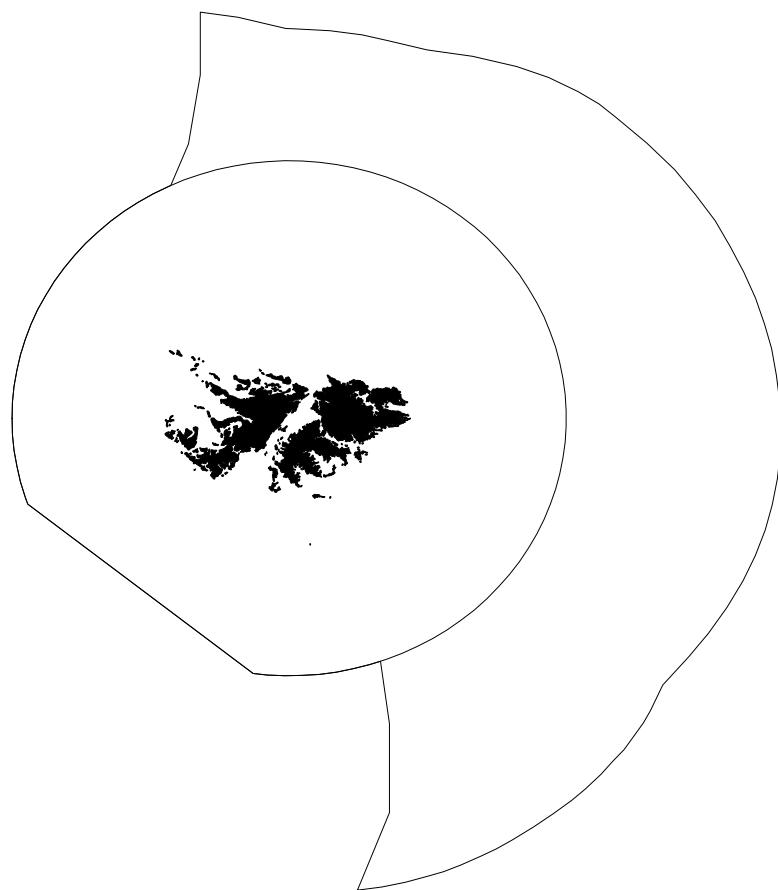


**FALKLAND ISLANDS GOVERNMENT
FISHERIES DEPARTMENT**



FISHERY STATISTICS

**Volume 15
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FOREWORD

1. The Falkland Islands' Fishery - 2010

The total catch in Falkland waters in 2010 was at the average level for the last twenty years; exceeding 200,000 t. However, the composition of this catch was quite different from the earlier ‘squid-based’ fishery. As in the previous year, catches of rock cod *Patagonotothen ramsayi*, a former discard species but now an important commercial resource, hit a new record, reaching 76,751 t. *Loligo* catches reached their highest abundance of the last 15 years at 66,539 t annual catch, which still left them in second place. The third-highest catch was taken in the hoki fishery (19,214 t). Despite substantial fishing effort, only 12,103 t of *Illex* were taken, indicating low abundance of this squid for the second year in a row.

1.1. *Illex argentinus* – Illex squid

After the lowest abundance year of 2009 it was almost impossible to expect complete recovery of the stock in 2010. Before their seasonal migrations to Falkland waters, *Illex* move from spawning/nursery grounds located off southern Brazil, Uruguay and northern Argentina through the High Seas region. Therefore, the abundance of the South Patagonian Stock at 45-47°S in January–February may be a good potential indicator for the state of the fishery in March–April on the Patagonian Shelf.

Results of the High Seas fishery in 2010 did not allow much optimism for the likely performance of the *Illex* fishery over the remainder of the season in Falkland zones. Trawlers started reporting catches from the first week of January, at 14-15 t per day of summer-autumn spawning squid. Catches remained quite low until the end of the month. The proportion of immature *Illex* belonging to the South Patagonian Stock (SPS) gradually increased until the end of January. Compared to previous seasons, SPS squid showed a low abundance with average monthly CPUE of only 12.7 t per day. In February, up to 20 trawlers and 6 jiggers reported High Seas *Illex* catches to FIFD. Average daily CPUEs varied from 11 to 18 t (max. 30 t) in the first week of the month, and then decreased to 4-5 t per day during the second and third weeks. These catches were only about a third of that usually observed in a normal *Illex* year. Migrations of squid further south were impacted by cold environmental conditions of the Patagonian Shelf, where the sea surface temperatures had negative anomalies up to 2.5°C.

Nevertheless, a substantial jigging fleet applied for Falkland *Illex* licenses for the season starting on 15th February. In the last four days of February, five jiggers fished for *Illex* in the northern part of Falkland

Islands Interim Conservation and Management Zone (FICZ), but had low catches ranging from zero to 5.3 t per night (mean=1.7 t). Twenty-four jiggers joined the fishery in the beginning of March, and their number gradually increased to 74 vessels by the 26th of March. During the first week of the month catches were reasonable, ranging from 10 to 19 t per night. Then they decreased to only 2.7-7.5 t per night. The mean monthly CPUE in March was only 5.9 t per night. In April, negative SST anomalies were observed in Falkland waters. However, they were not as strong as in previous months with SST being about 1°C below the mean annual norm of 1971-2000. The jigging fleet worked mainly in the northern part of FICZ during the first two weeks of the month. Daily CPUEs ranged between only 2 and 3.5 t per night. During the third week, CPUEs declined to 0.5-1 t per night, and vessels started to leave the Falkland waters. The last three jiggers left Falkland Conservation Zones on 27th April, all having zero catches from the previous night. In April, *Illex* in jigger catches were relatively large compared to the same period through 1999-2008, with modal lengths ranging from 29 to 30.5 cm ML.

The *Illex* season of 2010 brought a total catch of 12,105 t of squid. This is the fourth lowest catch of *Illex* since the beginning of the Falkland fishery in 1987. All jiggers issued with B-licenses got significant reimbursement of fees.

Overall, the commercial situation in the *Illex* fishery in 2010 was quite similar to that observed in 2002, when the South Patagonian Stock of *Illex* had low abundance and their migration to the southern parts of the species range on the Patagonian Shelf was restricted by unfavourably low water temperatures.

The recruitment abundance for the next season (2011) will depend on several factors. Larger sizes of squid observed in 2010 would translate into higher fecundities that may result in a partial recovery of the South Patagonian Stock in 2011 (as happened in 2006 after the poor year of 2005). Another factor that might affect the recruitment abundance are environmental conditions in the spawning grounds in August-September, with positive SST anomalies contributing to higher survival of larvae and juveniles for the 2011 fishery.

Illex is a straddling stock in the Southern Atlantic that during its migrations appears in the Exclusive Economic Zones of Brazil, Uruguay and Argentina, as well as in Falkland Conservation Zones and on the High Seas at 42°S and 45-47 °S beyond the Argentinean EEZ. Effective management and conservation of this important resource is therefore only possible through some kind of regional fisheries management organisation, which should include all countries whose fleets participate in exploitation of *Illex* stocks. So far, such an organisation does not exist and this makes the squid stocks vulnerable to over-exploitation, especially in years of low abundance.

1.2. *Loligo gahi* – Patagonian squid

Patagonian longfin squid *Loligo gahi* is an abundant species inhabiting the Argentinean and Patagonian Shelves in the Southwest Atlantic. It is fished by trawlers in the eastern and southern parts of FICZ in the region called the ‘*Loligo* box’. Two main cohorts of *L. gahi* are exploited; the autumn-spawning cohort in February-April and spring-spawning cohort in July-September. In some years, *Loligo* is also fished on the High Seas in September-October.

Every year, FIFD carries out scientific surveys of the *Loligo* box to estimate the level of biomass before each fishing season. In 2010, a pre-season biomass survey for the 1st *Loligo* season was conducted from 9th to 23rd February, onboard the F/V *Beagle F.I.* A total of 361 t of *Loligo* were caught in 55 scientific trawls. Dense aggregations were found only in the southern part of the *Loligo* box with catch densities averaging 5.70 t

per hour. Schools of squid were distributed from shallow water (110-120 m depths) to the south of Sea Lion Island to the shelf break (180-200 m) near Beauchene Island. All squid were immature and belonged to the autumn-spawning cohort. Average squid sizes (11-13 cm mantle length, ML) indicated that they were growing quite fast. The survey catches gave a geostatistical estimate of 60,500 t of *Loligo* on the fishing grounds, indicating a significantly higher recruitment than the year before.

The first season started on 24th February with 16 C-licensed trawlers. All vessels fished around Beauchene Island at 110-180 m depths. CPUEs were excellent with some vessels fishing up to their daily freezer capacity. The total catch for the month (4,456 t) made it the highest catch on record for February since the shortening of the first season in 2003. This excellent performance in the fishery carried on in March. After a drop in catches between 6 and 12 March (20-25 t per day), catches increased again to the February's levels (35-45 t per day) and continued until the end of the first season month with two peaks (~48 t per day) observed on 2nd and 6th April. The whole fleet carried on fishing at 150-160 m depths mainly to the east and south-east of Beauchene Island. All squid caught belonged to the autumn-spawning cohort, with mean female ML being 11.5 cm, and male ML being 12 cm.

