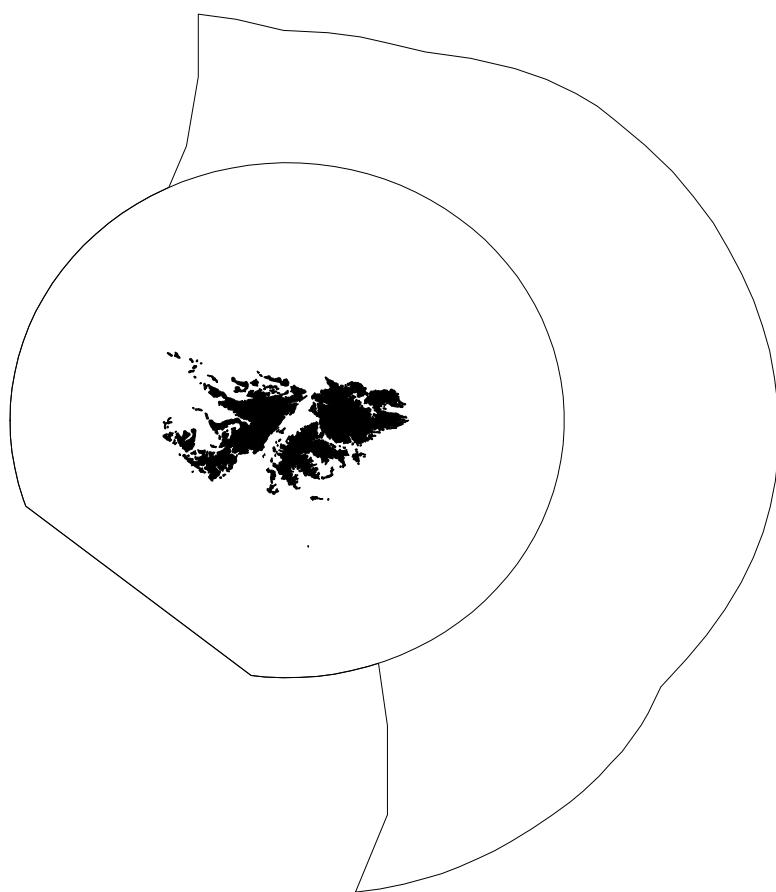


**FALKLAND ISLANDS GOVERNMENT
FISHERIES DEPARTMENT**



FISHERY STATISTICS

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FOREWORD

1. The Falkland Islands' Fishery - 2008

The excellent performance of the fishery observed in 2007 carried on into 2008, with a total annual catch of 270,325 tonnes being about 10% less than that in the previous year. As usual, the major part of the total catch was taken in the *Illex* fishery (39.4%). However, the second most abundant catch was that of rock cod (22.3%), which has become more and more popular in recent years. Despite its reasonable abundance, *Loligo* squid appeared in third position by volume (19.3%), followed by hoki (5.9%) and southern blue whiting (4.9%).

1.1. *Illex argentinus* – Illex squid

Strong variability in *Illex* stocks in the Southwest Atlantic in recent years has resulted in significant instability in its fishery and marketing. Two consecutive years of high abundance (2006 and 2007) flooded the market resulting in an oversupply of *Illex* products. The dramatic increase in marine gas oil prices observed in the first half of 2008 made the *Illex* fishery marginally profitable with only 44 'B' licenses sold to catch this squid in Falkland waters. Consequently, *Illex* license fees amounted to £4.34 million making *Illex* squid the second most important fishery in terms of value after *Loligo*.

As usual, the *Illex* fishery started on the high seas. In January the Falkland Current intensified and made strong hydrographic gradients of temperature and salinity with warm shelf waters at 45-46°S. It is well-known that these environmental conditions are favourable for *Illex* aggregations near the hydrographic fronts on the shelf. The first reports on *Illex* catches on the high seas came in the second half of January, when 1 to 2 trawlers reported daily catches of 10-12 tonnes of squid. Catches greatly improved during the last week of the month, peaking up to 59 tonnes on 29th January. Small sizes and prevalence of immature squid in catches indicated that these squid belonged to the South Patagonian Stock, and their abundance again was high as in the last two years.

The Falkland Current was still intense in February, bringing a negative anomaly in water temperatures to the Patagonian and Argentinean Shelves (0.5-1°C). However, the main stream of the Current had shifted more to the east in comparison with the same period of 2007. As a result, warm waters that usually occupy the Argentinean Shelf spread outside the Argentinean EEZ to the high seas, creating strong gradient zones with the colder Falkland Current. This oceanographic situation favoured migration of *Illex* to the fishing area on the

high seas. Six to seven Falkland-registered trawlers fished for *Illex* there before the start of the first *Loligo* season, and had excellent CPUEs (30-50 tonnes per day). The squid was quite small and immature at 18-20 cm mantle length (ML), belonging to the Southern Patagonian Stock (SPS). According to reports from Falkland-licensed jiggers, their catches ranged from 8 to 12 mt per night, as small squid are not usually attracted by jig lures. The negative anomaly in water temperature caused a delay in migration of the SPS squid to the FICZ/FOCZ, but not to the same extent as in 2007. The first schools of squid appeared in the north-western part of FICZ in the last three days of February. From 4 to 13 jiggers fished in this area, with CPUEs ranging from 25 to 40 tonnes per night. Two Korean trawlers joined the *Illex* fishing fleet at the end of the month, catching 15-25 tonnes per day. However, the total monthly catch of *Illex* in February was rather low (953 tonnes) due to delayed migrations.

The predominately good and sunny weather in the Southwest Atlantic in the first half of March caused a significant increase in sea surface temperatures in the northern part of FICZ/FOCZ resulting in a 1.5°C positive SST anomaly. In the second half of the month, windier weather mixed the surface and subsurface waters, and the positive anomaly dissipated. The cold waters of the Falkland Current underneath the surface caused both a delay in the normal southward migrations of *Illex* to the Falkland Shelf in March and a decrease in squid growth. The fishery started off quite well in the first week of the month, with up to 36 jiggers fishing in the northern part of FICZ/FOCZ catching between 20-27 tonnes per night (maximum 66 tonnes per night). During the second week, catches decreased to 12-13 tonnes per night, and almost all of the vessels left Falkland Zones preferring to catch squid on the high seas. In the last few days of the month, squid finally started to appear in FICZ/FOCZ, increasing catches of the remaining pair of jiggers to 50-70 tonnes. Fourteen jiggers returned to the FICZ on 31st March, and had average catches of 65 tonnes per night (maximum 93 tonnes per night). Two B-licensed Korean trawlers targeted Illex on the Falkland Shelf throughout the month (one since 19 March) and performed better than jiggers with CPUEs of 20-50 tonnes per day. The trawlers fished more to the east than the jiggers, at depths of 195-200 m. Squid of two modal groups, late-maturing South Patagonian Stock (LSPS) of 20-21 cm ML and early maturing SPS (ESPS) of 23-24 cm ML were observed in catches in the beginning of March. By the end of the month, only LSPS squid having grown up to 22.5-24.5 cm were present. Despite the high abundance of SPS *Illex*, the total Falkland catch in March reached only 11,000 tonnes mainly due to low fishing effort.

A narrow inflow of warmer waters from the Argentinean EEZ was consistently observed to the north of FICZ/FOCZ in April that created strong temperature gradients with the Falkland Current. Aggregations of *Illex* were mainly encountered near the boundary between the inflow and Falkland Current. The majority of the jigging fleet operated in the vicinity of that gradient zone. Their catches were stable throughout the month averaging 50 tonnes per night, decreasing to 25-30 tonnes per night during stormy weather (6 days in total). In the second half of the month one jigger had as much as 108 mt per night. At any moment, only 28-35 of 42 vessels were fishing with the rest of the fleet transshipping in Berkeley Sound. All of the squid belonged to the SPS, and particularly to its early wave of abundance (ESPS). Two modal groups were observed throughout the month (25-26 and 29-30 cm ML). According to scarce fishing reports, the abundance of *Illex* on the high seas was also high. One trawler reported catches of 25-30 tonnes per day in the middle of the month.

The sea surface temperatures cooled down from 8°C to 7°C in May resulting in another negative anomaly in water temperature to the Falkland Shelf. This oceanographic situation caused the LSPS squid to

migrate from the Argentine EEZ to the continental slope much further north than usual. Fortunately for the Falkland fishery, the migratory route of pre-spawning LSPS squid passed through the very northern part of FOCZ (48-48°30'S), and the jigging fleet were all gathered there. During the first two weeks of the month, all jiggers had excellent catches 60-65 tonnes per night, maximum 131 tonnes per night. Then, the majority of vessels moved to the high seas, where they had big catches of squid as well. Taiwanese jiggers stayed on the high seas until the end of May, whereas Korean jiggers (22-24 vessels) returned to the northern part of FOCZ on 26th May and again had stable catches of *Illex* (60 tonnes per night). In 2008, the LSPS squid were smaller (females of 29-30 cm ML, and males of 25-27 cm ML). Their growth rates were obviously affected by lower than usual water temperatures.

Sea surface temperatures finally returned back to normal values in June, being 7-7.5°C everywhere to the north of the Falkland Islands. Strong gradients in oceanographic parameters were observed in the northern part of FOCZ at 48°S. Massive migrations of the LSPS squid observed in the last week of May carried on during the first ten days of June. The whole jigging fleet fished in a small region of 48° - 48°30'S, having unprecedented catches of squid for this time of the year with average CPUEs of 38 tonnes per night. Between 10 and 15th June, the LSPS squid finally left the Falkland waters heading further north to spawn, and catches dropped to a mere 2-3 tonnes per night.

It should be noted, that due to colder than usual feeding season in February-May, squid had slower growth and attained only 30 cm modal length (700 g in weight), compared to 33 cm (900 g) in a normal year. Such a decrease in sizes could lead to 25% decrease in total number of eggs produced by females. Together with the possibility of spawning being delayed until August, this decrease in fecundity might lead to a quite significant drop in abundance of *Illex* recruitment to the 2009 fishery.

The fishing season closed as planned on 15th June, with the total *Illex* catch of 106,600 tonnes. Despite the smaller catch (albeit caught by smaller number of vessels), the *Illex* fishing season of 2008 appeared to be one of the best seasons in terms of squid abundance.

1.2. *Loligo gahi* – Patagonian squid

The second most important squid resource, the Patagonian longfin squid *Loligo gahi* is fished in the eastern and southern parts of the Falkland Shelf in the region called the ‘*Loligo* box’. Two main cohorts of *L. gahi* are usually exploited; the autumn-spawning cohort in February-April and spring-spawning cohort in July-September. The abundance of both cohorts of *Loligo* has been quite stable in the last five years.

To investigate the available biomass of *Loligo* for the commercial fishery prior to the first season, a research survey was conducted in the *Loligo* box on board F/V *Golden Chicha* between the 8th and 23rd of February 2008. 60 hauls were made in selected localities with a total catch of 130 tonnes of *Loligo*. Squid were concentrated in the southern area of the *Loligo* box where average CPUEs were 1.75 tonnes per hour, that was almost twice as much as in 2007, but only a half of that observed in 2006. The total biomass was estimated at 7,866 tonnes and standardized at 8,709 tonnes. This biomass corresponded to 316%, 83% and 55% of the biomass estimated in 2007, 2006 and 2005 February surveys, respectively.

The first season started as usual on 24th February. Sixteen C-licensed trawlers fished in a rather small area to the northeast of Beauchêne Island at 110-120 m depths, having impressive average daily CPUEs of 40 tonnes. Maximum catches peaked up to 66 tonnes per day. The squid were immature and maturing, about 0.5

cm larger than in 2007 (mean ML of females 11.3 cm, males 12.1 cm). All squid belonged to the autumn-spawning cohort. The total *Loligo* catch for the month (3,982 mt) was the highest catch for February since the shortening of the first season in 2003.

Colder than usual waters of the Falkland Current observed in January – February affected the distribution of the autumn-spawning cohort of *Loligo* as well. Squid migrated to their fishing grounds later, staying longer in their shallow water nursery grounds and thus growing faster. The fishery was stable during the first week of March, with constantly high CPUEs of 30-35 tonnes per day. Most vessels fished to the northeast of Beauchêne Island. Then this first wave of abundance of *Loligo* was significantly depleted by the 13th March (10-12 tonnes per day), and the vessels moved to the northern and central parts of the *Loligo* box to search for squid. The dense aggregations were found first in the north (30-40 tonnes per day), and then in the central part of the box (35-40 tonnes per day). Almost all of the *Loligo* trawlers fished in the central part of the *Loligo* box until the end of March, having stable catches of squid without any sign of depletion. Almost all squid were immature with an average 12-cm ML that which was similar to 2007 and greater than 2006 and 2005.

In April, the whole fleet continued to fish for *Loligo* in the central area (35 tonnes per day). By the end of the first week, catches started to decrease, and the vessels moved to the northern and southern areas, where reasonable catches were taken as well (20-25 tonnes per day). In-season stock assessment did not show any significant risk that the projected spawning biomass could be lower than 10,000 tonnes and therefore the season finished as planned on 14th April. Post-season stock assessment showed that as much as 96,700 tonnes of squid migrated to the fishing grounds during the first season, and the spawning stock biomass (SSB) was estimated to be 43,700 tonnes, leaving the risk of leaving less than 10,000 tonnes SSB at zero.

The total catch for the whole first season was 24,752 tonnes, which was 44% greater than in the first season of 2007 and 34% greater than the average for the last 5 years.

To investigate the available biomass of *Loligo* for the commercial fishery before the second season, another research survey was conducted in the *Loligo* box on board the F/V *Argos Vigo* between 30th June and 14th July 2008. 41 daytime and 11 night trawls were completed at selected localities with the total *Loligo* catch of 123 tonnes. Only daytime trawls were used in biomass estimations because *Loligo* schools disperse in the water column at night. The biomass was estimated at 13,790 tonnes and standardised at 14,453 tonnes. This standardised biomass corresponds to 73% and 63% of the standardised biomasses estimated in 2007 and 2006 July surveys, respectively.

The second season fishery started as usual on the 15th July. The whole fleet fished near Beauchêne Island with low CPUE (20 tonnes per day) during the third week of the month. Catches increased in the last week of July, peaking at 40 tonnes/vessel-day, but then quickly decreased to 14 tonnes per day).

The *Loligo* fishery during August was variable. Four waves of abundance were observed, with CPUE peaks occurring on 3, 11, 20 and 29th August. The fleet moved between the southern and northern areas of the *Loligo* box in order to find squid aggregations. About 40% of the total catch for the month was taken from the Beauchêne area, with the rest from the northern area. Unlike in 2007, the squid did not aggregate in the central area at all. Average sizes of squid were 12-13 cm ML which was about 2 cm smaller than in the last two years. Squid growth was probably slower due to the strong cold water anomaly that was observed around the Falklands during the whole month (~ -2°C). The total catch of *Loligo* for August (10,783 mt) was about 30% lower than the average in the last three years.

Catches continued to drop at the beginning of September, and a warning was issued by the Fisheries Department of the early closure of the fishery as the SSB might fall below 10,000 tonnes. However, two large waves of abundance were observed later peaking at 40 tonnes per day on 6th September, and 46 tonnes per day on 24th September. These two large influxes of squid into the fishing ground allowed the fishery to continue until the end of the second season (30th September). It seemed that during this second season the arrival of squid to the fishing grounds was delayed, probably because of a negative anomaly in sea surface temperatures.

The total catch for the whole second season was 26,996 tonnes, which was 12% greater than in the second season 2007. With lower (10%) catch rates than in 2007, the total catch increased because of the increase (25%) in the fishing effort (time spent fishing). With regards to the historical perspective the catch taken during the second season 2008 catch was at an average level. Escapement SSB was estimated after season to be 14,411 tonnes, satisfying the conservation objective.

The total annual catch of *Loligo* in 2008 attained 52,271 tonnes which is the second highest annual catch in the last five years after abundant 2005 (58,811 tonnes).

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

Traditionally the southern blue whiting (SBW) fishery has been one of the most important resources in the Falkland Island finfish fishery with annual catches of approximately 25,000 tonnes taken by specialized surimi vessels as well as trawl finfish fishery.

The observed downward trend in catches in 2007 continued to 2008 with a total annual catch of 13,275 tonnes, remaining far below the 25,000 tonnes conservation objective for the Falkland Fishery. Of the total catch, 8,847 tonnes were taken by the pelagic fleet targeting post spawning aggregations between October and December. As in the previous two years, SBW was not targeted at all by the finfish fleet for the major part of the year. The catch of SBW by the finfish fleet was the lowest recorded and taken mainly without specifically targeting this species, i.e. below 30% of the total catch in a given day. Finfish vessels (W/Z and A/Y licence) were targeting pre-spawning and spawning aggregations of SBW for a short period between late August and September, taking a total of 3,046 tonnes. Both CPUEs and total catch in this period remained at historically low values, with lower fishing effort than observed in 2007.

The pelagic fleet operated in the FICZ between October and December, targeting post spawning aggregations of SBW first in the northeast of the Islands. Aggregations were scarce, and vessels were later allowed to fish SBW in the vicinity of spawning grounds in the southwest of FICZ after checking that SBW was in post-spawning condition. Three vessels were fishing with pelagic licenses, one of them was a surimi trawler. The best catches of post spawning fish were taken in October near the spawning grounds. Overall, catches and CPUEs remained low. Together with reduced catches in Argentina (18,982 tonnes and 19,018 tonnes in 2007 and 2008 respectively), low pelagic catches and CPUE values around the Falkland Islands indicate a decreasing abundance of SBW in the Southwest Atlantic in general.

There is an urgent requirement to update the stock assessment of SBW using data from all fisheries on this stock including the Falkland Islands, Argentina and Chile. However, the availability of the full data set is

likely to be a limiting factor.

1.5. *Macruronus magellanicus* - Hoki

Hoki is one of the most abundant pelagic fishes around South America, migrating in austral winter from their feeding grounds around the Falkland Islands northwards to the Argentinean EEZ and possibly to the southwest to negotiate Cape Horn and enter the Pacific waters in Chile. After spawning, fish return to Falkland waters in the austral spring. A proportion of the adult stock skips spawning and remains on their feeding grounds in the FICZ during winter. Consequently, it is difficult to estimate the stock biomass in the Falklands as a major proportion of hoki catch is taken elsewhere. In the Falklands, hoki is targeted by the finfish trawl fishery using bottom trawls and also by vessels which are operating pelagic trawls.

A total of 15,910 tonnes of hoki was caught in 2008 which was the lowest annual catch in the last decade. About a third of the annual catch (4,941 tonnes) was reported as by-catch. It is likely that relatively low catches of hoki in 2008 have originated from lower effort rather than a decline in fish abundance. On the other hand, some high CPUEs (characteristic of the hoki fishery) might be explained by schooling behaviour of hoki. It is hard to target hoki as they seem to aggregate in large pelagic schools, so a few large catches (up to 86 tonnes per day) occur when a vessel hits a dense aggregation of hoki.

The largest catches of hoki occurred during the austral spring, between September and November, when the fish returned from their spawning grounds. CPUEs for S-licensed vessels were observed to be up to 13.7 tonnes per hour.

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

Common and Patagonian hakes are valuable migratory finfish species on the Patagonian Shelf. Over the years catches of hakes have been fluctuating strongly due to variability in the proportion of hake stocks migrating into Falklands zones from the Argentinean EEZ. The trend for a larger migration of common hake into the FICZ as happened in the previous two years has continued in 2008. However, the total catch of hakes (8,817 tonnes) was below the record for the last decade which was observed in 2007. While the greater part of the catches was taken by the finfish fleet, the high abundance of hake in the northwest of the Falklands resulted in a high level of hake bycatch during the restricted finfish and *Illex* trawl fisheries. Due to lower water temperatures observed at the end of autumn-winter, hake migrations in 2008 were slightly delayed compared to those in the previous year.

As the proportion of the stock migrating to Falkland waters is low in comparison to the whole stock, the large abundance of common hakes observed in most recent years does not necessarily imply an increase in the total stock biomass, especially with the general decline of common hake in the South Atlantic. It is more likely that the proportion of common hake migrating into the Falklands zone has increased for yet unknown reasons. However, hake catches in the Falklands in relation to the total fishery in the Southwest Atlantic are negligible.

As fishery reports do not distinguish between catches of common and Patagonian hake it is only possible to infer the abundance of Patagonian hakes from knowledge gathered over the years. In general, southern hake migrate to their feeding grounds in the south of the Falkland Islands in austral spring/summer. However, catches of hake in this period were low and southern hake were rarely sampled by observers onboard vessels.

The southern hake stock seems to be less abundant in the Falkland waters than in previous years, which could be due to the same ecological reasons that there is a higher abundance of common hake in the zones.

1.7. *Genypterus blacodes* – Kingclip

Kingclip is one of the most valuable bycatch species in the Falkland Islands fishery. The fish has seasonal migrations in and out of the Falkland Islands waters especially in the western parts of the FICZ. The total catch for 2008 was 2,224 tonnes making it the fourth highest annual catch on record. The highest catches were in August and September at 323 and 435 tonnes respectively and these are likely to be a reflection of stock feeding migrations to the Falkland Islands waters after spawning further north in the Argentinean EEZ. As with previous years, the CPUE in the kingclip fishery has remained relatively stable, indicating relative stability of kingclip stocks on the Patagonian Shelf.

1.8. *Salilota australis* – Red cod

The cumulative catch for 2008 was 4,073 tonnes, being at an average level for the last decade. The highest catches were taken between August and November when some vessels were targeting pre-spawning, spawning and post spawning aggregations of red cod to the west and southwest of the Falkland Islands.

Annual catches, since 1989, have ranged from 2,285 to 9,313 tonnes (mean 4,902 tonnes). Over this period they have fluctuated strongly with a general increasing trend until 1999 after which there was a rapid decline to the minimum in 2003. After that annual catches of red cod have increased to 5,183 tonnes in 2007 with relatively constant effort from 2001. Catches reported on the Argentine Shelf have also decreased significantly from 1996 to 2003. In the Falklands CPUEs would indicate, assuming they are a true reflection of abundance, that after a rapid decline in biomass from 2000 to 2003 it increased just as rapidly from 2004 to 2005. Further examination of the data towards the end of 2007 would suggest that a number of vessels targeted pre-spawning, spawning and post spawning red cod aggregations in September and October, thus masking a continued general downward trend of red cod biomass within the Falkland Islands waters.

A reliable stock assessment could only be carried out up until 2002. The assessment of red cod using catch and effort data after this period was not possible due to a change in catchability. For this assessment CEDA (ver 3) software was used to calculate the Replacement Yield (RY). All three production models produced similar results with reasonable correlation coefficients.

Model	R-Yield	Final stock/virgin stock	Coefficient of correlation
Fox	1631.722	31.64%	0.871
Schaefer	1884.253	30.91%	0.871
Pella - Tomlinson	1884.253	30.91%	0.871

All three models indicate an original biomass of about 80,000 tonnes which is similar to a biomass estimated by Wöhler et al (2000) between 1992 and 1998. They suggested that the biomass on the Patagonian Shelf south of 44°S was between 101,000 and 208,000 tonnes as estimated using a swept area method. As of 2002 the remaining biomass was approximately 25,000 tonnes leaving a SSB of ~ 17,000 tonnes.

If this is a true reflection of the biomass around the Falklands Islands then current catch levels and

catches subsequent to 2002 will be reducing the stock. Conservation measures could include closing some grid squares to the south and southwest of Cape Meredith during September 2009 with the possible inclusion of grid squares that cover the 180 to 210 m isobaths south of 51°S and to the west of 60°S to reduce the disturbance on the spawning grounds.

1.9. *Dissostichus eleginoides* – Patagonian toothfish

Three stock assessments (Age Structured Production Model, ASPM)) were used to produce a range of Maximum Sustainable Yield (MSY) estimates that led to the reduction of the toothfish TAC from 1500 tonnes in 2007 to 1200 tonnes for 2008.

The stock assessment for 2008 was conducted by the Fisheries Department and essentially provided results for three scenarios.

RRAG ASPM with RRAG and FIFD parameters. With and without an estimate for IUU fishing.

FIFD ASPM with FIFD parameters without a recruitment index.

FIFD ASPM with a recruitment index.

Essentially the results of the models suggested that MSY could be between 1,685 and 758 tonnes. However, all the models indicated a declining abundance and discussion with industry resulted in a 300 tonnes reduction in Total Allowable Catch (TAC). See a report by Paya and Brickle (2008) for more details.

The longline fishery started well with two vessels fishing. Their catches ranged between 0.3 and 15.3 tonnes per day (mean = 6.7 tonnes) up until 22nd April. Then one longliner (*CFL Valiant*) left the fishery to be sold in Montevideo leaving one vessel in the fishery (*CFL Gambler*). As a result, the mean daily CPUE halved (mean = 3.5 tonnes, range from 0.5 to 7.6 tonnes) for the period between 22nd April to 9th September. The *CFL Gambler* then left the fishery for dry dock and maintenance in Montevideo. Shortly after this CFL requested a 15% carry over from the TAC in 2009 as they would fish the 1,200 tonnes before the end of the year. The new adjusted TAC became 1,380 tonnes for 2008.

CFL Gambler returned on 31st October to resume fishing in Falklands waters. Their catches were at a similar level (mean = 3.5 tonnes). CFL finished the year catching a total of 1368 tonnes of toothfish, which was ~ 11.9 tonnes short of the adjusted TAC.

In March the FIFD conducted an experiment on board *CFL Gambler* in order to compare the CPUEs of both the Umbrella and Spanish longline system in order to arrive at factor to enable to use both data sets in the CPUE time series for stock assessments. The March longline/umbrella experiment suggested a non linear relationship between both systems as the umbrella system was saturated before the longline system when the local abundance of toothfish was high. This illustrated that the longline system could out-perform the umbrella system when the abundance of toothfish is high.

1.10. Rajidae – Skates and rays

Unlike 2006 and 2007, when no licensed fishing took place during the first half of the year, there was a low level of operations under ‘F’ licence by two Spanish flagged vessels during January-May, 2008. However, only 282 tonnes of skates were taken up to July. Six Korean flagged vessels participated in the fishery during the second half of the year. Three commenced fishing in July and were joined by three more in August. One vessel withdrew in September. Only one Korean vessel fished during October. The majority of the year’s

catches were taken during the period from July to September with 1,802 tonnes from a total of 2,265 tonnes for the year or almost 80% of the annual licensed catch. During 2008, totals of 420 and 1,844 tonnes were taken by Spanish and Korean vessels, respectively.

CPUEs for the Spanish vessels were generally lower than those of the Korean vessels with mean CPUE for the year of 483 kg/hr and 743 kg/hr respectively. Values were much more variable for Spanish vessels with mean monthly CPUE ranging from 78 to 995 kg/hr. Mean monthly CPUEs for Korean vessels ranged from 375 to 877 kg/hr.

During the first half of the year a total of 649 tonnes of skates were caught as bycatch. A further 944 tonnes of bycatch was taken during the second half of the year. Most of the annual bycatch total was taken by Spanish (1,111 tonnes) and Falkland flagged vessels (419 tonnes) with a final ratio for the year of 2.6:1. Some bycatch was also reported by Korean (47 tonnes) and UK flagged vessels (27 tonnes).

In summary, 1,593 tonnes were taken under other licences resulting in the total skate catch for 2008 of 3,858 tonnes. This total annual catch was the lowest in the last five years with 1,840 tonnes less than the record 5,698 tonnes of skate taken in 2005.

1.11. *Patagonotothen ramsayi* – Rock cod

The annual catch of rock cod achieved 60,165 tonnes and was the largest ever recorded in the Falkland fishery. It was almost twice as much as in 2007 (30,635 tonnes), the previous highest catch. A total of 46,542 tonnes of medium-sized and large fish (77.4% vs. 62.3% in 2007) were processed as HGT.

Rockcod was targeted mainly by trawlers with finfish licenses (50,755 tonnes) and was also taken as bycatch in other fisheries. Most of the catch was taken on the western shelf between 150 and 300 m, north of 51°S in January – June, at about 51°S in July-November, and south of 51°S in December. Rock cod bycatch was also significant during the *Loligo* trawl fishery in the southeastern part of the Falkland Shelf (6,996 tonnes). Mean daily catches of finfish trawlers were 20-25 tonnes in January – April, they gradually decreased to 2-7 tonnes in late July – early September, and then steadily increased again to 20-30 tonnes by the end of December. Mean annual daily catch was 15.1 t in contrast to 8.2 t in 2007.

1.12. *Macrourus* spp., *Coelorhynchus* spp. – Grenadiers

Grenadiers, *Macrourus* spp. and *C. fasciatus* were taken as a bycatch by longliners and trawlers throughout the year. Total longline bycatch was 95 tonnes, trawlers took 144 tonnes. These data do not include the catch obtained during the exploratory deep-sea fishery onboard a Spanish trawler in July-August and December, which accounted for 691 tonnes of a total annual catch of 930 tonnes.

The research survey covered the area between 41°54' S and 53°45' S with depth ranging from 420 to 1,170 m. It was generally a repetition of the survey carried out in spring 2007 excluding some coral-covered areas and including a short exploratory survey on the high seas at 42°S.

No large commercial aggregations of *Macrourus carinatus* were found on the high seas but were encountered on the Falkland Shelf, mostly between 700 and 900 m. Adult fish in winter were mostly spent and foraging at the earlier stage of maturation, grenadiers of 19-25 cm of pre-anal length predominated in catches. The survey in December was aimed at obtaining data on grenadier biology and distribution in the southwestern shelf (south of 52°S). Grenadier abundance there was relatively high at that time of the year, particularly on the

northwestern edge of the Burdwood Bank.

A stock assessment model for grenadiers was developed and fitted to the survey biomass and length frequencies of the survey catches, by estimating the virgin exploited biomass and recruitment functions by sex. The maximum likelihood estimations of the virgin exploitable biomass (B_0) and the virgin spawning biomass (SB_0) were 215,770 tonnes and 102,172 tonnes respectively.

1.13. *Zygochlamys patagonica* - Patagonian scallop

There was no specialized scallop fishery in Falkland waters in 2008. A small by-catch of 6 tonnes was taken by *Loligo* and finfish fleets.

1.14. *Eleginops maclovinus* - Falkland mullet

The small scale beach seine fishery for mullet continued through 2008 with a gap in February, March and April. A total of 6.1 tonnes were caught in 10 creeks and inlets around east Falkland. The most popular sites were Teal Creek and East Cove. The total catch was 2.6 tones, a reduction on 2007 catches.

1.15. Others

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

2. Fisheries Department research cruises in 2008

All planned research cruises for 2008 were canceled as the owner of the current research vessel *Dorada* (ZDLH1) withdrew their vessel in early 2008. A tender for the new research vessel was prepared, and tender proposals were reviewed during 2008.

3. Fisheries Department research contracts in 2008

The Falkland Islands Government's financial year runs from 1 July to 30 June and most external research contracts in the Fisheries Department had these same start and end dates. Contracts completed by the end of June 2007 are presented below. A contract for the years 2008-2010 has been signed with the Renewable Resources Assessment Group (RRAG, Imperial College, London, principal investigator Dr. David Agnew) to provide fisheries management advice and analysis of license fees.

3.1 ‘Seasonal and interannual variations in oceanographic conditions on the eastern continental slope and shelf of the Falkland Islands (November 1999 – February 2008)’

This research has been carried out by principal investigator Dr. P.P. Chernyshkov and Dr. A. Sirota from the Laboratory of Oceanography, Atlantic Institute of Marine Fisheries and Oceanography (AtlantNIRO), Kaliningrad, Russia. This year emphasis was made on studies of water mass dynamics and geostrophic currents of the northern part of FICZ in winter 2007, where the pre-spawning schools of *Illex* migrate from the shelf to continental slope (48-49°S). Seasonal variability of water masses continued to be analysed on the eastern shelf (transect P1) and southern shelf (transect P5) until January 2008, when the last two transects on the *Dorada* were carried out.

3.2 ‘Loligo Projection Individual-Based Model: calibration of egg mortality rate using the historical series of catch’

This work was carried out by Dr. R. Roa-Ureta, Scientific Consultant, Departamento de Oceanografia, Universidad de Concepcion, Concepcion, Chile.

