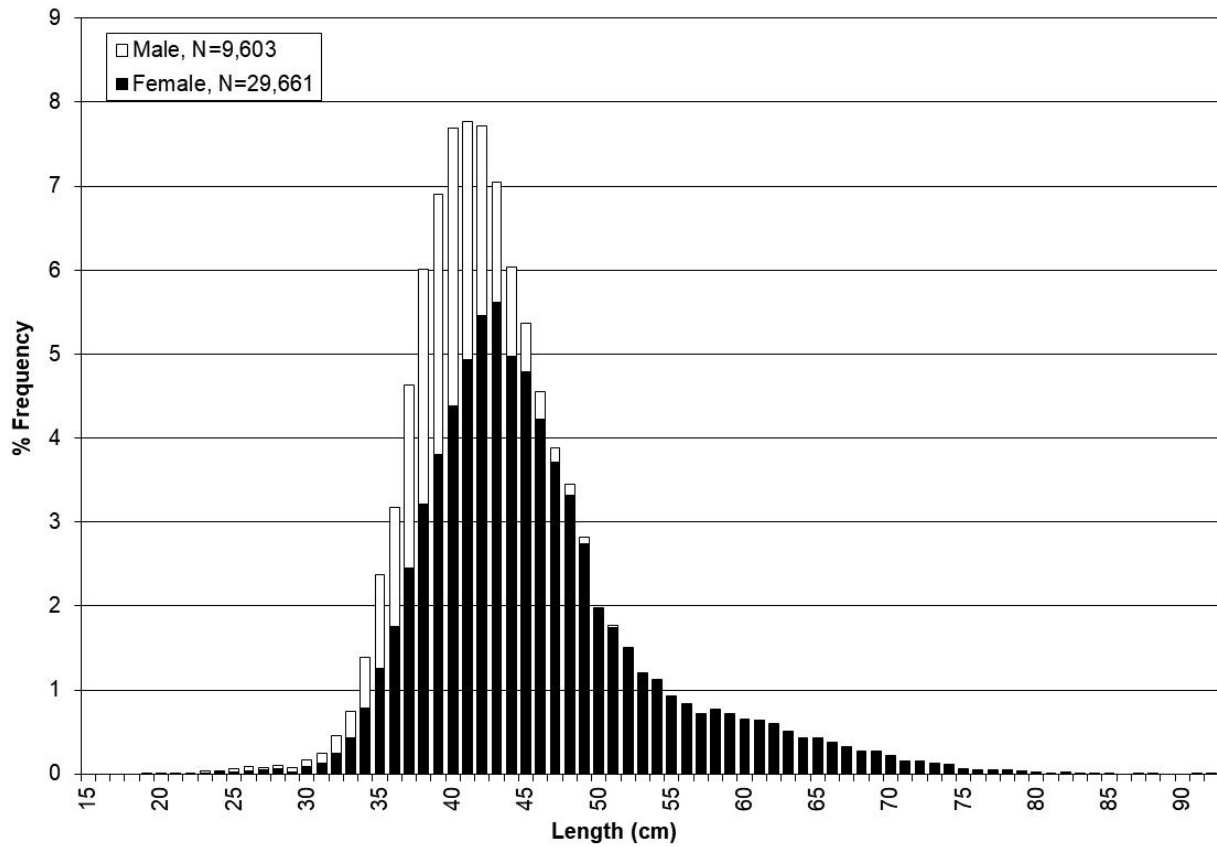
Merluccius spp.

First Season 2020 (01 Jan to 30 Jun)



Merluccius spp - Hakes

Length– frequency distribution and length-weight relationship in *M.hubbsi* in 2020



***Genypterus blacodes* - Kingclip**

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

VESSEL TYPE	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
TR	3,867	3,510	3,977	2,881	2,983	1,612	1,632	1,443	1,711	1,625
	3,867	3,510	3,977	2,881	2,983	1,612	1,632	1,443	1,711	1,625

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

MONTH	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
January	163	12	108	-	1	62	12	-	98	27
February	296	138	188	65	50	175	7	22	109	73
March	214	277	153	141	200	52	67	41	148	45
April	429	338	281	189	250	134	110	110	247	157
May	728	389	358	372	314	205	107	276	280	215
June	141	134	114	324	288	78	42	115	268	248
July	226	170	140	296	159	154	168	219	281	257
August	421	570	836	387	226	234	251	156	167	136
September	462	390	843	357	491	142	410	134	68	130
October	309	420	653	491	503	337	310	209	39	257
November	310	432	234	203	265	23	142	106	1	80
December	167	240	67	57	237	15	8	55	5	-
	3,867	3,510	3,977	2,881	2,983	1,612	1,632	1,443	1,711	1,625

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

FISHING FLEET	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ES	2,933	2,583	3,053	2,219	2,370	1,280	1,386	1,069	1,459	1,461
FK	851	858	843	548	502	312	225	353	240	158
JP	0	-	-	-	-	-	-	-	-	-
KR	47	62	72	107	90	19	10	18	9	2
UK	35	7	9	7	22	1	11	4	2	4
	3,867	3,510	3,977	2,881	2,983	1,612	1,632	1,443	1,711	1,625

***Genypterus blacodes* - Kingclip**

Table J.4 Total catch (tonnes) by license used and year

Licence Used	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
A	1,076	990	848	612	669	518	691	767	629	635
B	20	31	0	11	13	-	3	2	9	2
C	8	1	1	3	0	0	6	1	3	2
E	14	34	34	8	15	6	8	5	10	5
F	53	40	84	66	85	13	15	12	5	77
G	1,104	755	695	469	663	338	238	288	443	328
S	0	-	-	-	-	-	-	-	-	-
W	1,566	1,649	2,299	1,712	1,537	692	669	368	606	572
X	28	9	17	2	1	46	2	1	7	4
	3,867	3,510	3,977	2,881	2,983	1,612	1,632	1,443	1,711	1,625
	3,639	3,867	3,510	3,977	2,881	2,983	1,612	1,632	1,446	1,712

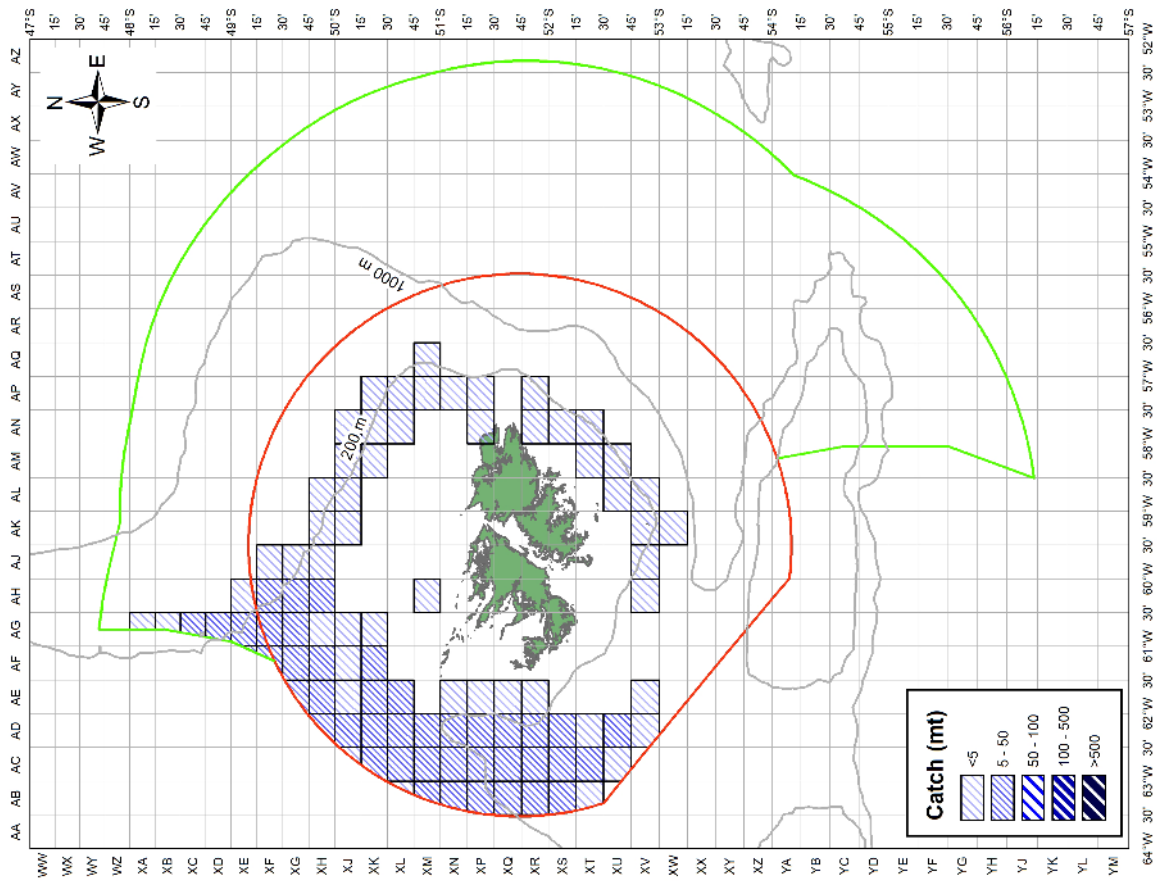
Table J.5 Total catch (tonnes) by gross tonnage (GT) and year

GRT	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<400	-	-	-	-	-	-	-	-	-	-
400-599	-	-	-	-	-	-	-	-	-	-
600-799	481	518	410	291	338	141	146	186	163	110
800-999	404	456	904	710	612	434	204	347	387	349
1,000-1,499	2,000	1,905	1,889	1,182	1,350	543	710	541	711	676
1,500-1,999	972	625	760	683	648	465	552	367	441	455
2,000-2,999	11	5	14	13	36	30	20	2	9	34
>2,999	0	1	0	2	-	0	-	-	-	-
	3,867	3,510	3,977	2,881	2,983	1,612	1,632	1,443	1,711	1,625