The overall abundance of the autumn-spawned cohort of *Loligo* was at a high level. Commercial catch and size distributions suggested that four waves of *Loligo* immigration occurred in the southern part of the *Loligo* box during the season, contributing an additional 29,425 t biomass. Thus, an estimated total (pre-season plus immigration) of 89,925 tonnes *Loligo* were present during the first season 2010. In-season assessment of the escapement biomass estimated $39,375 \pm 13,104$ t. The risk of the escapement biomass being less than 10,000 tonnes was estimated at 1.1%.

A pre-season biomass survey for the 2nd *Loligo* season was conducted from 30th June to 14th July on-board the F/V *Golden Chicha*. This survey caught 123 t of *Loligo* in 57 scientific trawls, with a fairly even distribution (compared to the first season) of *Loligo* catches throughout the *Loligo* box. Catch densities averaged 1.1 t per hr overall, resulting in a geostatistical estimate of 51,754 t of *Loligo* on the fishing grounds before the second fishing season.

The second season opened on schedule on 15th July. Total daily catches hit the first peak on 19th July with mean CPUE of 48 t per day, then hit the second peak on 25th July with mean CPUE as high as 58.8 t per day. Until the end of July about 86% of both catch and effort were reported in the northern part of the box. Individual sizes of *Loligo* continued to be smaller in the north, with an average ML of 11.5 cm. The average ML in the south decreased to 12.5 cm, suggesting that larger squid are moving further offshore into deeper water.

During August the fleet continued to move frequently between the northern and southern areas of the *Loligo* Box, and overall 59% of *Loligo* catch was taken north of 52°S. One particularly high period of catches occurred in the north during six days between 17 and 22 August, averaging 49.7 t per day. From then the biomass started to deplete, as expected, but by the beginning of September catches averaging 25 tonnes per vessel per day were still being reported. Individual sizes of *Loligo* increased at a steady rate from the beginning of the season, and by the start of September averaged 15 cm ML in the north and 14.6 cm ML in the south.

Sixteen trawlers fished for *Loligo* until 11 September, when the effort allocation for one vessel expired and she left the fishery. Average CPUEs in September (21.6 t per day) were approximately half of those observed in August (36 t per day). The fishery was quite stable throughout the month, with one sharp drop in CPUEs on 6th September (9.1 t per day) due to adverse weather conditions. As a result, the total catch in Sep-

tember (9,621 t) was the third highest catch in September since the year 2000, with about 72% of squid taken in the northern region. Average length of squid ranged between 14 and 16 cm ML, with almost all squid being mature by the end of the month.

The fishing season was closed as planned on 30th September. In-season immigrations were not very distinct during the second season, but commercial catch and size distributions suggested that as many as three waves of immigration occurred in August and September, for an additional 16,170 t. Thus, an estimated total (pre-season plus immigration) of 78,561 t of *Loligo* biomass were present during the second season 2010. Leaving this amount of squid to spawn should contribute to higher recruitment abundance of the second cohort of *Loligo* for next year. To carry on fishing after 30th September would not be practical as a vast majority of squid started to migrate to their spawning grounds.

The total catch of *Loligo* in 2010 attained 66,539 t, which was the highest annual catch in the last fifteen years.

1.3. *Martialia hyadesi* – Martialia squid

Similar to several previous years, no catch of *Martialia* squid was reported within the FICZ/FOCZ.

1.4. *Micromesistius a. australis* – Southern blue whiting

Southern blue whiting has been one of the main finfish species targeted by commercial pelagic fleet in Falkland Islands' waters since 1992, both in austral spring and autumn. In 2005-2006, surimi vessels operated only in the austral summer between October and March. Since 2007 surimi vessels have started to operate in the beginning of October and carried on until the beginning of December. During this period, vessels fish for aggregations of post-spawning fish, which feed in Falkland waters before dispersing further south. Southern blue whiting has also been taken as by-catch by finfish trawlers until 2004, when the trawlers started to target this fish in August-September. Traditionally, southern blue whiting has been one of the most important resources in the Falkland Islands fishery with annual catches of approximately 25,000 tonnes taken by pelagic and bottom-trawl vessels.

The downward trend in catches observed since 2007 continued in 2009, with only 10,543 t caught. In order to stop this dangerous decline in the stock, a fishing ban was imposed in 2010 on the southern blue whiting spawning grounds (11 grid squares in the southwestern part of FICZ) for the duration of the spawning period (September – first half of October). Obviously this fishing ban further decreased the total annual catch of blue whiting, which at 6,414 t in 2010 reached its lowest level in the history of the fishery.

A specialized surimi trawler operated in the FICZ during the first 23 days of January and had good catches in the southern area (maximum daily catch of 206 t). The vessel then fished aggregations in the north-eastern part of FICZ with daily CPUEs ranging between 30 and 65 t. This vessel returned in the middle of October, but had poor catches ranging from 0.2 to 80 t per day (mean 26.4 t), mostly in the southern region. However, on 31st October 192 t were caught east of the Falkland Islands. In November catches increased to averages of 80 t per day, with a maximum daily catch of 267 t taken in the beginning of the month. Catches decreased almost by half in December, and the vessel left the fishery just before Christmas with a total monthly catch of slightly over 1,000 t.

Due to the low abundance of southern blue whiting in the Southwest Atlantic, FIFD has advised the

fishing ban in the spawning grounds to be continued from 1 August to 15 October for pelagic trawling, and from 1 September to 15 October for bottom trawling, to allow the fish to spawn undisturbed. Hopefully, these conservation measures will rebuild the stocks to acceptable commercial levels. However, this species is also shared with Argentina where catch limits remain at higher levels than prevail in the Falklands fishery.

1.5. *Macruronus magellanicus* - hoki

Hoki is an abundant finfish resource of the Patagonian Shelf. In Falkland waters, the fish has been targeted mainly by finfish trawlers, but also forms a bycatch during the *Loligo*, skate, and surimi fisheries. The stock is considered to be in good condition at present. However, catches of hoki are historically quite variable and there has been some concern that the current high catches may not be sustainable in the long term. Stock assessment for hoki in Falkland waters has been problematic because of its migratory behaviour and relatively small percentage of the stock exploited by the Falkland fleet. Usually, hoki migrate from their feeding grounds around the Falkland Islands north towards spawning grounds in Argentina and southwest to Chile in austral winter. After spawning, fish return to the feeding grounds in October-November. A significant proportion of adult fish and younger fish remain in the feeding grounds throughout the year.

Catches have increased from about 10,000 t in the early 1990s, when they were mainly bycatch, to 16,670-26,970 t since 1998 in targeted trawls. The lowest recent annual catch was in 2005, then catches increased again in 2006-2009. The total catch in 2010 was 19,214 t; about 4,000 t lower than the previous year's catch. Hoki is targeted in February – May before its spawning emigration, with the highest catches in 2010 reported for April (2,736 t). The highest CPUEs (30-40 t per day) were observed in the western part of FICZ, consistently throughout the month. Hoki is also targeted after its post-spawning immigration to Falkland waters in August, with highest catches observed in November (4,117 t). In this month, agile schools of hoki were taken mainly in the northern and southwestern parts of FICZ at depths averaging 219 m in the north and 260 m in the south. Average CPUEs for hoki were 0.9 t per hour under W-license and 0.7 t per hour under A-license. The fish were large, at modal pre-anal lengths of 30-31 cm, with most individuals in recovery after winter spawning (maturity stages 7-8).

As the effort in finfish fisheries has remained approximately constant in recent years, the risk of over-exploitation of hoki stocks in Falkland waters is low.

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

Common and Patagonian hakes are abundant in the western part of the FICZ. They are targeted by Spanish and Falkland registered trawlers licensed for unrestricted finfish. The total catch of hakes in FICZ/FOCZ (Falkland Islands Outer Conservation Zone) decreased from 12,000 t in 1990 to 1,500 t in 1994-1997, and then stabilized at 1,678-3,069 t in 2000-2005. Common hake (*M. hubbsi*) are targeted mainly in winter during their migrations to the Falkland waters from the Patagonian shelf. Austral hake are targeted almost exclusively in the southwest of the Islands in September-November after spawning in waters around the southern tip of South America. Annual catches of hakes increased dramatically in the last five years, peaking at ~13,000 t last year. In 2010, the abundance of migrating fish was similar to that of the previous year, resulting in a slightly higher annual catch (13,610 t). Hakes were caught mostly to the northwest of the Falkland Islands, in water depths between 170 and 220 m. The cause of such an increase in abundance of hakes in Falkland waters

in recent years is not yet clear.

Catches were the highest between April and September, when vessels caught >2,000 t of hake per month. The only exception was June (773 t), but this decrease in catch was due to low effort rather than decreased abundance. The highest catches of hakes were observed in April – May due to the earlier post-spawning migration of hakes from the Argentinean EEZ.

The stocks of hake in the FICZ are ‘shared’ with Argentina (both hake species) and Chile (Patagonian hake) with only a relatively small proportion of the total stocks migrating into Falkland Zones. Therefore, the observed increase in Falkland catches in recent years does not necessarily imply an increase in stock biomass, but may be a shift in migratory behaviour. One possible cause of larger numbers of common hake migrating to the FICZ/FOCZ might be an increased abundance of their main prey – Patagonian rock cod *Patagonotothen ramsayi*.