A new depletion model that accounted for hyperstability and hyperdepletion was developed and applied to the historical catch, effort, and biological data of *Loligo gahi*. The Spring Spawning Cohort (SSC) has declined from the start of the time series in 1990, with strong fluctuations in abundance especially during the 90s. Using wind data for the egg-phase period, results of stock assessments, and an Individual Based Model (IBM) that represented early life of squid, the coefficient of wind-dependent mortality of the egg-phase was calibrated. An effort model dependent on how much of the fishing season has passed and how strong the wind stress was on any given day was also developed. The calibration of the wind-dependent coefficient of egg-mortality and effort model, as well as the new generalised depletion model, were incorporated in a new version of the IBM *Loligo* Projection, version 1.0. Four scenarios were set for the 5-year projections of the SSC evolution in 100 replications, baseline scenarios where the winter season remains unchanged, and three scenarios with a 2 week reduction of the length of the season. All four scenarios yielded a decline of the SSC in the coming 5 years. However, a reduction of the length of the fishing season by 2 weeks at the start of the season appeared to produce a better catch and spawning biomass.

4. Reductions in seabird mortality in the Falkland Islands

In 2004 the Falkland Islands Government adopted the National Plan of Action – Seabirds for longliners (NPOA – S). This is currently under review and will pave the way for targets to 2011. The aims of the NPOA – S were to reduce the bird bycatch rates to below 0.01 birds/1000 hooks by 2004/2005 and to further reduce this level to below 0.002 birds/1000 hooks by 2006/2007. The target for 2006/2007 was reached in 2005/2006. The mortality estimate for 2006/2007 was 0.0034 birds/1000 hooks which was just above the target set. However this was still considered to be a good result (see ACAP Falkland Islands – Roles and Responsibilities: A review of activities undertaken during 2006/2007 and priorities for the future. 2008). Due to considerable effort and the use of a new longlining method (umbrella method), the mortality was further reduced to nil catch of birds for 2007/2008. This excellent result was in part due to good ‘house keeping’ on longliners working in the Falklands zones and includes correct line weighting regimes, correctly designed and effective tori lines, the use of the ‘Brickle Curtain’ and the removal of hooks from by-catch and discards. One bird, a giant petrel, was killed by a FI registered longliner on the high seas. This bird was hooked and drowned whilst deploying the Spanish longline gear.

The NPOA – Trawlers is also currently under review and will also set targets until 2011. A new tori line design was trialed by the Fisheries Department in 2008. The new line is essentially shorter being made of different material for the streamer lines and uses a different float to improve line tension. The experimental trials during the latter part of 2008 produced some very encouraging results that essentially further reduced seabird interactions with the warps, reduced interactions with the tori line itself and stopped it travelling during cross winds. The new version of tori line was found to be easier to handle and more durable making it more convenient for the fishermen to use.

5. Logbooks

5.1 Loligo

The electronic logbooks were used successfully for both *Loligo* seasons in 2008 with all vessels participating in completing and returning the daily logs. The data returned was used to monitor and assess the fishery for each season. Electronic and paper logbooks are currently used in parallel. Some users have requested the paper version to be dispensed with.

5.2 Longline (Toothfish)

Following on the introduction of logbooks for the *Loligo* fishery, a similar system was proposed for the longline (primarily toothfish) fishery. The new logbook system was based on similar principals to the *Loligo* version with development taking place through October to December, 2008. Features and data requirements were based on feedback during periodic meetings with scientific staff involved with longline/toothfish research. The first trial version was deployed at the commencement of the 2009 fishing season (January, 2009). Feedback from the vessel has been positive and many suggestions and recommendations from both the ship's master and fisheries observer have been incrementally included in weekly updates to the system. At the time of writing the logbook is continuing the initial trial programme and daily catch reports are being successfully received via email by the Fisheries Department.

6. Fishing Effort and Catch Limits for 2009

The limits on Total Allowable Effort (TAE) and Total Allowable Catch (TAC) were set for the 2009 calendar year. 2008 was the first year when this process was conducted by the Fisheries Department rather than RRAG. TAE were calculated as the number of fishing vessel units required to achieve the management objectives by fisheries. TAC was estimated for toothfish as the catch that achieve the maximum sustainable yield (MSY).

7. Participation in Scientific Workshops, Conferences and Symposia in 2008

7.1. XXVIII Latino American Congress of Marine Sciences

The XXVIII Latino American Congress of Marine Sciences was held in Viña del Mar, Chile between 26th and 30th May 2008. The venue was the Hotel Sheraton Miramar. The Congress was attended by >200 delegates from different Latin American countries, mostly from Chile. Participant from FIFD: V. Laptikhovsky. One report was presented for the Theme Session “Fisheries”: ‘Biology and stocks of grenadiers, *Macrourus* spp. in the Southwest Atlantic’.

7.2. ICES Annual Scientific Meeting - 2008

The ICES Annual Science Conference was held in Halifax, Nova Scotia between the 22nd and 26th September.

Participants from FIFD: P. Brickle and Ignacio Payá. Two papers were accepted as oral presentations

for the conference. P. Brickle presented a paper entitled ‘Structure and distribution of fish and cephalopod communities on the Burdwood Bank (Southwest Atlantic)’ in Theme Session C: “Mid-ocean ridges and seamounts: oceanography, ecology, and exploitation”. I. Payá presented a paper entitled ‘The impacts of effort standardization procedures (GLM, GLMM and integrated estimations) and error distributions assumptions (normal, log-normal, t-student robust) on the depletion model biomass estimations of *Loligo gahi* off Falkland Islands’ in Theme Session I: “Fishing capacity, effort, and fishing mortality – The understanding of fishery dynamic and their links to management”.

7.3. The Role of Marine Mammals in the Ecosystem in the 21st Century

The symposium was organized by the North American Fishery Organization (NAFO) and ICES, it was held in Dartmouth, Canada on 29 September -1 October 2008. Participants from FIFD: Ignacio Payá. The presentation was ‘Changes of fishing gear design for reducing whale interference: Impacts on stock assessment and management of toothfish off Falkland Islands’ by Ignacio Payá and Paul Brickle.

7.4. 3rd International Conference ‘Coleoid Cephalopods through time’

The conference was held in the Museum of Natural History in Luxemburg (Musée national d'histoire naturelle, Luxembourg) between 7 and 10 October 2008. As in all previous conferences, the main aim of organisers (Drs. Dirk Fuchs, Alain Faber, Robert Weis) was to assemble scientists involved both in palaeontological and neontological research of coleoid cephalopods (squid, cuttlefish and octopods). About 50 scientists and students attended the conference.

Participant from FIFD: A. Arkhipkin. A key note presentation at the opening of the conference ‘Evolution of squid growth’. Altogether, 22 presentations have been made, plus 13 posters. Both participants and organisers emphasized the importance of exchanging ideas between two different group of cephalopod researchers and decided to organise the next 4th Coleoid Symposium at the “Staatliches Museum für Naturkunde” in Stuttgart, Germany in 2012.

7.5. 5th World Fisheries Congress

The 5th World Fisheries Congress was held in City Center Pacifico, Yokohama, Japan, between 20 and 24 October 2008. This Congress was planned to be one of the major venues to bring together fishery managers and scientists, fishers and economists to discuss current issues and tendencies in the world fisheries. About 1,800 participants attended the Congress, including about 1,000 scientists and students from Japan, about 150 people from Taiwan and ~100 from USA. Attendance of European fisheries managers and scientists was unexpectedly quite poor. Participant from FIFD: A. Arkhipkin.

Official opening of the Symposium was inaugurated by the presence and short welcome speech by the Japanese Emperor Akihito.

All oral presentations were organised in 9 concurrent sessions. A. Arkhipkin presented a talk at the session ‘Fisheries by-catch’, ‘How a by-catch fish has become a targeted commercial stock: rock cod *Patagonotothen ramsayi* around the Falkland Islands’ by A. Arkhipkin, P. Brickle, V. Laptikhovsky.

7.6. 4th International Symposium on Pacific Squids.

The 4th International Symposium on Pacific Squids was organised by the Universidad Católica del Norte, Chile. It was held in Coquimbo on 1-2 December 2008. 26 oral presentations were made on various aspects of biology and fisheries of Pacific squids focusing mainly on the largest resource of jumbo squid (*Dosidicus gigas*). Scientists from Mexico, Peru, Chile, Japan, USA and the Falkland Islands were among the attendees of the symposium. Participants from FIFD: Alexander Arkhipkin and Ignacio Payá. Three contributions were presented: ‘Squid migrations’ by A. Arkhipkin and Ch. Nigmatullin; ‘Sequential arrivals of squid groups to fishing grounds and its impact on stock assessment and management of *Loligo gahi* off Falkland Islands’ by I. Payá; and ‘The impacts of jumbo squid (*Dosidicus gigas*) and discards on the stock assessment and management of Chilean hake (*Merluccius gayi*)’ by I. Payá.

8. Publications from scientific work carried out in FIG Fisheries Department in 2008

8.1. Peer-reviewed publications (appeared in 2008)

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- Önsoy B., Laptikhovsky V., Salman A. 2008. Reproductive biology of the Patagonian bobtail squid, *Semirostris patagonica* (Sepiolidae: Rossiinae) in the south-west Atlantic. *Journal of the Marine Biological Association of the UK*, **88** (5), 1019-1023.
- Quillfelt, P., McGill, R. A. R. Masello, J. F., Weiss, F., Strange, I., Brickle, P., Furness R. W. 2008. Stable isotope analysis reveals sexual and environmental variability and individual consistency in foraging of thin-billed prions. *Marine Ecology Progress Series*, **373**, 137-148.

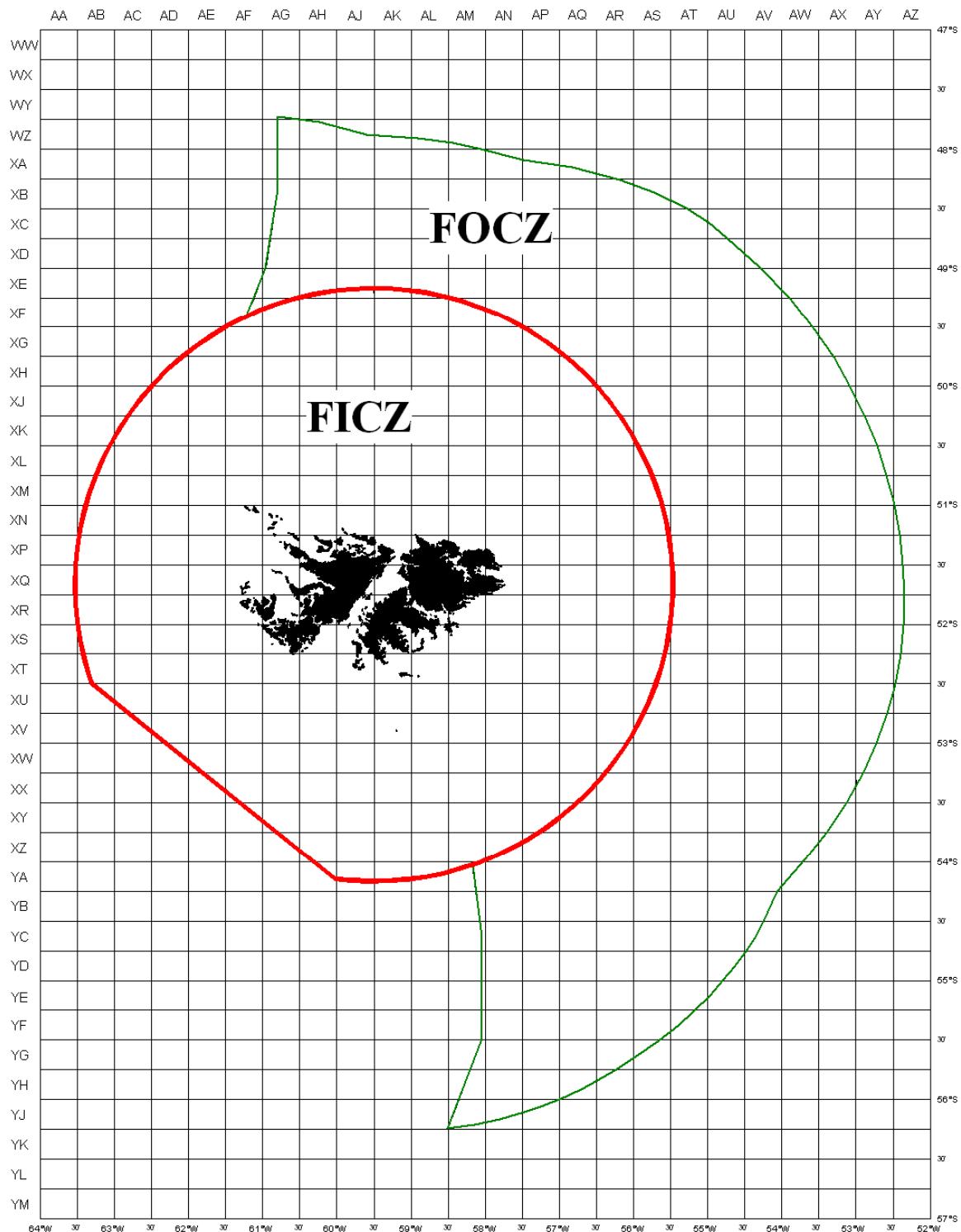
8.2. Technical reports:

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Dr Alexander I. Arkhipkin (Editor), sections 1.1-1.3; 1.15; 2; 3
 Dr Paul Brickle, sections 1.7-1.9; 1.13-1.14; 4
 Ignacio Paya, sections 1.2; 1.9; 1.12 (stock assessment parts); 6
 Dr Pia Schuchert, sections 1.4-1.6
 Dr Vladimir Laptikhovsky, sections 1.11-1.12
 Wetjens Dimmlich, sections 1.10; 5

Introduction

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>Loligo gahi</i>	Patagonian squid
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
BZ	BLZ	Belize
CB*	KHM	Cambodia
CL	CHL	Chile
CN	CHN	China
EE	EST	Estonia
ES	ESP	Spain
FK	FLK	Falkland Islands
FR	FRA	France
GH	GHC	Ghana
GR	GRC	Greece
HN	HDN	Honduras
IS	ISL	Iceland
IT	ITA	Italy
JP	JPN	Japan
KR	KOR	Korea
NA	NAM	Namibia
NO	NOR	Norway
PA	PAN	Panama
PL	POL	Poland
PT	PRT	Portugal
RU	RUS	Russia
SC	SYC	Seychelles
SL	SLE	Sierra Leone
TW *	TWN	Taiwan
UK	GBR	United Kingdom
UR	UKR	Ukraine
US	USA	United States of America
UY	URY	Uruguay
VC	VCT	Saint Vincent
VU	VUT	Vanuatu

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

Introduction

Table A.4 Licence types, target species and periods of application 1989 - 2008

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

* 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:

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 at 11 March 2009

FISHERY								
Quota Owner	Finfish	Scallops	Squid - <i>Ilex argentinus</i>	Squid - <i>Loligo gahi</i> (Summer)	Skate	Squid and Restricted Finfish	Restricted Finfish Pelagic	Toothfish - Longline
Argos	8.15%			18.75%		11.22%		2.00%
Beauchene	3.10%			12.97%			1.88%	12.97%
Bold Ventures						15.30%		22.21%
Byron Holdings							6.97%	
CFL								100%
FIG	24.96%			27.53%		0.04%	70%	27.53%
Fortuna						0.28%	30%	0.27%
International Fishing					36.80%		2.06%	
J.K. (Marine)							0.86%	
Pioneer Seafoods	7.86%					2.52%		
RBC	38.33%					2.99%		10.45%
Seafish						14.14%		4.40%
Seaview							19.95%	
SFS	2.28%					14.34%		14.34%
Southern Cross	4.18%						20.71%	
Sullivan Shipping	11.14%						7.71%	11.56%
							23.09%	10.42%
								18.43%
Total	100.00%	0.00%	0.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Note:								

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

Fisheries in italics represent provisional quota which is not transferable.

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

LICENCE	1997	1998	1999	2000	2001	2002	2003	2004
A	4	9	11	10	6	6	6	8
B	92	79	86	109	116	125	122	89
C	15	14	17	17	16	17	16	16
E	6	9	8	5	1	1	8	9
F	.	.	.	4	1	9	4	7
G	19	27	30	16	19	19	24	17
L	.	.	.	3	6	6	8	5
R	10	2	8	7	9	8	10	11
S	.	.	2	3	3	4	3	4
W	9	16	21	11	13	11	23	25
X	21	20	18	15	19	17	18	17
Y	11	8	8	4	8	8	12	10
Z	36	27	34	27	18	19	22	22
	223	211	243	231	235	250	276	240

LICENCE	2005	2006	2007	2008
A*	9	11	10	23
B	70	43	57	44
C	17	16	16	17
E	11	8	6	4
F	4	.	1	8***
G	14	20	18	23
L	4	6	6	2
R	11	11	10	.
S	2	2	2	3
W**	17	21	14	27
X	16	16	17	20
Y	12	16	18	.
Z	18	24	25	.
	205	194	200	171

* - A + Y since 2008

** - W + Z since 2008

*** - F + R since 2008

Licences

Table B.2 Licence allocations by fishing fleet and year

Fishing fleet	1989	1990	1991	1992	1993	1994	1995	1996	1997
BG	9	14	8	6	2	.	.	.	.
BZ	.	.	.	.	.	.	1	.	.
CL	1	1	.	3	2	8	8	4	3
ES	99	72	66	74	74	108	100	69	52
FK	7	4	2	3	3	8	19	37	32
FR	.	.	.	.	.	5	3	4	2
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
KR	30	32	42	55	60	86	105	112	98
NA	.	.	.	.	.	.	.	.	3
NL	1	1	.	.	.	.	.	.	.
NO	.	2	.	.	.	.	.	1	1
PA	.	.	5	4	3	3	2	3	.
PL	68	53	40	21	8	8	4	2	.
PT	7	7	4	4	3	4	8	4	.
RU	.	.	.	.	.	1	.	.	.
SC	.	.	.	.	.	.	.	.	3
SL	.	.	.	1	1	1	.	.	.
TW	32	17	39	49	77	43	8	3	3
UK	11	1	1	.	1	3	2	5	3
UR	.	.	.	.	.	1	.	.	.
US	.	.	.	.	.	.	.	1	.
	372	292	288	291	274	325	283	259	223

Licences

Table B.2 Licence allocations by fishing fleet and year, continued

Fishing fleet	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
AU	3	3	.	.	.	.	.	.	.	.	.
BZ	.	2	5	2	2	3	1	1	.	.	.
CB	.	.	2	1	1	1	1	.	.	.	.
CL	2	3	1	1	1	1	2	.	1	2	1
CN	2	4	9	20	25	22	7	3	2	5	.
EE	.	.	.	.	.	.	1	.	2	.	.
ES	64	76	41	45	49	46	47	36	59	65	59
FK	43	49	47	55	49	80	71	76	69	61	55
FR	2	2	1	.	.	.	.	.	.	.	.
GH	.	.	.	.	.	.	.	.	1	.	.
IS	.	.	.	.	.	.	.	.	.	.	.
JP	40	20	21	16	22	14	7	2	1	1	1
KR	48	71	84	67	71	64	61	43	42	42	38
NA	1	2	.	.	.	.	2	.	.	.	.
NO	.	.	.	.	.	.	.	.	.	.	.
NZ	.	.	.	.	.	1	.	.	.	.	.
PA	1	2	.	.	.	.	.	2	1	1	.
PT	.	.	1	.	.	.	.	.	.	.	.
RU	.	.	.	1	.	9	.	.	.	.	.
SC	.	.	.	.	.	.	.	.	.	.	.
TW	2	4	16	22	26	29	33	33	10	19	13
UK	3	5	3	3	3	4	5	5	4	4	4
VC	.	.	.	1	.	.	.	.	.	.	.
UY	.	.	.	1	1	2	2	2	2	.	.
VU	.	.	.	.	.	.	.	2	.	.	.
	211	243	231	235	250	276	240	205	194	200	171

Table B.3 Licence 'A' (Unrestricted finfish - first season, 1998-2007; both seasons in 2008) allocations by fishing fleet and year

Fishing fleet	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
ES	4	6	3	4	3	2	1	2	3	2	12
FK	5	4	7	2	3	4	7	7	8	8	10
UK	.	1	.	.	.	.	.	.	.	.	1
	9	11	10	6	6	6	8	9	11	10	23

Licences

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

Fishing fleet	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
BZ	1	2	1	1	3	1	1	.	.	.
CB	.	2	1	1	1	1	.	.	.	.
CL	.	.	.	.	.	.	.	.	.	.
CN	4	9	20	25	22	7	3	2	5	.
ES	.	.	.	.	.	.	.	.	.	.
FK	.	.	.	.	.	.	1	.	.	.
GH	.	.	.	.	.	.	.	1	.	.
JP	15	17	14	19	12	5	.	.	.	.
KR	63	63	58	53	46	42	28	29	33	31
PA	.	.	.	.	.	.	2	1	.	.
RU	.	.	.	.	9	.	.	.	.	.
TW	4	16	22	26	29	33	33	10	19	13
VU	.	.	.	.	.	2	.	.	.	.
	87	109	116	125	122	89	70	43	57	44

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

Fishing fleet	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
AU	1	.	.	.	.	.	.	.	.	.
CL	.	.	.	.	.	.	.	.	.	.
ES	4	2	2	2	.	.	.	.	.	1
FK	10	13	12	14	15	14	16	15	14	15
FR	1	1	.	.	.	.	.	.	.	.
NA	.	.	.	.	.	1	.	.	.	.
SC	.	.	.	.	.	.	.	.	.	.
PA	.	.	.	.	.	.	.	.	1	.
UK	1	1	1	1	1	1	1	1	1	1
VC	.	1	.	.	.	.	.	.	.	.
	17	17	16	17	16	16	17	16	16	17

Licences

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

Fishing fleet	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
AU	.	.	.	.	.	.	.	.	.	.
ES	.	.	.	.	1	.	.	2	1	2
FK	6	2	.	.	5	6	8	4	5	2
IS	.	.	.	.	.	.	.	.	.	.
KR	2	3	.	.	.	.	.	.	.	.
UK	.	.	.	.	.	1	1	.	.	.
UY	.	.	1	1	2	2	2	2	.	.
	8	5	1	1	8	9	11	8	6	4

Table B.7 Licence 'F' (Skates and rays - first season in 1999-2007, both seasons in 2008) allocations by fishing fleet and year

Fishing fleet	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
BZ	.	.	.	1	.	.	.	.	.	.
KR	.	4	1	8	4	7	4	.	.	6
ES	1	2
	.	4	1	9	4	7	4	.	1	8

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

Fishing fleet	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
EE	.	.	.	.	.	1	.	1	.	.
ES	22	12	13	14	15	11	7	13	16	19
FK	5	4	6	5	9	5	7	6	2	4
JP	1	.	.	.	.	.	.	.	.	.
NA	1	.	.	.	.	.	.	.	.	.
UK	1	.	.	.	.	.	.	.	.	.
	30	16	19	19	24	17	14	20	18	23

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

Fishing fleet	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
CL	1	.
FK	.	2	6	4	3	4	4	4	4	2
KR	.	1	.	2	4	1	.	2	1	.
NZ	1	.	.	.	.	.
	.	3	6	6	8	5	4	6	6	2

Table B.10 Licence 'R' (Skates and rays - second season) allocations by fishing fleet and year

Fishing fleet	1999	2000	2001	2002	2003	2004	2005	2006	2007
BZ	1	.	1	.	.	.	.	.	.
ES	.	.	.	.	.	.	.	.	3
KR	6	7	8	8	10	11	11	11	7
PA	1	.	.	.	.	.	.	.	.
	8	7	9	8	10	11	11	11	10

Licences

Table B.11 Licence 'S' (Blue Whiting and Hoki - surimi vessels) allocations by fishing fleet and year

Fishing fleet	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
CL	1	1	1	1	1	2	.	1	1	1
FK	.	.	.	.	.	.	.	.	.	1
JP	1	2	2	3	2	2	2	1	1	1
	2	3	3	4	3	4	2	2	1	3

Table B.12 Licence 'W' (Restricted finfish - first season, 1998-2007; both seasons in 2008) allocations by fishing fleet and year

Fishing fleet	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
BZ	.	1	.	.	.	.	.	.	.	.
CL	1	.	.	.	.	.	.	.	.	.
EE	.	.	.	.	.	.	.	1	.	.
ES	16	7	9	9	9	15	8	16	10	20
FK	3	1	4	2	13	9	8	3	3	5
KR	.	.	.	.	.	.	.	.	.	1
JP	1	2	.	.	.	.	.	.	.	.
UK	.	.	.	.	1	1	1	1	1	1
	21	11	13	11	23	25	17	21	14	27

Table B.13 Licence 'X' (Patagonian squid - second season) allocations by fishing fleet and year

Fishing fleet	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
AU	1	.	.	.	.	.	.	.	.	.
ES	2	2	2	3	.	.	.	.	1	3
FK	11	12	16	13	17	15	15	15	15	16
FR	1	.	.	.	.	.	.	.	.	.
JP	2	.	.	.	.	.	.	.	.	.
NA	.	.	.	.	.	1	.	.	.	.
UK	1	1	1	1	1	1	1	1	1	1
	18	15	19	17	18	17	16	16	17	20

Licences

Table B.14 Licence 'Y' (Unrestricted finfish - second season) allocations by fishing fleet and year

Fishing fleet	1999	2000	2001	2002	2003	2004	2005	2006	2007
ES	5	1	2	4	3	3	5	6	11
FK	2	2	4	3	8	6	7	10	7
RU	.	.	1	.	.	.	.	.	.
UK	1	1	1	1	1	1	.	.	.
	8	4	8	8	12	10	12	16	18

Table B.15 Licence 'Z' (Restricted finfish - second season) allocations by fishing fleet and year

Fishing fleet	1999	2000	2001	2002	2003	2004	2005	2006	2007
AU	1	.	.	.	.	.	.	.	.
BZ	.	2	.	.	.	.	.	.	.
CL	1	.	.	.	.	.	.	.	.
ES	21	14	13	14	16	17	14	19	19
FK	8	4	5	5	6	5	3	4	4
JP	.	.	.	.	.	.	.	.	.
KR	1	6	.	.	.	.	.	.	1
NA	1	.	.	.	.	.	.	.	.
PA	1	.	.	.	.	.	.	.	.
PT	.	1	.	.	.	.	1	1	1
UK	.	.	.	.	.	.	.	.	.
	34	27	18	19	22	22	18	24	25

Licences

Table B.16 Annual revenue (Pounds sterling) by licence type

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

LICENCE	1996	1997	1998	1999	2000	2001	2002
A	300,154	191,586	186,858	247,467	264,667	153,200	229,589
B	12,176,224	12,189,748	9,578,864	9,349,734	14,609,416	16,408,604	15,504,408
C	3,915,269	3,489,634	3,694,139	3,840,651	4,063,638	4,515,400	4,495,703
E	107,022	180,956	460,752	471,163	190,113	0	0
F	117,243	.	.	0	83,714	41,311	218,114
G	.	654,702	900,493	1,321,513	755,274	1,001,852	1,176,222
L	.	.	.	0	237,250	581,856	581,856
R	446,767	429,579	73,733	452,362	252,959	405,492	221,071
S	.	.	.	326,903	980,410	914,033	792,191
W	842,504	590,818	868,281	872,436	418,455	303,832	268,804
X	2,297,557	1,745,260	2,157,595	1,802,191	1,596,130	2,014,142	1,759,362
Y	174,748	284,846	327,707	235,446	276,522	375,871	384,723
Z	1,536,543	1,474,175	1,329,126	1,262,615	1,051,854	969,460	920,040
	21,977,242	21,296,309	19,577,548	20,182,480	24,780,401	27,685,053	26,552,083

LICENCE	2003	2004	2005	2006	2007	2008
A*	312,757	239,533	160,585	296,901	428,227	1,129,012
B	12,122,222	2,926,562	2,441,087	4,509,716	6,151,234	4,430,958
C	1,446,088	1,509,446	1,534,994	1,763,009	1,734,547	1,939,301
E	34,500	56,925	84,150	95,600	0	0
F**	85,855	156,778	49,701	0	7,699	274,579
G	1,085,814	558,859	374,079	909,945	627,065	769,004
L	493,873	581,855	533,368	579,782	907,704	760,700
R	240,511	263,006	405,720	285,453	278,912	.
S	895,352	1,237,335	449,067	525,669	554,748	543,770
W***	515,383	905,319	524,877	488,818	506,479	1,219,240
X	1,804,098	2,090,748	2,510,109	3,263,140	3,263,140	4,242,081
Y	434,158	407,128	650,185	656,810	459,542	.
Z	995,807	978,825	834,434	1,026,697	474,296	.
	20,466,419	11,912,319	10,552,357	14,401,541	15,393,593	15,308,645

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

Catch summary tables

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

VESSEL TYPE	1989	1990	1991	1992	1993	1994	1995	1996
CO	59069	46211	27896	17669	1151	4807	3222	1569
JI	195476	94743	160754	149557	144189	62874	62717	73128
LO	.	.	.	131	10	2855	1901	992
TR	172270	143561	115853	147601	106257	126262	177332	119303
	426814	284516	304503	314957	251605	196798	245172	194991

VESSEL TYPE	1997	1998	1999	2000	2001	2002	2003	2004
CO	811	274	.	.	.	.	.	.
JI	150732	79837	254026	182925	146066	13001	101754	1661
LO	1241	1787	2077	2092	1684	1754	1832	2076
TR	77542	128976	120935	134089	117449	86224	105511	99361
	230326	210874	377038	319107	265198	100979	209097	103098

VESSEL TYPE	2005	2006	2007	2008
JI	7776	68950	157533	100317
PO	.	295	.	.
LO	1791	1620	1624	1506
TR	117537	142390	142890	168502
	127104	213256	302046	270325

Catch summary tables

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

SPECIES	1989	1990	1991	1992	1993	1994	1995	1996
BAC	2814	2778	2880	7055	6224	4043	9084	6925
BLU	43468	72326	50491	34078	24900	38697	39154	23539
ILL	224022	102417	174745	160016	145185	66996	64122	79724
KIN	977	850	949	1952	1643	899	1985	1682
LOL	118720	82990	53817	83384	52279	65757	98417	61374
MAR	0	4	141	1	33	0	5803	111
PAT	16480	11900	6759	4070	3029	1414	1988	1649
RAY	1749	1500	6923	8108	8523	5542	5432	3475
TOO	236	208	980	912	393	2963	2069	685
WHI	13313	7553	4499	14188	8506	10064	15603	13813
OTH	5036	1989	2317	1192	890	423	1514	2015
	426814	284516	304503	314957	251605	196798	245172	194991

SPECIES	1997	1998	1999	2000	2001	2002	2003	2004
BAC	4649	8121	9313	6551	3896	2617	2285	2781
BLU	26296	31483	28564	23371	25735	24908	20798	28554
ILL	149763	84993	266201	189709	150631	13411	103375	1720
KIN	1392	2217	2602	1875	1625	1224	1275	1841
LOL	26122	51559	34866	64493	53560	23712	47422	26835
MAR	2099	.	29	.	147	1	31	24
PAT	1554	3502	4224	3069	1978	1678	1967	1926
RAY	3320	1077	4785	3853	4309	3364	3988	5151
TOO	1208	2103	2988	2318	1754	1793	1707	2002
WHI	13006	22378	18765	19831	19471	26970	23815	25905
OTH	916	3443	4701	4037	2018	1242	1748	5080
ZYP	.	.	.	.	76	59	685	1279
	230326	210874	377038	319107	265198	100979	209097	103098

SPECIES	2005	2006	2007	2008
BAC	2467	3469	5195	4074
BLU	17047	20533	22204	13220
ILL	7937	85614	161402	106600
KIN	1936	2821	3592	2224
LOL	58811	43067	42003	52271
MAR	0	0	0	0
HAK	.	8414**	11,908**	8817**
PAT	2735*	23***	0***	0***
RAY	5698	4679	5663	3858
TOO	1677	1572	1519	1429
WHI	16721	19761	16669	15910
GRX	.	797	622	932
COX	.	20211	30157	60209
ZYP	1358	1161	14	6
OTH	10717	1133	1099	775
	127104	213256	302046	270325