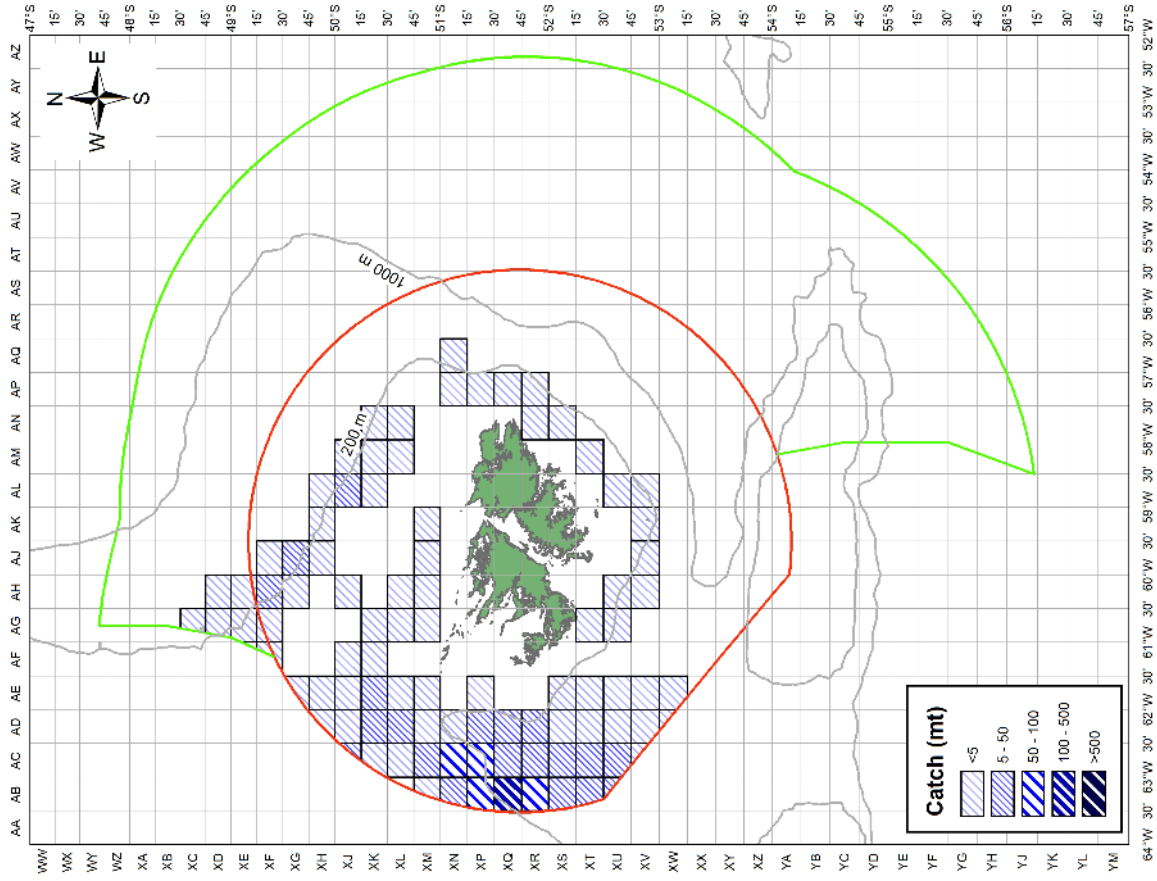
Table J.6 Total catch (tonnes) by length overall (m) (LOA) and year

LOA	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<45	101	-	11	13	24	41	-	6	-	11
45-49	173	177	182	63	105	31	23	111	-	-
50-54	348	548	601	558	494	260	212	247	267	273
55-59	773	803	818	303	291	204	183	218	375	185
60-64	820	816	950	464	639	251	87	210	244	314
65-69	1,151	786	814	992	956	437	642	376	490	481
70-79	474	375	579	481	470	361	448	249	316	321
80-89	26	2	19	2	5	27	25	24	15	36
>89	1	4	3	4	-	0	12	1	4	5
	3,867	3,510	3,977	2,881	2,983	1,612	1,632	1,443	1,711	1,625

Genypterus blacodes
Second Season 2020 (01 Jul to 31 Dec)

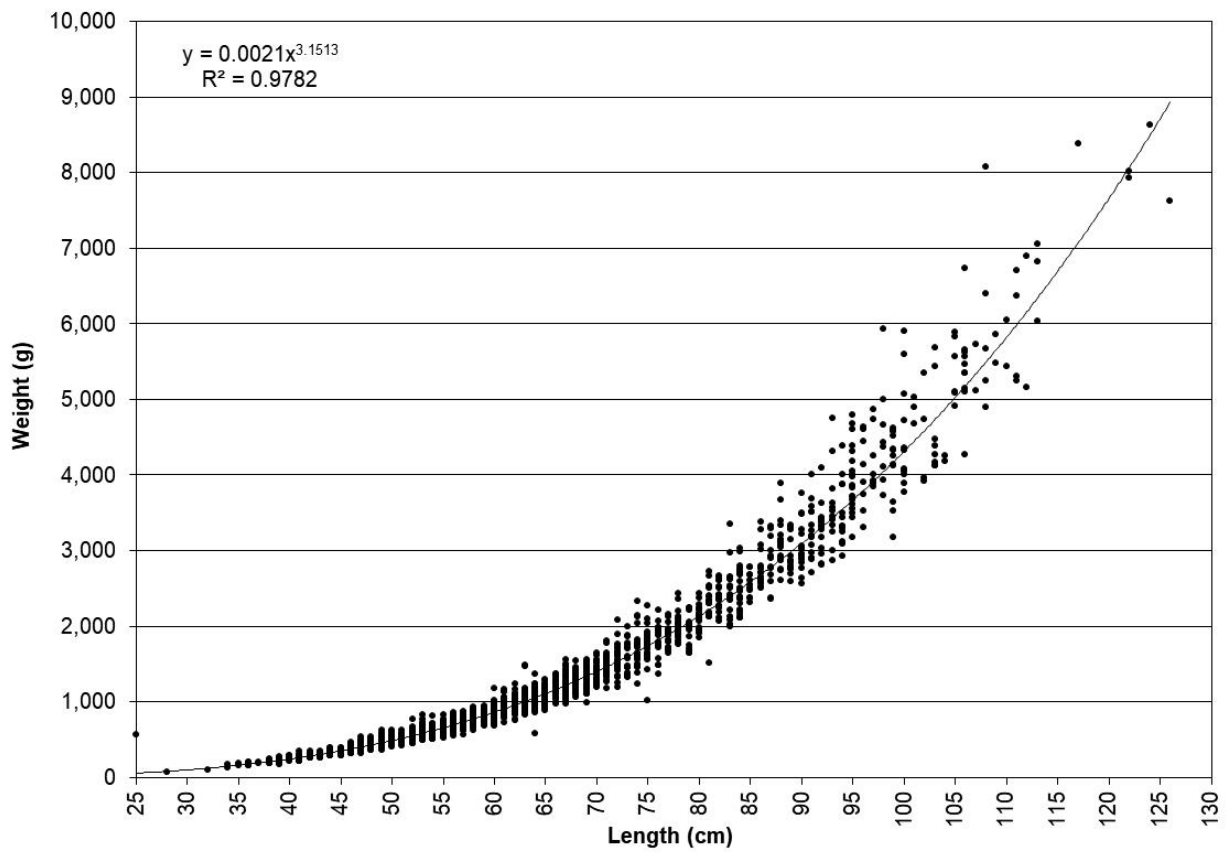
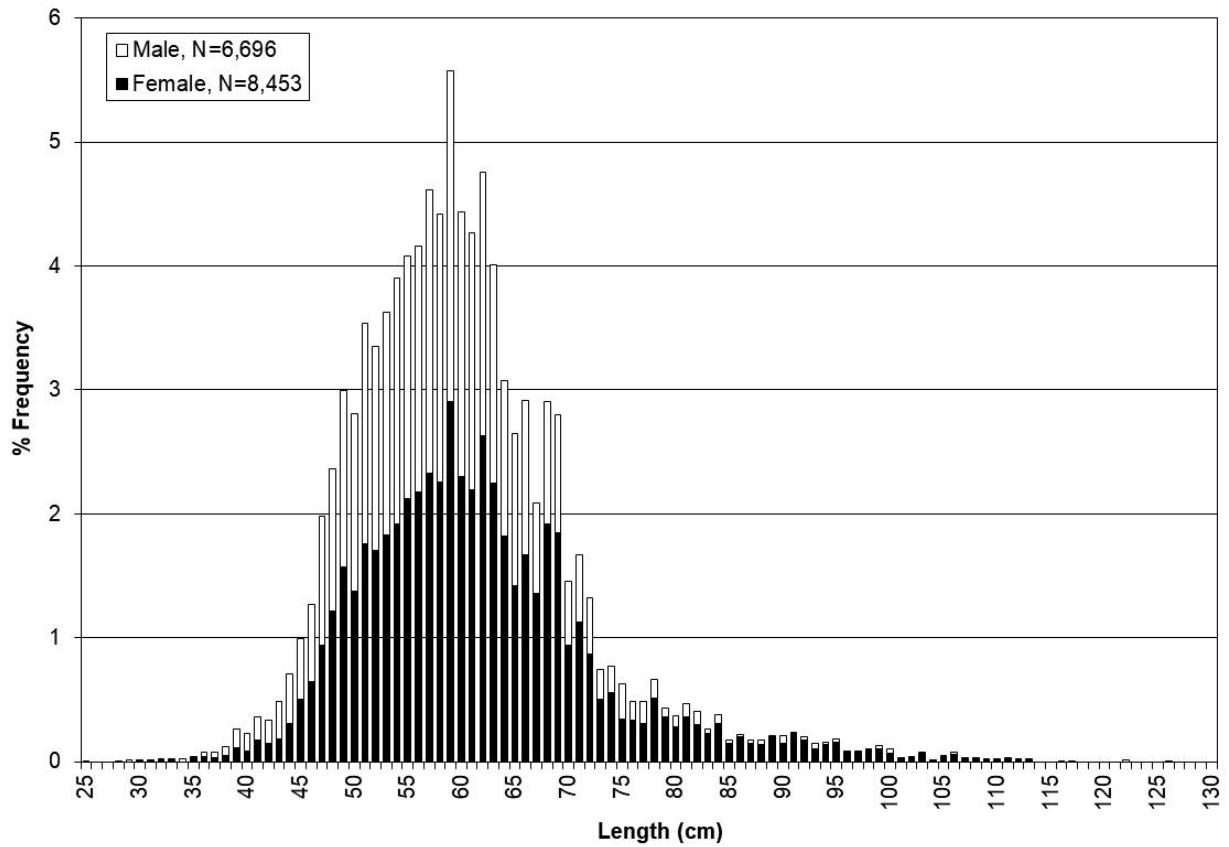