1.7. *Genypterus blacodes* – kingclip

Kingclip is a valuable by-catch species of the Patagonian Shelf. It has been found recently that kingclip have a seasonal spawning migration in and out of the western parts of the FICZ. They migrate out in winter to spawn with the westward movement of the frontal zone between the western branch of the Falkland Current and the Argentine Drift. This boundary is dynamic and moves north-west in the winter with the strengthening of the Falkland Current. During early spring the Falkland Current starts to weaken and the front moves back into the zone bringing post-spawning kingclip in the cold temperate waters behind it.

The cumulative catch of kingclip reached 3,645 t making it the best annual catch on record. The fishing effort in Falkland Islands finfish fisheries has remained relatively consistent since 2003, indicating that kingclip abundance in Falkland waters is increasing. The factors influencing this increase are unclear but it is suspected that changes in regional oceanography may have caused intensification of kingclip migrations into the FICZ, similar to common hakes.

Monthly catches increased as the year progressed from 15 (January) to 548 (April) and then 415 t (May). Catches dropped over the winter with a drop in effort in the fishery to 202 (June) and 89 t (July). Catches hovered around 400 t for the remainder of the year with the exception of December when catches dropped to 293 t due to a reduction in effort.

1.8. *Salilota australis* – red cod

A stock assessment conducted in 2009 illustrated the regional decline in red cod abundance. The Age Structure Production Model indicated a decline to 26% from SSB₀. In order to mitigate this decline the FIFD closed red cod spawning grounds to the south, southwest and west of Cape Meredith (12 grid squares) in October, starting from 2010.

The catch of red cod in 2010 was 3,133 t, making it the lowest in the last five years. The reduced annual catch was attributed to the closure of the spawning grounds during October. October is a month that historically has high catches when vessels target spawning and post-spawning aggregations in their spawning grounds. As a comparison, the October monthly catch in 2010 was less than half of those for the same period between 2004 and 2009. The FIFD will monitor the finfish fishery for signs of improved recruitment in 2011.

1.9. *Dissostichus eleginoides* – Patagonian toothfish

The toothfish longline fishery became the first Falkland fishery to be managed by TAC rather than TAE. The TAC for 2010 was 1,098 tonnes as a result of a carry back whereby the company used some of their 2010 TAC in 2009.

Catches were reasonably good until the CFL *Gambler* left the fishery on 17th September. Catches over this period ranged from 0.35 – 10.64 t per day (mean = 4.02 t). When the *Gambler* returned to the fishery on the 26th November catch rates dropped slightly to 0.31 – 8.6 t (mean = 3.41 t) until the end of the year. By the end of the year 943 t had been caught in the longline fishery, 155 t short of their total 1,098 t-TAC.

The cumulative catch of toothfish by bottom trawlers on the shelf reached 460 t, making 2010 the 5th best year on record. Trawlers continued to catch age-3+ and 4+ toothfish, indicating good recruitment to shelf waters in 2006 and 2007 which would benefit the longline fishery in 5 – 6 years time.

The 2010 stock assessment produced similar results to the previous year. Using the same model but allowing recruitments that deviate from the Beverton-Holt model (ASPM2), the spawning biomass in 2009 was estimated at 12,930-24,156 t. Stock projections with fixed catch equal to the current TAC (1,200 t) produced surplus productions slightly greater than catches. There was no strong evidence that the 1,200 t TAC should be modified. The TAC for 2011 was therefore established at 1,200 t plus the 155 t unused carryover from 2010 (= 1,355 t).

1.10. Rajidae – Skates and rays

In 2010 a total of 5,886 t of skate were caught in Falklands Conservation Zones, marginally more than the previous year's total of 5,872 t, and thereby the highest total catch since the start of a designated skate fishery in 1994. Total skate catches have been on an increasing trend since 1998.

Approximately 46% of the 2010 total (2,725 t) was harvested as target catch. This catch was taken by four Korean vessels (2,239 t in 184 vessel-days; average CPUE of 686 kg/hr) and four Spanish vessels (486 t in 77 vessel-days; average CPUE of 400 kg/hr). Similar to the previous year, target catches and effort were highly concentrated in the third quarter, with July through September accounting for 1,959 t. The highest proportion of skate was taken as bycatch under finfish licences (2,993 t - 51% of the total annual skate catch). Skate bycatch under finfish licence showed an increasing trend throughout the year, with 934 t taken in the first six months and 2,059 t taken in the last six months. Small amounts of skate bycatch were taken in the *Loligo* fishery (111 t), longline fishery (23 t), *Illex* fishery (18 t), and under experimental licence (16 t).

Catches under experimental licence in 2010 included a survey cruise dedicated to assessing skate population abundance and species composition. This survey was conducted from October 26 to November 7, and sampled 52 trawls throughout the 'Skate Box' fishing area north of the Falkland Islands. The survey caught just over 9 t of skate representing 12 species. Analysis of the catch data resulted in estimated biomasses of 7,232 t gray-tailed skate (*Bathyraja griseoocauda*), 7,193 t broadnose skate (*B. brachyurops*), 4,016 t white-spotted skate (*B. albomaculata*), plus 7,312 t of nine other skate species (at 47 to 1,550 t per species) throughout the 26,089 km² survey area. This estimated total of 25,753 t, as well as the ranking of predominant species and the average commercial CPUEs, are consistent with studies of the skate population in the 1990s, and suggest that the skate biomass has remained stable at least with respect to its major species. In observer samples of commercial catches, *B. griseoocauda*, *B. brachyurops*, and *B. albomaculata* were again three of the four most

prevalent species at 21.8%, 21.7%, and 13.0% of the total, while yellownose skate *Dipturus chilensis* represented 21.4%.

1.11. *Patagonotothen ramsayi* – Rock cod

The 2010 catch of rock cod was 76,411 t, of which 59,592 t (78.0%) were processed. This represented the highest annual catch of rock cod in the Falklands' history. Rock cod was targeted mainly by trawlers with finfish licenses (71,353 t), and also taken as bycatch in other fisheries, particularly *Loligo* trawlers (5,058 t). A 15% increase of rock cod bycatch in the *Loligo* fishery from 2009 to 2010 suggests a general increase in rock cod abundance, because fishing effort and gear were similar from one year to the next.

Rock cod was fished on the northwestern shelf mostly between 165-180 m in January – July and December, and between 180-210 m in August - November. Commercial aggregations occurred in the western part of the FICZ in January – March (XN-XQ), and started to move northward in April (XL-XQ). In May – June, aggregations occupied the shelf in the northwest part of the zone (XJ – XP) and by September they shifted to the northern shelf (XK-XF). In November - December rock cod was more or less evenly distributed along the entire area of the northwestern shelf.

Mean daily CPUEs of finfish trawlers peaked at 25-45 t in January - February, and then varied mostly between 20 and 30 t in March – June. CPUE monotonically decreased to 5-10 t to the end of August, probably because of fish emigration to their spawning grounds in rocky bottoms. After mid-September catches began to increase reaching 15-25 t in October. Catches then briefly fell to 5-10 t and resumed increasing in mid November up to 13-23 t by the end of the year.

In 2010, the first estimation of total rock cod biomass within FICZ was made using the results of two research surveys carried out concurrently in February 2010, onboard *Castelo* (4.1) and *Beagle FI* (1.2). Biomass density estimates of rock cod were calculated by the swept-area method as catch weight divided by the product of trawl speed, trawl duration, and trawl net width calculated from the spread between trawl doors. Biomass densities from the *Castelo* and *Beagle FI* survey were combined in an empirical variogram and fit to a kriging model. This kriging model was extrapolated to the fishing grounds area to estimate total stock biomass of rock cod. Error distribution of this stock estimate was calculated from the variance of the kriging model, plus the variability of a randomized permutation of trawl locations.

The stock biomass estimate was then used as the basis for calculating confidence ranges of sustainable yield. Estimation of sustainable yield was derived from Beddington and Kirkwood's (2005) formulation of the relationship between yield and life-history parameters:

$$Y / \text{ExB}_0 = a(L_c) K$$

where the ratio of yield (Y) over unexploited fishable biomass (ExB_0) is a function of the von Bertalanffy growth parameter (K) multiplied by a constant parameter $a(L_c)$ of length at first capture as a proportion of asymptotic maximum length.

The total biomass of rock cod within FICZ was estimated to be 549,300 t \pm 36,155 t. Variability of the randomized permutations of trawl locations proved to be almost negligible in the calculation of biomass standard errors. Distances between trawls were evidently sufficiently greater than lengths of trawls so that this effect was minimized. The unexploited fishable biomass (ExB_0) was estimated at a median value of 937,942 t with a 95% confidence interval of [594,797 t to 1,941,325 t]. Median sustainable yield (yield corresponding to

a 50% overfishing risk) was estimated at a value of 72,547 t with a 95% confidence interval of [17,181 to 184,848 t]. A 50% overfishing risk was judged to be too high, and a catch limit for rock cod for 2011 was set at 60,000 t, at which level the overfishing risk was estimated to be 35%.

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

Neither experimental nor targeted fishing on grenadiers was carried out in 2010. A total of 450 t were taken as bycatch in trawl and longline fisheries. All bycatch by the longliner (75 t) was discarded, whereas 60% of trawl bycatch was processed. Most commercial catch (224 t) was taken in August – September at depths of 200-350 m, during immigration of large female *M. carinatus* to the southwestern part of the Falkland shelf.