* - *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
January	2475	.	5128	5217	3723	9149	7810	5217
February	30652	26620	19493	21028	6789	13273	28800	15782
March	89952	74890	88553	96826	39900	52894	46084	49887
April	131835	56338	83954	79745	79365	27654	49391	48971
May	73998	28475	32258	24303	51777	18914	21514	19526
June	11913	1017	112	107	437	2002	1786	1211
July	5265	2437	2538	223	1577	2172	2937	1418
August	24987	13196	14895	22415	20227	18151	25736	16451
September	26143	33653	21075	26933	16111	19569	25540	13562
October	14221	17836	13123	19839	11891	16105	14486	8315
November	8909	19119	9832	10736	11056	8805	11881	7406
December	6463	10934	13542	7585	8751	8111	9205	7245
	426814	284516	304503	314957	251605	196798	245172	194991

	1997	1998	1999	2000	2001	2002	2003	2004
January	7918	7687	6605	5213	6497	3536	5881	2901
February	8660	19942	29626	47924	10926	12306	16612	9405
March	29199	47799	98631	94536	81574	17335	91036	15081
April	60718	63064	104827	63840	71936	13811	37830	11292
May	68234	22936	73790	48684	38621	15504	5680	4930
June	10474	2821	12665	2854	2199	1473	1385	727
July	2625	1596	2313	2502	1299	253	877	6771
August	10019	13012	13364	16528	17380	11863	21491	14344
September	8668	11157	11853	16874	15306	5751	14513	10571
October	7960	7778	9857	8333	12413	5668	8831	13552
November	8381	6395	7138	7306	4933	8638	3981	8412
December	7470	6689	6370	4513	2112	4841	980	5114
	230326	210874	377038	319107	265198	100979	209097	103098

	2005	2006	2007	2008
January	1712	2180	2371	4071
February	7562	10861	11130	14310
March	27436	47995	40165	39448
April	10581	46967	86250	65727
May	3870	28046	69260	46710
June	712	1839	8694	16383
July	11786	10173	12356	10244
August	22576	23408	26168	20971
September	17104	15626	20049	23094
October	11008	13522	14000	15402
November	9644	8846	9748	9895
December	3113	3792	1856	4069
	127104	213256	302046	270325

Catch summary tables

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

GRT	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<400	2203	7796	7829	3588	571	2186	276	0	0	0	0
400-599	5904	26789	11671	13309	1502	6412	1604	2143	3527	3143	0
600-799	43028	163915	110505	78231	14107	50758	3709	6955	52598	85767	61827
800-999	23115	37524	51052	46705	7974	42387	9987	13419	34392	79405	59523
1000-1499	59053	69138	59117	59440	34363	48736	31390	35548	54044	63161	71636
1500-1999	14431	15926	19525	15015	13455	15608	14958	24797	29284	33452	36452
2000-2999	30690	25317	35543	32726	13205	30373	16436	33009	25230	24456	32066
>2999	32450	30633	23864	16185	15803	12637	24738	11233	14180	12663	8820
210874	377038	319107	265198	100979	209097	103098	127104	213256	302046	270325	

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

LOA	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<45	1648	1803	865	2458	271	42	0	0	0	0	0
45-49	29845	123498	76639	54447	8662	30524	5553	7824	24366	39348	31014
50-54	26581	71292	62017	42364	14062	36900	13790	18202	46204	66139	50709
55-59	13712	21017	29661	23807	8845	22691	4041	5826	22869	39903	32315
60-64	22027	44818	34635	41514	9615	31321	11646	16725	29214	41920	42073
65-69	32634	37289	32864	32676	18200	30024	19604	23806	34678	56105	52337
70-79	38559	33167	37047	32979	17773	28338	10501	20768	23791	28571	31226
80-89	8965	10100	17008	14026	5661	12649	11357	17923	14811	14052	17600
>89	36903	34054	28370	20928	17890	16606	26606	16030	17323	16009	13052
210874	377038	319107	265198	100979	209097	103098	127104	213256	302406	270325	

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

BHP	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<1000	.	2964	1765	1320	183	42	0	0	0	0	0
1000-1199	3013	12634	7711	9643	917	6666	28	0	0	0	0
1200-1399	20483	68649	45064	32509	5516	17093	129	1796	15688	29866	18609
1400-1599	27875	86241	60183	46741	10995	34576	8407	9782	40838	58657	44788
1600-1799	26562	53105	36388	28040	4815	21161	5297	7206	24325	40361	37132
1800-1999	38781	52553	60145	55146	18246	40925	20248	22760	47600	68196	57314
2000-2499	23363	35572	35493	29519	18188	31772	19557	26874	34833	52344	55517
2500-2999	4082	6441	7449	9805	10652	10413	7303	9703	6063	11512	11060
3000-3999	25979	22061	31584	27147	11947	26292	14997	28618	22392	21237	28383
>3999	40736	36817	33324	25328	19519	20158	27133	20366	21517	19874	17522
210874	377038	319107	265198	100979	209097	103098	127104	213256	302406	270325	

Catch summary tables

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

Fishing fleet	1989	1990	1991	1992	1993	1994	1995	1996
AU	.	.	.	.	.	.	.	.
BG	13503	22369	21888	8981	2976	.	.	.
BZ	.	.	.	.	.	.	585	.
CB	.	.	.	.	.	.	.	.
CL	1150	1884	.	3145	1514	5223	9997	6638
CN	.	.	.	.	.	.	.	.
ES	82345	65908	57605	87763	58143	67191	89284	40842
FK	781	5853	1470	1846	1978	5906	27184	31520
FR	.	.	.	.	.	1945	7369	4600
GR	4960	3121	.	.	.	.	.	.
HN	.	.	1712	2761	3681	2976	2833	850
IS	.	.	.	.	.	.	.	214
IT	10391	4547	2409	2923	2142	1181	218	.
JP	125567	60028	93652	68325	39510	39916	25583	24870
KR	51133	32996	61614	72489	65228	42987	63236	73861
NA	.	.	.	.	.	.	.	.
NL	4587	3369	.	.	.	.	.	.
NO	.	1384	.	.	.	.	.	319
PA	.	.	2425	4027	1060	598	459	706
PL	74039	64765	43878	32996	12442	11178	8861	3262
PT	9143	6430	3268	1548	1809	2512	5157	1052
RU	.	.	.	.	.	39	.	.
SC	.	.	.	.	.	.	.	.
SL	.	.	.	1150	822	373	.	.
TW	37529	10479	12590	27002	59853	13497	2323	1901
UK	11685	1383	1992	.	445	1255	2083	4357
UR	.	.	.	.	.	21	.	.
	426814	284516	304503	314957	251605	196798	245172	194991

Catch summary tables

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

Fishing fleet	1997	1998	1999	2000	2001	2002	2003	2004	2005
AU	.	3593	3711	.	.	.	.	.	.
BZ	.	.	4511	6729	2581	136	2788	42	61
CB	.	.	.	2768	1204	33	857	17	.
CL	8199	8849	5491	2749	8014	9252	6490	9752	.
CN	.	1177	7301	11641	18838	1203	12652	99	99
EE	.	.	.	.	.	.	226	.	.
ES	20510	40307	35909	30732	29170	23972	20169	22488	24546
FK	17117	43578	39131	62947	59820	35732	60596	43320	71205
FR	1545	4177	2381	2053	.	.	.	.	.
IS	268	.	.	.	.	.	.	.	.
JP	46060	56992	57971	41737	27913	14485	18923	15062	11230
KR	129546	45082	207795	128940	86587	12637	53677	6008	10074
NA	303	676	746	.	.	.	.	1181	.
NO	210	.	.	.	.	.	.	.	.
NZ	.	.	.	.	.	.	69	.	.
PA	.	1098	61	.	.	.	.	.	194
PT	.	.	.	66	.	.	.	.	.
RU	.	.	.	.	228	.	6891	31	.
SC	1252	.	.	.	.	.	.	.	.
TW	3013	1734	8771	23243	25380	1190	22057	866	3106
UK	2302	3575	3259	5501	3564	2279	3238	2703	5100
UR	.	.	.	.	.	.	.	.	.
UY	.	36	.	.	81	61	690	1303	1369
VC	.	.	.	.	1820	.	.	.	.
VU	.	.	.	.	.	.	120	.	.
	230326	210874	377038	319107	265198	100979	209097	103098	127104

Fishing fleet	2006	2007	2008
BZ	.	2285	.
CL	2131	3948	1640
CN	3555	8575	.
EE	1247	.	.
ES	42024	56165	72472
FK	65229	65812	76962
GH	1244	.	.
JP	12049	9042	8820
KR	60943	99171	81224
PA	1375	3150	.
TW	18554	49970	24353
UK	3734	3928	4853
UY	1169	.	.
	213256	302046	270325

***Illex argentinus*—Illex squid**

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

VESSEL TYPE	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
JI	253997	182925	145919	13000	101753	1661	7776	68950	157533	100317
TR	12204	6784	4711	411	1622	59	162	16665	3869	6283
	266201	189709	150631	13411	103375	1720	7937	85614	161402	106600

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

MONTH	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
January	2	39	.	1	.	.	.	6	4	0
February	14160	26916	55	1293	1944	24	87	454	3056	952
March	83669	75957	69399	1911	71279	1424	6915	26654	22693	11460
April	93924	48565	57031	2766	28624	269	934	36353	71559	48116
May	63515	36412	22926	7439	1516	3	0	21922	58852	34081
June	10932	1820	1220	0	11	.	.	225	5237	11991
July	0	.	0	.	.	.	.	.	.	1
August	.	.	.	.	.	.	.	.	.	.
September	.	.	.	.	.	.	.	.	.	.
October	.	.	.	.	.	.	.	.	.	.
November	.	.	.	.	.	.	.	.	.	.
December	.	.	0	.	.	.	.	.	.	.
	266201	189709	150631	13411	103375	1720	7937	85614	161402	106600

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

Fishing fleet	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
AU	167	.	.	.	.	.	.	.	.	.
BZ	3796	4066	1692	124	2767	42	61	.	2285	.
CB	.	2768	1195	33	857	17	.	.	.	.
CL	.	.	.	.	.	.	.	.	.	.
CN	7301	11641	18838	1203	12652	99	99	3555	8575	.
EE	.	.	.	.	.	3	.	472	.	.
ES	3943	989	2807	271	960	22	95	2320	3297	3189
FK	2582	716	1879	140	659	16	93	1050	537	442
FR	56	0	.	.	.	.	.	.	.	.
GH	.	.	.	.	.	.	1244	.	.	.
IS	.	.	.	.	.	.	.	.	.	.
JP	37495	25652	18126	1113	7746	93	.	.	.	.
KR	201690	120628	80827	9338	48766	530	4170	57030	94807	78612
NA	63	.	.	.	.	.	.	.	.	.
PA	.	.	.	.	.	.	194	1375	1896	.
RU	.	.	0	.	6891	31	.	.	.	.
TW	8771	23243	25241	1189	22077	865	3106	18554	49970	24353
UK	336	6	21	.	.	1	.	15	35	4
VC	.	.	4	.	.	.	.	.	.	.
VU	.	.	.	.	120	.	.	.	.	.
	266201	189709	150631	13411	103375	1720	7937	85614	161402	106600

***Illex argentinus*—Illex squid**

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

GRT	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<400	5535	5755	2627	190	1888	24	.	.	.	.
400-599	25341	11574	12799	1206	5030	26	280	2067	3143	.
600-799	157725	103179	70730	7338	45406	493	3757	47876	76265	52635
800-999	28821	40053	39487	2530	34521	994	3487	23849	66413	43624
1000-1499	40926	23536	24066	2061	16232	153	381	10690	13554	9842
1500-1999	1504	553	414	86	177	12	14	1022	2026	430
2000-2999	1293	30	508	1	120	1	19	111	0	69
>2999	5055	5030	.	.	17	.	.	.	.	.
	266201	189709	150631	13411	103375	1720	7937	85614	161402	106600

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

LOA	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<45	1865	1865	1865	.	.	0	.	.	.	.
45-49	49259	49259	49259	5176	25175	277	1914	16493	28700	17640
50-54	28339	28339	28339	3089	24699	312	2206	30895	49460	39423
55-59	16588	16588	16588	1293	16753	447	1736	15719	31360	20204
60-64	27502	27502	27502	1779	18624	348	832	10718	20600	11409
65-69	17984	17984	17984	1583	13616	254	1091	9264	26783	17496
70-79	8622	8622	8622	490	4414	61	140	2412	4499	283
80-89	458	458	458	1	90	3	19	111	.	145
>89	14	14	14	.	4	17	.	3	.	1
	150631	150631	150631	13411	103375	1720	7937	85614	161402	106600

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

BHP	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<1000	2964	1765	1239	122	.	.	.	.	.	.
1000-1199	12383	7711	9643	917	6597	28	1158	.	.	.
1200-1399	66273	42851	30503	2808	16189	147	2218	14549	27556	16162
1400-1599	79824	51436	38463	4015	27928	329	937	28947	45081	30225
1600-1799	47198	30881	23703	2073	14773	214	2250	14749	28652	21576
1800-1999	36363	40765	37469	2610	26640	656	1041	20250	36701	19369
2000-2499	14482	9130	7795	766	10375	246	315	6994	20302	14772
2500-2999	223	105	1286	99	753	80	19	3	3075	4423
3000-3999	1216	27	484	1	109	2	.	120	35	62
>3999	5273	5039	45	.	12	17	.	3	.	12
	266201	189709	150631	13411	103375	1720	7937	85614	161402	106600

***Illex argentinus*—Illex squid**

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

GRT	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<400	5535	5754	2627	190	1888	24	.	.	.	.
400-599	25190	11574	12799	1206	5030	26	280	2067	3143	.
600-799	157195	103054	70286	7279	45203	489	3756	40707	75854	52171
800-999	28043	39901	38817	2484	34168	988	3484	17667	66034	40683
1000-1499	38034	22642	21392	1841	15463	133	228	8509	10680	7463
1500-1999	.	.	.	.	.	.	.	1822	.	.
2000-2999	.	.	.	.	.	.	.	.	.	.
	253997	182925	145919	13000	101753	1660	7749	68950	157533	100317

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

LOA	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<45	.	.	1865	.	.	.	.	.	.	.
45-49	116539	69863	48439	5130	24798	274	1911	16300	28068	17342
50-54	61052	45743	27806	3036	24461	305	2184	24724	49197	36397
55-59	10249	19532	15655	1214	16480	440	1706	10861	30972	20091
60-64	31137	21128	26968	1736	18420	345	776	9800	19021	9523
65-69	27589	18957	17586	1496	13372	244	1058	5342	25958	16965
70-79	7431	7704	7600	388	4222	52	113	1923	4316	.
>79	.	.	.	.	.	.	.	.	.	.
	253997	182925	145919	13000	101753	1660	7749	68950	157533	100317

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

BHP	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<1000	2964	1765	1239	122	.	.	.	.	.	.
1000-1199	12383	7711	9643	917	6597	28	.	.	.	.
1200-1399	65883	42790	30295	2775	16074	147	1158	10574	27350	16102
1400-1599	79370	51211	37349	3944	27446	320	2198	25095	44568	29644
1600-1799	46397	30831	23506	2063	14670	211	912	10957	28114	20503
1800-1999	34085	40101	35757	2439	26155	640	2137	16038	34783	18255
2000-2400	12915	8517	7169	667	10088	233	1029	6286	19643	14039
2500-2999	.	.	960	74	723	81	315	.	3075	1774
3000-3999	.	.	.	.	.	.	.	.	.	.
	253997	182925	145919	13000	101753	1660	7749	68950	157533	100317

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

GRT	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<400	.	1	.	.	.	.	.	.	.	.
400-599	151	.	.	.	.	.	.	7168	.	.
600-799	529	125	444	59	203	4	0	6183	412	464
800-999	778	151	670	45	353	1	3	2181	379	2941
1000-1499	2892	894	2675	220	769	25	126	1022	2874	2379
1500-1999	1504	553	414	86	177	12	14	111	204	430
2000-2999	1293	30	508	1	120	1	19	.	0	69
<2999	5055	5030	.	.	.	17	.	.	.	.
	12204	6784	4711	411	1622	59	162	16665	3869	6283

***Illex argentinus*—Illex squid**

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

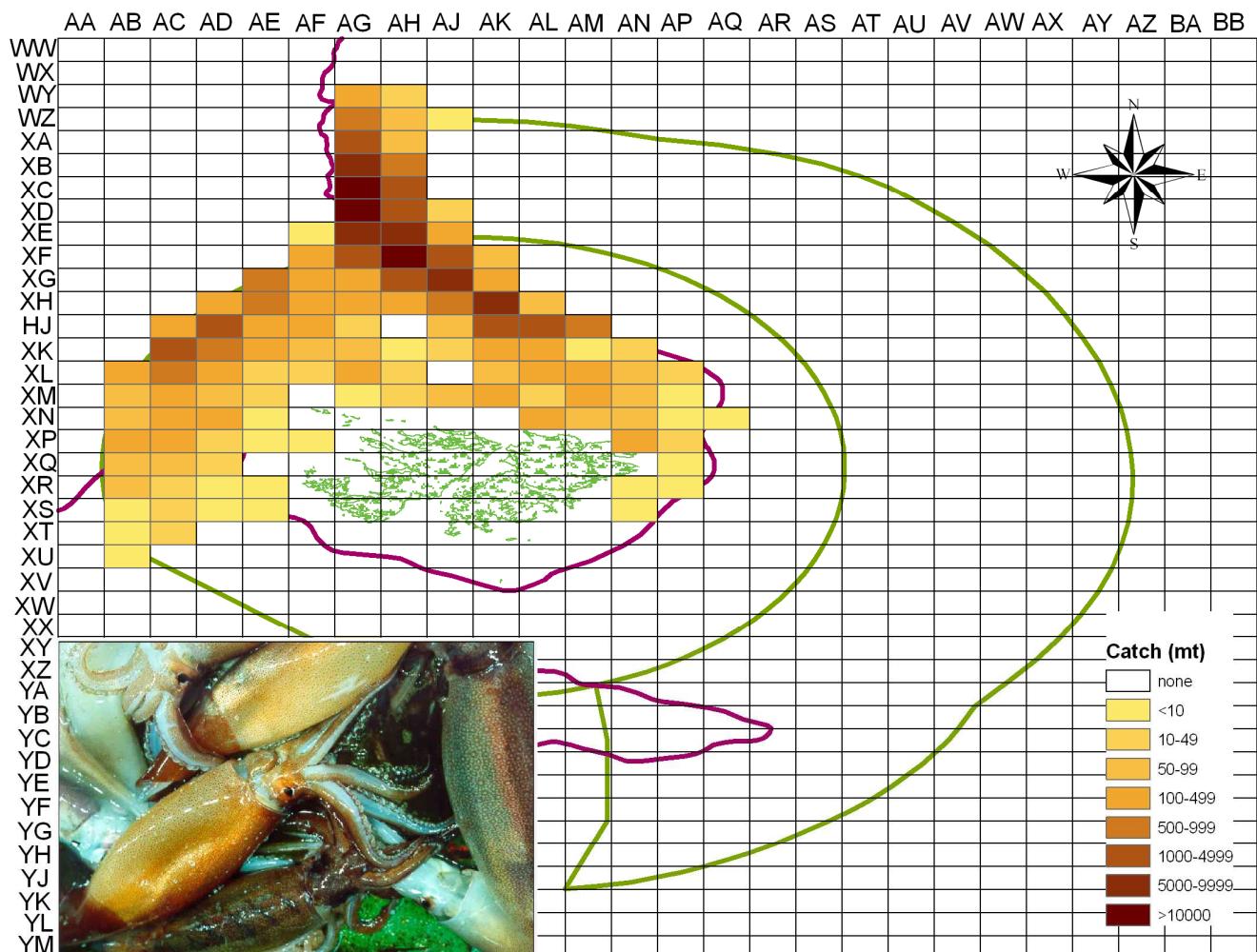
LOA	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<45	87	.	.	.	.	.	.	193	631	298
45-49	607	165	820	46	378	3	3	6171	263	3026
50-54	366	94	533	53	237	7	22	4858	388	113
55-59	1190	275	932	79	273	4	30	918	1578	1886
60-64	1395	298	534	43	204	7	56	3922	825	531
65-69	469	266	399	87	244	10	33	.	.	.
70-79	2384	627	1022	101	192	9	0	489	184	283
80-89	584	29	458	1	90	3	19	111	.	145
>89	5121	5030	14	.	4	17	.	3	.	1
	12204	6784	4711	411	1622	59	162	16665	3869	6283

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

BHP	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1000-1199	.	.	.	.	.	.	.	.	.	.
1200-1399	390	62	208	33	115	.	.	3975	206	61
1400-1599	455	226	1114	71	482	8	20	3853	513	581
1600-1799	801	50	197	10	103	2	25	3792	538	1073
1800-1999	2279	664	1712	171	485	16	87	4212	1918	1114
2000-2499	1567	612	626	98	287	14	11	707	659	732
2500-2999	223	105	326	25	31	0	0	3	.	2648
3000-3999	1216	27	484	1	109	19	19	120	35	62
>3999	5273	5039	45	.	12	.	.	3	.	12
	12204	6784	4711	411	1622	59	162	16665	3869	6283

Illex argentinus

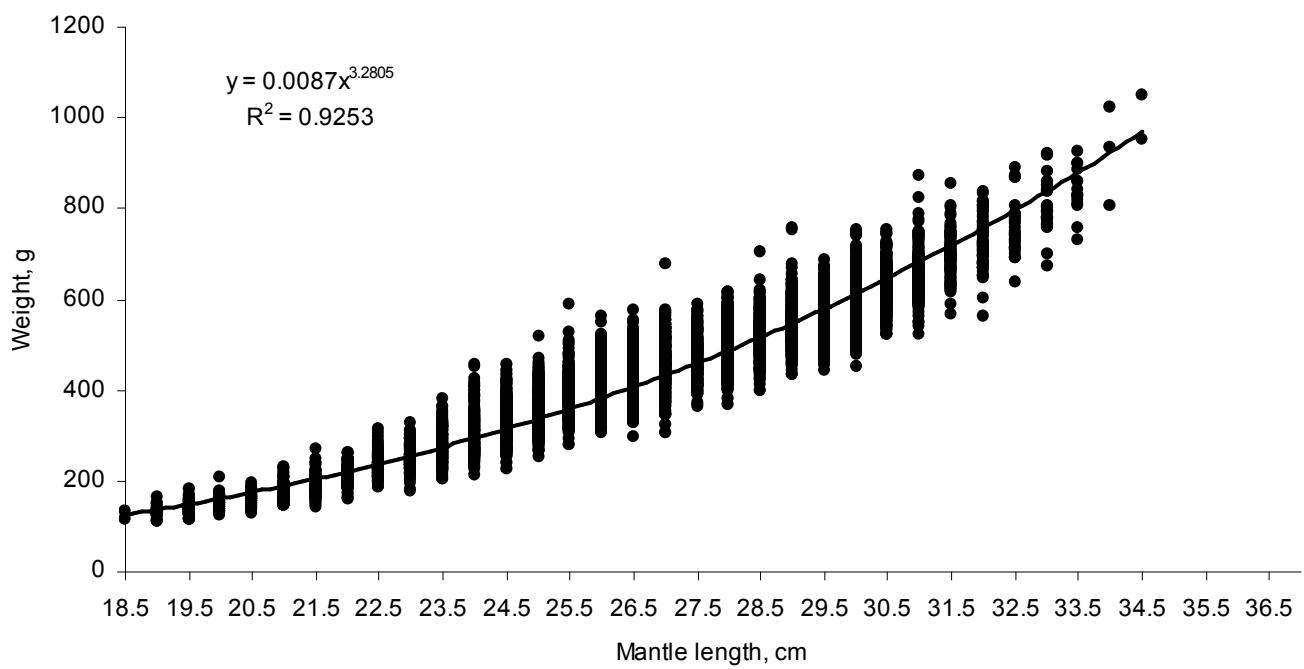
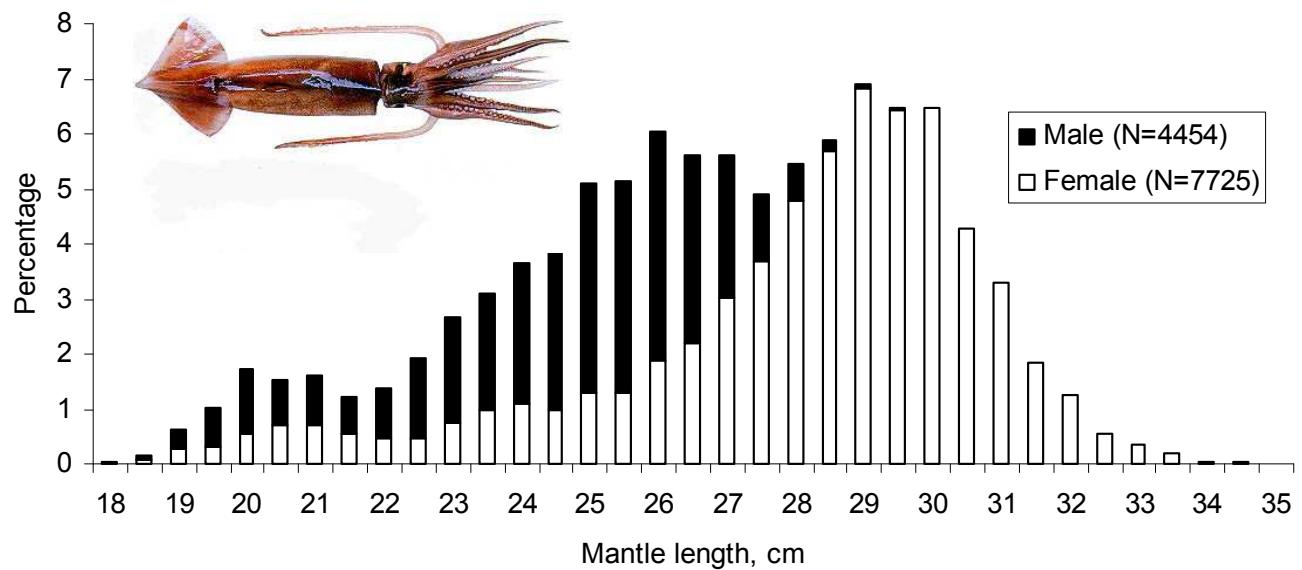
1st Season 2008 (01 Jan to 30 Jun)



Catch (mt) by grid square

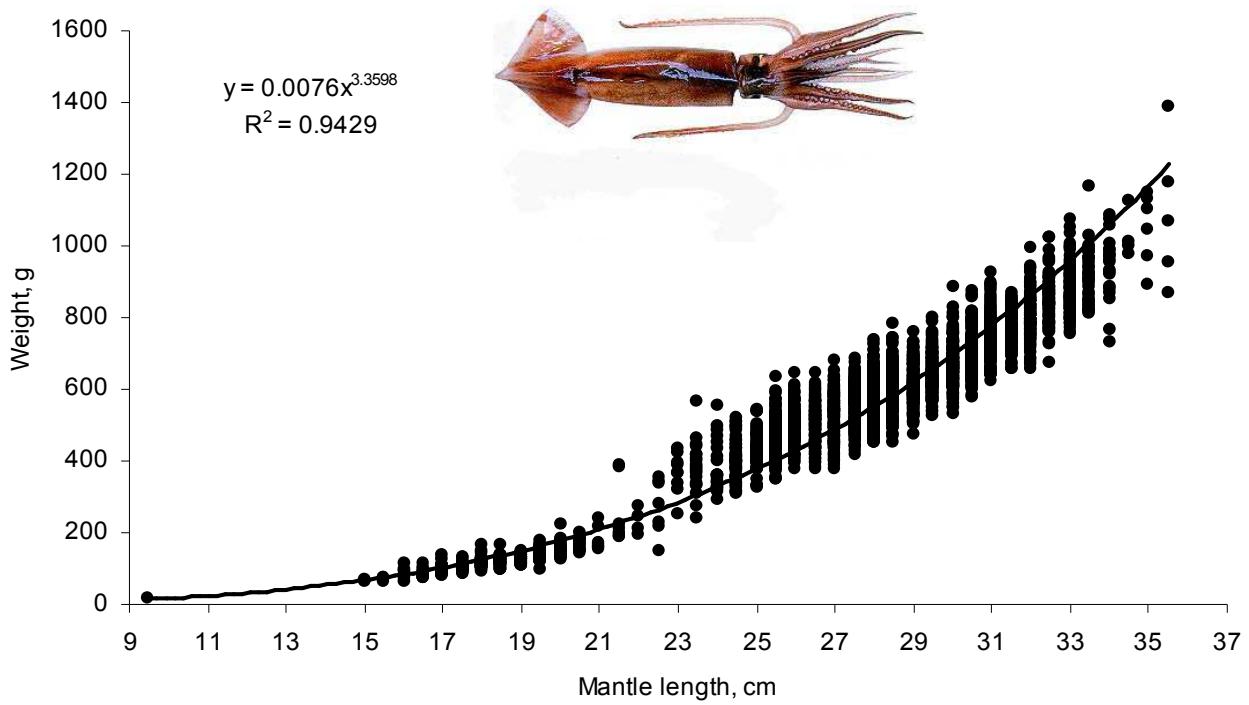
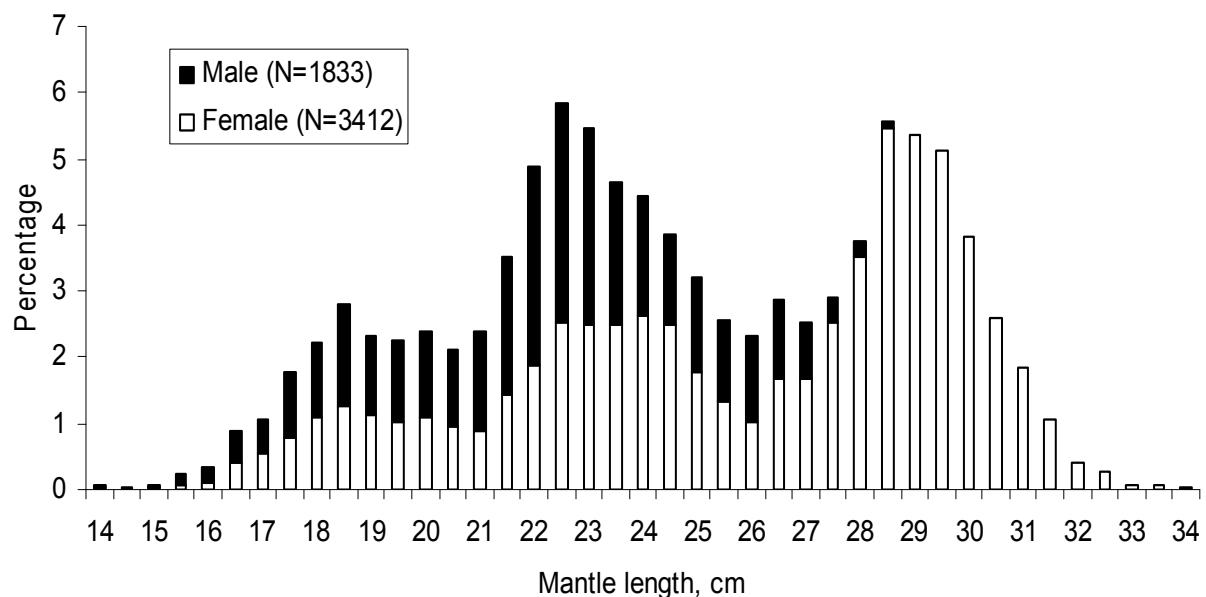
Illex argentinus—Illex squid

Length– frequency distribution and length-weight relationship in jigger fleets in 2008



Illex argentinus—Illex squid

Length– frequency distribution and length-weight relationship in trawler fleets in 2008



***Loligo gahi* - Patagonian squid**

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

VESSEL TYPE	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
TR	34866	64493	53560	23712	47422	26835	58811	43067	42003	52271
	34866	64493	53560	23712	47422	26835	58811	43067	42003	52271