Genypterus blacodes
First Season 2020 (01 Jan to 30 Jun)



Genypterus blacodes - Kingclip

Length– frequency distribution and length-weight relationship in 2020



***Dissostichus eleginoides* - Toothfish**

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

VESSEL TYPE	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
LO	1,221	1,085	1,301	1,252	1,123	1,023	1,030	982	1,049	1,044
TR	339	226	120	45	103	476	489	277	268	202
	1,560	1,311	1,421	1,297	1,227	1,499	1,519	1,259	1,317	1,246

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

MONTH	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
January	131	136	140	125	161	172	24	116	141	165
February	138	159	91	109	111	146	9	40	130	167
March	84	122	133	73	142	218	23	163	142	173
April	182	159	193	121	118	157	37	161	198	163
May	161	131	153	36	71	156	174	56	44	89
June	82	91	22	72	49	105	72	7	6	9
July	180	133	128	130	134	160	168	30	8	7
August	216	162	196	37	130	217	39	27	50	8
September	165	101	207	234	34	30	115	148	144	33
October	55	19	2	115	19	46	241	200	196	194
November	30	23	8	107	18	36	384	157	103	98
December	136	76	146	139	239	55	233	154	153	139
	1,560	1,311	1,421	1,297	1,227	1,499	1,519	1,259	1,317	1,246

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

FISHING FLEET	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
CL	-	-	-	353	-	-	249	-	-	-
ES	260	155	81	34	87	367	396	207	205	153
FK	1,287	1,150	1,339	911	1,134	1,122	833	1,045	1,111	1,092
KR	7	7	1	0	5	10	40	6	0	-
UK	6	0	-	-	0	-	1	1	0	2
	1,560	1,311	1,421	1,297	1,227	1,499	1,519	1,259	1,317	1,246

***Dissostichus eleginoides* - Toothfish**

Table K.4 Total catch (tonnes) by license used and year

Licence Used	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
A	72	47	16	6	6	44	50	77	33	22
B	0	-	-	-	-	-	-	0	0	-
C	2	0	2	0	2	12	9	5	5	2
E	38	2	1	0	1	5	3	3	2	1
F	11	8	1	0	8	13	42	6	1	1
G	64	63	56	27	7	114	68	89	45	21
L	1,221	1,085	1,301	1,252	1,123	1,020	1,030	982	1,049	1,043
S	-	-	-	-	-	0	-	-	-	-
W	128	99	38	11	75	250	300	93	179	153
X	24	6	5	1	4	40	16	5	2	2
	1,560	1,311	1,421	1,297	1,227	1,499	1,519	1,259	1,317	1,246

Table K.5 Total catch (tonnes) by gross tonnage (GT) and year

GRT	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<400	-	-	-	-	-	-	-	-	-	-
400-599	-	-	-	-	-	-	-	-	-	-
600-799	31	44	10	7	5	35	19	34	20	12
800-999	1,263	1,118	1,197	906	1,141	1,198	98	61	58	30
1,000-1,499	84	66	166	370	51	77	482	93	122	90
1,500-1,999	176	82	44	15	29	173	909	1,067	1,109	1,109
2,000-2,999	6	2	3	-	1	16	10	4	8	5
>2,999	-	-	-	-	-	-	-	-	-	-
	1,560	1,311	1,421	1,297	1,227	1,499	1,519	1,259	1,317	1,246

Table K.6 Total catch (tonnes) by length overall (m) (LOA) and year

LOA	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<45	7	-	-	-	5	21	-	-	-	-
45-49	9	8	2	1	0	4	1	13	-	-
50-54	1,250	1,136	1,195	908	1,135	1,083	66	43	25	17
55-59	34	33	136	4	5	44	819	1,003	1,076	1,050
60-64	27	14	19	362	25	9	362	54	43	45
65-69	128	75	32	16	28	221	159	90	116	91
70-79	101	44	36	8	28	102	104	48	53	35
80-89	5	-	-	-	1	11	4	7	1	7
>89	-	2	0	-	-	4	3	1	1	1
	1,560	1,311	1,421	1,297	1,227	1,499	1,519	1,259	1,317	1,246

***Dissostichus eleginoides* - Toothfish**

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

GRT	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
800-999	1,221	1,085	1,184	900	1,123	1,023	-	-	-	-
1,000-1,499	-	-	117	353	-	-	249	-	-	-
1,500-1,999	-	-	-	-	-	-	781	982	1,049	1,044
	1,221	1,085	1,301	1,252	1,123	1,023	1,030	982	1,049	1,044

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

LOA	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
50-54	1,221	1,085	1,184	900	1,123	1,023	-	-	-	-
55-59	-	-	117	-	-	-	781	982	1,049	1,044
60-64	-	-	-	353	-	-	249	-	-	-
	1,221	1,085	1,301	1,252	1,123	1,023	1,030	982	1,049	1,044

Table K.9 Total catch (tonnes) of trawlers by license used and year

Licence Used	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
A	72	47	16	6	6	44	50	77	33	22
B	0	-	-	-	-	-	-	0	0	-
C	2	0	2	0	2	12	9	5	5	2
E	38	2	1	0	1	2	3	3	2	1
F	11	8	1	0	8	13	42	6	1	1
G	64	63	56	27	7	114	68	89	45	21
S	-	-	-	-	-	0	-	-	-	-
W	128	99	38	11	75	250	300	93	179	153
X	24	6	5	1	4	40	16	5	2	2
	339	226	120	45	103	476	489	277	268	202

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

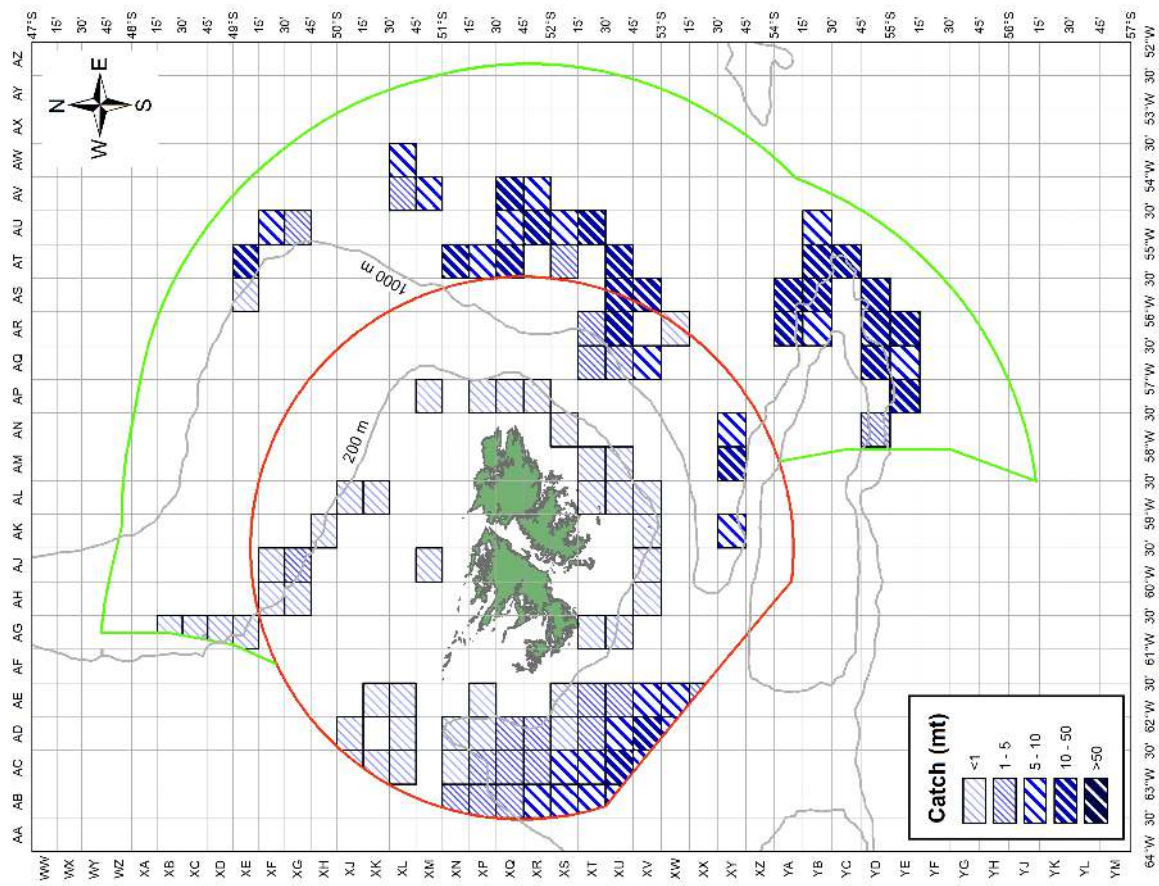
GRT	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
600-799	31	44	10	7	5	35	19	34	20	12
800-999	41	33	13	6	18	175	98	61	58	30
1,000-1,499	84	66	49	17	51	77	233	93	122	90
1,500-1,999	176	82	44	15	29	173	128	85	61	65
2,000-2,999	6	2	3	-	1	16	10	4	8	5
	339	226	120	45	103	476	489	277	268	202