1.13. *Zygochlamys patagonica* - Patagonian scallop

No directed scallop fishery in Falkland Island waters occurred in 2010. A small bycatch of 1.2 t, recorded by observers, was taken by the *Loligo* and finfish fleets.

1.14. *Eleginops maclovinus* - Falkland mullet

The mullet fishery continued at a low level. Fishing was undertaken from January to the end of March, and from early spring (12th October) until 22nd December. A total of 4 t were caught over the year, higher than the 2.8 t in 2009. As in previous years Teal Creek was the most frequently visited site (25 visits) followed by Camilla Creek (17 visits).

1.15. Crabs (Lithodidae)

An experimental fishery for crabs on the southern and western Falkland shelves from Burdwood bank to Jason Islands was carried out from 13.05.2010 to 09.06.2010 onboard the Russian pot fishing vessel FV “Tamango”. No commercial aggregations were found. The primary catch species was *Neolithodes diomedea* (1.5 t for the whole trip). Total catches of other crabs did not exceed 50 kg. Bycatch of the Patagonian toothfish was 367 kg (about 16 kg/day).

1.16. Others

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

Fisheries Department research cruises in 2010

2.1. Fisheries Department Research Cruise ZDLT1-02-2010

A research cruise was carried out on board the RV *Castelo* between the 30th January and 22nd February. The main aim of the cruise was to estimate the biomass of rock cod present on their feeding grounds in the western, northern and north western parts of the FICZ. The other objectives included a detailed oceanographic survey to explain the distribution of rock cod biomass and other commercial species encountered.

The vessel departed from Port William at 1810 on the 30th January and navigated over night to grid square XUAG for the first trawl and CTD. Mechanical problems with the winch rollers and CTD communication cable delayed the start of the oceanographic survey by a couple of days. The winch was fixed and the CTD cable

was replaced by the one from the PV *Protegat* on the 2nd February. For the rest of the cruise RV *Castelo* conducted 4 to 5 trawls per day. Only one day of bad weather interrupted the program and limited work to a single trawl that day. The rest of the cruise continued without incident, and finished on 22nd February.

Density was calculated as kg/km² for each trawl station by using the ship's speed and duration and either trawl horizontal opening or trawl door spread. Trawl horizontal opening was considered more appropriate for *Patagonotothen ramsayi* and *Loligo gahi*, while trawl door spread was considered more appropriate for the larger finfish species such as hoki, red cod, southern blue whiting and kingclip. A conservative catchability coefficient of 1.0 was assigned to all species assessed due to a lack of data on trawl catchability. Catches were assigned to the mean coordinate position between the trawl start and end, and for each species density was calculated as catch biomass divided by the trawl swept-area. The minimum biomasses (assuming catchability = 1) for rock cod, *L. gahi* and hoki were estimated at 443,382 – 445,056 t, 15,198–15,217 t and 40,484 – 40,692 t respectively. The results from this cruise and the February 2010 *Loligo* pre-recruit survey formed the basis of the rock cod stock assessment for 2010.

2.2. Fisheries Department Research Cruise ZDLT1-10-2010

Cruise ZDLT1-10-2010 was planned to carry out a demersal trawl survey on the shelf break and slope of the north-eastern part of FICZ/FOCZ to assess the biomass and species assemblage of skates within their main commercial area. Simultaneously, abundances of other demersal fish and squid were estimated, including rock cod, hoki and *Loligo*.

The vessel departed Stanley in the evening of 25 October, and proceeded to the first station in the middle of the 'skate box'. After performing four trawls in grid squares XHAL and XHAK the vessel proceeded to the northernmost stations of the survey, outside FICZ in grid squares XAAG and XAAH. Then, during the following twelve days the whole survey area was covered from north to south, ending in grid square XMAG. Every day, two grid squares of the survey were fished by two trawls; one in shallower waters (200-250 m) and the other in deeper waters (270-370 m). No time was lost due to bad weather during the survey. However, the ship's main engine broke down the night before the last day (8 November), preventing any further work. Several trawls in shallow waters east of Volunteer Point had been planned for the last day. After anchoring near Volunteer beach for the whole of 8 November, the *Castelo* was towed to Berkeley Sound, where the scientific crew disembarked and returned to Stanley by launch in the evening.

During the survey, biomasses of all skate species and main demersal fishes were estimated by the swept area method (see 1.11). Results of the survey also confirmed our knowledge about the life cycle of rock cod around the Falkland Islands. After spawning during winter months (June-August), large rock cod move onto the shelf to feed. The southern part of the survey area (located in the northern part of the *Loligo* box) is a well-known nursery grounds for rock cod, which aggregate here to feed on the abundant zooplankton that have been attracted by the productive upwelling of the Falkland Current on the shelf break.

As in October of last year, a majority of large and mature female *Loligo* of the spring-spawning cohort with fully developed gonads occurred in deepwater, far from the Falkland coasts. Only a few animals occurred in shallow waters. This indicated (albeit indirectly) possible deepwater spawning of *Loligo* on the rocky grounds of the shelf break. The presence of significant numbers of small *Loligo* of the autumn-spawning cohort, in shallow waters in the northern part of the *Loligo* box, might indicate another good first season for *Loligo* in 2011.

Fisheries Department research contracts in 2010

The Falkland Islands Government's financial year runs from 1 July to 30 June and most external research contracts in the Fisheries Department adhered to these start and end dates. Contracts completed by the end of June 2010 are presented below. A contract for the years 2008-2010 has been in place 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. “Providing satellite sea surface water temperature (SST) data for the area of the Falkland-Patagonian shelf between January and May 2010”.

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

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

3.2. ‘Seasonal and interannual variations in oceanographic conditions on the eastern continental slope and shelf of the Falkland Islands (November 1999 – February 2010)’

This study was carried out by principal investigator Dr. P.P. Chernyshkov from the Laboratory of Oceanography, Atlantic Institute of Marine Fisheries and Oceanography (AtlantNIRO), Kaliningrad, Russia.

Water structure and dynamics, as well as their variability on the Falkland Island shelf were studied using the data collected by the FV *Castelo* during two cruises in October 2009 and February 2010. Seasonal and interannual variability of water masses on the eastern shelf (transect P1) and southern shelf (transect P5) were described.

Reductions in seabird mortality in the Falkland Islands

The Falkland Islands National Plan of Action-Seabirds (FI NPOA-S) was the first to be written for a United Kingdom Overseas Territory, and as such, is critically important not only for the Falkland Islands but also for the wider arena. FI NPOA-S relates to longline fishing in Falkland Islands waters and fishing conducted by Falkland Island registered vessels in other EEZs and on the high seas. The aims of the NPOA – S were to reduce by catch rates to <0.01 birds/1000 hooks by 2004/2005 and to further reduce this level to <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 a little above target. However, no bird mortalities were recorded in 2007/2008, 2008/2009 and 2009/2010. These excellent results were in part due to good ‘house keeping’ on vessels in Falkland Zones and included 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, as well as the adoption of a longline modification known as the umbrella system.

The mortality rates and Tori line efficacy on trawlers were reviewed for the period 2009/2010. Most of the mortality recorded (six of the nine birds killed) was due to factors other than warp strike. Two black-browed

albatrosses were drowned in the net, two black browed albatrosses and an Antarctic skua/giant petrel (*Catharacta antarctica* /*Macronectes* spp) were drowned on the paravane and two Cape petrels (*Daption capense*) were struck by the tori line buoy. The extrapolated total number of seabirds killed from all causes of mortality was 326 birds (67.5% black-browed albatross, 23.9% Cape petrel and 8.9% Antarctic skua). This is considerably lower than the comparable estimate presented in a previous report which reported 510 birds in 2007 and 590 birds in 2008. The extrapolated total number attributed to warp strike was 110 black browed albatrosses. The review concluded that birds still regularly come into heavy contact with trawl warps and therefore it can be assumed that a level of undetected seabird mortality is present. It is important to note that mortalities are based on confirmed kills, i.e. carcasses retrieved on board, and therefore represent the minimum mortality estimate for the fishery. In reality the figure is likely to be higher.

Continued monitoring of the rate of heavy contact of seabirds on trawl warps is perhaps a better measure of tori line effectiveness, and of the relative impact on seabird populations, than the number of mortalities recorded.

Fishing Effort and Catch Limits

Total Allowable Effort (TAE) and Total Allowable Catch (TAC) were set for the 2011 calendar year fisheries. This process was conducted completely by the Fisheries Department. TAC was estimated for longline toothfish. TAE were calculated as the number of fishing vessel units required to achieve the management objectives for all other fisheries.

Participation in Scientific Workshops, Conferences and Symposia in 2010

6.1. Second International Sclerochronology Conference

The Conference was held in Mainz (Germany) between 24 and 30 July 2010. It was organized at the University of Mainz (Germany) and chaired by Prof. B. R. Schöne following the successful first Sclerochronology Conference in St. Petersburg (USA) in 2007. About 120 scientists and students attended the Conference. The main aim of the Conference was to review methods and follow up recent studies in various fields of growth increment structures including those of trees, mollusks, fishes and mammals. A.I. Arkhipkin presented recent findings on the new age structure in squid gladius, which might be a useful alternative to statolith squid ageing in ommastrephid squid, ‘A new increment bearing structure for age estimation in jumbo squid *Dosidicus gigas* (Ommastrephidae)’ by A. I. Arkhipkin, and Z. N. Shcherbich. Preliminary discussions were held with B. Schöne about possible cooperation between FIFD and University of Mainz on climate change studies using tree trunks and bivalve shells collected on the littoral and sub-littoral of the Falkland Islands.