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

MONTH	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
January	422	.	.	.	0	.	.	.	0	.
February	7646	11006	4478	3980	1180	586	2050	2943	729	3972
March	5599	9600	3754	2761	12340	4431	17905	13716	10271	15406
April	4264	8921	7854	2750	3851	2519	7427	2770	6388	5633
May	4682	9186	11538	4707	1224	869	1365	2	35	4
June	248	0	0	0	378	201	209	6	10	18
July	394	1	.	0	8	5852	10265	8132	6325	5611
August	6961	11288	14432	8007	16921	8045	14442	13988	14435	10780
September	4150	10620	8241	1213	9134	4301	5090	1425	3743	10792
October	500	3863	3258	290	2372	30	42	81	56	51
November	1	9	3	3	11	1	15	4	9	4
December	.	0	1	0	1	0	0	0	1	.
	34866	64493	53560	23712	47422	26835	58811	43067	42003	52271

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

Fishing fleet	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
AU	2486	.	.	.	.	.	.	.	.	.
BZ	.	2	.	.	.	.	.	.	.	.
CL	.	.	.	.	.	.	.	.	.	.
ES	3559	6805	5412	3036	458	98	104	74	134	3054
FK	22500	50308	42911	18613	43830	23573	54178	40165	38090	45695
FR	2309	2024	.	.	.	.	.	.	.	.
HN	.	.	.	.	.	.	.	.	.	.
JP	1857	.	1	.	.	1	.	.	2	1
KR	7	27	10	13	38	53	13	41	22	6
NA	0	.	.	.	.	1141	.	.	.	.
PA	0	.	.	.	.	.	.	.	1075	.
PL	.	.	.	.	.	.	.	.	.	.
PT	.	.	.	.	.	.	.	.	.	.
SC	.	.	.	.	.	.	.	.	.	.
UK	2148	5328	3431	2049	3095	1967	4516	2786	2681	3515
UY	.	.	.	.	.	.	.	.	.	.
VC	.	1795	.	.	.	.	.	.	.	.
	34866	64493	53560	23712	47422	26835	58811	43067	42003	52271

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

GRT	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<400	0	5								
400-599	0	.			4	2				
600-799	1433	2707	2160	1102	847	19	202	8	29	14
800-999	541	3297	2640	1361	2095	1149	2671	2165	2199	2872
1000-1499	5390	11504	9449	3889	8088	5317	9844	6578	7552	8438
1500-1999	7290	14122	9248	5312	9611	7474	17527	13227	12577	15576
2000-2999	18352	32858	30063	12048	26776	12873	28564	21089	19645	25370
>2999	1857	.	.			1	3	.	2	1
	34866	64493	53560	23712	47422	26835	58811	43067	42003	52271

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

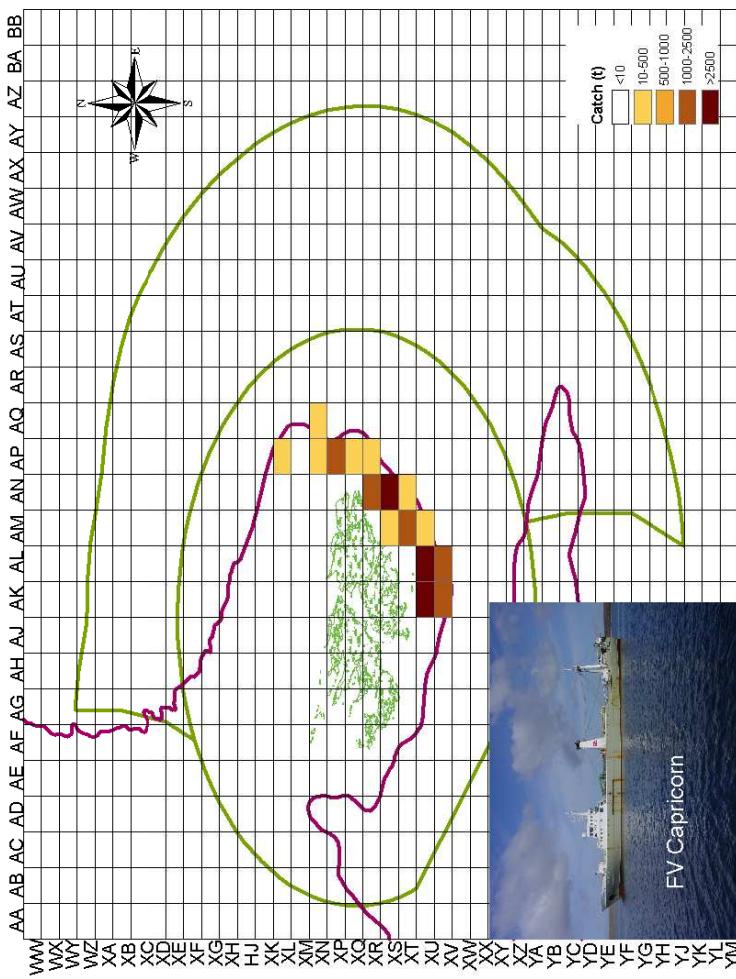
LOA	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<45	.	.	.	.	.	.	.	.	.	.
45-49	543	3288	2638	1361	2089	1116	2666	2157	2186	2872
50-54	3309	6208	5404	2578	3621	1981	3601	2319	2335	24
55-59	1	9	5	8	16	12	6	8	18	32
60-64	3742	5738	6264	2630	5868	3211	7083	5190	4980	6314
65-69	4226	9619	6911	3114	6095	3844	8052	4978	4829	9221
70-79	10603	20381	15971	6898	15325	6965	17771	14510	13592	17337
80-89	7413	14917	11766	5114	10648	7890	14945	11208	11087	13116
>89	5029	4333	4601	2009	3761	1816	4687	2696	2977	3355
	34866	64493	53560	23712	47422	26835	58811	43067	42003	52271

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

BHP	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<1000	.	.	.	.	.	.	.	.	.	.
1000-1199	.	.	.	.	.	.	.	.	.	.
1200-1399	1	4	2	4	3	.	.	.	.	.
1400-1599	1431	2702	2650	1099	856	61	229	13	63	155
1600-1799	875	3695	2623	1138	2290	1471	2901	2091	1965	102
1800-1999	1166	3300	2658	1548	2127	1172	2716	2189	2226	5389
2000-2499	9027	16580	12044	5802	12238	8011	15686	11493	11276	13702
2500-2999	9	27	89	19	34	3004	4691	2722	4071	3360
3000-3999	14764	29008	24657	10541	22774	10851	24078	18196	15913	21753
>3999	7593	9178	8837	3561	7099	2266	8510	6363	6491	7810
	34866	64493	53560	23712	47422	26835	58811	43067	42003	52271

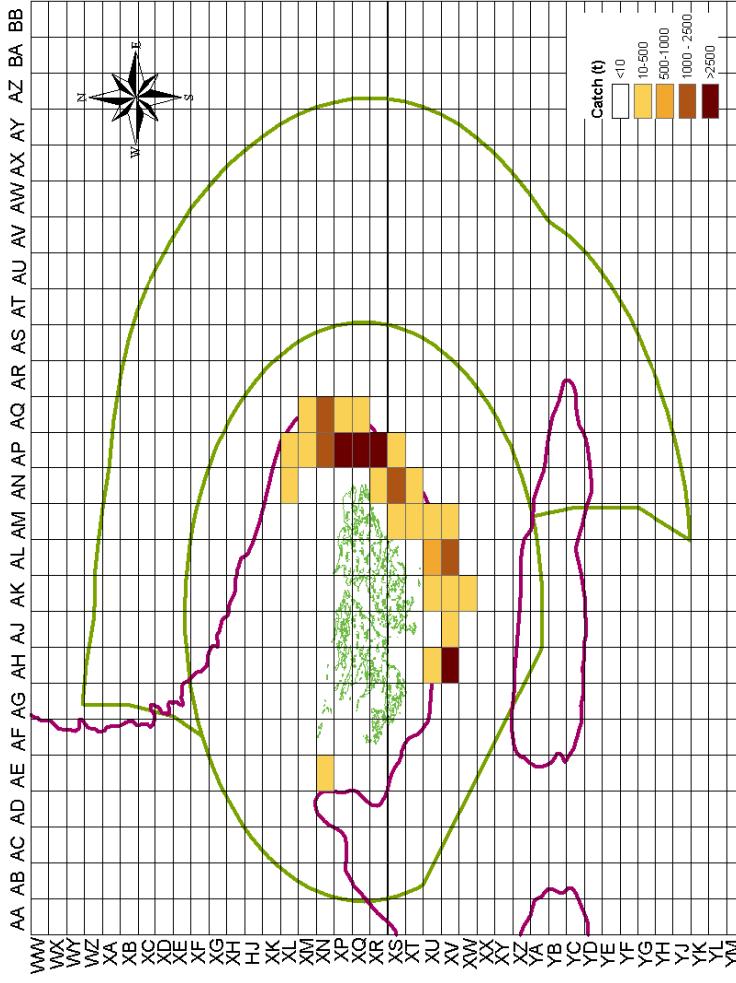
Loligo gahi

1st Season 2008 (01 Jan - 30 Jun)



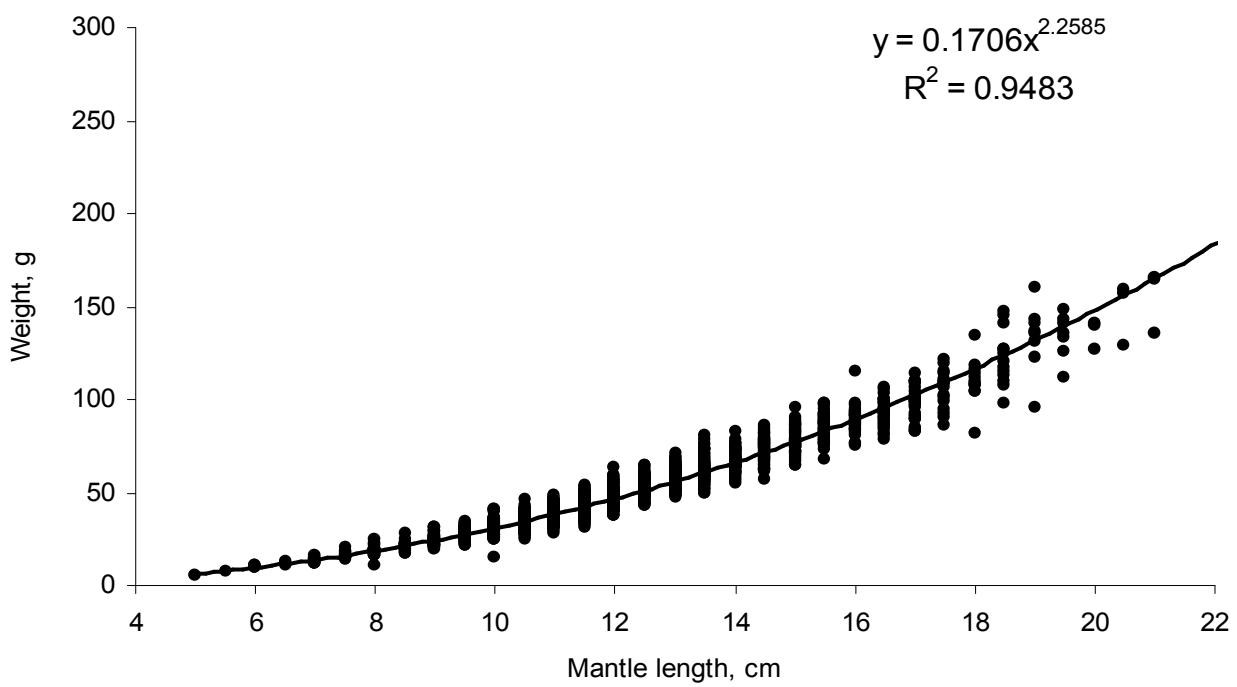
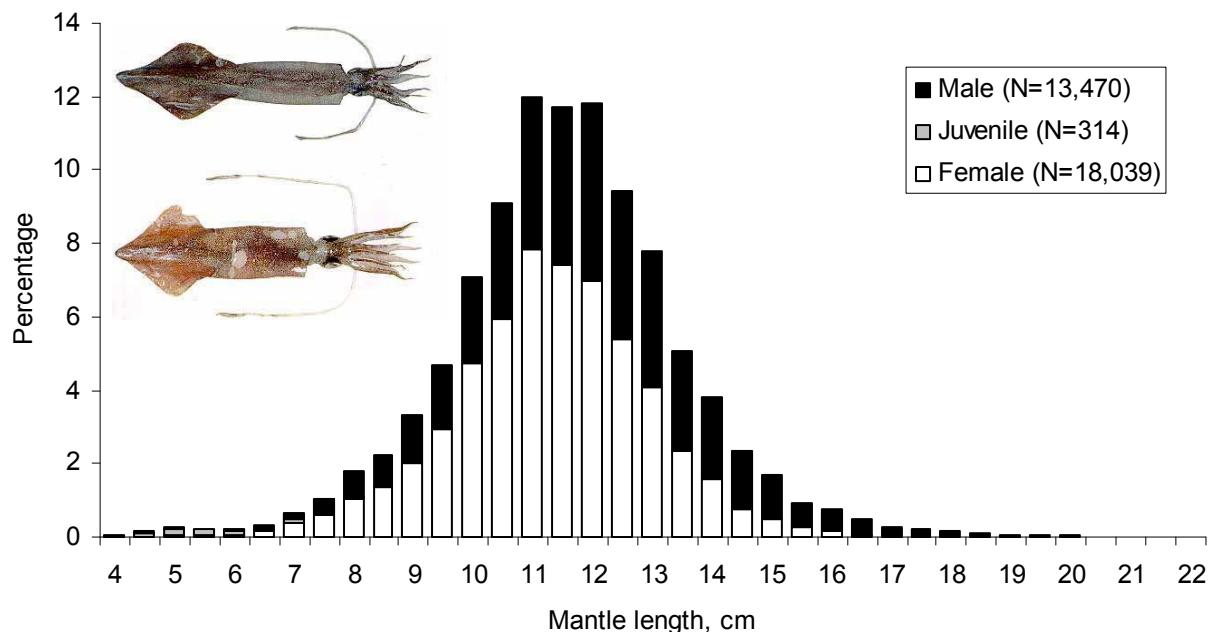
Loligo gahi

2nd Season 2008 (01 Jul - 31 Dec)



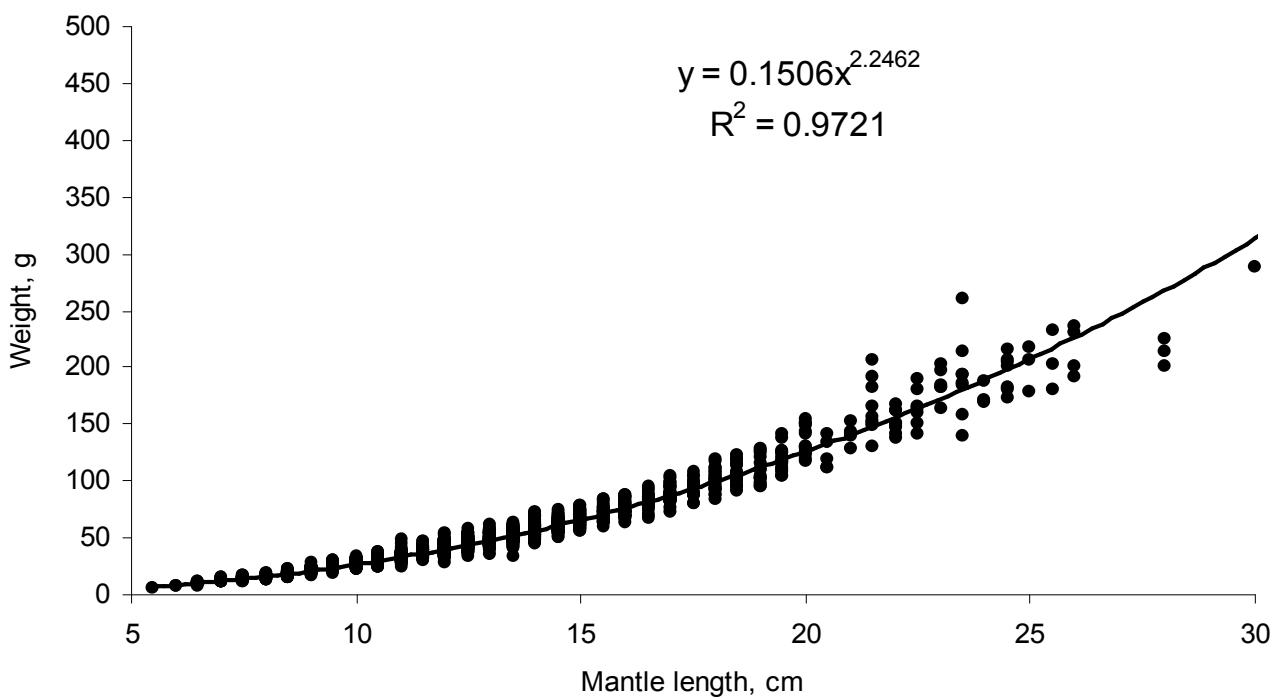
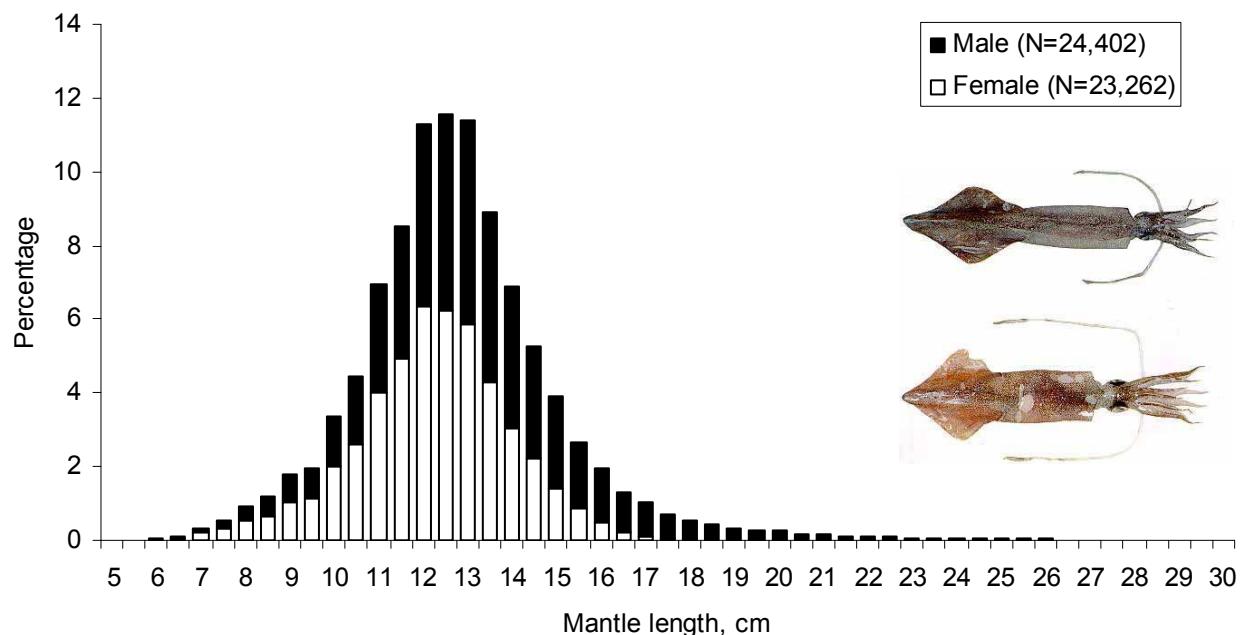
Loligo gahi—Patagonian squid

Length– frequency distribution and length-weight relationship during first season 2008



Loligo gahi—Patagonian squid

Length– frequency distribution and length-weight relationship during second season 2008



***Martialia hyadesi* - Martialia squid**

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

VESSEL TYPE	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
JI	29	.	147	1	.	.	.	.	.	.
TR	.	.	.	.	30	24	0	.	.	.
	29	.	147	1	30	24	0	.	.	.

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

MONTH	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
January
February	.	.	.	1	6	20	0	.	.	.
March	2	4	.	.	.	.
April	2	.	.	.	.	.
May	29	.	110	.	13	.	.	.	.	.
June	.	.	37	.	6	.	.	.	.	.
July
August	1	.	.	.	.	.
September	0	.	.	.	.	.
October
November
December
	29	.	147	1	30	24	0	.	.	.

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

Fishing fleet	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
CB	.	.	8	.	.	.	.	.	.	.
ES	0	.	.	.	2	17	0	.	.	.
FK	0	.	.	.	28	7	.	.	.	.
JP	28	.	.	.	.	.	.	.	.	.
KR	0	.	.	.	.	.	.	.	.	.
TW	.	.	139	1	.	.	.	.	.	.
	29	.	147	1	30	24	0	.	.	.

***Martialia hyadesi* - Martialia squid**

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

GRT	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<400	.	.	.	.	.	.	.	.	.	.
400-599	.	.	.	.	.	.	.	.	.	.
600-799	.	.	3	.	.	.	.	.	.	.
800-999	12	.	144	1	.	.	.	.	.	.
1000-1499	17	.	.	.	27	11	0	.	.	.
1500-1999	.	.	.	.	3	13	.	.	.	.
2000-2999	.	.	.	.	.	.	.	.	.	.
>2999	.	.	.	.	.	.	.	.	.	.
	29	.	147	1	30	24	0	.	.	.

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

LOA	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<45	.	.	.	.	.	.	.	.	.	.
45-49	.	.	.	.	.	.	.	.	.	.
50-54	0	.	7	.	25	7	.	.	.	.
55-59	.	.	44	1	0	.	.	.	.	.
60-64	4	.	27	.	1	.	.	.	.	.
65-69	19	.	68	.	3	17	0	.	.	.
70-79	6	.	.	.	1	.	.	.	.	.
80-89	.	.	.	.	.	.	.	.	.	.
>89	.	.	.	.	.	.	.	.	.	.
	29	.	147	1	30	24	0	.	.	.

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

BHP	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<1000	.	.	.	.	.	.	.	.	.	.
1000-1199	1	.	.	.	.	.	.	.	.	.
1200-1399	.	.	.	.	.	.	.	.	.	.
1400-1599	.	.	20	.	25	7	.	.	.	.
1600-1799	15	.	10	.	1	.	.	.	.	.
1800-1999	12	.	61	1	2	17	0	.	.	.
2000-2499	0	.	55	.	2	.	.	.	.	.
2500-2999	.	.	.	.	.	.	.	.	.	.
3000-3999	.	.	.	.	.	.	.	.	.	.
>3999	.	.	.	.	.	.	.	.	.	.
	29	.	147	1	30	24	0	.	.	.

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

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

VESSEL TYPE	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
TR	28564	23371	25735	24908	20798	28553	17047	20533	22204	13220
	28564	23371	25735	24908	20798	28554	17047	20533	22204	13220

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

MONTH	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
January	5444	2999	4253	2476	4545	234	759	164	84	12
February	6047	4484	3612	4563	6448	3155	811	383	515	243
March	5252	3624	5564	5875	5328	3652	227	2029	172	252
April	677	939	2271	2443	1299	1785	158	303	84	150
May	522	83	294	580	40	103	142	86	11	42
June	22	4	.	17	.	.	7	6	0	0
July	3	.	.	.	.	7	1	0	56	83
August	63	87	79	302	32	598	527	145	865	660
September	755	2344	4385	668	1053	2192	4242	4772	8126	2817
October	536	1121	3023	770	1337	6390	4705	6609	6549	3914
November	4481	4344	564	4147	597	6624	3899	3199	5400	3165
December	4763	3341	1689	3068	119	3814	1569	2837	342	1881
	28564	23371	25735	24908	20798	28554	17047	20533	22204	13220

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

Fishing fleet	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
AU	165	.	.	.	.	.	.	.	.	.
BZ	.	257	206	.	.	.	.	.	.	.
CL	4994	2723	6707	7155	5876	8218	.	1884	3260	1527
EE	.	.	.	.	.	13	.	13	.	.
ES	3132	3346	5246	3152	2865	4358	5275	5514	6810	2807
FK	2127	2704	4621	2814	2511	2690	1676	1773	3074	1766
JP	18028	14121	8918	11670	9515	12939	10023	11302	8896	6859
KR	3	196	12	3	11	163	44	0	96	237
NA	29	.	.	.	.	.	.	.	.	.
PT	.	1	.	.	.	.	.	.	.	.
UK	85	22	24	116	20	173	29	47	69	24
	28564	23371	25735	24908	20798	28554	17047	20533	22204	13220

Micromesistius australis - Southern Blue Whiting

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

GRT	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<400	.	.	.	.	0	.	0	.	.	.
400-599	222	.	.	.	0	.	0	.	.	.
600-799	112	452	737	500	519	270	279	448	940	606
800-999	407	702	37	155	586	599	126	0	719	364
1000-1499	2887	3265	8281	9545	7005	4145	4480	2472	3452	1465
1500-1999	1219	1005	1892	1439	474	1491	1653	4355	4763	3153
2000-2999	740	1104	702	428	928	892	487	72	174	773
>2999	22977	16844	14085	12840	11285	21157	10023	13186	12156	6859
	28564	23371	25735	24908	20798	28554	17047	20533	22204	13220

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

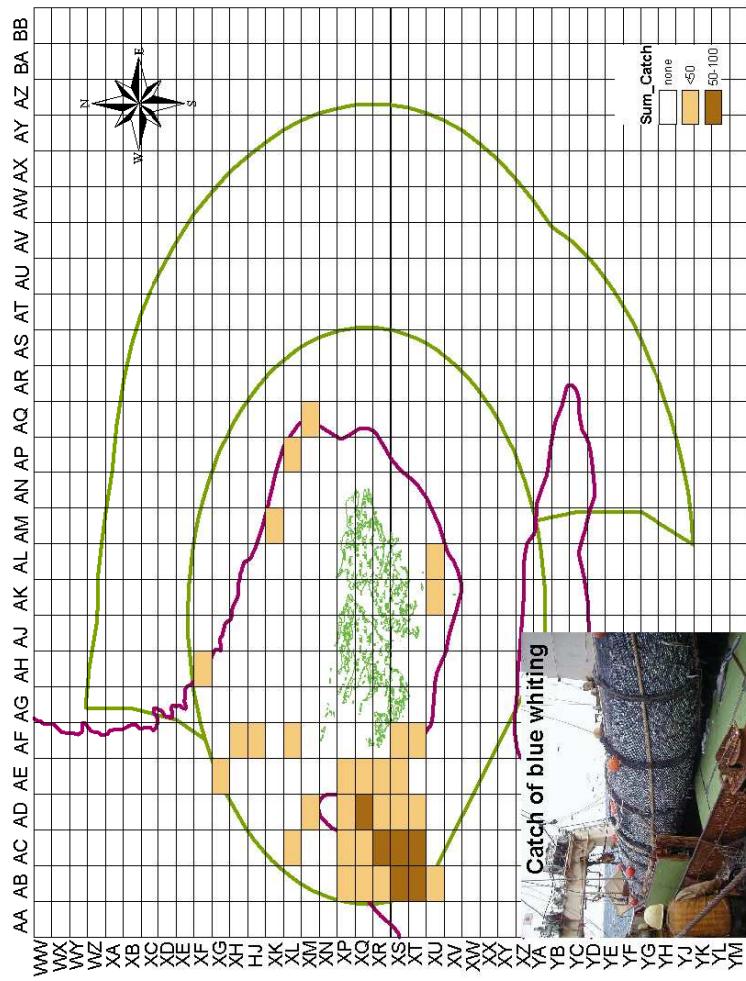
LOA	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<45	192	.	.	.	.	.	.	.	.	.
45-49	380	511	87	226	115	610	155	98	272	98
50-54	30	797	1675	510	860	746	637	533	1357	845
55-59	832	829	1036	891	532	264	451	59	1014	97
60-64	1149	698	2066	1150	997	1497	1749	1114	1180	1012
65-69	609	649	3220	7029	4711	2848	2886	3621	3885	3034
70-79	1991	1952	2869	2027	1727	602	609	1310	1662	449
80-89	381	1039	628	235	561	806	497	609	641	341
>89	23000	16897	14153	12840	11295	21180	10064	13188	12192	7345
	28564	23371	25735	24908	20798	28554	17047	20533	22204	13220

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

BHP	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<1000	.	.	.	.	.	.	.	.	.	.
1000-1199	.	.	.	.	.	.	.	.	.	.
1200-1399	60	236	564	273	77	.	66	.	3	.
1400-1599	572	737	1206	423	435	742	561	544	1624	682
1600-1799	357	77	353	328	1076	799	843	575	536	193
1800-1999	1818	2581	3802	2368	1269	3351	3233	3676	4363	1524
2000-2499	1710	1178	2764	1962	1218	1286	1764	2423	3178	2915
2500-2999	266	592	2233	6172	4488	176	79	2	132	722
3000-3999	777	1073	627	542	888	1036	439	75	182	288
>3999	23005	16897	14184	12842	11345	21163	10062	13238	12187	6895
	28564	23371	25735	24908	20798	28554	17047	20533	22204	13220

Micromesistius australis

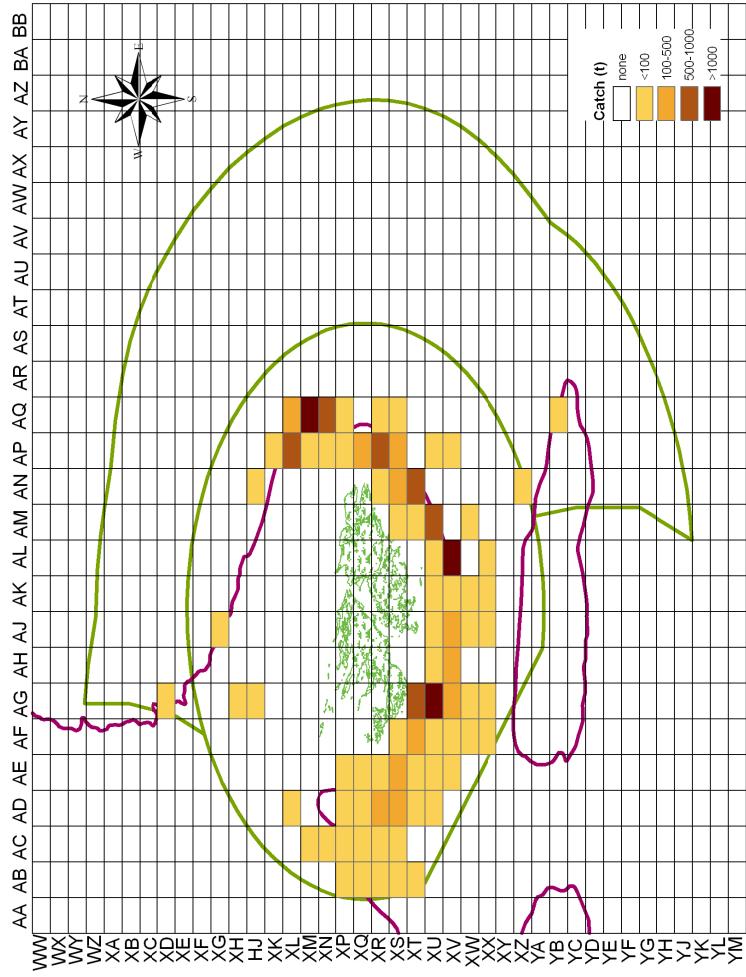
1st Season 2008 (01 Jan - 30 Jun)



Catch (mt) by grid square)