***Dissostichus eleginoides* - Toothfish**

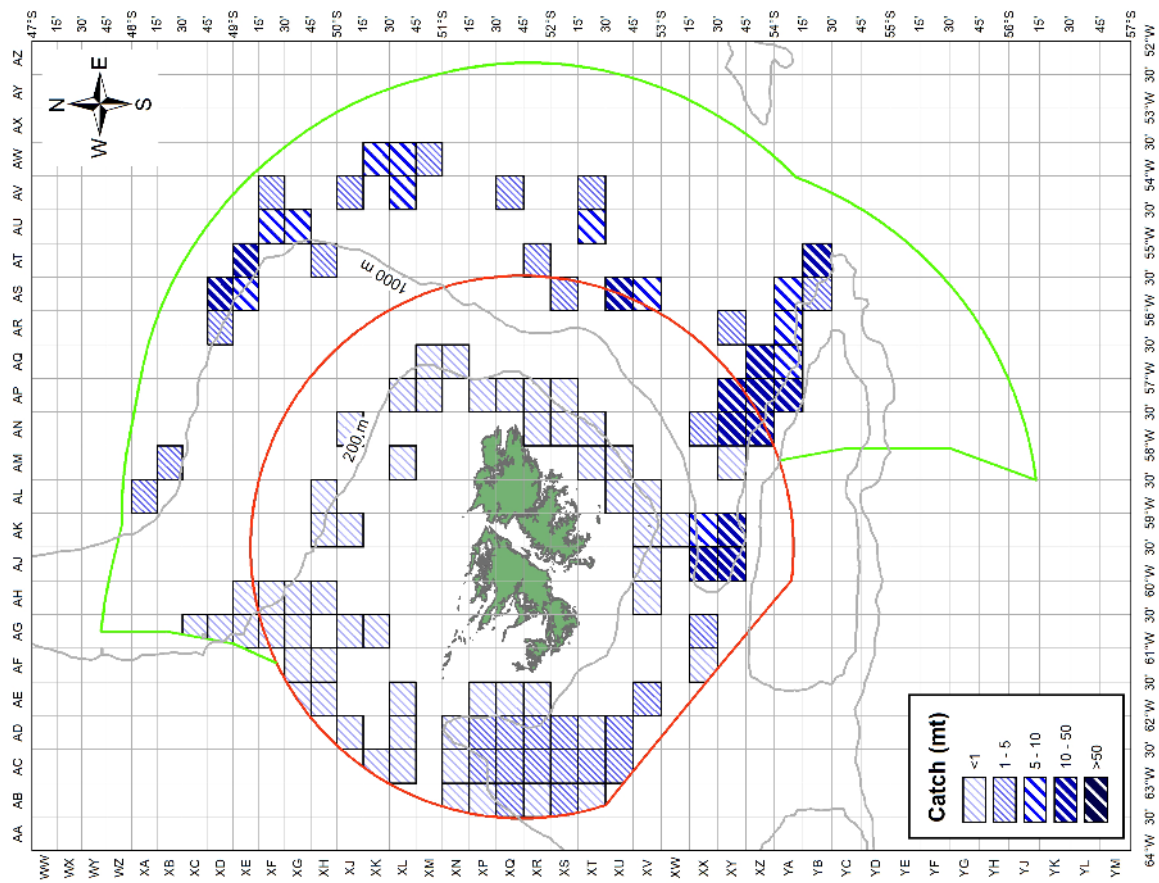
Table K.11 Total catch (tonnes) of trawlers by gross tonnage (GT) and year

LOA	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<45	7	-	-	-	5	21	-	-	-	-
45-49	9	8	2	1	0	4	1	13	-	-
50-54	29	51	12	8	11	60	66	43	25	17
55-59	34	33	19	4	5	44	38	21	28	6
60-64	27	14	19	9	25	9	113	54	43	45
65-69	128	75	32	16	28	221	159	90	116	91
70-79	101	44	36	8	28	102	104	48	53	35
80-89	5	-	-	-	1	11	4	7	1	7
>89	-	2	0	-	-	4	3	1	1	1
	339	226	120	45	103	476	489	277	268	202

Dissostichus eleginoides
First Season 2020 (01 Jan to 30 Jun)

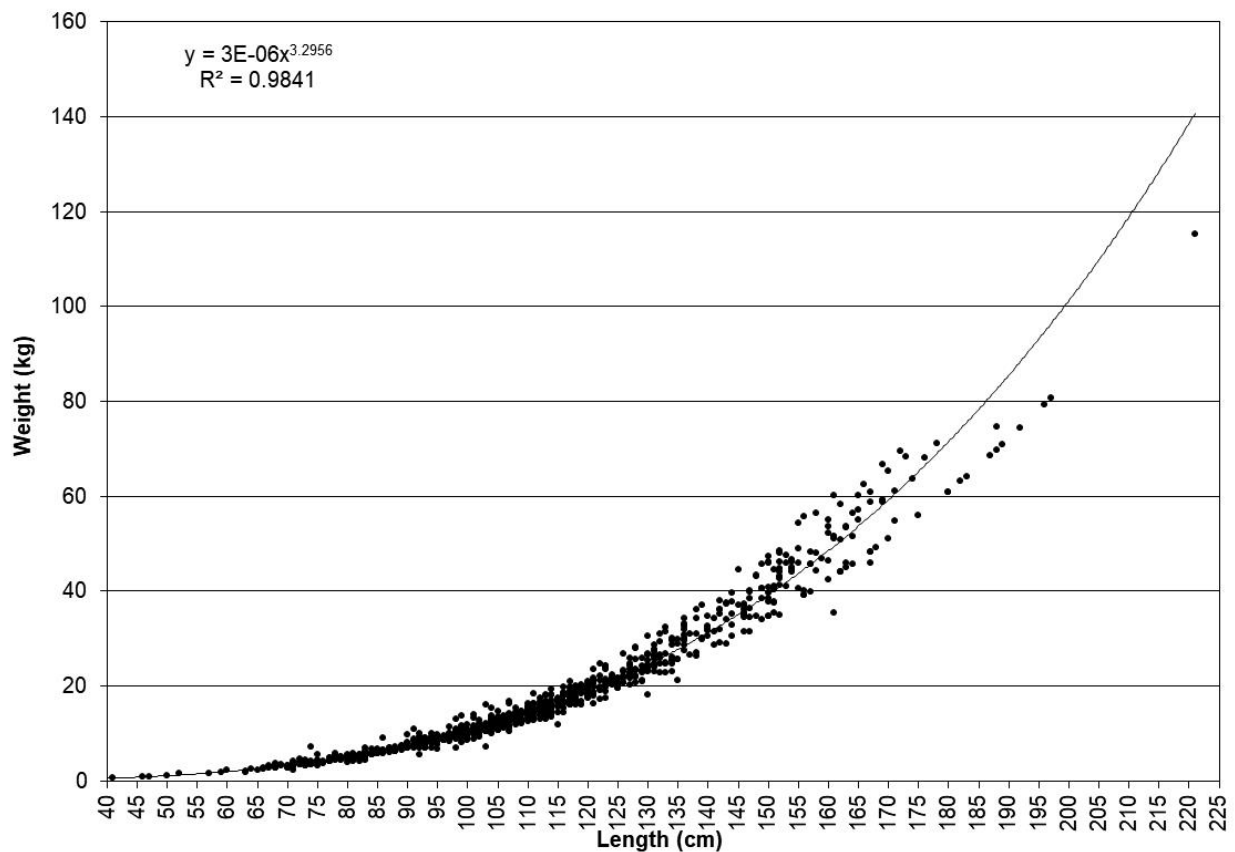
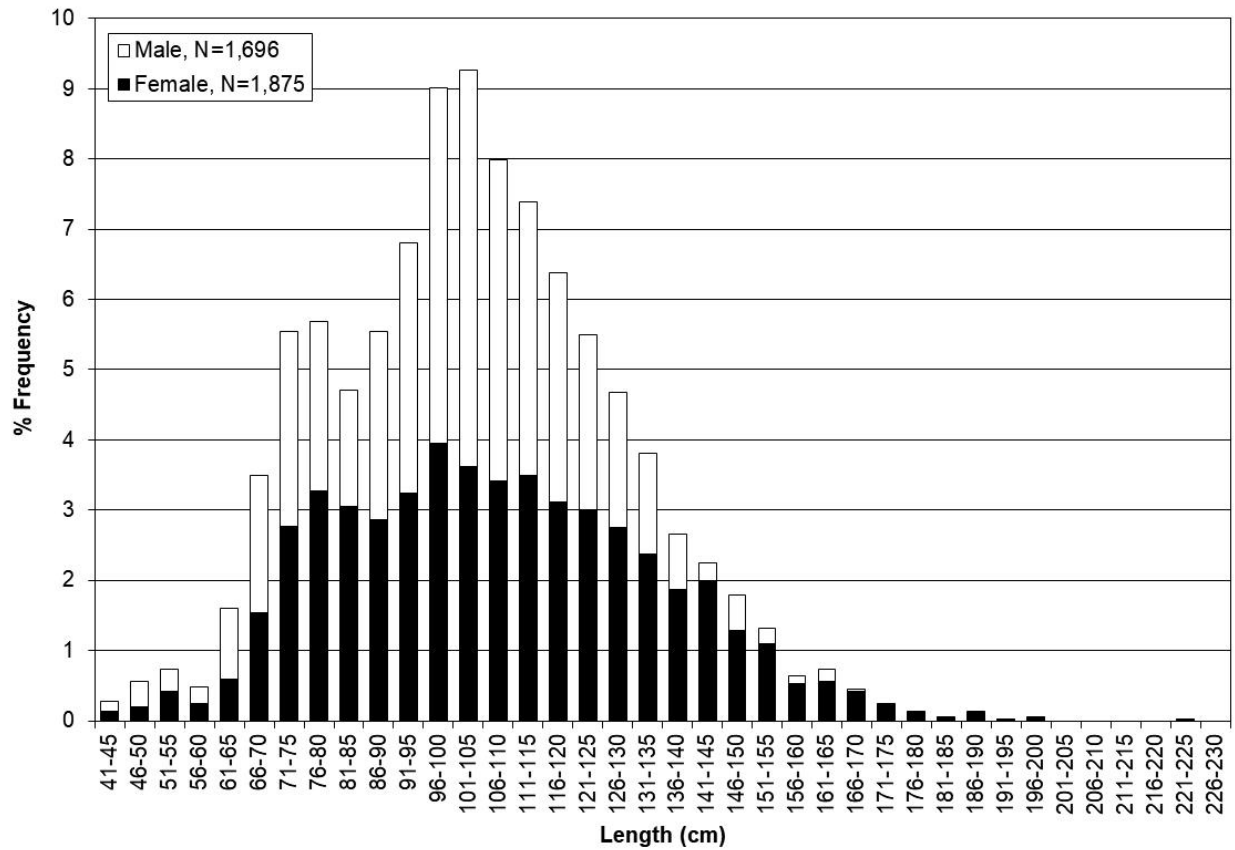


Dissostichus eleginoides
Second Season 2020 (01 Jul to 31 Dec)