6.2. International Conference ICOPA 2010

The Conference was held in Melbourne (Australia) between 15 and 20 August 2010. P. Brickle attended the conference after visiting Fish Aging Services PTY Ltd in Portarlington, and gave the following presentations: “Use of larval parasite sequence data to elucidate life cycles and cryptic trophic links: tetrathyridian cestodes of porbeagle sharks off the Falkland shelf”, oral presentation by P. Brickle and H. Randhawa; “The

role of squid in the transmission of cestodes in the Falkland Islands”, poster presentation by H. Randhawa and P. Brickle and “The giant squid: sink or link in the transmission of marine tapeworms?”, poster presentation by H. Randhawa and P. Brickle.

6.3. 1st Fishery Dependent Information Conference

The Conference was held in the National University of Ireland, Galway, Ireland between 23 and 26 August 2010. It was organized and sponsored primarily by ICES, FAO, NOAA and the Norwegian Institute of Marine Research. Each working day consisted of a keynote address followed by two theme sessions held concurrently. V. Laptikhovsky gave a 20-min talk on ‘Fisheries data management in the Falkland Islands (Southwest Atlantic)’ in the theme session ‘Data quality, evaluation and control: traditional and novel data collection methods’. Many presentations were about the implementation of electronic logbooks and VMS data to map fish stock distributions more precisely.

6.4. 8th International Symposium ‘Cephalopods Present and Past’

The Symposium was held in Dijon (France) between 31 August and 4 September 2010. This is a regular triennial conference organized by groups studying respectively extinct and recent cephalopods, with the main aim of exchanging ideas between the two groups and gaining familiarization with recent studies in both fields. In 2010, it was organized by the University of Burgundy (chairs Drs. Pascal Niege and Isabelle Roget). About 150 delegates from 26 countries attended the Symposium. A.I. Arkhipkin made three presentations: ‘On the deepwater origin of teuthoid coleoids’ by A.I. Arkhipkin, V.A. Bizikov, ‘Evolutionary trends in sperm transfer and storage in cephalopods’ by A.I. Arkhipkin, V.V. Laptikhovsky, C.M. Nigmatullin and ‘Evolutionary significance of cephalopod egg size during mass extinctions’ by V. Laptikhovsky, M. Rogov, S. Nikolaeva and A. Arkhipkin. All three reports were actively discussed during question time and between sessions.

6.5. 5th International Symposium on Pacific Squids

The Symposium was held in La Paz, Baja California Sur, Mexico, between 13 and 15 October 2010. It was organized in the Centro de Investigaciones Biologicas del Noroeste (CIBNOR) in La Paz, by the Chair Dr. Cesar Salinas. These Symposia have become regular meetings to exchange opinions, data and study results among scientists working in the Eastern Pacific, mainly Chile, Peru, Mexico and United States. This symposium had a special emphasis on environmental conditions impacting coastal and oceanic ecosystems of the Eastern Pacific and its main commercial species – jumbo squid *Dosidicus gigas*. A.I. Arkhipkin had been invited by the Symposium organizers to give talks at the Symposium and to lead a workshop on age and growth determination in squid. The organizers funded flights, accommodation and most of the meals.

Altogether, about 50 participants from 8 countries participated in the Symposium. A.I. Arkhipkin presented a talk by A.I. Arkhipkin, Z.N. Shcherbich and K.B. Lohrmann ‘Age estimation in jumbo squid *Dosidicus gigas* (Ommastrephidae): more questions than answers?’. The Symposium was a great success, with the next one scheduled to be in Brazil in 2012 during the CIAC Symposium in Florianopolis. Additionally, A.I. Arkhipkin gave classes on squid age and growth between 18 and 21 October, at the request of the organizers.

6.6. XXX Congreso de Ciencias del Mar

This Congress of Marine Sciences was held in Concepcion, Chile, between 19 and 22 October 2010. This is an annual Congress organized by Latin American countries. I. Payá gave the presentation ‘Evaluación de stock de *Loligo gahi* en las Falkland Islands (Malvinas): inmigración secuencial de grupos de calamares e integración de estimaciones directas de la biomasa pre y post-temporada de pesca’ by I. Payá and A. Winter.

6.7. IUCN Workshop “Applying an ecosystem-based approach to fisheries management: focus on sea-mounts in the southern Indian Ocean”

V. Laptikhovsky had been invited to participate in the IUCN Workshop that was held in 8-15 November 2010, Grahamstown, South Africa. The workshop was attended by 19 participants from 7 countries. V. Laptikhovsky undertook the identification of cephalopods collected during the research cruise onboard RV “*Fridtjof Nansen*”. More than 70 cephalopod species were found, among them squid represented >20% of known worldwide diversity. At least two new squid species were found, which together with some other uncertain specimens should be posted to the Falklands for taxonomic description.

Publications from scientific work carried out in FIG Fisheries Department in 2010 (or in collaboration with FIG personnel)

7.1. Peer-reviewed publications (appeared in 2010)

- Anders N.R. 2010. The first record of the subtropical morwong (*Nemadactylus bergi*) in the sub-Antarctic waters of the Falkland Islands. *Marine Biodiversity Records*, **3**. Online publication (<http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=7798212>)
- Arkhipkin A. and Laptikhovsky V. 2010. Convergence in life-history traits in migratory deep-water squid and fish. *ICES Journal of Marine Science*, **67**: 1444-1451.
- Arkhipkin A. and Laptikhovsky V. 2010. Observation of penis elongation in *Onykia ingens*: implications for spermatophore transfer in deep-water squid. *Journal of Molluscan Studies*, **76**: 299-300.
- Arkhipkin, A. I., Laptikhovsky, V. V., Brickle, P. 2010. An antipodal link between the North Pacific and South Atlantic Oceans? *Deep-Sea Research Part I – Oceanographic Research Papers*, **57**: 1009-1011.
- Arkhipkin, A., Brickle, P. and Laptikhovsky, V. 2010. The use of island water dynamics by spawning red cod, *Salilota australis* (Pisces: Moridae) on the Falkland Islands Shelf (Southwest Atlantic). *Fisheries Research*, **105**: 156-162.
- Brickle, P., Neely, K., and Laptikhovsky, V. 2010. Shallow water haven: charting a course for inshore marine research in the Falkland Islands. *JMBA Global Marine Environment*, **12**: 32-33.
- Brown, J., Brickle, P., Hearne, S. and French, G. 2010. An experimental investigation of the 'umbrella' and 'Spanish' system of longline fishing for the Patagonian toothfish (*Dissostichus eleginoides*) in the Falkland Islands: Implications for stock assessment and seabird by-catch. *Fisheries Research*, **106**: 404-412.

- Brown, J., Laptikhovsky, V., Dimmlich, W. 2010. Solitary spawning revealed – an in situ observation of spawning behaviour of *Doryteuthis (Amerigo) gahi* (d'Orbigny, 1835 in 1834–1847) (Cephalopoda: Loliginidae) in the Falkland Islands. *Journal of Natural History*, **44**: 2041-2047.
- Collins, M. A., Brickle, P., Brown, J. and Belchier, M. 2010. The Patagonian toothfish: Biology, ecology and fishery. *Advances in Marine Biology*, **58**: 227-300. Gleadall, I.G., Guerrero-Kommritz, J., Hochberg, F.G. and Laptikhovsky, V.V. 2010. The inkless octopuses (Cephalopoda: Octopodidae) of the Southwest Atlantic. *Zoological Science*, **27**: 528–553.
- Henderson, A.C., and Arkhipkin, A.I. 2010. Maturity index validation in the white-spotted skate *Bathyraja albolamaculata*, from the Falkland Islands. *Journal of the Marine Biological Association of the United Kingdom*, **90**: 1015-1018.
- Laptikhovsky, V., Arkhipkin, A. and Brickle, P. 2010. Fish as a resource shared by fish and humans on the Falkland Islands' shelf. *Fisheries Research*, **106**: 151-155.
- Michalik, A., van Noordwijk, H., Brickle, P., Eggers, T. and Quillfeldt, P. 2010. The diet of the Imperial Shag *Palaeocorax articeps* at a colony on New Island, Falkland Islands using three different sampling techniques. *Polar Biology*, **33**: 1537-1546.
- Schuchert, P., Arkhipkin, A. and Koenig, A. 2010. Travelling around Cape Horn: otolith chemistry reveals a mixed stock of Patagonian hoki with separate Atlantic and Pacific spawning grounds. *Fisheries Research*, **102**: 80-86.
- Schuhbauer, A. Brickle, P., and Arkhipkin, A. 2010. Growth and reproduction of *Loxechinus albus* (Echinodermata: Echinoidea) at the southerly peripheries of their species range, Falkland Islands (South Atlantic). *Marine Biology* **157**: 1837-1847.