Micromesistius australis

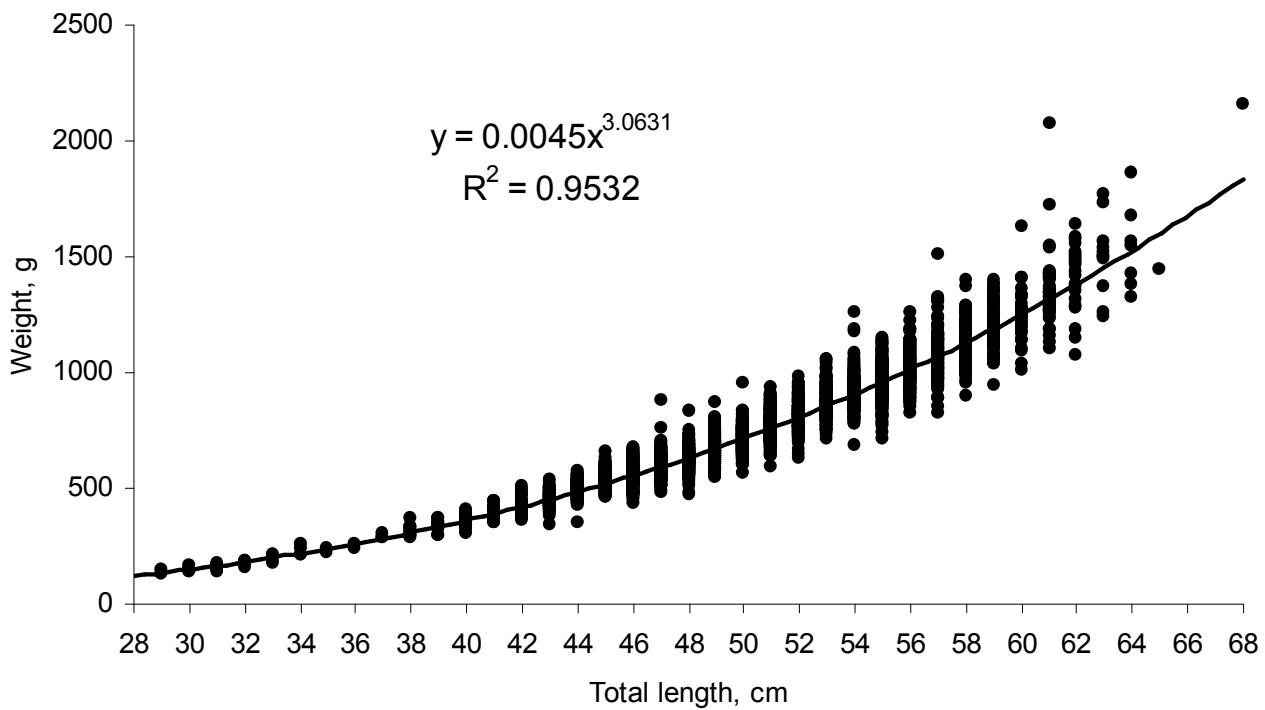
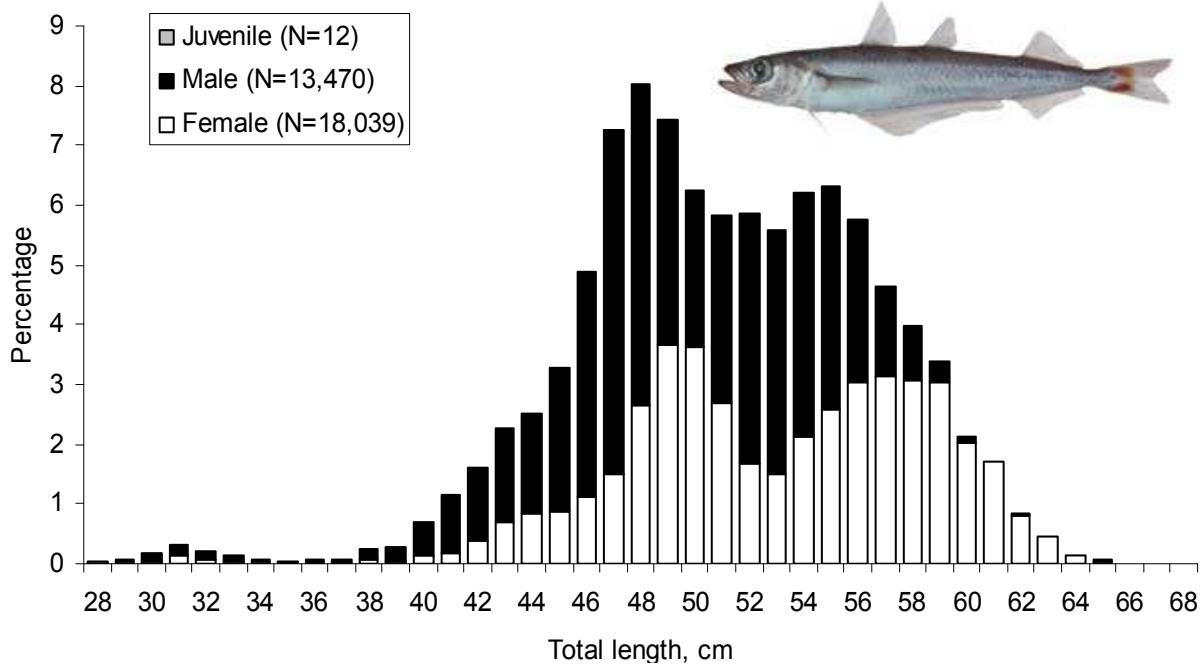
2nd Season 2008 (01 Jul - 31 Dec)



Catch (mt) by grid square)

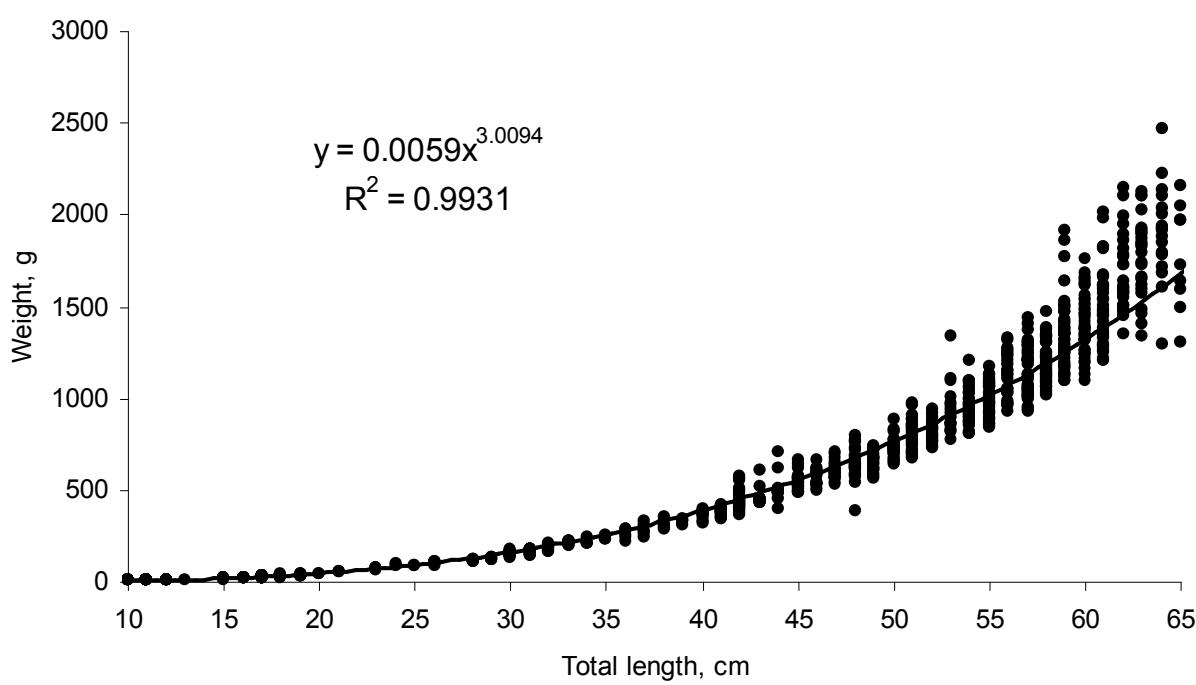
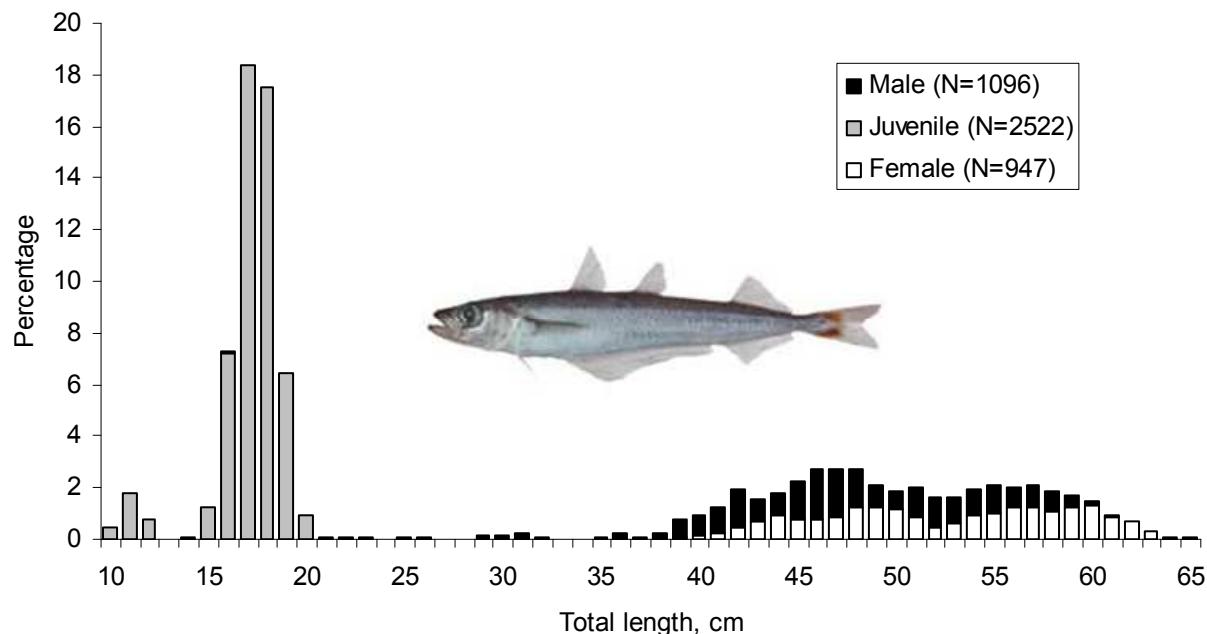
Micromesistius australis—Southern Blue Whiting

Length– frequency distribution and length-weight relationship in surimi fleet in 2008



Micromesistius australis—Southern Blue Whiting

Length– frequency distribution and length-weight relationship in trawler fleets in 2008



***Macruronus magellanicus*—Hoki**

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

VESSEL TYPE	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
CO	.	.	.	.	.	.	.	.	.	.
LO								0		
TR	18765	19831	19471	26970	23815	25904	16721	19761	16669	15910
	18765	19831	19471	26970	23815	25904	16721	19761	16669	15910

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

MONTH	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
January	442	978	1541	589	969	506	269	660	1265	505
February	1037	3105	1739	1970	5780	3517	2566	2520	2365	1128
March	2172	3700	1784	5268	1625	3821	954	1476	1376	865
April	2639	3244	2669	4404	3185	4868	1128	2070	2080	1342
May	1725	1220	2002	2031	1974	2496	894	2182	1591	1007
June	359	476	582	1068	485	111	121	617	245	395
July	455	1057	799	3	154	55	304	256	513	593
August	1761	1590	833	2048	2026	2223	2378	2182	1720	1925
September	2306	615	803	1481	2089	1452	1997	3201	1065	1717
October	4334	1281	3350	3177	3203	4907	3403	1964	2447	4152
November	1201	1792	3163	3590	1985	925	1756	2077	1580	1552
December	334	774	204	1341	341	1022	951	557	422	730
	18765	19831	19471	26970	23815	25904	16721	19761	16669	15910

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

Fishing fleet	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
AU	377	.	.	.	.	.	.	.	.	.
BZ	87	1720	374	1	.	.	.	.	.	.
CL	420	26	1300	2097	613	1533	.	247	343	114
EE	.	.	.	.	.	143	.	253	.	.
ES	11193	10176	9653	12984	11357	11713	9014	12122	10350	9394
FK	5109	3404	5471	9804	9519	9689	5788	6091	5065	4129
FR	2	0	.	.	.	.	.	.	.	.
HN	.	.	.	.	.	.	.	.	.	.
IS	.	.	.	.	.	.	.	.	.	.
JP	400	1889	866	1612	1596	1998	1203	743	141	1956
KR	522	2541	1633	420	642	512	693	171	600	249
NA	308	.	.	.	.	7	.	.	.	.
PA	1	.	.	.	.	.	.	.	4	.
PL	.	.	.	.	.	.	.	.	.	.
PT	.	32	.	.	.	.	.	.	.	.
RU	.	.	144	.	.	.	.	.	.	.
SC	.	.	.	.	.	.	.	.	.	.
UK	347	42	30	52	88	308	23	135	166	69
VC	.	.	0	.	.	.	.	.	.	.
	18765	19831	19471	26970	23815	25904	16721	19761	16669	15910

***Macruronus magellanicus*—Hoki**

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

GRT	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<400	78	362	293	.	.	.	.	.	.	.
400-599	586	.	130	17	53	24	27	32	.	.
600-799	1613	2262	1842	3493	2018	1473	1136	1415	2426	1927
800-999	2149	2488	1269	902	2049	1684	1510	1261	1992	1672
1000-1499	8752	10433	10659	14144	12351	14515	10033	12316	8697	6044
1500-1999	2553	2091	2420	5169	4258	3547	2006	3264	2783	3928
2000-2999	2452	281	766	293	1757	1130	807	484	287	383
>2999	581	1915	2091	2952	1330	3532	1203	990	484	1956
	18765	19831	19471	26970	23815	25904	16721	19761	16669	15910

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

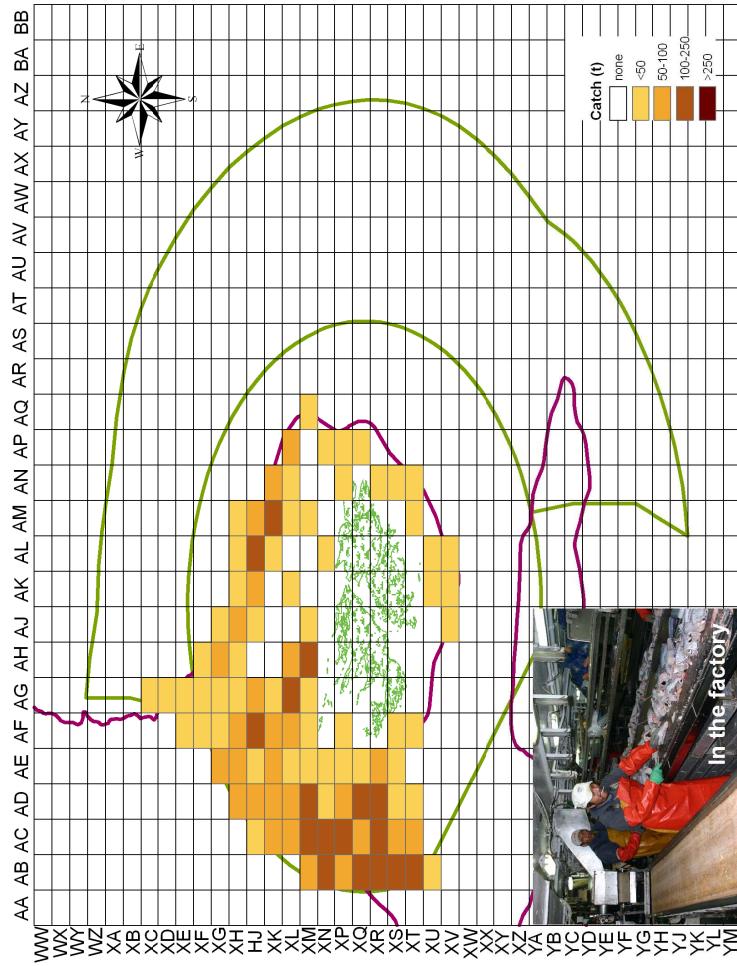
LOA	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<45	279	.	.	.	.	.	.	.	.	.
45-49	2284	1361	951	961	1247	1813	1340	919	1585	1471
50-54	982	4085	3188	4571	3553	3949	3527	3103	3734	2134
55-59	4034	4507	2737	4177	2892	1068	1284	1856	1227	993
60-64	3113	3125	3491	2812	4176	3997	2775	4563	2545	3128
65-69	1830	1434	3063	5230	4301	8095	5329	5664	4297	3006
70-79	4716	3128	3202	6066	5240	1718	577	1707	2515	2222
80-89	859	265	739	176	933	1723	679	896	242	950
>89	668	1925	2099	2976	1474	3542	1210	1053	526	2008
	18765	19831	19471	26970	23815	25904	16721	19761	16669	15910

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

BHP	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<1000	.	.	.	.	.	.	.	.	.	.
1000-1199	10	.	.	.	.	.	.	.	.	.
1200-1399	1206	1172	826	1934	528	.	388	163	271	182
1400-1599	1769	2919	1888	3150	2736	3545	2766	3340	3654	2823
1600-1799	1894	377	922	630	2116	1459	1029	2400	1349	1311
1800-1999	5739	7071	6935	8737	7734	9935	7102	7569	4602	3806
2000-2499	3509	3616	3887	7354	5495	5583	2888	4504	5262	5132
2500-2999	1230	2439	2126	1844	2010	416	512	217	593	291
3000-3999	2740	312	781	327	1598	1383	746	518	364	332
>3999	668	1925	2106	2993	1600	3584	1290	1050	574	2033
	18765	19831	19471	26970	23815	25904	16721	19761	16669	15910

Macruronus magellanicus

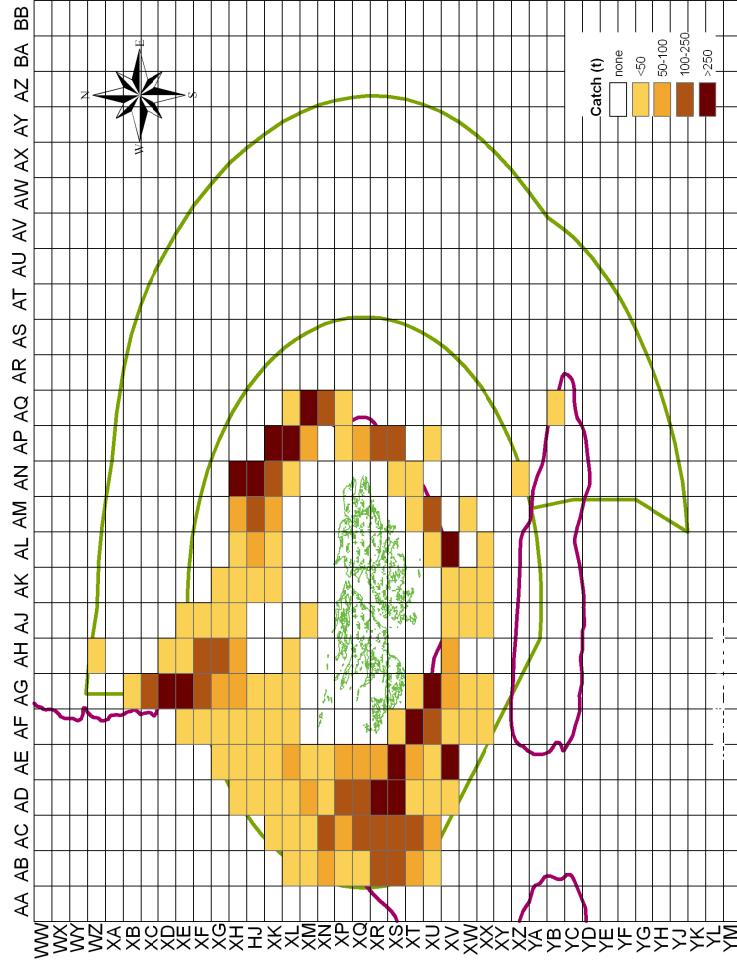
1st Season 2008 (01 Jan - 30 Jun)



Catch (mt) by grid square)

Macruronus magellanicus

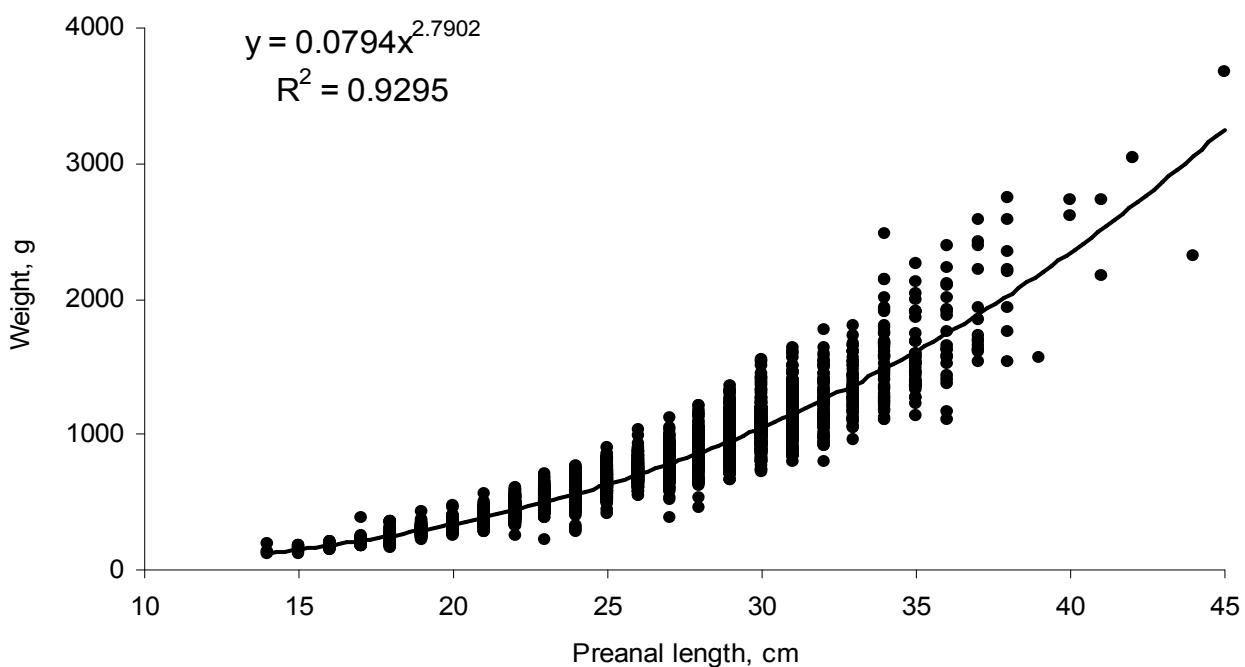
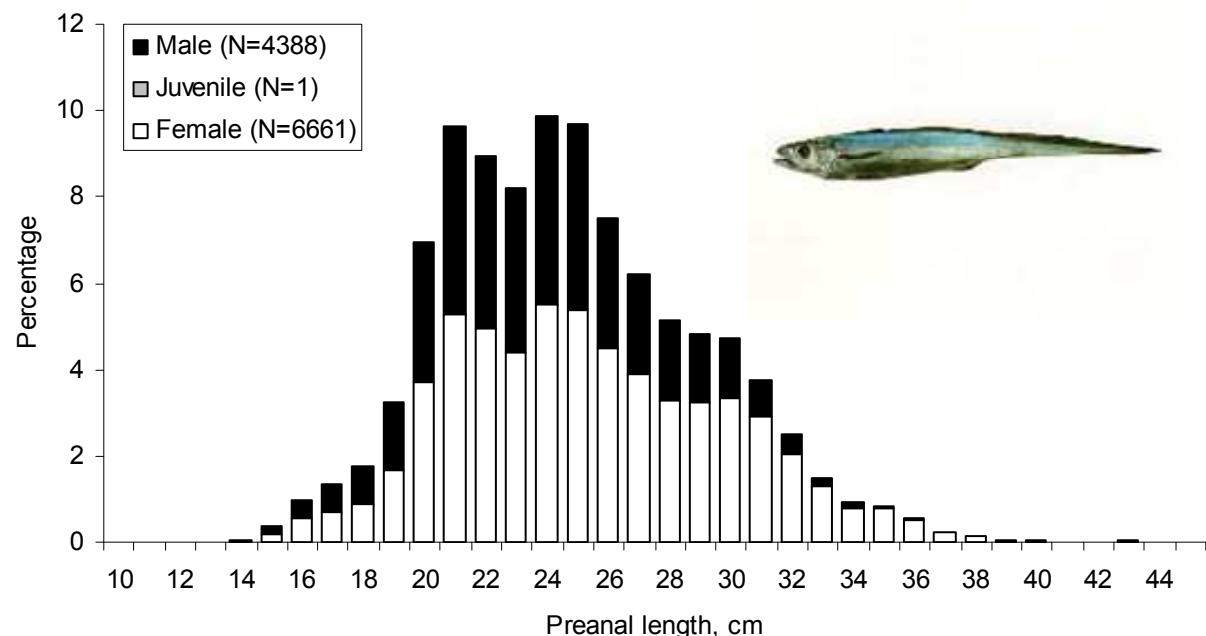
2nd Season 2008 (01 Jul - 31 Dec)



Catch (mt) by grid square)

Macruronus magellanicus—Hoki

Length– frequency distribution and length-weight relationship in trawler fleets in 2008



Salilota australis - Red cod

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

VESSEL TYPE	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
LO	.	.	.	.	.	.	.	6	.	.
TR	9313	6551	3896	2617	2285	2781	2467	3463	5195	4074
	9313	6551	3896	2617	2285	2781	2467	3463	5195	4074

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

MONTH	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
January	105	451	210	33	57	80	4	73	82	110
February	307	796	291	165	248	362	202	222	290	189
March	906	599	369	539	95	188	62	215	423	507
April	1486	859	547	446	264	350	114	558	502	349
May	1497	633	617	250	254	271	149	290	504	426
June	523	81	65	40	58	13	36	59	77	59
July	357	431	67	0	3	94	97	196	338	101
August	1081	822	297	171	235	258	492	571	905	423
September	1215	747	342	263	343	436	676	623	1043	986
October	1046	590	679	325	490	583	337	459	770	668
November	353	403	387	296	192	134	248	164	234	187
December	437	139	26	90	46	11	50	40	27	71
	9313	6551	3896	2617	2285	2781	2467	3463	5195	4074

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

Fishing fleet	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
AU	60	.	.	.	.	.	.	.	.	.
BZ	28	237	42	.	.	.	.	.	.	.
CL	59	.	.	.	.	.	.	.	.	.
EE	.	.	.	.	.	.	84	.	.	.
ES	5937	3918	2222	1624	1279	1582	1579	2246	3997	3139
FK	2692	1886	1374	950	958	1024	746	1047	1127	899
FR	5	29	.	.	.	.	.	.	.	.
HN	.	.	.	.	.	.	.	.	.	.
IS	.	.	.	.	.	.	.	.	.	.
JP	13	11	.	0	.	3	.	0	1	.
KR	200	429	219	28	40	85	125	60	49	17
NA	128	.	.	.	.	7	.	.	.	.
PA	2	.	.	.	.	.	.	.	.	.
PL	.	.	.	.	.	.	.	.	.	.
PT	.	12	.	.	.	.	.	.	.	.
RU	.	.	8	.	.	.	.	.	.	.
SC	.	.	.	.	.	.	.	.	.	.
UK	188	30	17	15	9	63	17	31	22	20
UY	.	.	.	.	.	.	.	.	.	.
VC	.	.	14	.	.	.	.	.	.	.
	9313	6551	3896	2617	2285	2781	2467	3463	5195	4074

***Salilota australis* - Red cod**

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

GRT	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<400	33	85	17	.	.	.	.	.	.	.
400-599	324	.	11	1	0	2	14	4	.	.
600-799	879	755	551	404	203	179	67	209	648	467
800-999	1198	763	261	122	228	210	135	216	721	608
1000-1499	4304	3514	2284	1498	1262	1248	1468	1855	2191	1302
1500-1999	1574	900	511	474	278	828	600	1066	1571	1536
2000-2999	987	524	260	117	315	311	184	118	52	161
>2999	13	11	.	.	.	3	0	0	1	.
	9313	6551	3896	2617	2285	2781	2467	3469	5183	4074

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

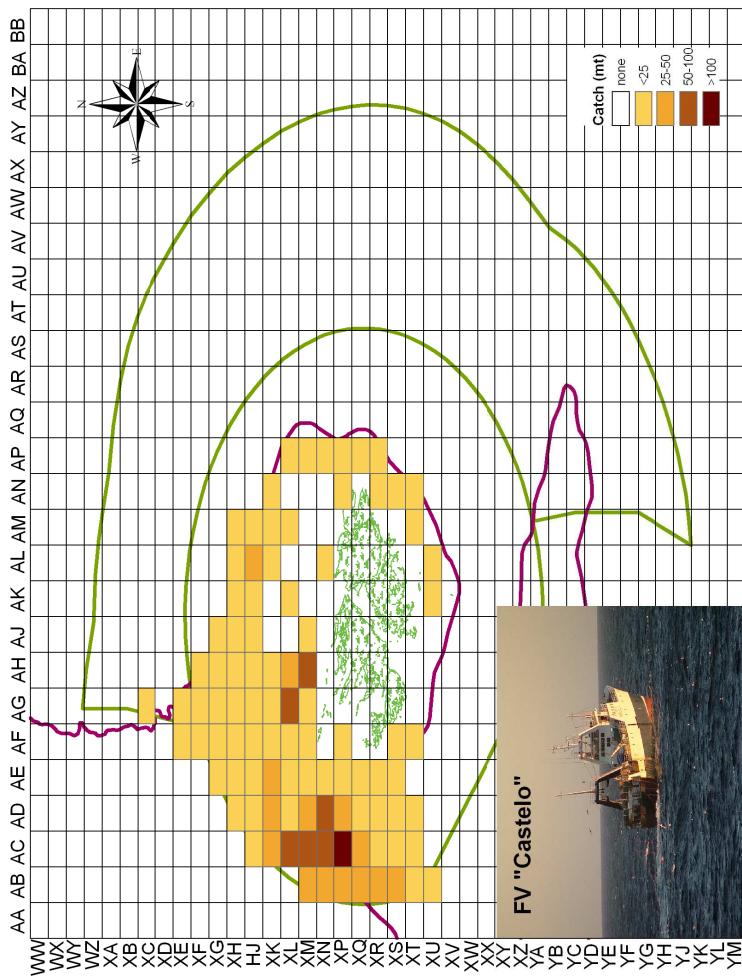
LOA	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<45	197	.	.	.	.	.	.	.	.	.
45-49	1384	688	312	162	168	213	71	259	566	534
50-54	475	869	630	439	358	362	379	519	892	539
55-59	1761	1519	578	454	317	199	126	212	485	262
60-64	1518	1021	669	309	339	347	442	410	829	623
65-69	785	508	458	292	280	1180	1158	1678	1787	1373
70-79	2628	1590	1050	893	596	167	123	278	553	494
80-89	516	326	186	50	218	303	159	102	63	215
>89	49	30	12	19	9	9	9	10	9	34
	9313	6551	3896	2617	2285	2781	2467	3469	5183	4074

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

BHP	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<1000	.	.	.	.	.	.	.	.	.	.
1000-1199	14	.	.	.	.	.	.	.	.	.
1200-1399	544	357	224	156	71	.	4	51	112	40
1400-1599	1238	892	500	333	337	401	257	551	1134	926
1600-1799	612	227	200	105	171	129	115	219	539	365
1800-1999	3163	2606	1567	1149	871	1399	1307	1661	2127	1602
2000-2499	2115	1361	742	587	417	405	475	774	1148	940
2500-2999	528	543	386	156	93	75	114	66	57	51
3000-3999	1034	485	206	85	305	347	152	116	46	105
>3999	64	80	71	47	21	24	43	31	20	46
	9313	6551	3896	2617	2285	2781	2467	3469	5183	4074