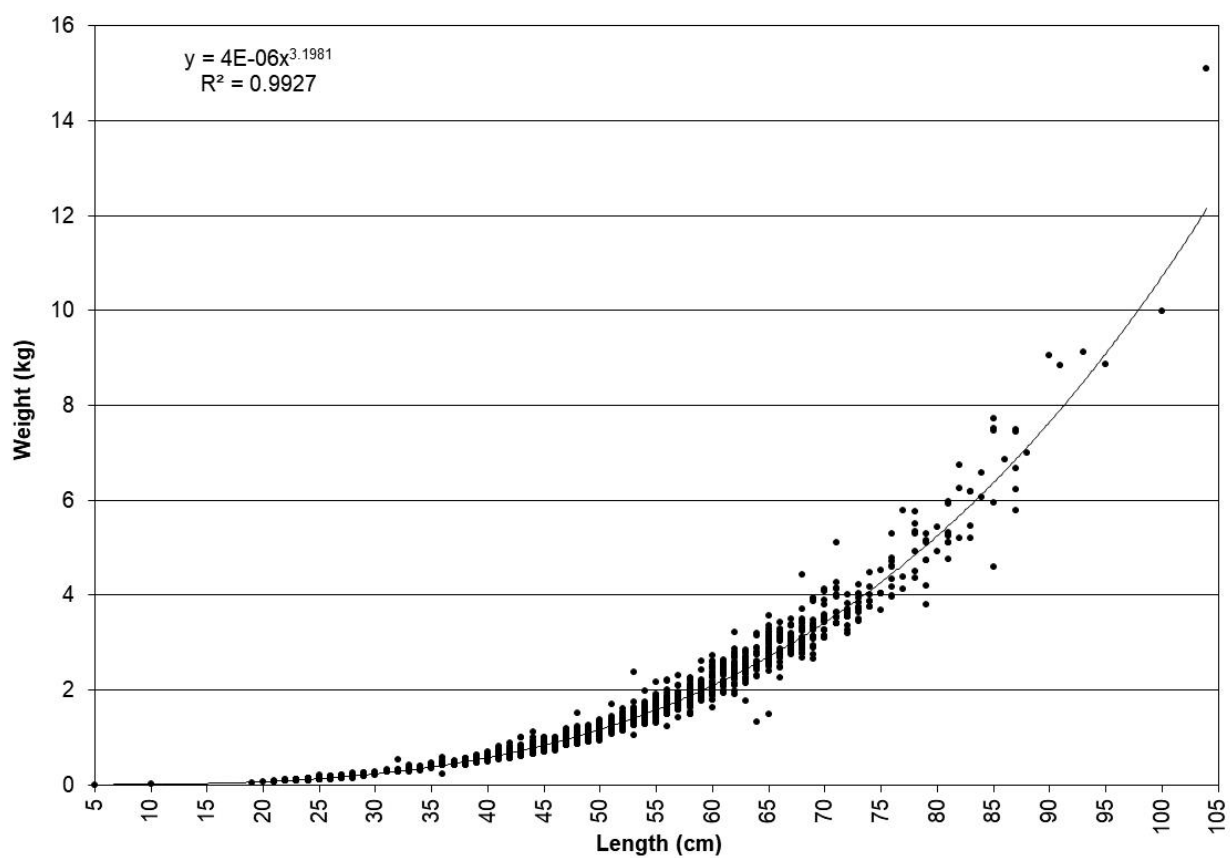
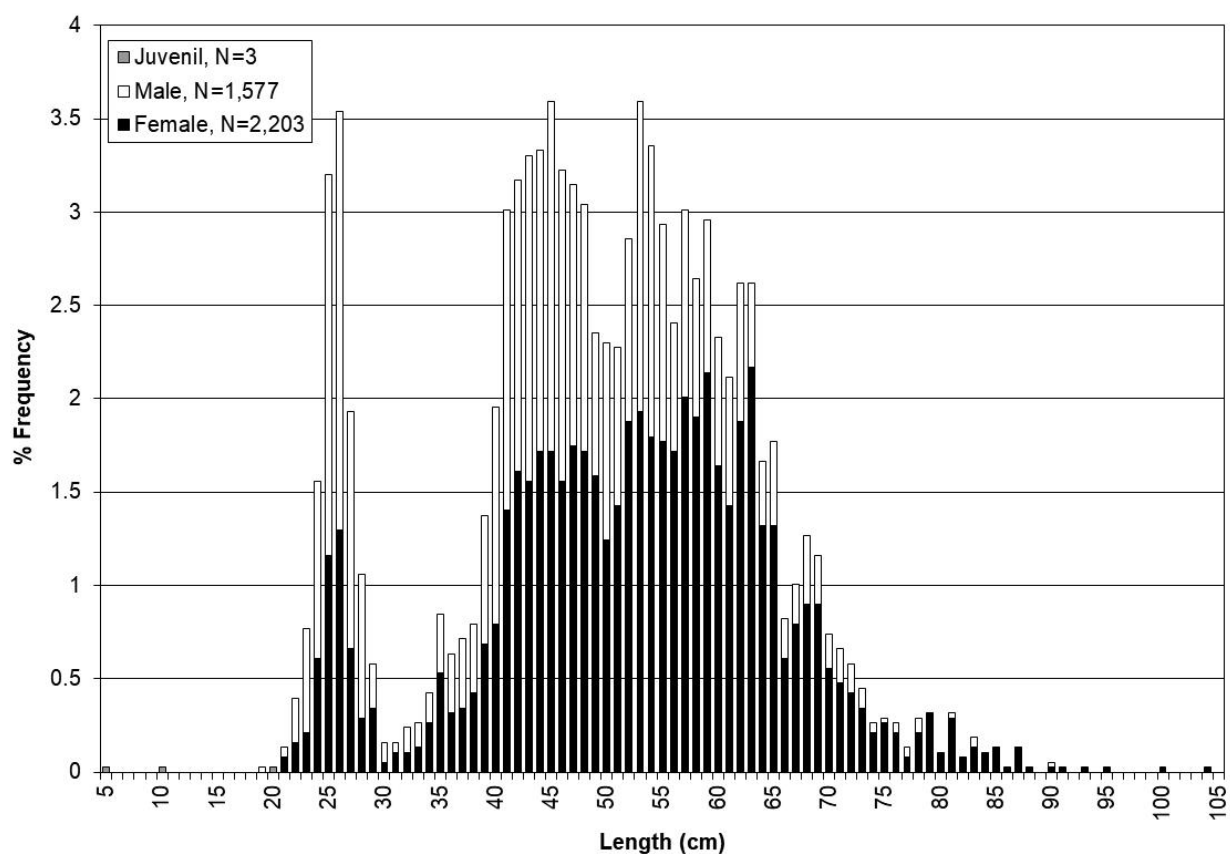
Dissostichus eleginoides - Toothfish

Length– frequency distribution and length-weight relationship in longliner fleet in 2020



Dissostichus eleginoides - Toothfish

Length– frequency distribution and length-weight relationship in trawler fleet in 2020



Rajidae - Skates and Rays

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

VESSEL TYPE	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
LO	55	32	78	32	28	29	28	28	26	28
TR	6,916	6,620	5,855	5,522	6,365	5,877	3,161	1,967	1,477	1,368
	6,972	6,652	5,933	5,554	6,393	5,906	3,189	1,995	1,504	1,397

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

MONTH	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
January	185	15	278	5	8	592	27	1	107	42
February	360	216	288	125	154	440	8	27	111	111
March	126	511	219	144	119	129	67	80	124	78
April	588	320	413	208	184	225	205	130	138	86
May	879	398	428	394	348	663	285	398	232	124
June	398	404	267	267	693	669	390	133	220	189
July	849	701	394	289	878	522	466	268	223	225
August	1,446	1,568	1,228	1,372	1,110	627	436	130	172	134
September	992	802	867	1,479	1,359	585	420	130	110	184
October	691	1,099	868	560	829	1,201	626	211	57	197
November	317	438	369	523	330	120	96	121	3	18
December	141	181	313	188	380	132	163	366	7	8
	6,972	6,652	5,933	5,554	6,393	5,906	3,189	1,995	1,504	1,397

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

FISHING FLEET	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
CL	-	-	-	3	-	-	15	-	-	-
ES	2,845	2,490	2,284	2,244	3,637	3,208	1,487	1,059	1,147	1,125
FK	1,837	1,330	1,742	1,120	837	665	602	457	342	263
KR	2,219	2,797	1,884	2,174	1,894	1,995	1,077	478	12	6
UK	71	35	23	13	24	38	8	1	3	3
	6,972	6,652	5,933	5,554	6,393	5,906	3,189	1,995	1,504	1,397

Rajidae - Skates and Rays

Table L.4 Total catch (tonnes) by license used and year

Licence Used	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
A	1,759	1,251	1,270	941	1,256	1,440	1,029	814	543	582
B	8	4	0	0	0	-	7	3	12	6
C	30	4	13	4	6	10	8	2	7	10
E	55	42	98	8	10	6	8	6	24	7
F	2,573	3,107	2,224	2,942	2,388	2,128	1,142	515	36	32
G	746	743	754	440	481	738	354	314	323	207
L	55	32	78	32	28	29	28	28	26	24
S	-	-	0	-	-	0	-	-	-	-
W	1,484	1,352	1,374	1,085	2,124	1,384	514	299	514	514
X	261	117	122	102	100	172	98	15	18	14
	6,972	6,652	5,933	5,554	6,393	5,906	3,189	1,995	1,504	1,397