7.2. Technical reports:

- Arkhipkin, A., Winter, A., May, T. 2010. *Loligo gahi* stock assessment survey, first season 2010. Falkland Islands Government Fisheries Department, Stanley. 13 pp.
- Payá, I., Brickle, P., Laptikhovsky, V., Winter, A. 2010. Vessel units, allowable effort, and allowable catch 2011. Falkland Islands Government Fisheries Department, Stanley. 55 pp.
- Winter, A., Laptikhovsky, V., Brickle, P. 2010. Rock cod (*Patagonotothen ramsayi* (Regan, 1913)) stock assessment in the Falkland Islands. Falkland Islands Government Fisheries Department, Stanley. 12 pp.
- Winter, A., Davidson, D., Shcherbich, Z. 2010. *Loligo gahi* stock assessment survey, second season 2010. Falkland Islands Government Fisheries Department, Stanley. 17 pp.
- Winter, A. 2010. *Loligo gahi* stock assessment, first season 2010. Falkland Islands Government Fisheries Department, Stanley. 19 pp.
- Winter, A. 2010. *Loligo gahi* stock assessment, second season 2010. Falkland Islands Government Fisheries Department, Stanley. 25 pp.

Alexander Arkhipkin (Editor), sections 1.1-1.6; 2.2; 3; 5; 6; 7

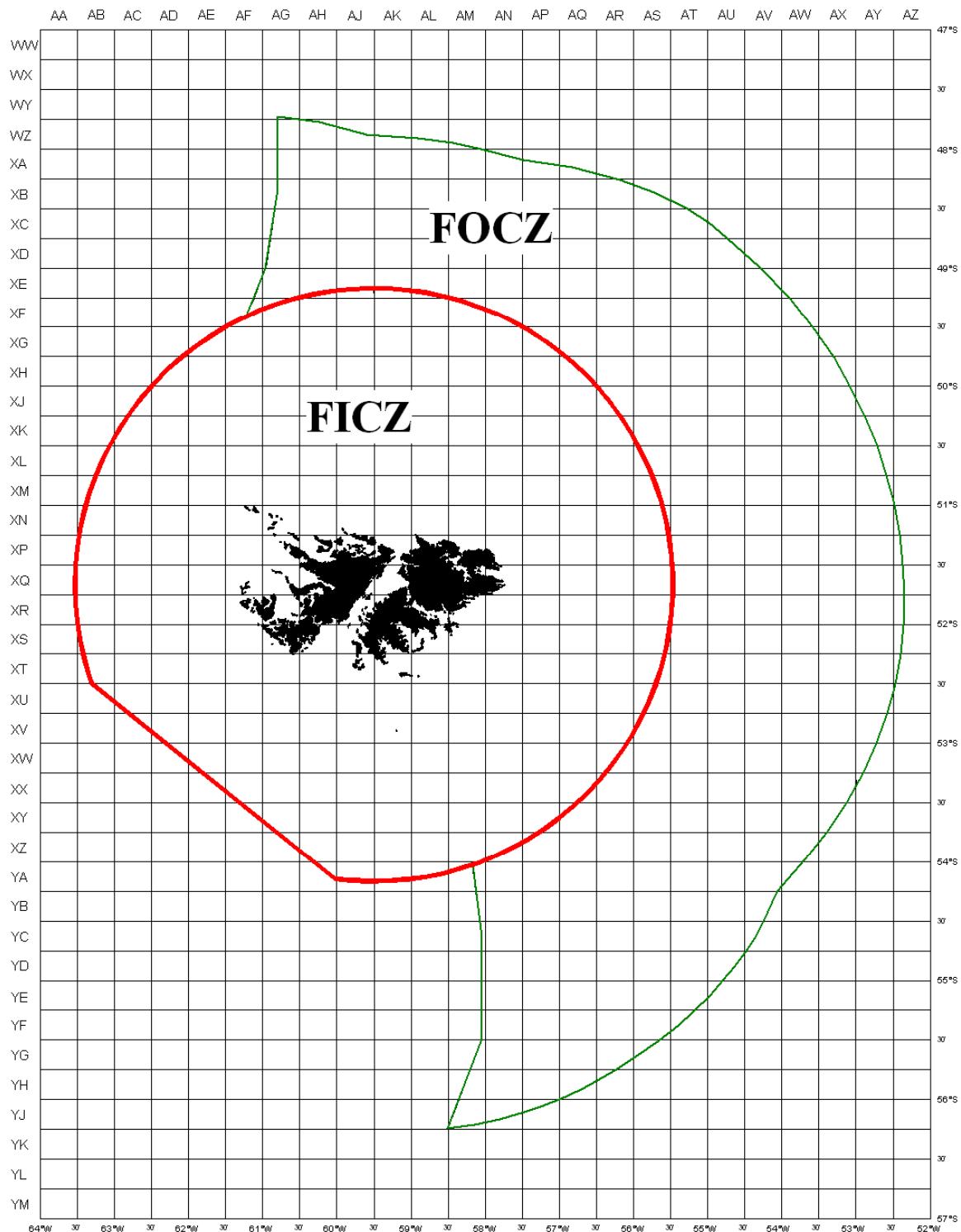
Paul Brickle, sections 1.7-1.9; 1.13-1.14; 2.1; 4

Vladimir Laptikhovsky, sections 1.11-1.12; 1.15-1.16

Andreas Winter, sections 1.2; 1.10; 1.11

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 - 2010

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

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

** Restricted finfish - Main target species:

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 on 28 February 2011

Quota	Owner	FISHERY						Squid - Loligo gahi (Winter)
		Finfish	Scallops	Jig or Trawl	Squid - Loligo gahi	Skate	Restricted Fin- fish -Pelagic	
<i>Illex argen-</i> <i>tinus</i> (Summer)								
Argos	8.15%			18.75%		11.22%		2.00%
Beauchene	3.10%			12.97%				1.88%
Bold Ventures						15.30%		22.21%
Byron Holdings	2.28%					10.355%		19.97%
CFL								100%
FIG				27.53%		0.04%		70%
Fortuna	24.96%					30%		0.27%
International Fish					2.28%			27.53%
J.K. (Marine)					36.80%			2.06%
Pioneer Seafoods	7.86%					2.52%		0.86%
RBC	38.33%					10.45%		1.95%
Seafish						4.40%		19.95%
Seaview						14.34%		4.40%
Southern Cross	4.18%					11.56%		14.34%
Sullivan Shipping	11.14%					34.00%	23.09%	11.56%
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	2009	2010
A*	9	11	10	23	21	22
B	70	43	57	44	44	76
C	17	16	16	17	17	18
E	11	8	6	4	5	5
F**	4	.	1	8	8	8
G	14	20	18	23	27	23
L	4	6	6	2	1	1
R	11	11	10	.	.	3
S	2	2	2	3	4	30
W***	17	21	14	27	30	17
X	16	16	17	20	18	*
Y	12	16	18	.	.	** - F + R since 2008
Z	18	24	25	..	.	*** - W + Z since 2008
	205	194	200	171	179	203

Licences

Table B.2 Licence allocations by fishing fleet and year

Fishing fleet	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
BG	9	14	8	6	2	.	.	.	.	3
BZ	.	.	.	.	.	.	1	.	.	.
CL	1	1	.	3	2	8	8	4	3	.
ES	99	72	66	74	74	108	100	69	52	2
FK	7	4	2	3	3	8	19	37	32	2
FR	.	.	.	.	.	5	3	4	2	.
GR	5	3	.	.	.	.	.	.	.	64
HN	.	.	2	3	4	7	8	2	.	43
IS	.	.	.	.	.	.	.	1	3	2
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	40
NA	.	.	.	.	.	.	.	.	3	48
NL	1	1	.	.	.	.	.	.	.	1
NO	.	2	.	.	.	.	.	1	1	.
PA	.	.	5	4	3	3	2	3	.	.
PL	68	53	40	21	8	8	4	2	.	1
PT	7	7	4	4	3	4	8	4	.	.
RU	.	.	.	.	.	1	.	.	.	.
SC	.	.	.	.	.	.	.	.	3	.
SL	.	.	.	1	1	1	.	.	.	2
TW	32	17	39	49	77	43	8	3	3	3
UK	11	1	1	.	1	3	2	5	3	.
UR	.	.	.	.	.	1	.	.	.	.
US	.	.	.	.	.	.	.	1	.	.
	372	292	288	291	274	325	283	259	223	211

Licences

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

Fishing fleet	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
AU	3	.	.	.	.	.	.	.	.	.	.	.
BZ	2	5	2	2	3	1	1	.	.	.	.	.
CB	.	2	1	1	1	1	.	.	.	.	.	1
CL	3	1	1	1	1	2	.	1	2	1	.	1
CN	4	9	20	25	22	7	3	2	5	.	.	.
EE	.	.	.	.	.	1	.	2	.	.	.	.
ES	76	41	45	49	46	47	36	59	65	59	61	55
FK	49	47	55	49	80	71	76	69	61	55	55	58
FR	2	1	.	.	.	.	.	.	.	.	.	.
GH	.	.	.	.	.	.	.	1	.	.	.	.
IS	.	.	.	.	.	.	.	.	.	.	.	.
JP	20	21	16	22	14	7	2	1	1	1	1	1
KR	71	84	67	71	64	61	43	42	42	38	39	34
NA	2	.	.	.	.	2	.	.	.	.	.	.
NZ	.	.	.	.	1	.	.	.	.	.	.	.
PA	2	.	.	.	.	.	2	1	1	.	1	.
PT	.	1	.	.	.	.	.	.	.	.	.	.
RU	.	.	1	.	9	.	.	.	.	.	.	1
SL	.	.	.	.	.	.	.	.	.	.	.	2
TW	4	16	22	26	29	33	33	10	19	13	15	45
UK	5	3	3	3	4	5	5	4	4	4	6	4
VC	.	.	1	.	.	.	.	.	.	.	.	.
UY	.	.	1	1	2	2	2	2	.	.	.	.
VU	.	.	.	.	.	2	.	.	.	1	1	.
	243	231	235	250	276	240	205	194	200	171	179	203