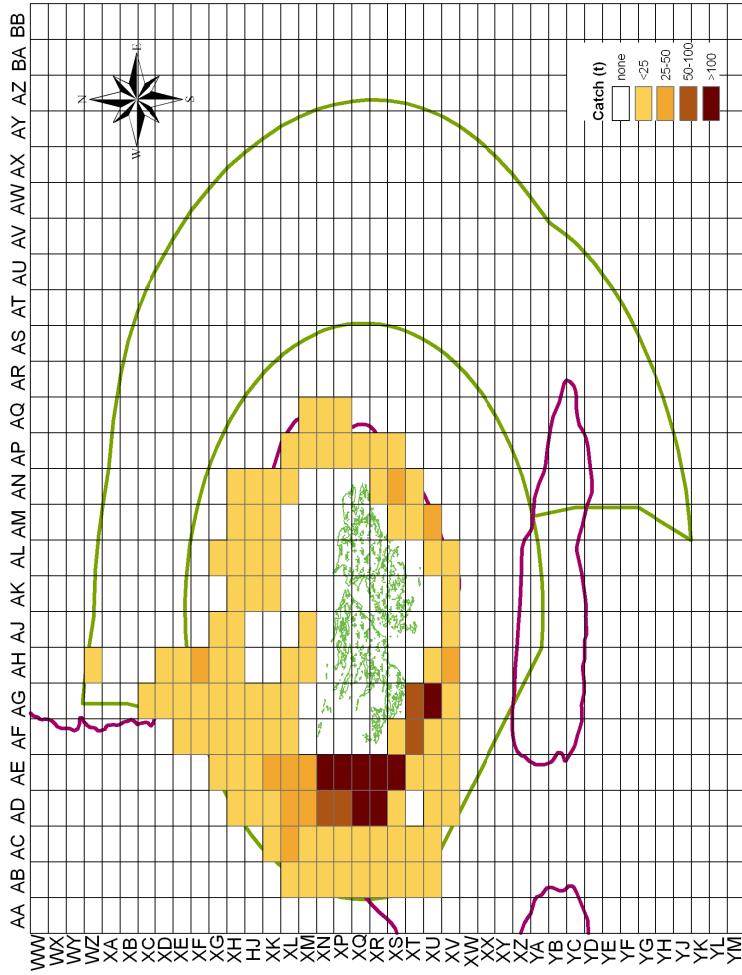
Salilota australis

1st Season 2008 (01 Jan to 30 Jun)



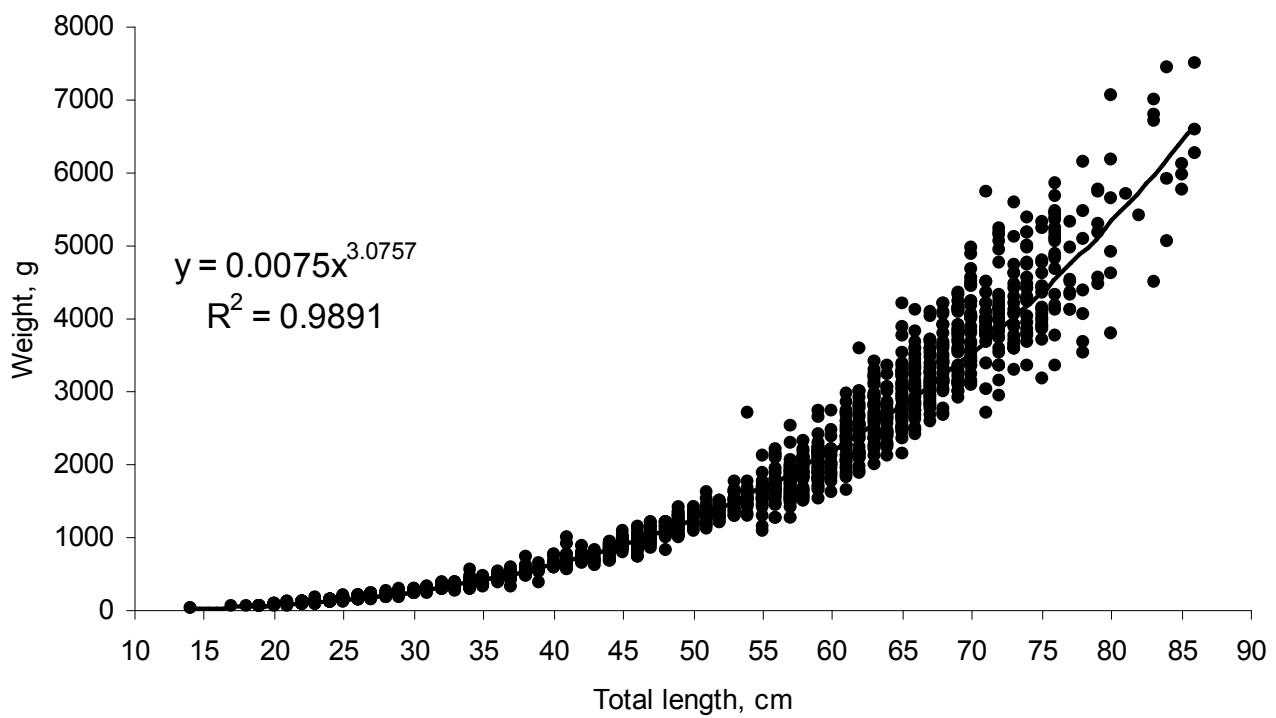
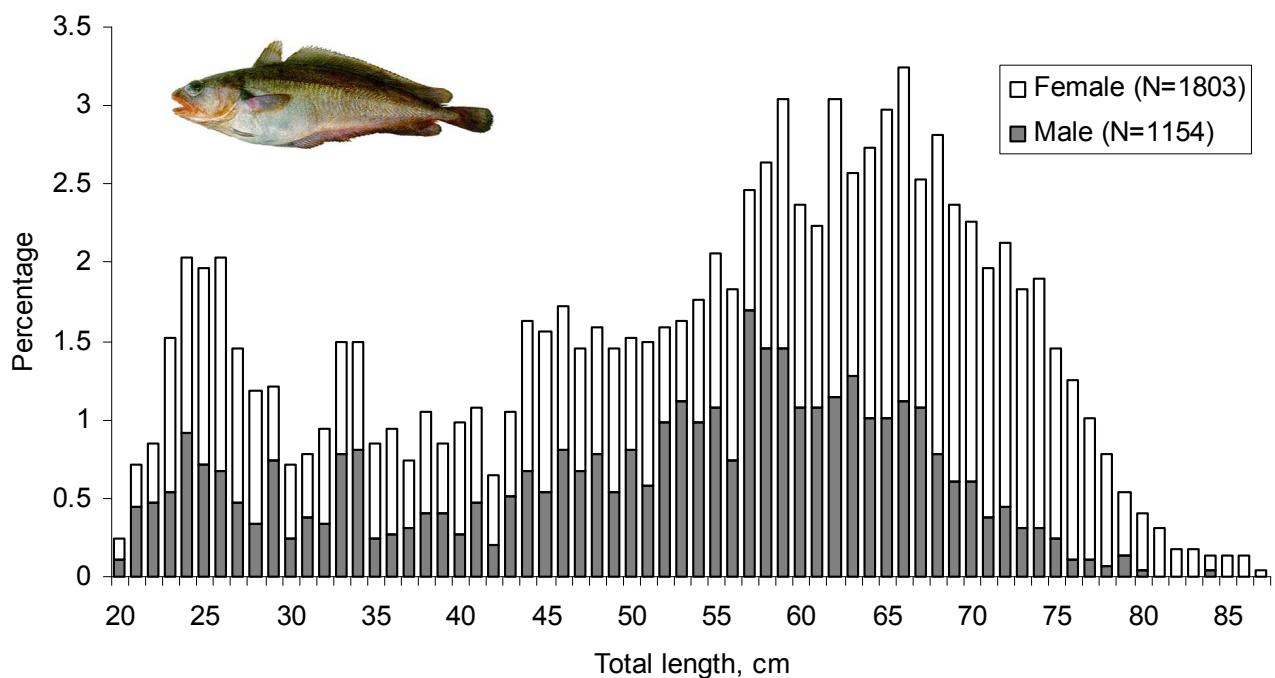
Salilota australis

2nd Season 2008 (01 Jul - 31 Dec)



Salilota australis - Red cod

Length- frequency distribution and length-weight relationship in trawler fleets in 2008



Merluccius spp - Hakes

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

VESSEL TYPE	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
LO							5			
TR	4224	3069	1978	1678	1967	1927	2735	8433	11908	8817
	4224	3069	1978	1678	1967	1927	2735	8438	11908	8817

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

MONTH	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
January	7	57	7	48	51	14	0	7	31	4
February	136	87	24	96	142	196	81	254	215	68
March	339	180	110	223	34	141	65	267	556	356
April	591	309	462	288	253	269	168	1098	1089	1130
May	444	183	400	146	198	223	318	1002	3134	2078
June	257	58	79	46	74	86	41	130	2321	1369
July	335	419	140	6	31	144	163	415	1975	970
August	1068	934	338	244	263	441	698	2051	1879	1159
September	508	604	202	388	633	261	854	1906	462	766
October	414	179	166	113	215	128	277	964	201	794
November	86	54	49	43	64	23	67	329	42	112
December	40	3	1	39	7	1	2	16	2	10
	4224	3069	1978	1678	1967	1927	2735	8438	11908	8817

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

Fishing fleet	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
AU	10									
BZ	35	63	4	0						
CL	1		7	0		1				
EE					6			66		
ES	2602	1522	1073	805	1021	810	1388	4837	7604	5338
FK	1031	1000	564	655	731	798	1003	3038	4022	3021
FR	3	0								
HN										
IS										
JP	28	54	2	75	28	8				0
KR	387	396	264	123	187	277	309	394	163	117
NA	37				0					
PA	36									
PL										
PT		3								
RU			47							
SC					0					
UK	53	30	12	20	1	26	35	103	120	341
UY					0					
VC				5						
	4224	3069	1978	1678	1967	1927	2735	8438	11908	8817

***Merluccius* spp - Hakes**

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

GRT	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<400	106	76	39	.	0	0	.	.	.	.
400-599	79	.	40	24	8	20	21	33	.	.
600-799	287	202	198	140	186	140	362	852	1198	887
800-999	772	363	188	174	204	326	487	1511	988	929
1000-1499	1861	1890	1200	968	1199	1053	1564	4971	6831	4932
1500-1999	664	218	174	316	199	217	205	963	2346	1741
2000-2999	426	265	131	57	167	162	96	108	545	328
>2999	28	54	9	0	5	9	0	.	.	0
	4224	3069	1978	1678	1967	1927	2735	8438	11908	8817

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

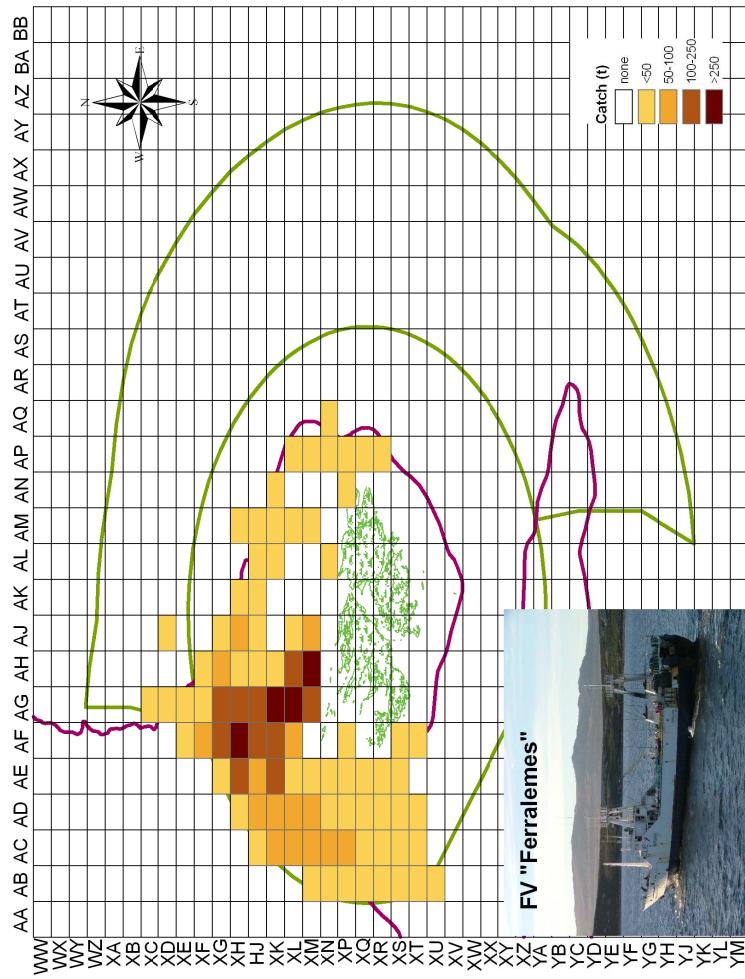
LOA	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<45	42	.	.	.	0	.	.	.	.	.
45-49	618	188	181	147	133	244	503	1526	1339	1133
50-54	423	390	269	243	300	331	574	1379	2248	800
55-59	844	917	443	227	385	126	227	1095	1354	1210
60-64	649	392	296	262	430	306	340	1122	1700	2301
65-69	490	529	261	386	323	670	960	2652	4128	2347
70-79	978	337	418	371	287	137	40	506	609	633
80-89	136	261	95	36	100	103	92	157	531	377
>89	44	55	15	6	8	9	0	1	0	15
	4224	3069	1978	1678	1967	1927	2735	8438	11908	8817

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

BHP	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<1000	.	.	.	.	0	.	.	.	.	.
1000-1199	183	.	.	.	.	.	.	.	.	.
1200-1399	107	66	66	57	30	.	102	236	56	217
1400-1599	509	235	218	230	244	335	716	1704	2214	1109
1600-1799	315	55	59	34	91	102	95	813	1166	1696
1800-1999	1314	1192	824	561	826	634	817	3166	5246	3611
2000-2499	816	823	367	496	375	477	620	1946	2433	1403
2500-2999	492	348	293	216	205	183	255	361	130	126
3000-3999	432	290	128	60	183	186	131	205	659	640
>3999	56	59	23	23	14	10	0	6	5	16
	4224	3069	1978	1678	1967	1927	2735	8438	11908	8817

Merluccius spp.

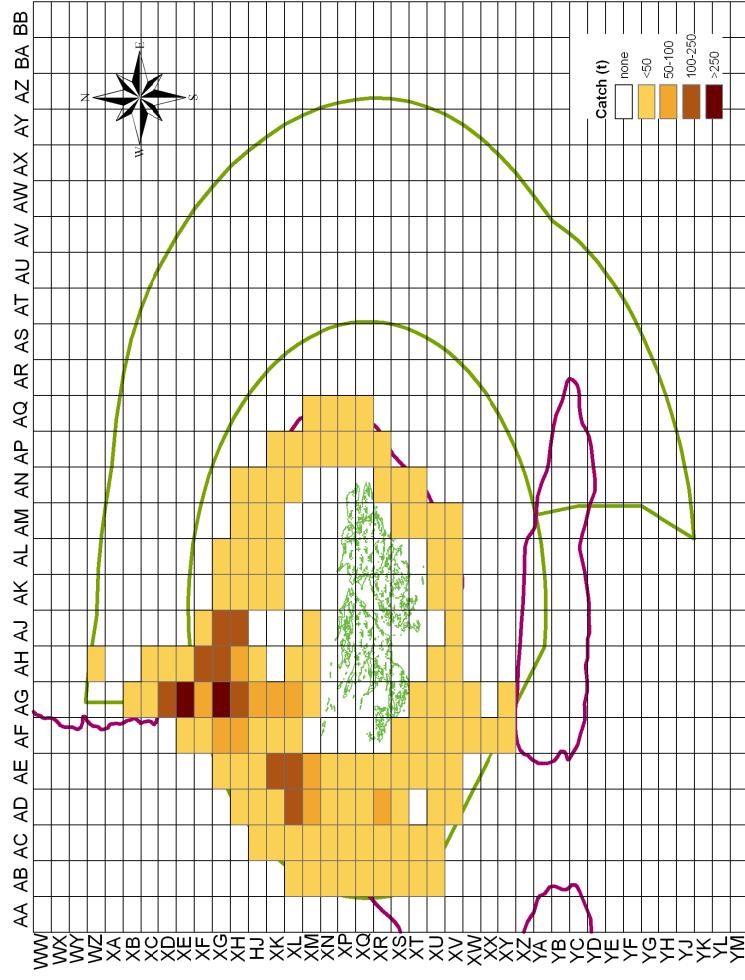
1st Season 2008 (01 Jan - 30 Jun)



Catch (mt) by grid square)

Merluccius spp.

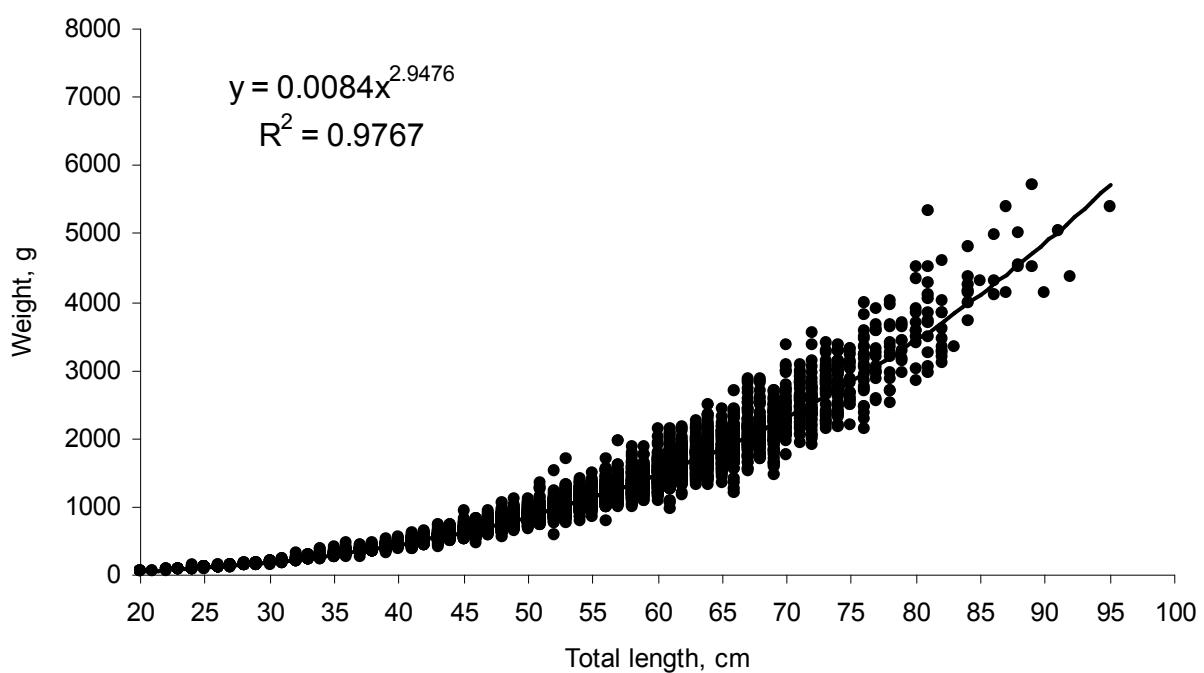
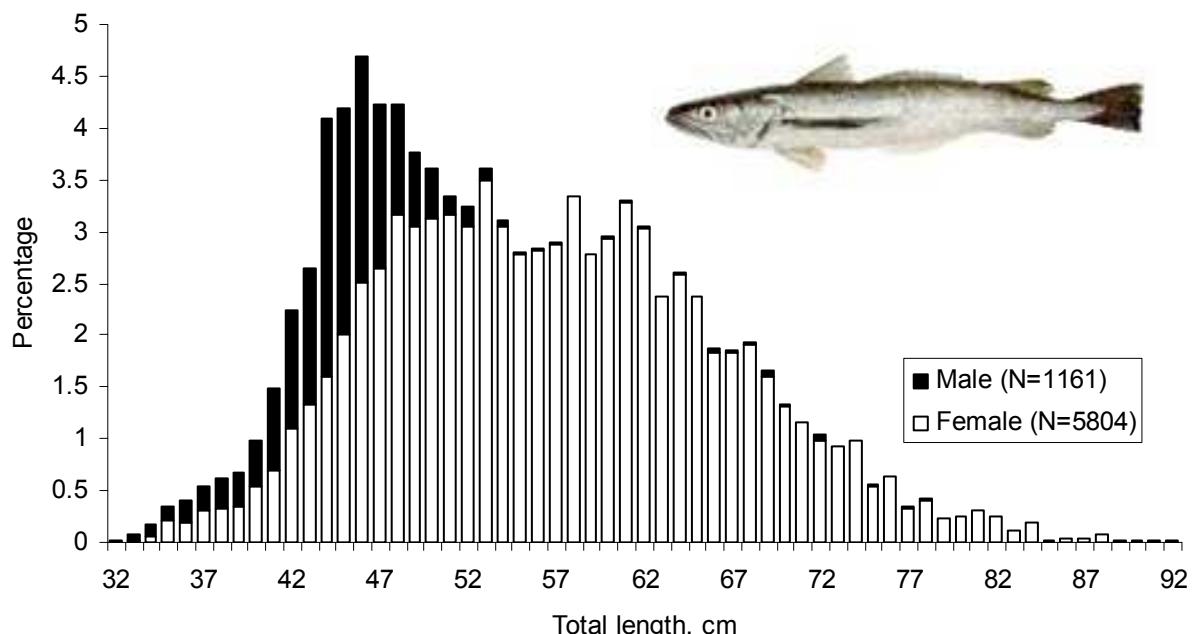
2nd Season 2008 (01 Jul - 31 Dec)



Catch (t) by grid square)

Merluccius spp - Hakes

Length- frequency distribution and length-weight relationship in *M.hubbsi* in trawler fleets in 2008



***Genypterus blacodes* - Kingclip**

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

VESSEL TYPE	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
LO							64			
TR	2602	1875	1625	1224	1274	1841	1936	2757	3592	2224
	2602	1875	1625	1224	1275	1841	1936	2821	3592	2224

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

MONTH	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
January	18	55	64	8	21	54	3	57	84	80
February	51	125	79	57	110	192	149	213	327	107
March	217	126	95	282	29	114	56	173	370	231
April	443	280	319	234	143	289	84	322	460	222
May	360	166	259	85	102	172	73	221	330	234
June	108	26	36	20	28	19	29	35	60	54
July	133	178	36	1	16	95	58	77	204	107
August	401	313	177	58	141	263	291	405	711	326
September	363	259	154	45	271	144	350	530	498	435
October	347	158	202	225	224	354	523	494	356	240
November	92	152	193	169	154	132	255	253	166	142
December	69	39	12	40	36	12	65	41	25	48
	2602	1875	1625	1224	1275	1841	1936	2821	3592	2224

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

Fishing fleet	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
AU	10									
BZ	15	87	8	0						
CL	10									
EE						11		43		
ES	1905	1154	1086	857	818	1135	1184	1701	2735	1690
FK	451	304	348	334	387	530	517	911	740	478
FR	0									
IS										
JP	1	2		4	0	4	0	0	2	0
KR	132	309	166	27	67	140	219	135	84	31
NA	45				0					
PA	2									
PT		13								
RU			16							
SC										
UK	32	7	2	1	3	20	15	31	31	26
	2602	1875	1625	1224	1275	1841	1936	2821	3592	2224

***Genypterus blacodes* - Kingclip**

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

GRT	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<400	26	64	24	.	.	.	.	.	.	.
400-599	83	.	19	3	1	5	34	13	.	.
600-799	370	371	408	305	224	127	102	215	458	393
800-999	395	285	146	70	186	325	225	333	565	297
1000-1499	1233	974	838	661	680	921	1099	1650	1834	985
1500-1999	241	149	144	175	121	376	383	569	692	532
2000-2999	254	31	46	8	63	82	92	42	41	18
>2999	1	2	.	1	0	4	0	0	2	0
	2602	1875	1625	1224	1275	1841	1936	2821	3592	2224

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

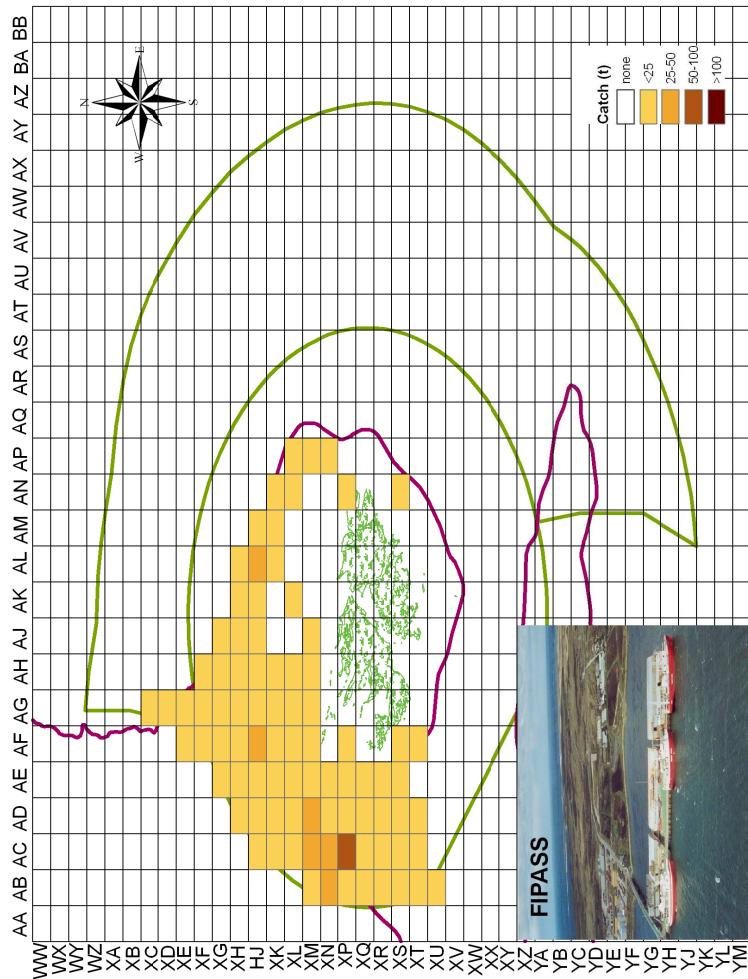
LOA	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<45	38	.	.	.	.	.	.	.	.	.
45-49	440	183	155	75	138	291	110	299	435	284
50-54	257	441	378	302	321	271	387	459	604	499
55-59	495	373	224	217	155	183	197	354	402	186
60-64	500	361	304	150	236	292	445	484	805	490
65-69	262	212	218	172	184	602	630	899	943	468
70-79	529	273	302	304	207	109	80	255	354	223
80-89	80	30	45	4	29	88	85	70	41	73
>89	1	2	.	1	5	4	1	0	7	2
	2602	1875	1625	1224	1275	1841	1936	2821	3592	2224

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

BHP	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<1000	.	.	.	.	.	.	.	.	.	.
1000-1199	15	.	.	.	.	.	.	.	.	.
1200-1399	231	185	218	146	88	.	13	65	133	57
1400-1599	367	258	178	161	229	377	232	609	856	661
1600-1799	224	91	71	49	153	81	126	232	427	264
1800-1999	884	635	589	518	469	876	884	1041	1194	638
2000-2499	414	393	272	236	185	296	394	677	825	530
2500-2999	196	274	250	103	82	104	179	125	88	32
3000-3999	269	38	47	7	62	101	105	72	51	41
>3999	1	2	1	4	8	5	3	1	18	1
	2602	1875	1625	1224	1275	1841	1936	2821	3592	2224

Genypterus blacodes

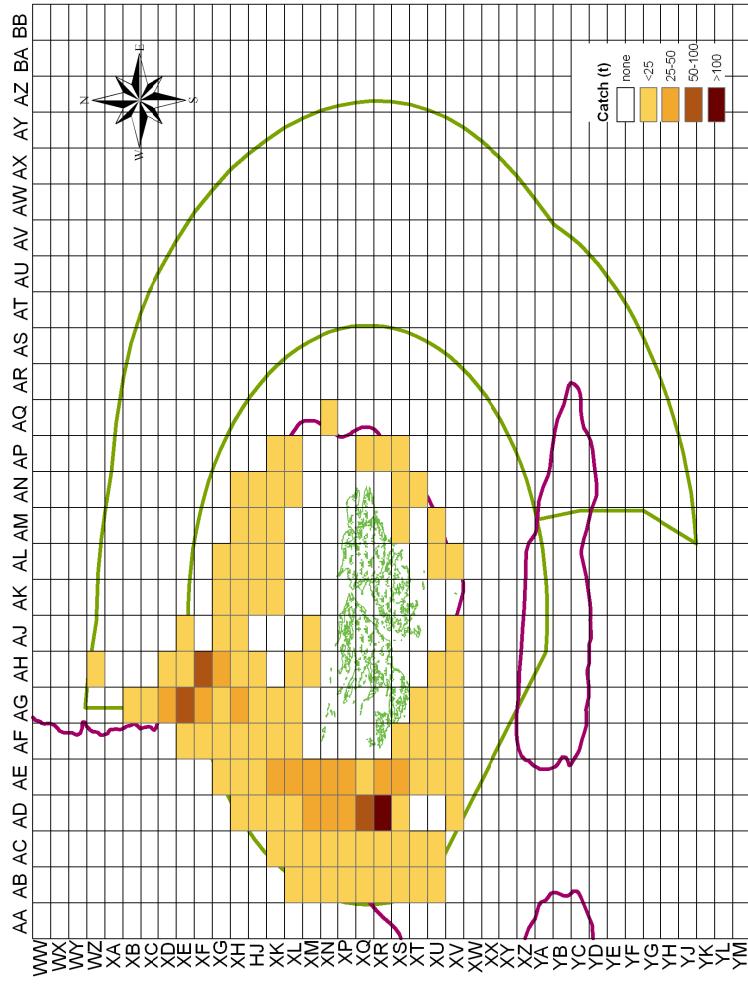
1st Season 2008 (01 Jan - 30 Jun)



Catch (mt) by grid square)