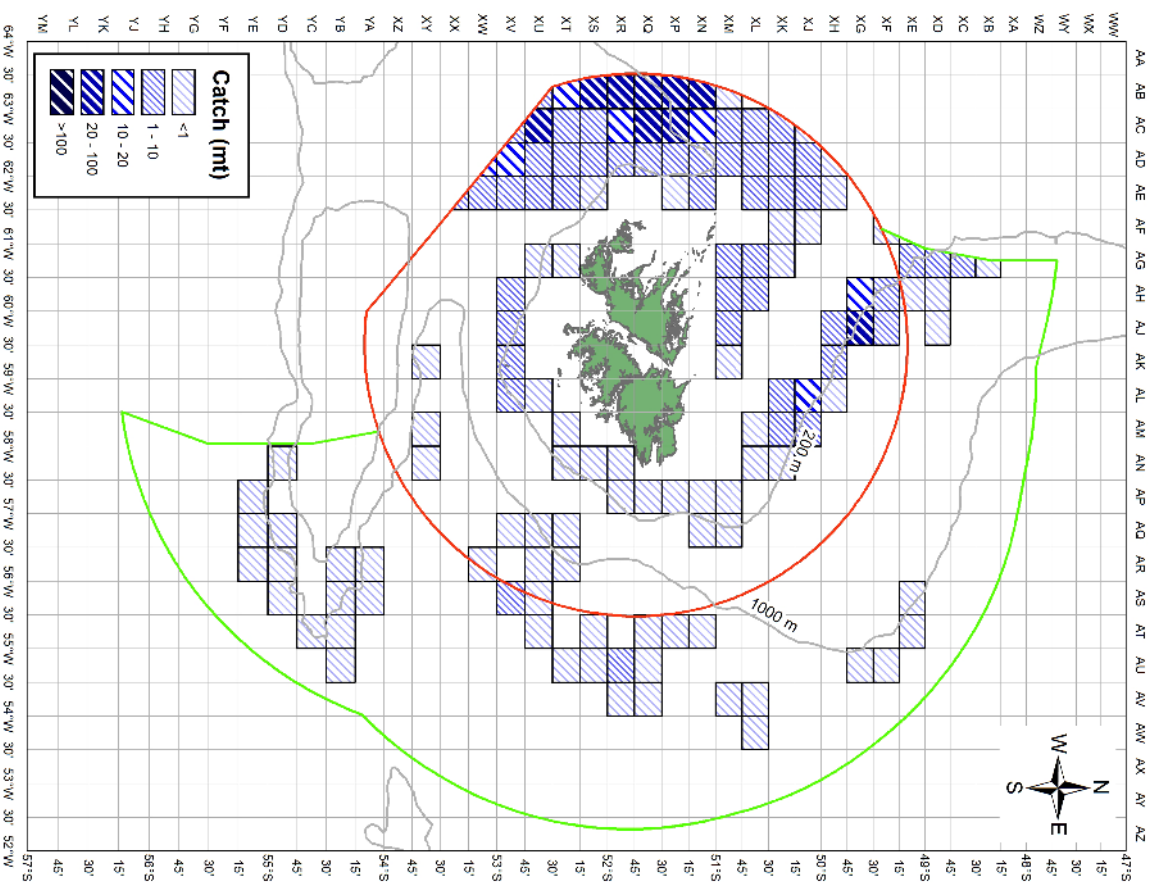
Table L.5 Total catch (tonnes) by gross tonnage (GT) and year

GRT	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<400	-	-	-	-	-	-	-	-	-	-
400-599	-	-	-	-	-	-	-	-	-	-
600-799	616	731	449	592	220	167	324	178	150	135
800-999	1,871	2,237	1,749	1,899	2,755	2,865	1,435	915	402	296
1,000-1,499	2,909	2,324	2,589	2,079	2,537	1,754	732	595	590	614
1,500-1,999	1,033	823	682	639	743	987	647	303	333	326
2,000-2,999	119	47	67	58	138	73	51	5	28	26
>2,999	424	489	396	287	-	59	-	-	-	-
	6,972	6,652	5,933	5,554	6,393	5,906	3,189	1,995	1,504	1,397

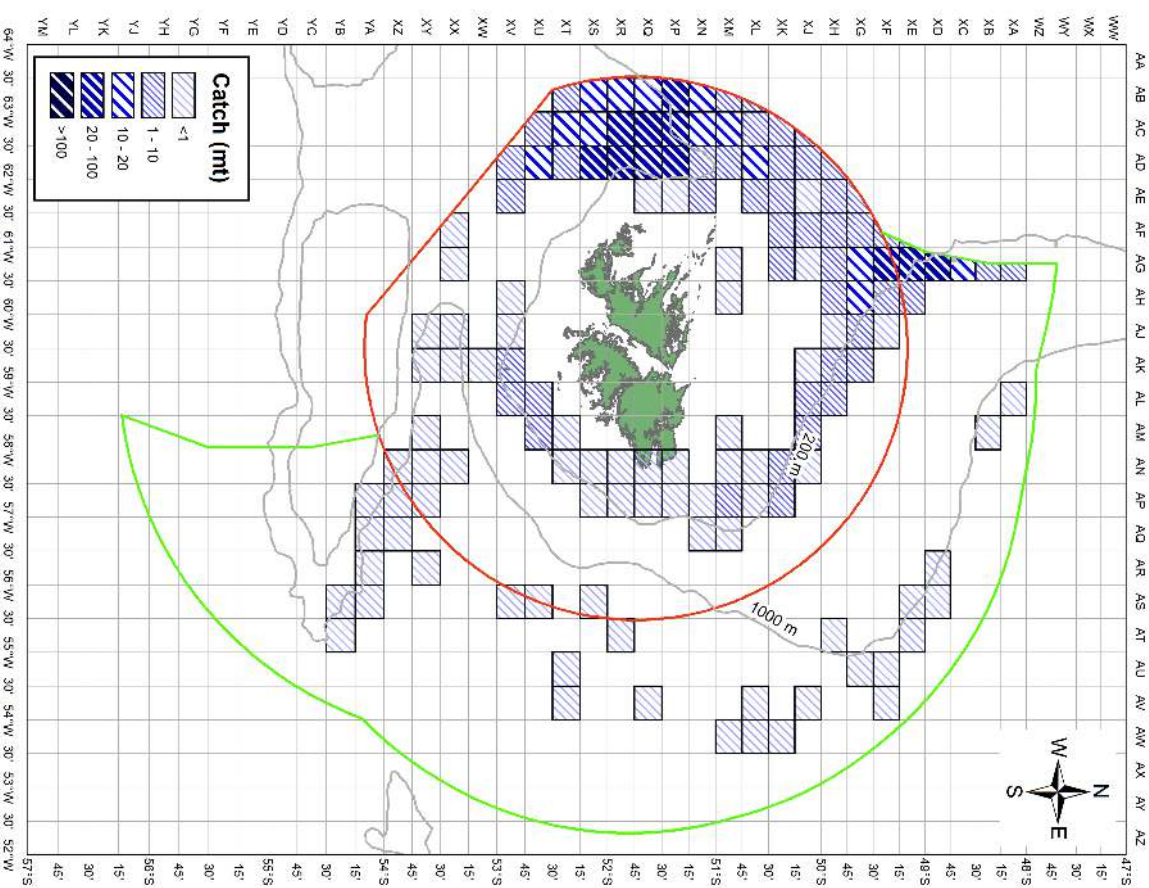
Table L.6 Total catch (tonnes) by length overall (m) (LOA) and year

LOA	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<45	54	-	19	1	46	46	-	4	-	5
45-49	252	152	160	40	103	64	63	123	-	-
50-54	2,085	2,722	1,852	2,159	2,154	2,197	1,438	654	232	225
55-59	610	693	675	226	457	381	258	205	291	180
60-64	868	817	961	1,056	1,044	814	188	153	254	307
65-69	1,460	918	1,059	955	1,467	1,425	616	578	461	423
70-79	1,165	829	769	806	1,072	874	530	272	257	236
80-89	51	27	42	20	45	43	77	5	9	17
>89	426	495	396	291	4	63	20	0	0	3
	6,972	6,652	5,933	5,554	6,393	5,906	3,189	1,995	1,504	1,397

Rajidae
First Season 2020 (01 Jan to 30 Jun)



Rajidae
Second Season 2020 (01 Jul to 31 Dec)



***Patagonotothen ramsayi*—Rock Cod**

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

VESSEL TYPE	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
TR	55,705	63,509	32,436	56,709	29,086	7,039	2,521	2,216	950	737
	55,705	63,509	32,436	56,709	29,086	7,039	2,521	2,216	950	737

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

MONTH	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
January	3,521	112	743	-	32	933	40	-	97	51
February	5,993	3,086	3,197	560	1,780	1,024	141	154	240	233
March	2,502	9,016	2,847	1,251	1,527	750	416	472	304	184
April	6,205	10,051	3,837	1,170	4,442	1,167	434	625	139	86
May	11,150	14,240	2,751	9,128	9,544	536	85	173	49	11
June	4,578	5,500	922	5,940	3,806	131	19	10	20	7
July	2,571	3,680	675	8,922	390	226	109	36	17	8
August	3,697	4,945	2,935	7,350	756	923	564	234	54	22
September	4,036	3,288	4,898	5,984	729	992	545	357	24	119
October	7,536	5,352	5,086	7,925	1,093	235	127	56	2	14
November	2,889	1,877	2,111	5,997	841	72	31	70	0	3
December	1,028	2,361	2,435	2,482	4,146	51	11	28	3	-
	55,705	63,509	32,436	56,709	29,086	7,039	2,521	2,216	950	737

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

FISHING FLEET	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
CL	-	-	-	0	-	-	-	-	-	-
ES	39,646	52,389	25,025	45,848	23,986	3,582	669	704	444	203
FK	15,051	10,754	7,079	10,314	4,605	3,205	1,765	1,470	492	519
KR	215	255	305	511	170	119	5	6	0	1
UK	794	111	28	36	325	133	82	37	13	14
	55,705	63,509	32,436	56,709	29,086	7,039	2,521	2,216	950	737

***Patagonotothen ramsayi*—Rock Cod**

Table M.4 Total catch (tonnes) by license used and year

Licence Used	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
A	12,970	9,156	5,387	9,724	2,291	485	182	198	108	19
B	23	52	3	15	19	-	2	0	0	1
C	1,449	1,112	409	803	1,865	1,298	688	817	258	262
E	434	382	478	175	408	88	115	57	19	11
F	794	1,188	649	1,341	633	120	5	5	0	3
G	13,444	24,997	7,702	7,691	12,328	1,320	248	361	207	42
S	-	0	0	0	-	0	-	-	-	-
W	24,549	25,145	16,788	35,141	10,643	1,933	150	173	279	254
X	2,042	1,477	1,020	1,818	899	1,795	1,132	605	78	145
	55,705	63,509	32,436	56,709	29,086	7,039	2,521	2,216	950	737