Table B.3 Licence 'A' (Unrestricted 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	2009	2010
ES	6	3	4	3	2	1	2	3	2	12	11	10
FK	4	7	2	3	4	7	7	8	8	10	9	11
UK	1	.	.	.	.	.	.	.	.	1	1	1
	11	10	6	6	6	8	9	11	10	23	21	22

Licences

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

Fishing fleet	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
BZ	1	1	3	1	1	.	.	.	.	.
CB	1	1	1	1	.	.	.	.	.	1
CN	20	25	22	7	3	2	5	.	.	.
ES	.	.	.	.	.	.	.	.	.	.
FK	.	.	.	.	1	.	.	.	.	.
GH	.	.	.	.	.	1	.	.	.	.
JP	14	19	12	5	.	.	.	.	.	.
KR	58	53	46	42	28	29	33	31	29	27
PA	.	.	.	.	2	1	.	.	1	.
RU	.	.	9	.	.	.	.	.	.	.
SL	.	.	.	.	.	.	.	.	.	2
TW	22	26	29	33	33	10	19	13	15	45
VU	.	.	.	.	2	.	.	.	1	1
	116	125	122	89	70	43	57	44	46	76

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

Fishing fleet	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
ES	2	2	.	.	.	.	.	1	2	1
FK	12	14	15	14	16	15	14	15	14	16
FR	.	.	.	.	.	.	.	.	.	.
NA	.	.	.	1	.	.	.	.	.	.
PA	.	.	.	.	.	.	1	.	.	.
UK	1	1	1	1	1	1	1	1	1	1
VC	1	.	.	.	.	.	.	.	.	.
	16	17	16	16	17	16	16	17	17	18

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

Fishing fleet	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
CL	.	.	.	.	.	.	.	.	.	1
ES	.	.	1	.	.	2	1	2	1	.
FK	.	.	5	6	8	4	5	2	2	3
IS	.	.	.	.	.	.	.	.	.	.
KR	.	.	.	.	.	.	.	.	.	.
RU	.	.	.	.	.	.	.	.	.	1
UK	.	.	.	1	1	.	.	.	2	.
UY	1	1	2	2	2	2	.	.	.	.
	1	1	8	9	11	8	6	4	5	5

Licences

Table B.7 Licence 'F' (Skates and rays - first season in 1999-2007, both seasons in 2008-2009) allocations by fishing fleet and year

Fishing fleet	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
BZ	.	1	.	.	.	.	.	.	.	.
KR	1	8	4	7	4	.	.	6	6	4
ES							1	2	2	4
	1	9	4	7	4	.	1	8	8	8

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

Fishing fleet	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
EE	.			1	.	1	.	.	.	.
ES	13	14	15	11	7	13	16	19	22	17
FK	6	5	9	5	7	6	2	4	5	6
JP	.	.	.	.	.	.	.	.	.	.
NA	.	.	.	.	.	.	.	.	.	.
UK	.	.	.	.	.	.	.	.	.	.
	19	19	24	17	14	20	18	23	27	23

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

Fishing fleet	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
CL	.	.	.	.	.	.	1	.	.	.
FK	6	4	3	4	4	4	4	2	1	1
KR	.	2	4	1	.	2	1	.	.	.
NZ	.		1	.	.	.	.	.	.	.
	6	6	8	5	4	6	6	2	1	1

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

Fishing fleet	2001	2002	2003	2004	2005	2006	2007
BZ	1	.	.	.	.	.	.
ES							3
KR	8	8	10	11	11	11	7
PA	.	.	.	.	.	.	.
	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	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
CL	1	1	1	2	.	1	1	1	.	.
FK	.	.	.	.	.	.	.	1	3	2
JP	2	3	2	2	2	1	1	1	1	1
	3	4	3	4	2	2	1	3	4	3

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

Fishing fleet	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
EE	.	.	.	.	.	1	.	.	.	.
ES	9	9	9	15	8	16	10	20	22	20
FK	4	2	13	9	8	3	3	5	5	6
KR	.	.	.	.	.	.	.	1	2	3
JP	.	.	.	.	.	.	.	.	.	.
UK	.	.	1	1	1	1	1	1	1	1
	13	11	23	25	17	21	14	27	30	30

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

Fishing fleet	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
ES	2	3	.	.	.	.	1	3	1	2
FK	16	13	17	15	15	15	15	16	16	14
FR	.	.	.	.	.	.	.	.	.	.
JP	.	.	.	.	.	.	.	.	.	.
NA	.	.	.	1	.	.	.	.	.	.
UK	1	1	1	1	1	1	1	1	1	1
	19	17	18	17	16	16	17	20	18	17

Licences

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

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

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

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

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

Licences

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

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	2009
A*	312,757	239,533	160,585	296,901	428,227	1,129,012	1,129,011
B	12,122,222	2,926,562	2,441,087	4,509,716	6,151,234	4,430,958	0
C	1,446,088	1,509,446	1,534,994	1,763,009	1,734,547	1,939,301	1,939,301
E	34,500	56,925	84,150	95,600	0	0	0
F**	85,855	156,778	49,701	0	7,699	274,579	247,121
G	1,085,814	558,859	374,079	909,945	627,065	769,004	769,004
L	493,873	581,855	533,368	579,782	907,704	760,700	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	543,770
W***	515,383	905,319	524,877	488,818	506,479	1,219,240	1,219,240
X	1,804,098	2,090,748	2,510,109	3,263,140	3,263,140	4,242,081	4,242,082
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	10,850,229

LICENCE	2010
A	1,129,012
B	798,205
C	1,939,301
E	0
F	247,121
G	845,900
L	760,700
S	181,257
W	1,341,160
X	4,242,082
	11,484,738

* - 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	2009	2010
JI	7776	68950	157533	100317	3	11643
PO	.	295	.	.	.	2
LO	1791	1620	1624	1506	1245	1053
TR	117537	142390	142890	168584	152364	196380
	127104	213256	302046	270407	153612	209077

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	2009	2010
BAC	2467	3469	5195	4076	5119	3131
BLU	17047	20533	22204	13208	10395	6412
ILL	7937	85614	161402	106608	44	12109
KIN	1936	2821	3592	2226	3389	3643
LOL	58811	43067	42003	52260	31475	66541
MAR	0	0	0	0	0	.
HAK	.	8414**	11,908**	8805**	13044**	13612**
PAT	2735*	23***	0***	0***	0***	0***
RAY	5698	4679	5663	3853	5872	5922
TOO	1677	1572	1519	1429	1419	1403
WHI	16721	19761	16669	15902	23403	19219
GRX	.	797	622	943	958	450
COX	.	20211	30157	60589	58234	76411
ZYP	1358	1161	14	6	13	3
OTH	10717	1133	1099	502	246	221
	127104	213256	302046	270407	153612	209077

* - *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	2009	2010
January	1712	2180	2371	4071	3802	2741
February	7562	10861	11130	14310	12424	12882
March	27436	47995	40165	39441	20336	40979
April	10581	46967	86250	65734	18753	30746
May	3870	28046	69260	46724	17808	16801
June	712	1839	8694	16356	5955	6947
July	11786	10173	12356	10253	14481	17795
August	22576	23408	26168	20955	16506	28250
September	17104	15626	20049	23083	15139	22311
October	11008	13522	14000	15444	13477	12308
November	9644	8846	9748	9967	9328	9851
December	3113	3792	1856	4069	5604	7466
	127104	213256	302046	270407	153612	209077

Catch summary tables

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

GRT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<400	3588	571	2186	276	0	0	0	0	0	0
400-599	13309	1502	6412	1604	2143	3527	3143	0	0	98
600-799	78231	14107	50758	3709	6955	52598	85767	61835	11608	16313
800-999	46705	7974	42387	9987	13419	34392	79405	59514	19430	23745
1000-1499	59440	34363	48736	31390	35548	54044	63161	71711	65141	78967
1500-1999	15015	13455	15608	14958	24797	29284	33452	36462	31069	46074
2000-2999	32726	13205	30373	16436	33009	25230	24456	32065	18921	37934
>2999	16185	15803	12637	24738	11233	14180	12663	8820	7443	5945
	265198	100979	209097	103098	127104	213256	302046	270407	153612	209077