Genypterus blacodes

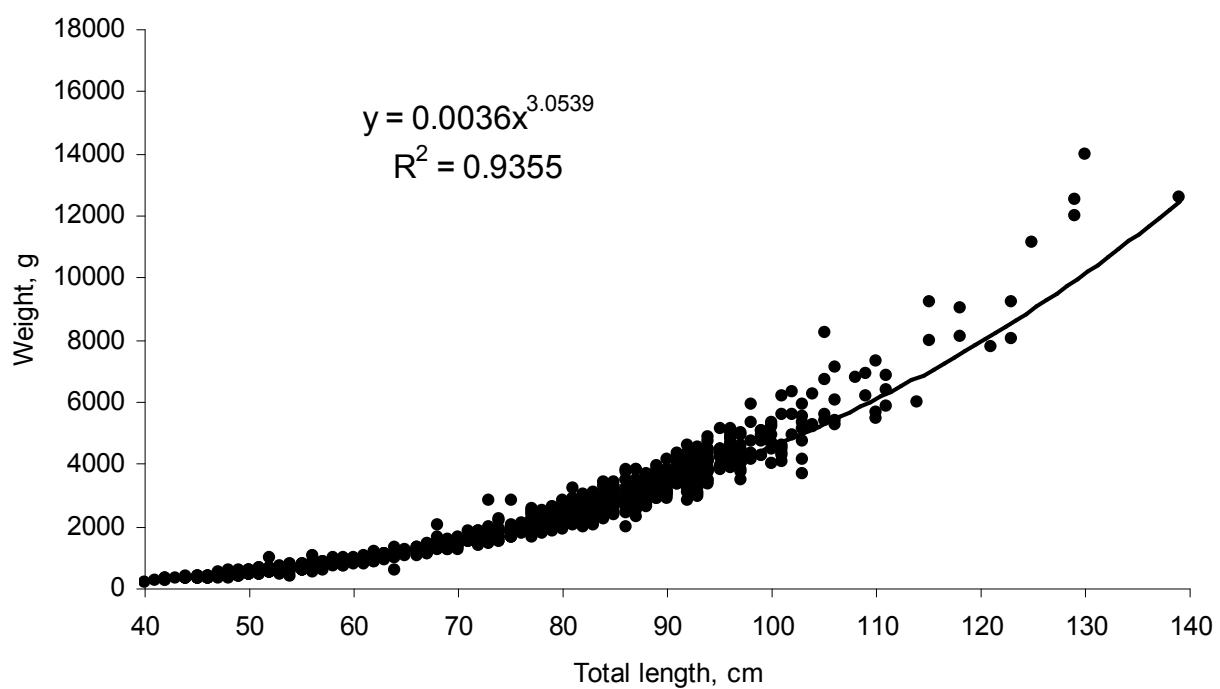
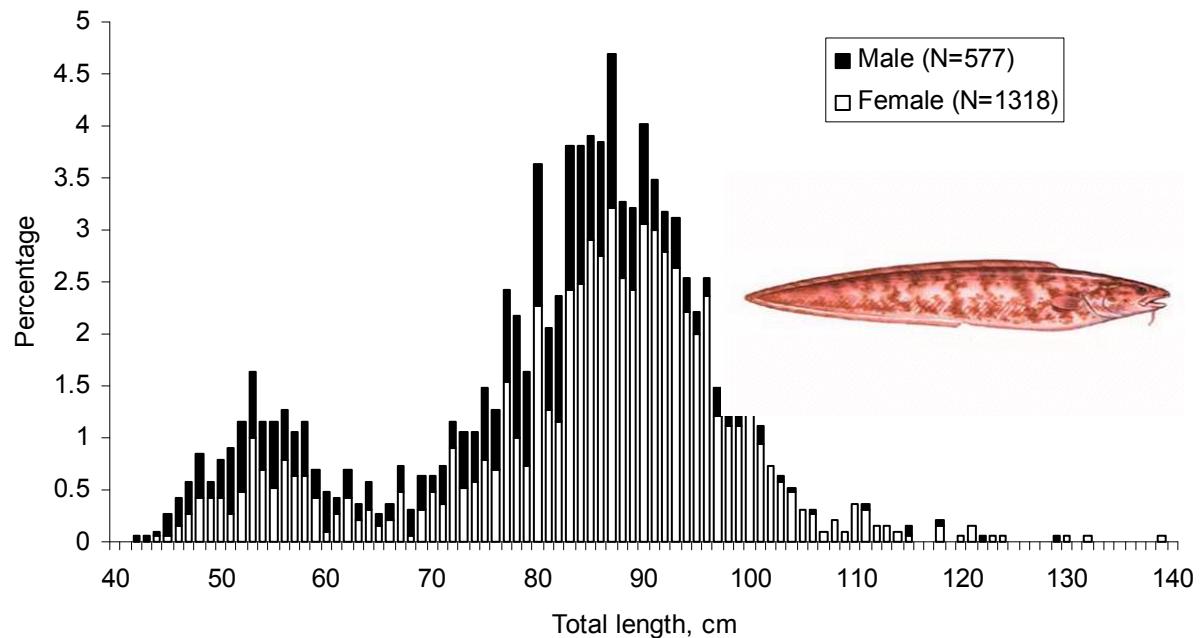
2nd Season 2008 (01 Jul - 31 Dec)



Catch (mt) by grid square)

Genypterus blacodes - Kingclip

Length- frequency distribution and length-weight relationship in trawler fleets in 2008



***Dissostichus eleginoides* - Toothfish**

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

VESSEL TYPE	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
LO	1801	1554	1310	1440	1455	1725	1554	1244	1407	1368
PO	.	.	.	.	.	.	.	263	59	.
TR	1197	764	443	352	253	276	123	65	53	61
	2988	2318	1754	1793	1707	2002	1677	1572	1519	1429

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

MONTH	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
January	93	213	105	100	143	167	147	331	123	248
February	116	296	172	58	196	188	144	174	116	181
March	210	224	172	116	103	167	116	247	103	159
April	278	149	206	108	49	113	64	146	50	193
May	278	242	178	103	61	150	119	65	106	93
June	141	226	107	87	90	97	99	98	61	51
July	204	209	128	192	162	157	116	150	56	113
August	328	190	181	303	194	269	214	95	137	116
September	444	159	157	262	157	142	186	124	167	52
October	356	161	145	183	277	218	219	54	124	10
November	315	160	138	144	160	223	116	79	209	102
December	225	88	65	136	115	110	138	8	266	111
	2988	2318	1754	1793	1707	2002	1677	1572	1519	1429

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

Fishing fleet	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
AU	24	.	.	.	.	.	.	.	.	.
BZ	16	27	11	0	.	.	.	.	.	.
CL	5	.	.	.	.	.	.	.	301	.
EE	.	.	.	.	0	.	0	.	.	.
ES	574	360	230	191	147	158	73	43	34	36
FK	1109	928	1460	1323	967	1641	1597	1264	1123	1391
FR	4	0	.	.	.	.	.	.	.	.
HN	.	.	.	.	.	.	.	.	.	.
IS	.	.	.	.	.	.	.	.	.	.
JP	1	1	.	2	0	0	.	.	.	.
KR	1195	994	49	268	549	196	7	264	60	1
NA	28	.	.	.	.	.	.	.	.	.
NO	.	.	.	.	.	.	.	.	.	.
NZ	.	.	.	.	43	.	.	.	.	.
PA	1	.	.	.	.	.	.	.	.	.
PT	.	3	.	.	.	.	.	.	.	.
SC	.	.	.	.	.	.	.	.	.	.
RU	.	.	0	.	.	.	.	.	.	.
UK	30	6	3	8	1	6	0	1	1	0
VC	.	0	.	.	.	.	.	.	.	.
	2988	2318	1754	1793	1707	2002	1677	1572	1519	1429

***Dissostichus eleginoides* - Toothfish**

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

GRT	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<400	1059	747	2	243	184	182	.	.	.	.
400-599	43	75	1	2	346	0	0	0	.	.
600-799	86	54	48	35	36	22	4	268	67	10
800-999	949	884	1072	1112	746	1564	1556	1248	1108	1369
1000-1499	527	444	557	328	347	161	73	31	322	20
1500-1999	197	83	47	59	33	58	28	25	21	29
2000-2999	126	30	27	13	15	15	16	1	0	1
>2999	1	1	.	.	0	.	.	.	.	.
	2988	2318	1754	1793	1707	2002	1677	1572	1519	1429

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

LOA	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<45	788	551	358	136	.	.	.	.	.	.
45-49	115	135	34	33	407	16	1	148	61	1
50-54	1153	860	106	306	246	904	858	718	529	990
55-59	228	339	1020	1118	921	890	723	662	592	392
60-64	230	197	68	54	63	64	21	12	312	4
65-69	131	71	41	59	38	102	52	25	14	23
70-79	296	134	100	82	25	11	8	5	9	15
80-89	38	27	24	2	7	14	13	3	1	3
>89	8	2	0	1	1	0	1	.	0	.
	2988	2318	1754	1793	1707	2002	1677	1572	1519	1429

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

BHP	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<1000	.	.	.	.	.	.	.	.	.	.
1000-1199	7	.	.	.	43	.	.	.	.	.
1200-1399	57	28	21	11	3	.	0	146	59	.
1400-1599	107	372	1029	1115	1269	1598	1572	1258	1119	1382
1600-1799	1083	735	16	264	243	213	8	120	304	5
1800-1999	330	254	165	129	84	123	56	31	14	23
2000-2499	1047	703	426	217	31	36	21	15	20	17
2500-2999	210	191	67	34	16	10	4	1	1	1
3000-3999	133	32	29	19	15	20	15	1	1	1
>3999	13	4	1	3	2	1	1	.	.	.
	2988	2318	1754	1793	1707	2002	1677	1572	1519	1429

***Dissostichus eleginoides* - Toothfish**

Table L.7 Total catch (tonnes) of combination vessels by gross registered tonnage (GRT) and year

GRT	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<400
600-799	263*	59*	.
	263	59	.

*- potters

Table L.8 Total catch (tonnes) of combination vessels by length overall (m) (LOA) and year

LOA	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
45-49	.	.	.	.	.	.	.	146*	59*	.
50-54	.	.	.	.	.	.	.	117*	.	.
	0	.	.	.	.	.	.	263	59	.

*- potters

Table L.9 Total catch (tonnes) of combination vessels by brake horsepower (BHP) and year

BHP	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1200-1499	.	.	.	.	.	.	.	146*	59*	.
1600-1799	.	.	.	.	.	.	.	117*	.	.
	0	.	.	.	.	.	.	263	59	.

*- potters

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

GRT	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<400	1012	724	.	243	184	182	.	.	.	.
400-599	.	75	.	.	346	.	.	.	.	.
600-799	.	.	.	.	.	.	.	.	.	.
800-999	772	755	1011	1070	723	1543	1554	1244	1106	1368
1000-1499	16	.	299	127	202	.	.	.	301	.
	1801	1554	1310	1440	1455	1725	1554	1244	1407	1368

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

LOA	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<45	772	551	358	136	.	.	.	.	.	.
45-49	.	75	.	.	389	.	.	.	.	.
50-54	1012	724	.	243	184	849	838	587	516	976
55-59	16	203	952	1061	881	876	716	657	590	392
60-64	.	.	.	.	.	.	.	301	.	.
	1801	1554	1310	1440	1455	1725	1554	1244	1407	1368

***Dissostichus eleginoides* - Toothfish**

Table L.12 Total catch (tonnes) of longliners by brake horsepower (BHP) and year

BHP	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<1000	.	.	.	.	.	.	.	.	.	.
1000-1199	.	.	.	.	43	.	.	.	.	.
1200-1399	.	.	.	.	.	.	.	.	.	.
1400-1599	16	278	952	1061	1227	1543	1554	1244	1106	1368
1600-1799	1012	724	.	243	184	182	.	.	301	.
1800-1999	.	.	.	.	.	.	.	.	.	.
2000-2499	772	551	358	136	.	.	.	.	.	.
	1801	1554	1310	1440	1455	1725	1554	1244	1407	1368

Table L.13 Total catch (tonnes) of trawlers by gross registered tonnage (GRT) and year

GRT	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<400	1	23	2	.	.	0	.	.	.	.
400-599	43	.	1	2	0	0	0	0	.	.
600-799	86	54	48	35	36	22	4	5	8	10
800-999	177	130	61	42	23	20	2	4	2	1
1000-1499	511	444	258	200	146	161	73	31	21	20
1500-1999	197	83	47	59	33	58	28	25	21	29
2000-3999	126	30	27	15	15	15	16	1	0	1
>3999	1	1	.	.	.	0	.	.	.	.
	1142	764	443	352	253	276	123	65	53	61

Table L.14 Total catch (tonnes) of trawlers by length overall (m) (LOA) and year

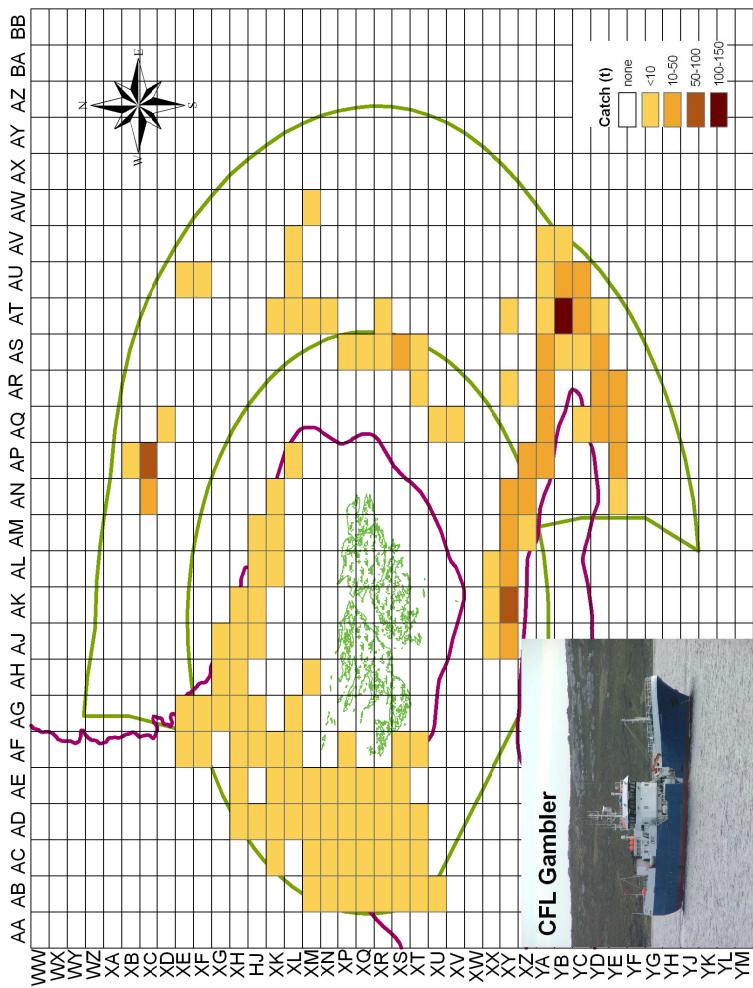
LOA	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<45	15	.	.	.	.	.	.	.	.	.
45-49	115	60	34	33	18	16	1	2	2	1
50-54	141	136	106	63	62	55	20	14	13	14
55-59	166	136	69	57	39	13	7	5	2	0
60-64	230	197	68	54	62	64	21	12	12	4
65-69	131	71	41	59	38	102	52	25	14	23
70-79	296	134	100	82	25	11	8	5	9	15
80-89	38	27	24	2	7	14	13	3	1	3
>89	8	2	0	1	1	.	1	.	0	.
	1142	764	443	352	253	276	123	65	53	61

Table L.15 Total catch (tonnes) of trawlers by brake horsepower (BHP) and year

BHP	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<1000	.	.	.	.	.	.	.	.	.	.
1000-1199	7	.	.	.	.	.	.	.	.	.
1200-1399	57	28	21	11	3	.	0	.	.	.
1400-1599	91	93	77	54	42	55	19	14	13	14
1600-1799	71	11	16	21	58	31	8	3	3	5
1800-1999	330	254	165	129	84	123	56	31	14	23
2000-2499	274	151	68	81	31	36	21	15	20	17
2500-2999	165	191	67	34	16	10	4	1	1	1
3000-3999	133	32	29	19	15	20	15	1	1	1
>3999	13	4	1	3	2	1	1	.	.	.
	1142	764	443	352	253	276	123	65	53	61

Dissostichus eleginoides

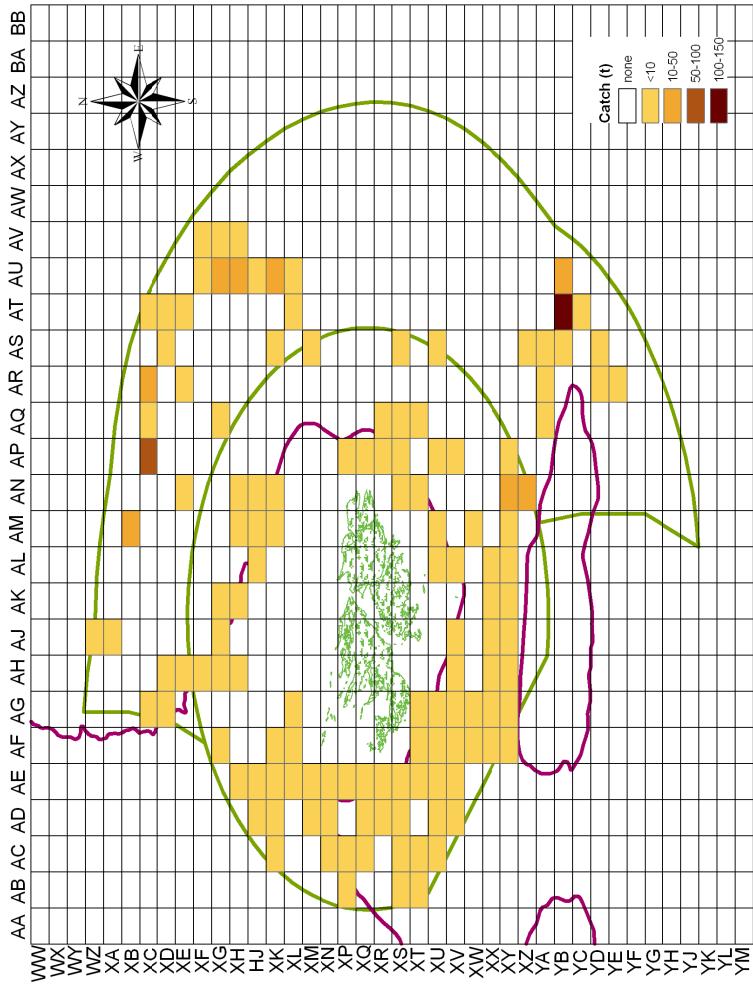
1st Season 2008 (01 Jan - 30 Jun)



Catch (mt) by grid square)

Dissostichus eleginoides

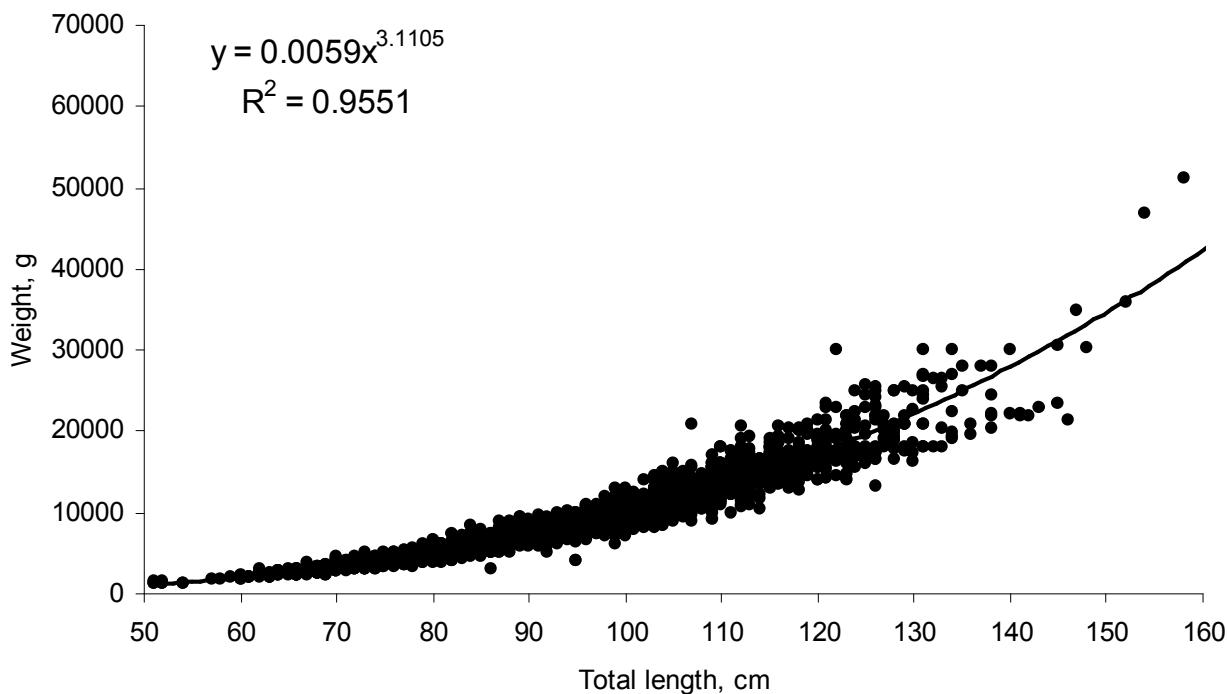
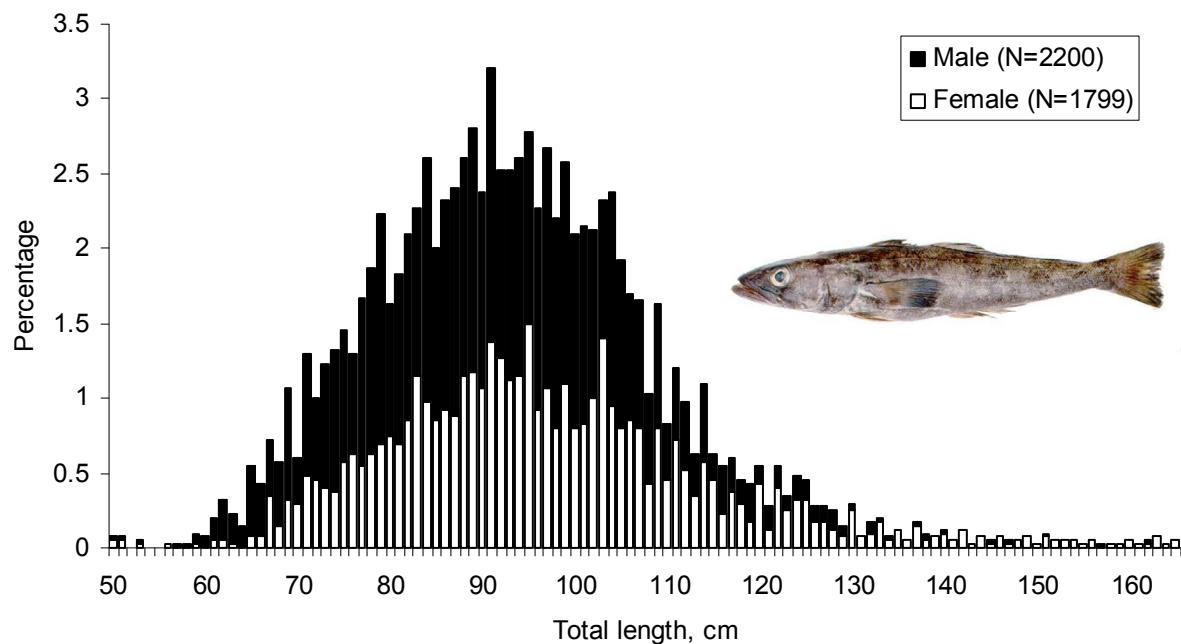
2 nd Season 2008 (01 Jul - 31 Dec)



Catch (mt) by grid square)

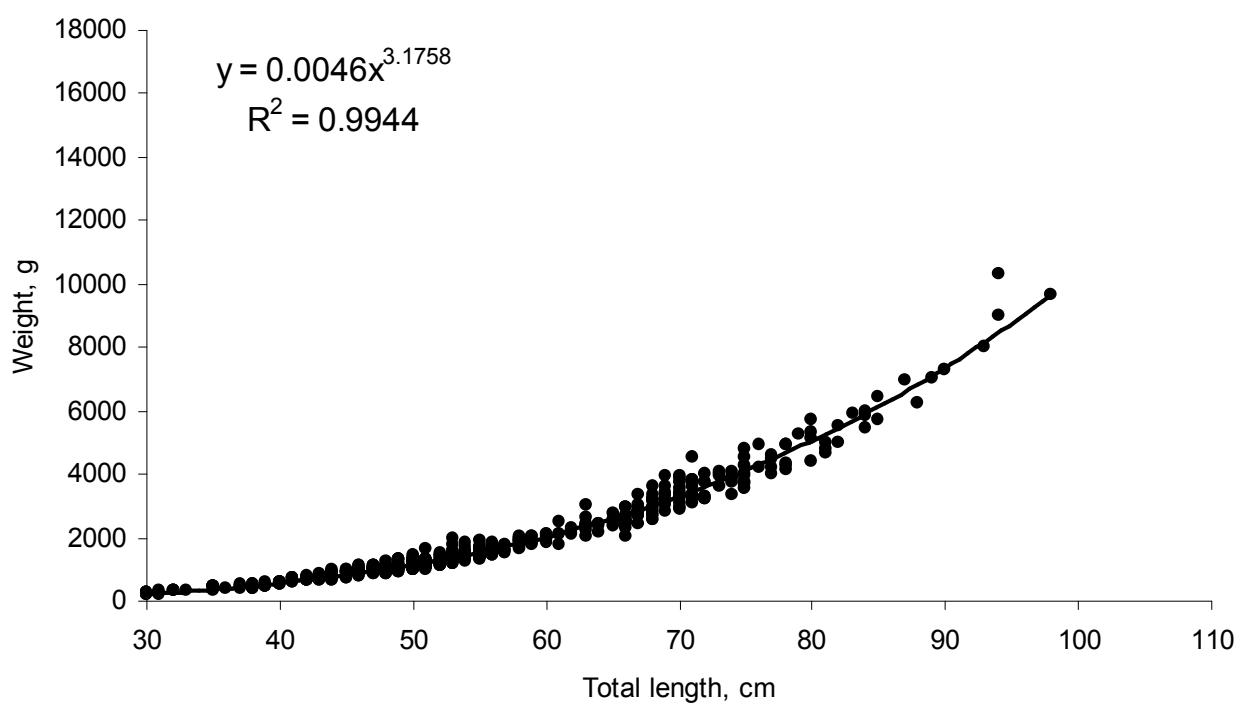
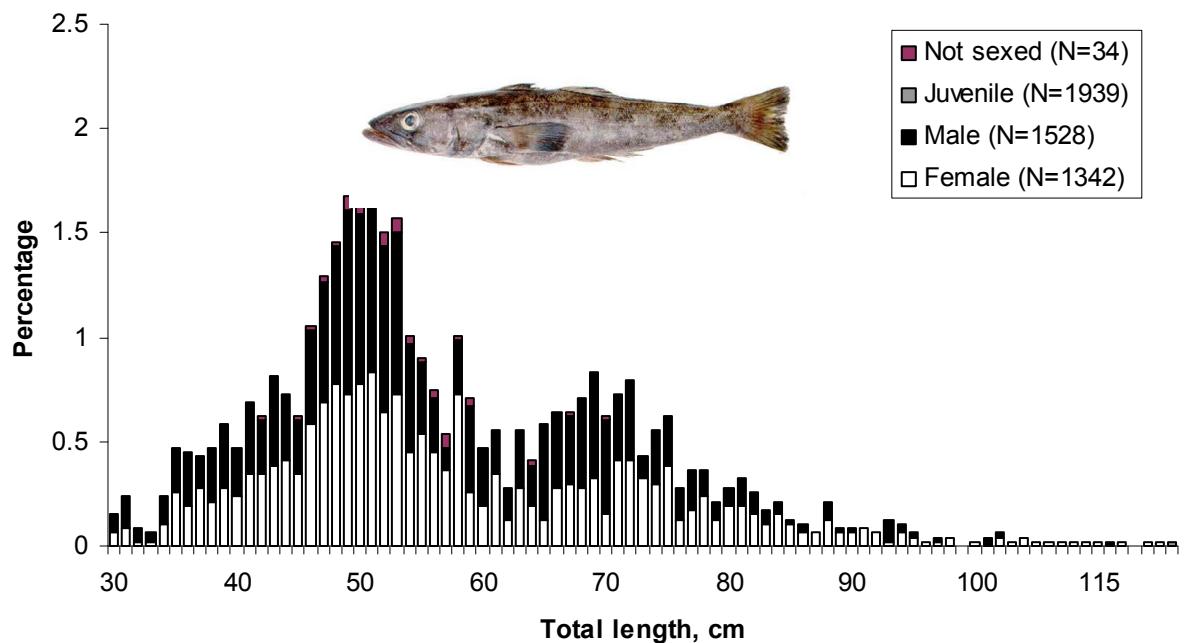
Dissostichus eleginoides - Toothfish

Length- frequency distribution and length-weight relationship in longliner fleet in 2008



Dissostichus eleginoides - Toothfish

Length-frequency distribution and length-weight relationship in trawler fleets in 2008



Rajidae - Skates and Rays

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

VESSEL TYPE	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
LO	76	161	101	96	152	168	75	150	42	28
PO							0			
TR	4709	3691	4207	3268	3836	4983	5623	4529	5621	3830
	4785	3853	4309	3364	3988	5151	5698	4679	5663	3858

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

MONTH	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
January	9	217	199	196	32	1257	92	86	108	120
February	35	669	208	49	404	159	423	160	173	200
March	58	118	72	202	139	95	83	80	179	142
April	104	106	127	170	77	113	56	134	176	187
May	80	71	110	115	195	148	165	122	190	189
June	33	42	42	175	223	142	21	32	124	95
July	358	77	104	22	459	93	566	133	394	516
August	1284	975	950	552	1596	1589	2267	1665	1999	1229
September	1252	1035	881	1248	592	1022	821	1019	1109	673
October	892	327	1294	431	161	352	490	881	722	220
November	392	178	306	168	81	59	590	305	141	119
December	289	38	16	35	29	120	125	62	350	167
	4785	3853	4309	3364	3988	5151	5698	4679	5663	3858

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

Fishing fleet	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
AU	23	.	.	.	.	.	.	.	.	.
BZ	528	48	201	10	.	.	.	.	.	.
CL	.	.	.	.	.	.	.	.	12	.
EE	.	.	.	.	.	4	.	11	.	.
ES	440	415	430	555	412	515	634	1160	1745	1520
FK	314	353	417	474	320	653	612	770	675	419
FR	0	0	.	.	.	.	.	.	.	.
HN	.	.	.	.	.	.	.	.	.	.
IS	.	.	.	.	.	.	.	.	.	.
IT	.	.	.	.	.	.	.	.	.	.
JP	3	.	.	0	.	1	.	.	.	.
KR	3408	3019	3218	2304	3241	3937	4413	2720	3197	1891
NA	12	.	.	.	.	.	.	.	.	.
NZ	.	.	.	.	4	.	.	.	.	.
PA	18	.	.	.	.	.	.	.	.	.
PT	.	0	.	.	.	.	.	.	.	.
RU	.	.	12	.	.	.	.	.	.	.
UK	40	17	26	19	5	16	16	11	34	27
UY	.	.	5	2	5	24	23	6	.	.
VC	.	.	0	.	.	.	.	.	.	.
	4785	3853	4309	3364	3988	5151	5698	4679	5663	3858

Rajidae - Skates and Rays

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

GRT	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<400	859	659	485	31	34	43	.	.	.	.
400-599	12	7	281	248	272	241	404	209	.	.
600-799	1143	228	1425	707	1194	889	918	531	1230	956
800-999	1569	1615	1017	1250	1571	2636	2568	1861	2014	1297
1000-1499	907	1197	949	805	636	904	1103	1713	1905	1302
1500-1999	177	85	94	255	222	147	163	208	464	251
2000-2999	116	63	57	68	58	288	542	156	51	52
>2999	3	.	.	0	.	1	.	.	.	.
	4785	3853	4309	3364	3988	5151	5698	4679	5663	3858

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

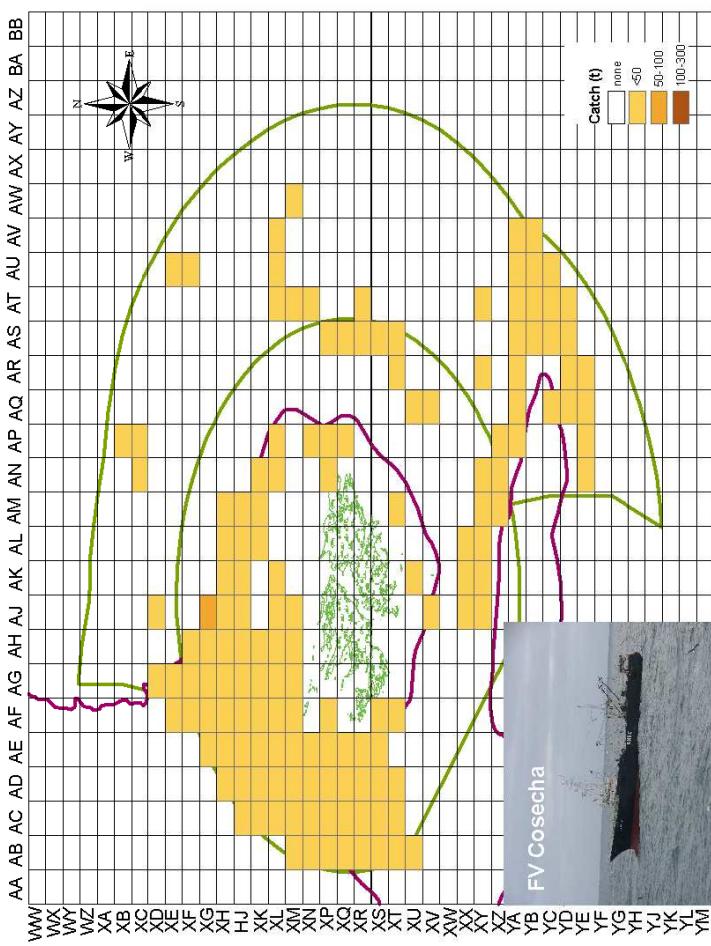
LOA	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<45	35	74	47	15	1	.	.	.	.	.
45-49	59	48	701	427	905	636	661	529	1028	847
50-54	2658	1765	1993	1792	2002	2938	3228	1951	2003	1208
55-59	949	796	691	259	328	479	371	689	770	455
60-64	656	821	537	343	350	316	410	670	760	647
65-69	143	143	145	176	127	420	448	558	800	349
70-79	245	163	165	323	255	288	472	241	258	293
80-89	34	36	31	26	20	71	108	40	43	57
>89	6	6	.	1	.	1	.	0	1	2
	4785	3853	4309	3364	3988	5151	5698	4679	5663	3858