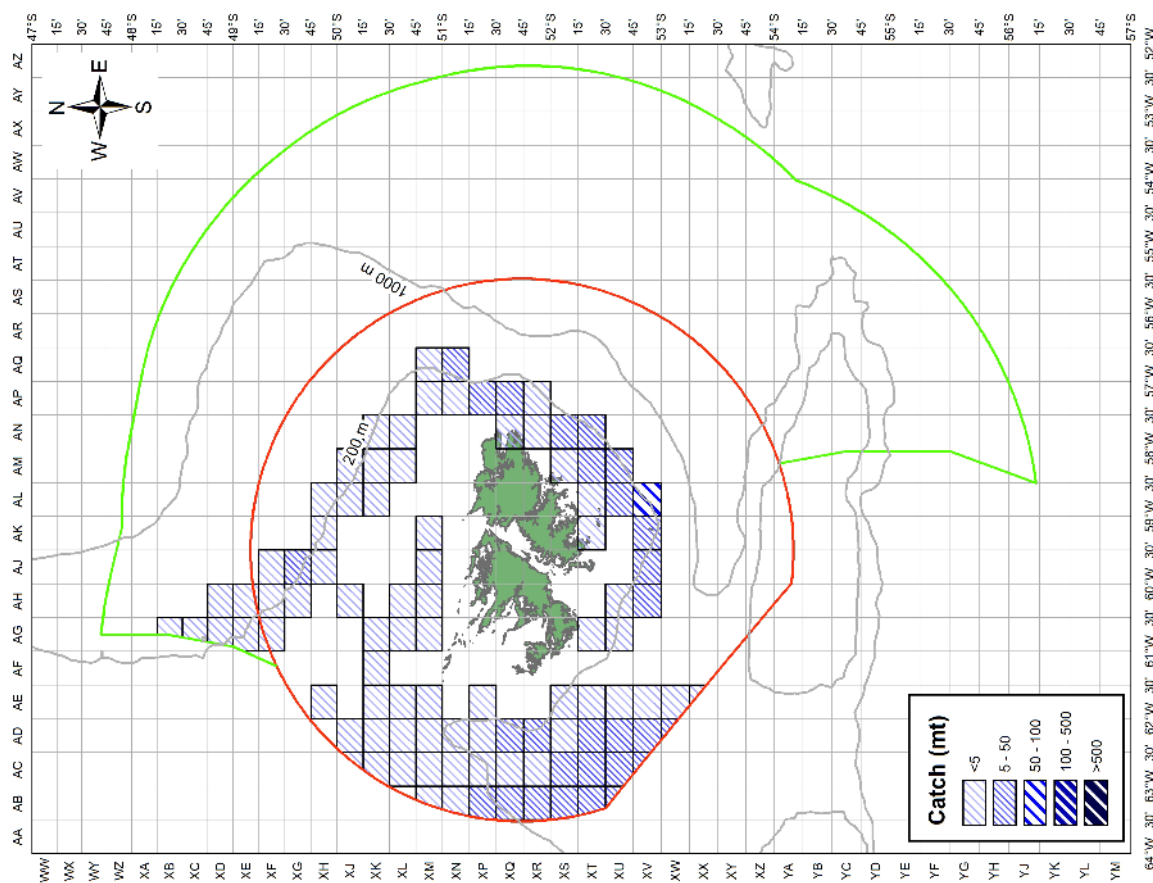
Table M.5 Total catch (tonnes) by gross tonnage (GT) and year

GRT	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<400	-	-	-	-	-	-	-	-	-	-
400-599	-	-	-	-	-	-	-	-	-	-
600-799	3,263	5,020	3,247	3,504	2,052	176	66	158	99	32
800-999	4,965	5,017	4,520	9,916	4,384	1,142	158	158	50	20
1,000-1,499	32,535	36,898	17,963	29,935	15,803	2,369	621	671	403	222
1,500-1,999	13,063	14,962	5,769	11,617	5,342	1,770	835	667	173	297
2,000-2,999	1,864	1,586	921	1,727	1,505	1,582	841	562	225	167
>2,999	14	26	16	10	-	0	-	-	-	-
	55,705	63,509	32,436	56,709	29,086	7,039	2,521	2,216	950	737

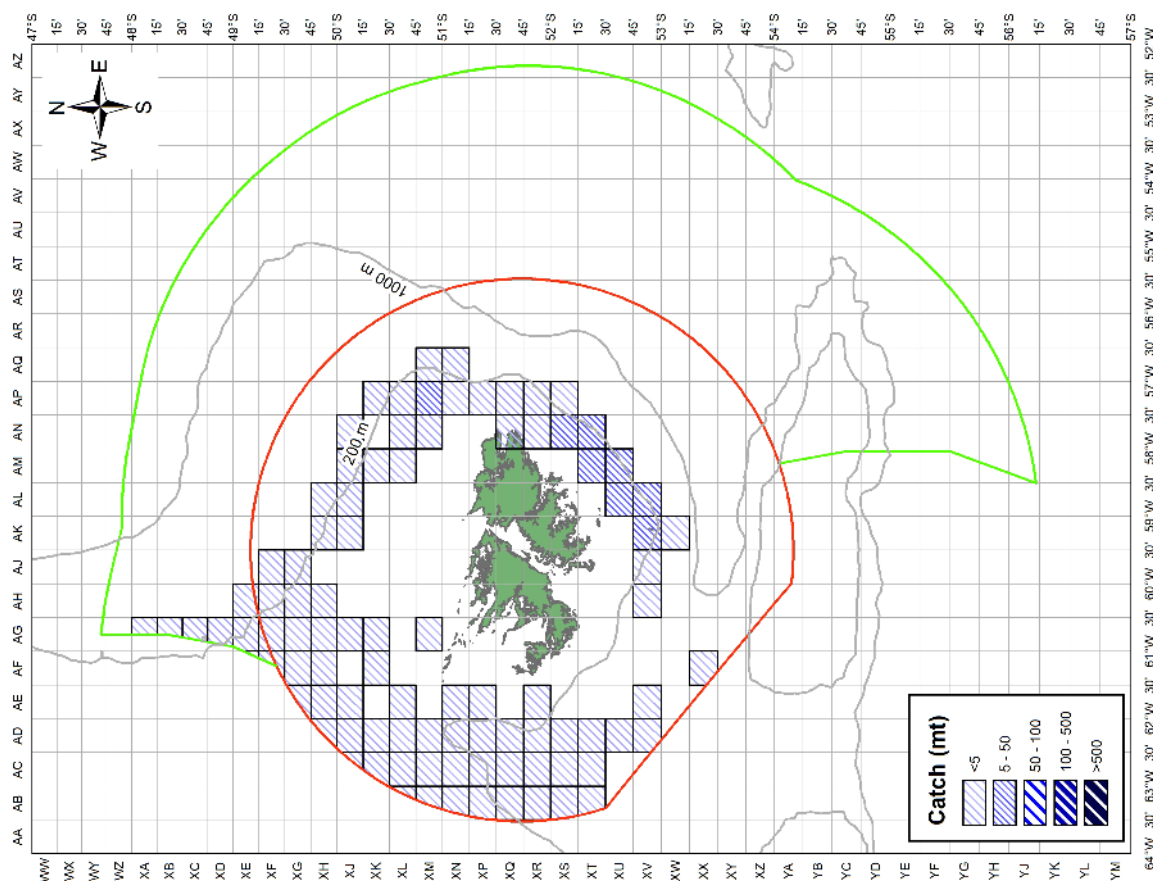
Table M.6 Total catch (tonnes) by length overall (m) (LOA) and year

LOA	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<45	1,320	-	423	206	341	32	-	-	-	0
45-49	3,277	4,520	3,163	2,880	1,912	285	38	84	-	-
50-54	1,702	3,756	2,265	3,729	2,106	313	101	178	99	35
55-59	6,717	7,975	4,381	4,664	2,254	362	70	36	148	9
60-64	11,502	14,447	8,516	13,239	6,932	645	82	150	63	46
65-69	18,450	18,441	7,593	16,907	7,564	2,259	608	420	201	174
70-79	11,588	13,258	5,612	14,055	7,161	1,991	1,203	889	358	327
80-89	521	504	248	591	397	527	266	287	27	101
>89	629	610	236	437	418	624	152	170	53	44
	55,705	63,509	32,436	56,709	29,086	7,039	2,521	2,216	950	737

Patagonotothen ramsayi
First Season 2020 (01 Jan to 30 Jun)