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

BHP	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<1000	.	.	5	2	1	.	.	.	.	.
1000-1199	7	.	.	.	4	.	.	.	.	.
1200-1399	34	44	31	78	12	.	15	41	57	49
1400-1599	62	86	166	230	269	361	340	590	512	312
1600-1799	99	80	43	94	88	101	34	146	149	263
1800-1999	241	318	343	362	281	400	486	728	979	537
2000-2499	1336	869	876	435	487	840	826	882	1037	914
2500-2999	2854	2377	2762	1934	2638	3143	3439	2126	2845	1706
3000-3999	137	53	75	221	208	299	555	160	82	70
>3999	16	27	8	6	0	7	3	6	1	6
	4785	3853	4309	3364	3988	5151	5698	4679	5663	3858

Rajidae

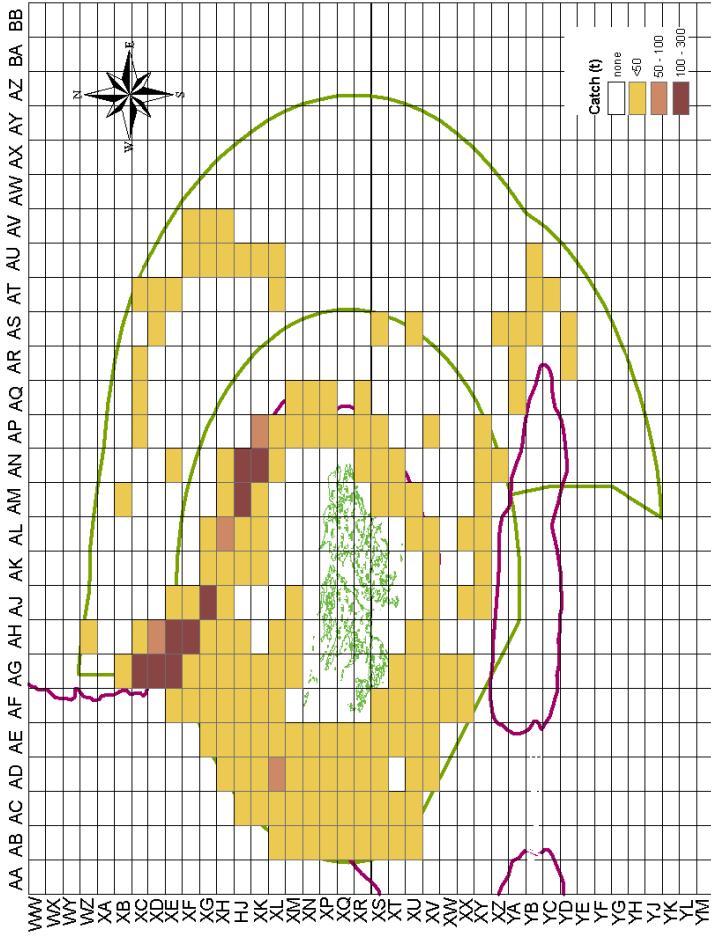
1st Season 2008 (01 Jan - 30 Jun)



Catch (mt) by grid square)

Rajidae

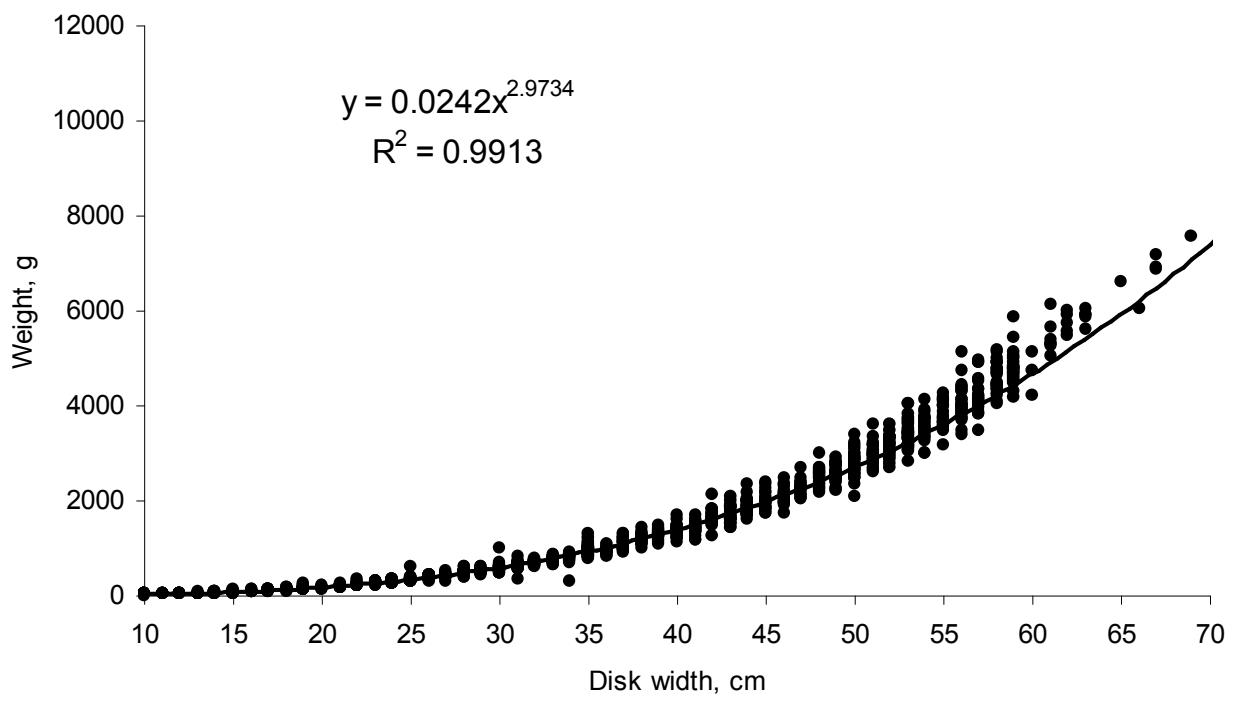
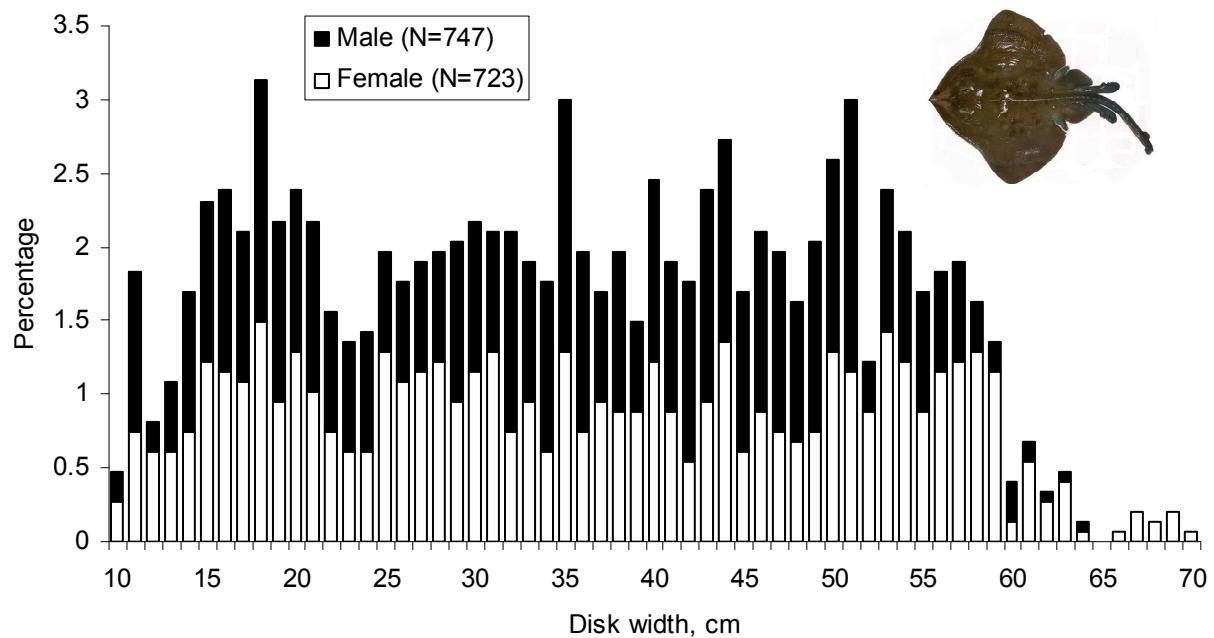
2nd Season 2008 (01 Jul - 31 Dec)



Catch (mt) by grid square)

Rajidae - Skates and Rays

Length- frequency distribution and length-weight relationship in 2008 for *Bathyraja brachiurops*



***Zygochlamys patagonica* - Scallop**

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

VESSEL TYPE	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
TR	.	.	76	59	685	1279	1358	1161	14*	6*
	.	.	76	59	685	1279	1358	1161	14*	6*

* - No specialised fishery, just a discarded bycatch. Included into "others" in Tables O1-O7

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

MONTH	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
January	.	.	.	59	.	441	420	342	.	.
February	250	207	273	0	0
March	519	574	450	8	3
April	75	18	4	1
May	29	.	.	74	.	.
June	12	.	.	.	.	.
July	0	.	0	1
August	0	.	1	0
September	0
October	41	.	.	.	.
November	440	28	81	5	.	.
December	.	.	76	.	204	.	.	.	.	.
	.	.	76	59	685	1279	1358	1161	14	6

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

Fishing fleet	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
FK	12	7	13	6
PA	1	.
UK	1	3	0	.
UY	.	.	76	59	685	1279	1346	1152	.	.
	.	.	76	59	685	1279	1358	1161	14	6

***Zygochlamys patagonica* - Scallop**

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

GRT	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<400	.	.	76	59	41	.	.	.	.	.
400-599	644	1279	1346	1152	.	.
600-799
800-999
1000-1499	1	.
1500-1999	1	3	0	.	.
2000-2999	11	7	13	6	.
>2999
	.	.	76	59	685	1279	1358	1161	14	6

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

LOA	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<45	.	.	76	59	41	.	.	.	.	.
45-49
50-54	644	1279	1346	1152	.	.
55-59	4	.	.	.
60-64	1	2	.	.
65-69	7	3	0	.
70-79	1	4	1	2
80-89	1	12	3
>89	0	0	.
	.	.	76	59	685	1279	1358	1661	14	6

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

BHP	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<1000	.	.	76	59	41	.	.	.	.	.
1000-1199
1200-1399
1400-1599
1600-1799
1800-1999
2000-2499	644	1279	1347	1152	.	.
2500-2999	1	0
3000-3999	12	9	13	6
>3999
	.	.	76	59	685	1279	1358	1161	14	6

Others

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

VESSEL TYPE	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
CO	.	.	.	.	.	.	.	33*	.	.
LO	200	377	272	217	225	183	163	152	116	110
TR	4501	3660	1746	1025	1523	4897	10554	21830	31771	61812
	4701	4037	2018	1242	1748	5081	10717	22015	31887	61922

*-potters

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

MONTH	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
January	63	206	117	28	63	147	19	455	588	2991
February	91	441	269	73	155	770	838	3265	3340	7271
March	209	407	255	158	61	508	476	2687	4024	10070
April	421	467	450	203	82	716	373	3193	3862	8405
May	659	489	189	47	73	495	645	2080	4507	8557
June	41	119	30	19	21	59	146	631	558	2350
July	74	130	24	28	44	273	217	814	2495	2151
August	418	329	94	178	81	657	1252	2306	3517	4353
September	861	491	142	183	239	622	2920	1905	3834	4857
October	1433	653	296	154	552	547	1001	2013	2775	5355
November	218	215	131	78	296	264	2617	2433	1967	4512
December	213	91	22	93	82	23	213	232	421	1051
	4701	4037	2018	1242	1748	5081	10717	22015	31887	61922

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

Fishing fleet	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
AU	389	.	.	.	.	.	.	.	.	.
BZ	7	223	43	0	.	.	.	.	.	.
CL	0	.	.	.	2	.	.	.	32	.
EE	.	.	.	.	.	29	.	306	.	.
ES	2624	2046	1011	496	850	2079	5201	11885	19456	42305
FK	1217	1344	774	624	686	2696	4984	9109	11360	18721
FR	.	.	.	.	.	.	.	.	.	.
HN	.	.	.	.	.	.	.	.	.	.
IS	.	.	.	.	.	.	.	.	.	.
IT	.	.	.	.	.	.	.	.	.	.
JP	116	9	.	10	38	14	4	4	1	4
KR	252	401	189	112	135	113	78	127	93	65
NA	96	.	.	.	.	25	.	.	.	.
NO	.	.	.	.	.	.	.	.	.	.
NZ	.	.	.	.	22	.	.	.	.	.
PA	0	.	.	.	.	.	.	.	175	.
PL	.	.	.	.	.	.	.	.	.	.
PT	.	2	.	.	.	.	.	.	.	.
RU	.	.	0	.	.	.	.	.	.	.
SC	.	.	.	.	.	.	.	.	.	.
UY	.	.	.	.	.	0	11	.	.	.
UK	0	13	.	.	15	125	450	573	769	827
	4701	4037	2018	1242	1748	5081	10717	22015	31887	61922

Others

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

GRT	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<400	101	76	25	48	38	26	0	.	0	.
400-599	97	15	28	2	54	5	18	18	.	.
600-799	267	295	129	81	125	98	127	776	2501	3934
800-999	709	603	443	296	199	498	648	1949	2687	6492
1000-1499	2334	2361	1156	464	909	2960	5520	11762	16819	37306
1500-1999	506	320	70	170	232	789	2212	4464	6203	9274
2000-2999	571	358	166	172	174	684	2188	3043	3659	4912
>2999	116	9	.	10	17	14	4	4	18	4
	4701	4037	2018	1242	1748	5081	10717	22015	31887	61922

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

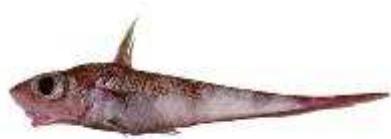
LOA	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<45	144	240	112	61	.	0	0	.	.	.
45-49	529	209	127	92	147	337	404	1938	3175	6133
50-54	587	766	376	231	271	708	1457	3176	2977	4248
55-59	435	565	440	200	393	249	673	2215	2676	8484
60-64	726	856	291	126	237	1368	2677	4921	8208	16145
65-69	734	478	304	161	345	1595	3179	5220	8635	15019
70-79	1358	757	281	319	263	442	941	2561	4516	9280
80-89	60	77	54	16	43	356	1328	1613	1403	2323
>89	127	89	33	37	49	27	58	371	296	290
	4701	4037	2018	1242	1748	5081	10717	22015	31887	61922

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

BHP	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<1000	.	.	.	.	.	0	0	.	.	.
1000-1199	13	.	.	.	22	.	0	.	.	.
1200-1399	137	120	53	48	93	.	50	438	1619	1900
1400-1599	361	547	422	240	250	627	890	3282	2396	6512
1600-1799	431	172	39	98	158	638	1152	2974	5275	11358
1800-1999	1523	1424	733	262	621	1778	3881	7174	10735	20816
2000-2499	1116	841	290	334	304	1096	1816	3970	6862	15191
2500-2999	433	554	314	75	92	110	108	440	520	349
3000-3999	560	266	113	143	151	776	2367	2917	3904	5093
>3999	127	114	54	42	57	56	453	820	577	704
	4701	4037	2018	1242	1748	5081	10717	22015	31887	61922

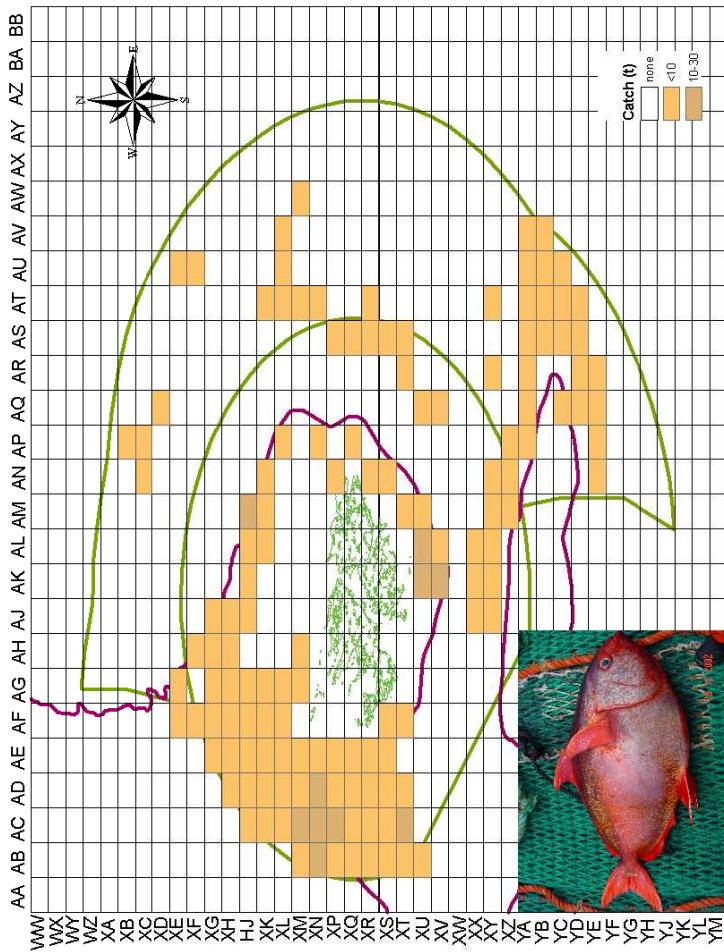
Table O.7 Total catch (tonnes) of others by species in 2008

Common name	Latin name	Catch
Blue Antimora	<i>Antimora rostrata</i>	15
Butterfish	<i>Stromateus brasiliensis</i>	102
Crab	Lithodidae	0
Dogfish, Spurdog	<i>Squalus acanthias</i>	5
Frogmouth	<i>Cottoperca gobio</i>	25
Greater Hooked Squid	<i>Moroteuthis ingens</i>	29
Grenadier	Macrouridae	932
Icefish	<i>Chamsocephalus esox</i>	90
Lobster Krill	<i>Munida spp</i>	0
Moonfish	<i>Lampris immaculatus</i>	1
Porbeagle	<i>Lamna nasus</i>	2
Red Fish	<i>Sebastes oculatus</i>	6
Rock Cod	<i>Patagonotothen spp.</i>	60209
Scallop	<i>Zygochlamys patagonica</i>	6
Slender Tuna	<i>Allothunnus fallai</i>	0
Smooth Oreo	<i>Pseudocyttus maculatus</i>	1
Others		499
Total		61922



OTHERS (Rock cod not included)

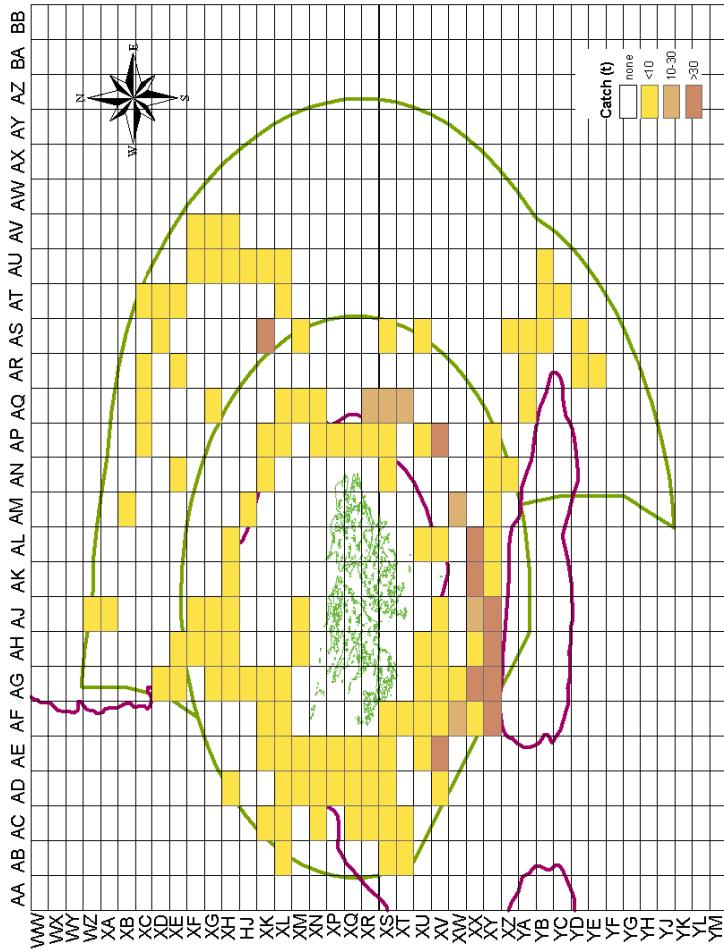
1st Season 2008 (01 Jan - 30 Jun)



Catch (mt) by grid square)

OTHERS (Rock cod not included)

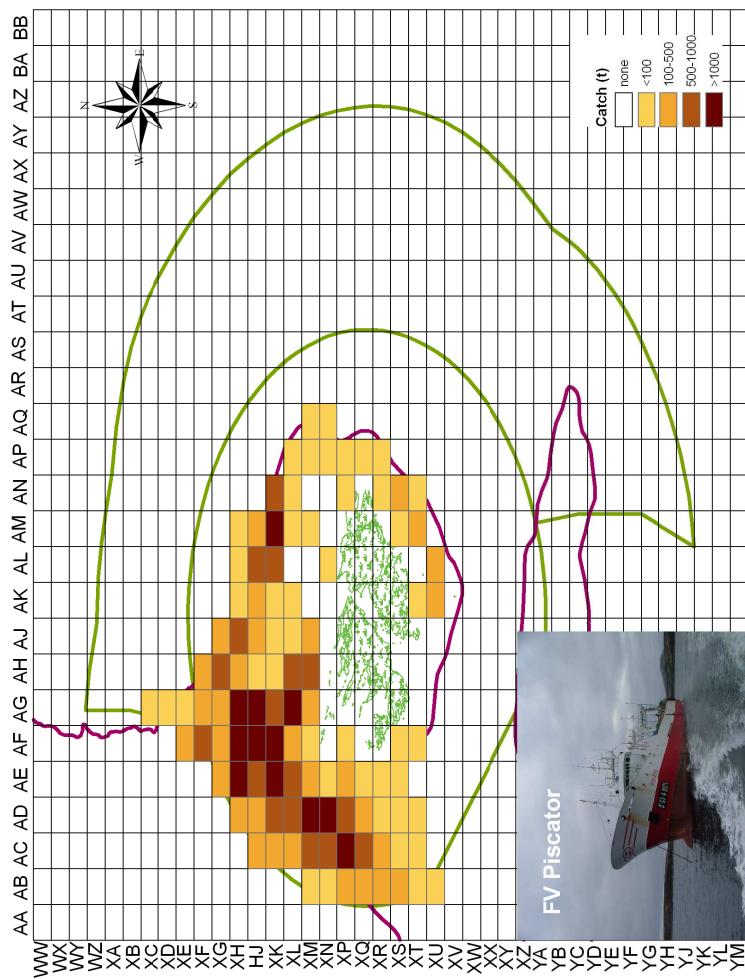
2nd Season 2008 (01 Jul - 31 Dec)



Catch (mt) by grid square)

Patagonotothen ramsayi

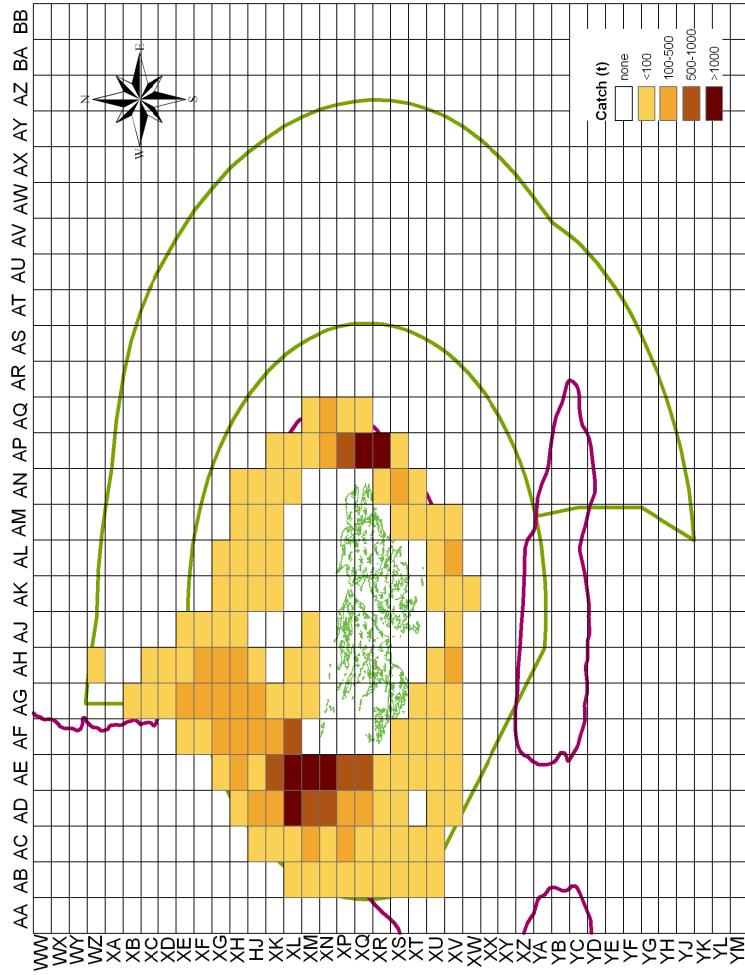
1st Season 2008 (01 Jan - 30 Jul)



Catch (mt) by grid square)

Patagonotothen ramsayi

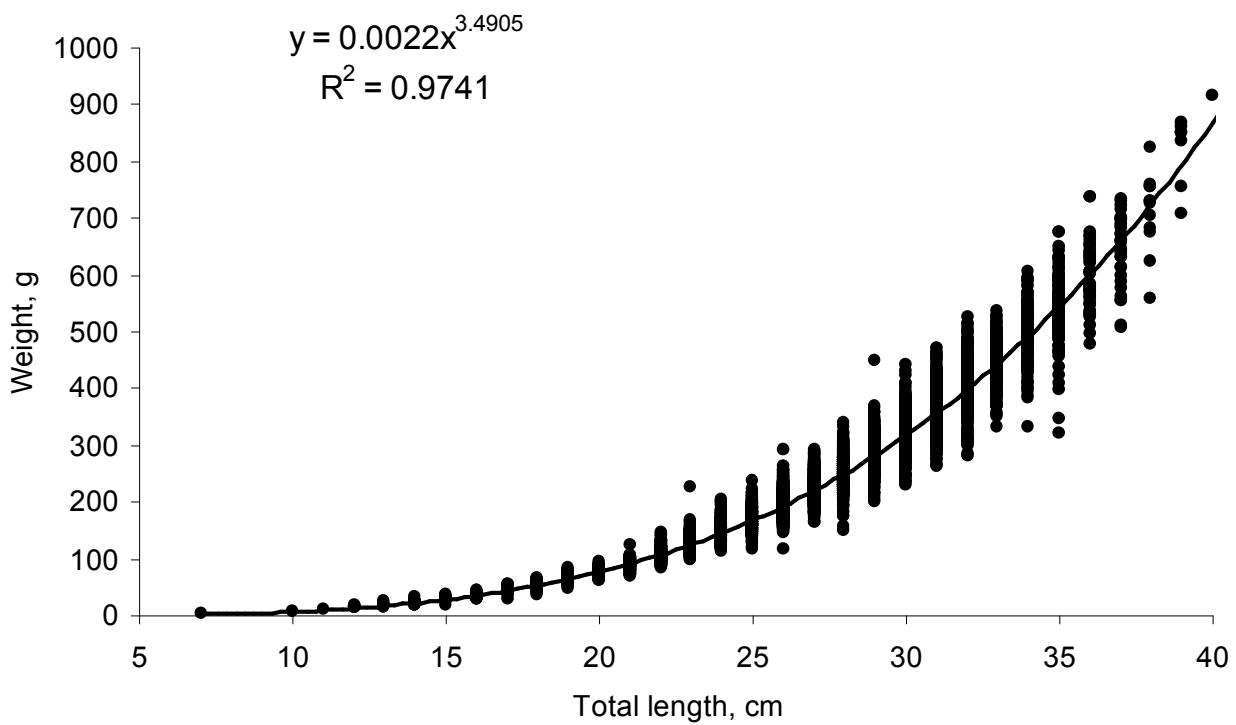
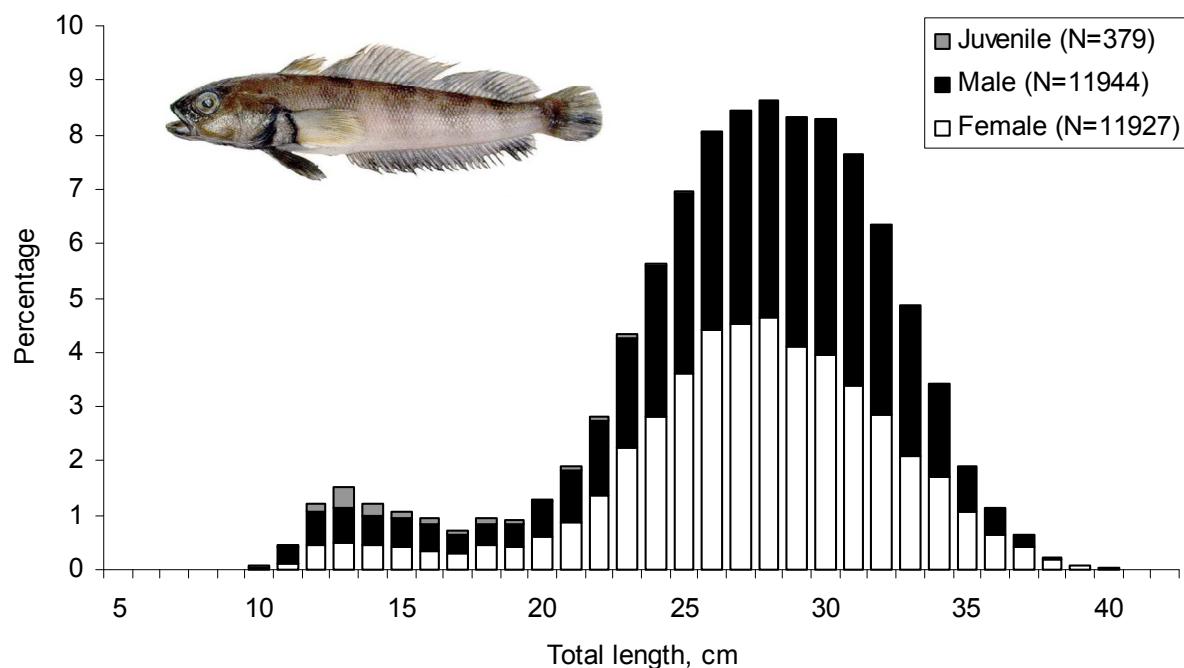
2nd Season 2008 (01 Jul - 31 Dec)



Catch (mt) by grid square)

***Patagonotothen ramsayi*—Rock Cod**

Length– frequency distribution and length-weight relationship in 2008



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