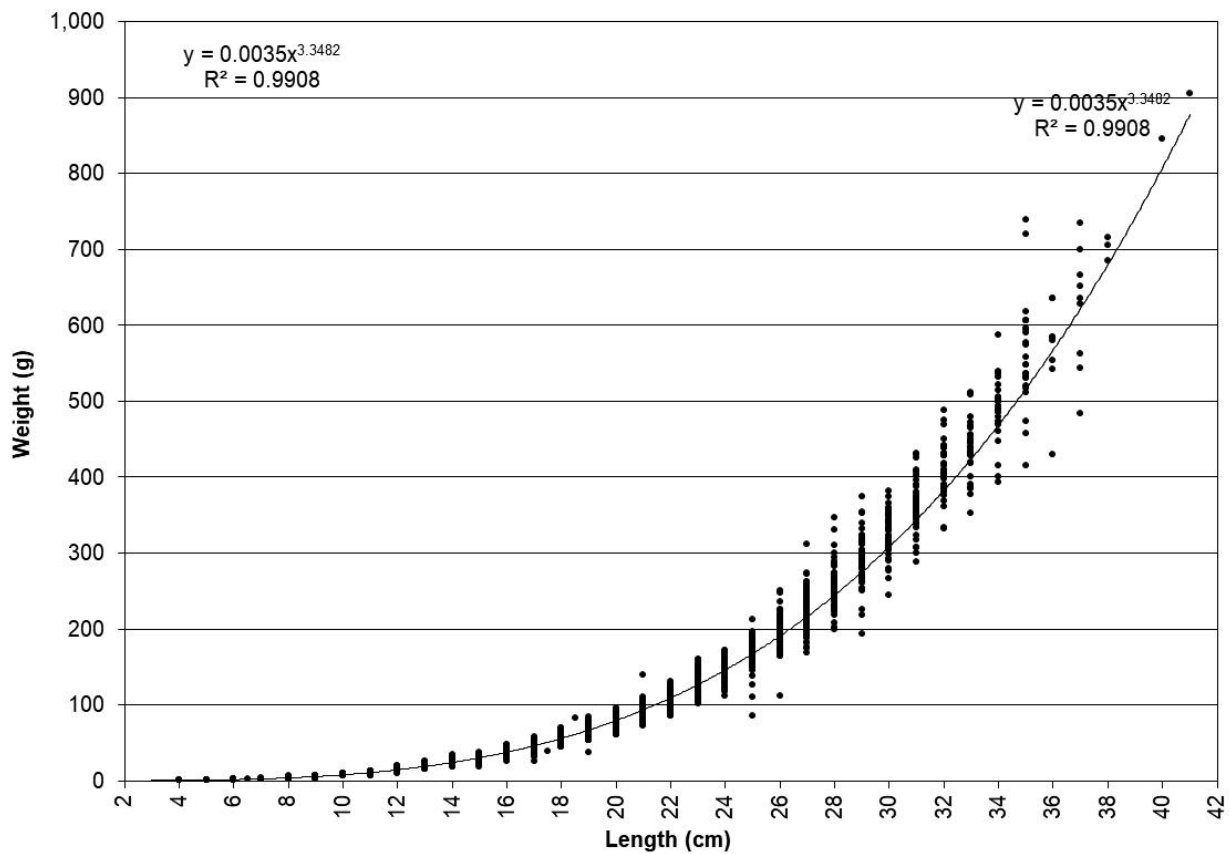
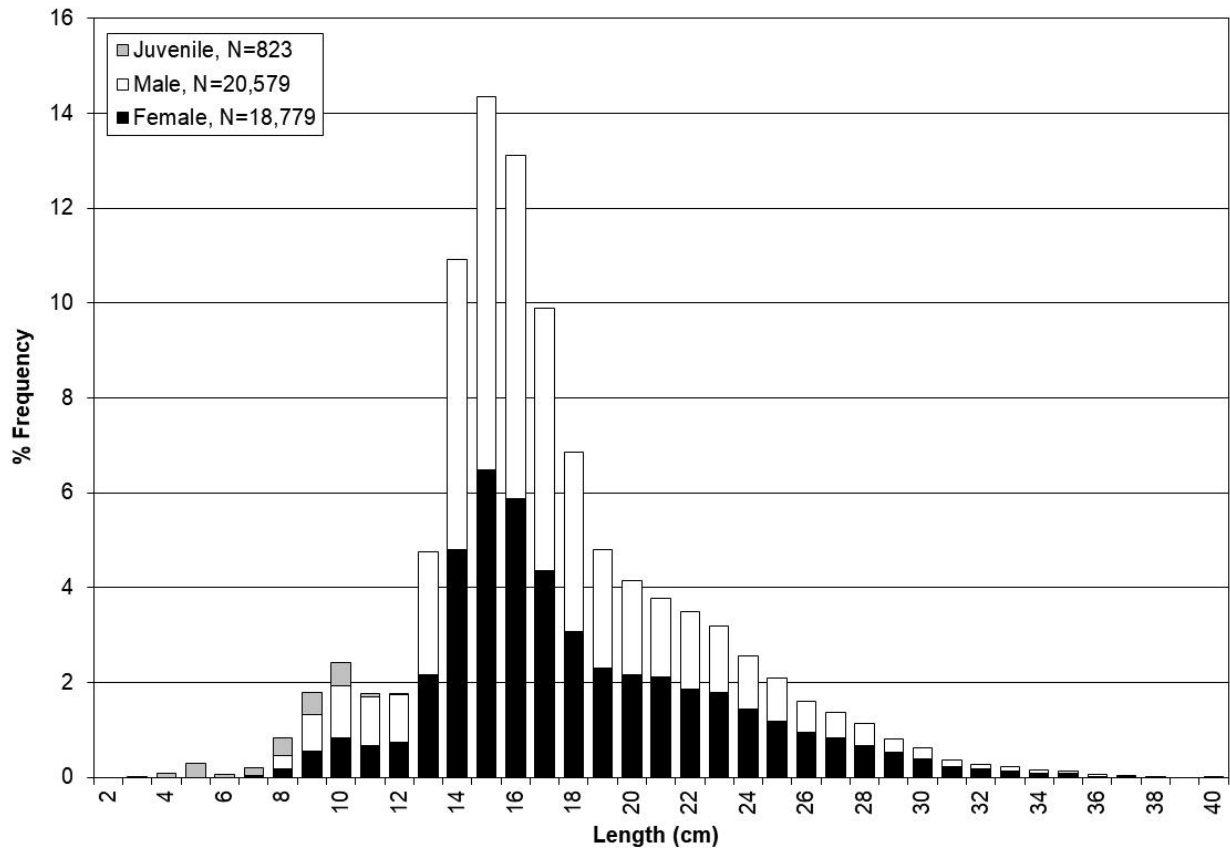


Patagonotothen ramsayi
Second Season 2020 (01 Jul to 31 Dec)



Patagonotothen ramsayi—Rock Cod

Length– frequency distribution and length-weight relationship in 2020



Others

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

VESSEL TYPE	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
JI	-	-	-	-	-	-	-	-	-	3
LO	130	104	97	83	107	109	68	73	86	78
PO	-	-	6	7	5	-	-	0	-	-
TR	2,264	468	920	281	603	2,501	3,620	1,065	2,257	1,533
	2,393	572	1,023	371	715	2,609	3,688	1,138	2,344	1,614

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

MONTH	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
January	28	18	45	12	13	93	166	10	117	197
February	69	24	216	76	30	356	40	134	635	946
March	32	30	179	45	57	158	60	108	566	127
April	66	38	106	34	79	260	119	180	784	88
May	350	26	28	11	17	127	64	128	69	46
June	921	10	21	35	5	70	49	9	23	36
July	573	26	11	33	23	46	90	55	21	29
August	90	104	185	26	67	92	186	144	63	53
September	73	145	47	45	109	47	161	181	19	33
October	126	63	85	20	89	51	680	66	26	36
November	40	54	75	22	100	583	1,710	49	9	13
December	26	34	26	13	127	727	363	74	12	10
	2,393	572	1,023	371	715	2,609	3,688	1,138	2,344	1,614

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

FISHING FLEET	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
CL	-	-	-	10	-	-	12	-	-	-
ES	2,008	258	261	114	475	2,274	3,215	510	2,107	1,108
FK	358	300	748	241	203	321	407	573	234	491
JP	5	0	-	-	-	-	-	-	-	-
KR	23	11	9	6	19	3	34	7	0	2
TW	-	-	-	-	-	-	-	-	-	3
UK	0	3	5	0	17	12	20	48	2	10
	2,393	572	1,023	371	715	2,609	3,688	1,138	2,344	1,614

Others

Table N.4 Total catch (tonnes) by license used and year

Licence Used	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
A	193	141	56	17	23	83	340	80	288	82
B	2	0	-	4	-	-	1	-	0	5
C	19	14	17	13	19	80	118	224	18	39
E	1,760	35	23	10	17	8	73	30	21	13
F	22	12	50	1	18	5	36	8	1	3
G	70	16	233	48	87	406	89	140	1,069	163
L	130	104	97	83	107	108	68	73	86	77
S	5	0	0	3	0	0	-	0	-	-
W	180	188	511	150	400	1,870	2,852	320	851	1,197
X	14	60	36	42	44	48	112	264	10	34
	2,393	572	1,023	371	715	2,609	3,688	1,138	2,344	1,614

Table N.5 Total catch (tonnes) by gross tonnage (GT) and year

GRT	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<400	-	-	6	7	5	-	-	0	-	-
400-599	-	-	-	-	-	-	-	-	-	-
600-799	97	16	20	27	16	80	34	33	90	116
800-999	183	162	275	87	270	1,375	292	101	215	154
1,000-1,499	142	154	595	133	264	720	2,043	414	1,553	703
1,500-1,999	1,954	196	93	86	125	373	1,206	405	472	593
2,000-2,999	12	43	34	28	34	60	114	185	14	48
>2,999	6	0	-	3	-	-	-	-	-	-
	2,393	572	1,023	371	715	2,609	3,688	1,138	2,344	1,614

Table N.6 Total catch (tonnes) by length overall (m) (LOA) and year

LOA	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<45	6	-	6	7	30	539	-	0	-	-
45-49	76	21	1	1	28	7	15	34	-	-
50-54	187	138	117	108	144	297	79	20	92	153
55-59	41	45	80	3	15	240	193	105	539	117
60-64	13	20	348	98	179	371	979	127	602	213
65-69	220	171	395	99	190	930	1,474	294	723	574
70-79	1,811	138	64	16	100	192	852	409	384	523
80-89	33	17	6	11	14	13	82	80	4	22
>89	7	22	7	27	14	19	13	69	0	13
	2,393	572	1,023	371	715	2,609	3,688	1,138	2,344	1,614

Others

Table N.7 Total catch (tonnes) of others by species in 2020

Common name	Latin Name	Catch mt
Driftfish	<i>Seriolella porosa</i>	601.6
Grenadier	<i>Macrourus spp.</i>	507.3
Butterfish	<i>Stromateus brasiliensis</i>	167.1
Grenadier	<i>Coelorinchus fasciatus</i>	83.9
Dogfish, Spurdog	<i>Squalus acanthias</i>	46.1
Dogfish/Catshark	<i>Schroederichthys biviuis</i>	40.3
Lobster Krill	<i>Mundia gregaria</i>	31.4
Frogmouth	<i>Cottoperca gobio</i>	30.5
Blue Antimora	<i>Antimora rostrata</i>	21
Eelpout	<i>Iluocoetes fimbriatus</i>	19.8
Slender Tuna	<i>Allothunnus fallai</i>	18.3
Grenadier, Ridge Scaled	<i>Macrourus carinatus</i>	17.6
Dwarf Codling	<i>Physiculus marginatus</i>	8
Nototothenid	<i>Patagonotothen tessellata</i>	5.3
Greater Hooked Squid	<i>Moroteuthis ingens</i>	3.8
Boga/Grunt	<i>Haemulon vittatum</i>	3.5
Greenland Shark	<i>Somniosus microcephalus</i>	3.3
Octopus	<i>Octopus/eledone spp.</i>	2.1
Porbeagle	<i>Lamna nasus</i>	0.7
Red Fish	<i>Sebastes oculatus</i>	0.5
Horsefish	<i>Congiopodus peruvianus</i>	0.4
Chinese Baby Face	<i>Neophrynichthys marmoratus</i>	0.4
Armless flounder	<i>Mancopsetta milfordi</i>	0.2
Icefish	<i>Champscephalus esox</i>	0.2
Mullet	<i>Eleginops maclovinus</i>	0.2
Moonfish	<i>Lampris immaculatus</i>	0.2
Kingcrab	<i>Lithodes turkayi</i>	0.2
Hagfish	<i>Myxinidae</i>	0.1
Dogfish	<i>Squalidae</i>	0.1
Falkland Herring	<i>Sprattus fuegensis</i>	0.1
Flat fish	<i>Mancopstta tricholepsis</i>	0.1
All Others <0.1 tonnes		0.1
Grand Total		1614.3

FALKLAND ISLANDS COMMERCIAL FISH & SHELLFISH