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

LOA	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<45	2458	271	42	0	0	0	0	0	0	731
45-49	54447	8662	30524	5553	7824	24366	39348	31052	13343	16156
50-54	42364	14062	36900	13790	18202	46204	66139	50664	15783	14512
55-59	23807	8845	22691	4041	5826	22869	39903	32374	13976	32981
60-64	41514	9615	31321	11646	16725	29214	41920	42074	31319	42528
65-69	32676	18200	30024	19604	23806	34678	56105	52366	30813	43687
70-79	32979	17773	28338	10501	20768	23791	28571	31227	27868	42254
80-89	14026	5661	12649	11357	17923	14811	14052	17598	11048	4666
>89	20928	17890	16606	26606	16030	17323	16009	13052	9552	11562
	265198	100979	209097	103098	127104	213256	302406	270407	153612	209077

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

BHP	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<1000	1320	183	42	0	0	0	0	0	0	2
1000-1199	9643	917	6666	28	0	0	0	0	0	731
1200-1399	32509	5516	17093	129	1796	15688	29866	18662	2172	3733
1400-1599	46741	10995	34576	8407	9782	40838	58657	44745	21354	18864
1600-1799	28040	4815	21161	5297	7206	24325	40361	37133	15173	20925
1800-1999	55146	18246	40925	20248	22760	47600	68196	57387	37927	55187
2000-2499	29519	18188	31772	19557	26874	34833	52344	55518	40865	49760
2500-2999	9805	10652	10413	7303	9703	6063	11512	11060	5067	9754
3000-3999	27147	11947	26292	14997	28618	22392	21237	28380	23601	33920
>3999	25328	19519	20158	27133	20366	21517	19874	17522	7453	16202
	265198	100979	209097	103098	127104	213256	302406	270407	153612	209077

Catch summary tables

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

Fishing fleet	1989	1990	1991	1992	1993	1994	1995	1996
BG	13503	22369	21888	8981	2976	.	.	.
BZ	.	.	.	.	.	585	.	.
CL	1150	1884	.	3145	1514	5223	9997	6638
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	.	.	.
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	2009	2010
BZ	.	2285	.	.	.
CB	.	.	.	94	.
CL	2131	3948	1640	.	.
CN	3555	8575	.	.	.
EE	1247	.	.	.	.
ES	42024	56165	72570	80245	88049
FK	65229	65812	76949	58540	93189
GH	1244	.	.	.	.
JP	12049	9042	8820	7443	5945
KR	60943	99171	81224	3317	9403
PA	1375	3150	.	.	.
RU	.	.	.	2	.
SL	.	.	.	178	.
TW	18554	49970	24353	.	5808
UK	3734	3928	4850	4067	6268
UY	1169	.	.	142	.
	213256	302046	270407	153612	209077

***Illex argentinus*—Illex squid**

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

VESSEL TYPE	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
JI	145919	13000	101753	1661	7776	68950	157533	100317	3	11643
TR	4711	411	1622	59	162	16665	3869	6290	41	466
	150631	13411	103375	1720	7937	85614	161402	106608	44	12109

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

MONTH	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
January	.	1	.	.	.	6	4	0	.	.
February	55	1293	1944	24	87	454	3056	952	1	134
March	69399	1911	71279	1424	6915	26654	22693	11460	30	9846
April	57031	2766	28624	269	934	36353	71559	48116	11	2127
May	22926	7439	1516	3	0	21922	58852	34088	1	1
June	1220	0	11	.	.	225	5237	11991	0	.
July	0	.	.	.	.	.	.	1	.	.
August	.	.	.	.	.	.	.	.	.	.
September	.	.	.	.	.	.	.	.	.	0
October	.	.	.	.	.	.	.	.	.	0
November	.	.	.	.	.	.	.	.	.	.
December	0	.	.	.	.	.	.	.	.	.
	150631	13411	103375	1720	7937	85614	161402	106608	44	12109

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

Fishing fleet	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
AU	.	.	.	.	.	.	.	.	.	.
BZ	1692	124	2767	42	61	.	2285	.	.	.
CB	1195	33	857	17	.	.	.	.	.	94
CL	.	.	.	.	.	.	.	.	.	.
CN	18838	1203	12652	99	99	3555	8575	.	.	.
EE	.	.	.	3	.	472	.	.	.	.
ES	2807	271	960	22	95	2320	3297	3197	33	187
FK	1879	140	659	16	93	1050	537	442	8	67
FR	.	.	.	.	.	.	.	.	.	.
GH	.	.	.	.	1244	.	.	.	.	.
IS	.	.	.	.	.	.	.	.	.	.
JP	18126	1113	7746	93	.	.	.	.	.	.
KR	80827	9338	48766	530	4170	57030	94807	78612	3	5634
NA	.	.	.	.	.	.	.	.	.	.
PA	.	.	.	.	194	1375	1896	.	.	.
RU	0	.	6891	31	.	.	.	.	.	.
SL	.	.	.	.	.	.	.	.	178	.
TW	25241	1189	22077	865	3106	18554	49970	24353	0	5808
UK	21	.	.	1	.	15	35	4	0	.
VC	4	.	.	.	.	.	.	.	.	.
VU	.	.	.	.	120	.	.	.	142	.
	150631	13411	103375	1720	7937	85614	161402	106608	44	12109

***Illex argentinus*—Illex squid**

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

GRT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<400	2627	190	1888	24						
400-599	12799	1206	5030	26	280	2067	3143			98
600-799	70730	7338	45406	493	3757	47876	76265	52635	3	4173
800-999	39487	2530	34521	994	3487	23849	66413	43624	6	6679
1000-1499	24066	2061	16232	153	381	10690	13554	9842	34	1063
1500-1999	414	86	177	12	14	1022	2026	430	1	96
2000-2999	508	1	120	1	19	111	0	69	0	
>2999				17						
	150631	13411	103375	1720	7937	85614	161402	106608	44	12109

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

LOA	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<45	1865			0						98
45-49	49259	5176	25175	277	1914	16493	28700	17640	3	1277
50-54	28339	3089	24699	312	2206	30895	49460	39423	5	3491
55-59	16588	1293	16753	447	1736	15719	31360	20204	1	2584
60-64	27502	1779	18624	348	832	10718	20600	11409	17	2207
65-69	17984	1583	13616	254	1091	9264	26783	17496	4	2058
70-79	8622	490	4414	61	140	2412	4499	283	14	393
80-89	458	1	90	3	19	111		145	0	
>89	14		4	17		3		1	0	
	150631	13411	103375	1720	7937	85614	161402	106608	44	12109

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

BHP	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<1000	1239	122								
1000-1199	9643	917	6597	28	1158					98
1200-1399	30503	2808	16189	147	2218	14549	27556	16162	0	947
1400-1599	38463	4015	27928	329	937	28947	45081	30225	5	3403
1600-1799	23703	2073	14773	214	2250	14749	28652	21576	17	1710
1800-1999	37469	2610	26640	656	1041	20250	36701	19369	7	2980
2000-2499	7795	766	10375	246	315	6994	20302	14772	14	2025
2500-2999	1286	99	753	80	19	3	3075	4423	0	947
3000-3999	484	1	109	2		120	35	62	0	
>3999	45		12	17		3		12		
	150631	13411	103375	1720	7937	85614	161402	106608	44	120109

***Illex argentinus*—Illex squid**

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

GRT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<400	2627	190	1888	24						
400-599	12799	1206	5030	26	280	2067	3143			98
600-799	70286	7279	45203	489	3756	40707	75854	52171	3	4152
800-999	38817	2484	34168	988	3484	17667	66034	40683	0	6457
1000-1499	21392	1841	15463	133	228	8509	10680	7463	0	936
1500-1999						1822				
2000-2999										
	145919	13000	101753	1660	7749	68950	157533	100317	3	11643

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

LOA	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<45	1865									98
45-49	48439	5130	24798	274	1911	16300	28068	17342		1256
50-54	27806	3036	24461	305	2184	24724	49197	36397	2	3273
55-59	15655	1214	16480	440	1706	10861	30972	20091		2526
60-64	26968	1736	18420	345	776	9800	19021	9523		2152
65-69	17586	1496	13372	244	1058	5342	25958	16965	0	1967
70-79	7600	388	4222	52	113	1923	4316		1	370
>79										
	145919	13000	101753	1660	7749	68950	157533	100317	3	11643

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

BHP	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<1000	1239	122								98
1000-1199	9643	917	6597	28						946
1200-1399	30295	2775	16074	147	1158	10574	27350	16102		3385
1400-1599	37349	3944	27446	320	2198	25095	44568	29644		1643
1600-1799	23506	2063	14670	211	912	10957	28114	20503	3	2877
1800-1999	35757	2439	26155	640	2137	16038	34783	18255	0	1958
2000-2400	7169	667	10088	233	1029	6286	19643	14039		735
2500-2999	960	74	723	81	315		3075	1774		
3000-3999										
	145919	13000	101753	1660	7749	68950	157533	100317	3	11643

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

GRT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<400										
400-599						7168				
600-799	444	59	203	4	0	6183	412	464	3	21
800-999	670	45	353	1	3	2181	379	2941	4	222
1000-1499	2675	220	769	25	126	1022	2874	2379	34	127
1500-1999	414	86	177	12	14	111	204	438	1	96
2000-2999	508	1	120	1	19		0	69	0	
<2999				17						
	4711	411	1622	59	162	16665	3869	6290	41	466

***Illex argentinus*—Illex squid**

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

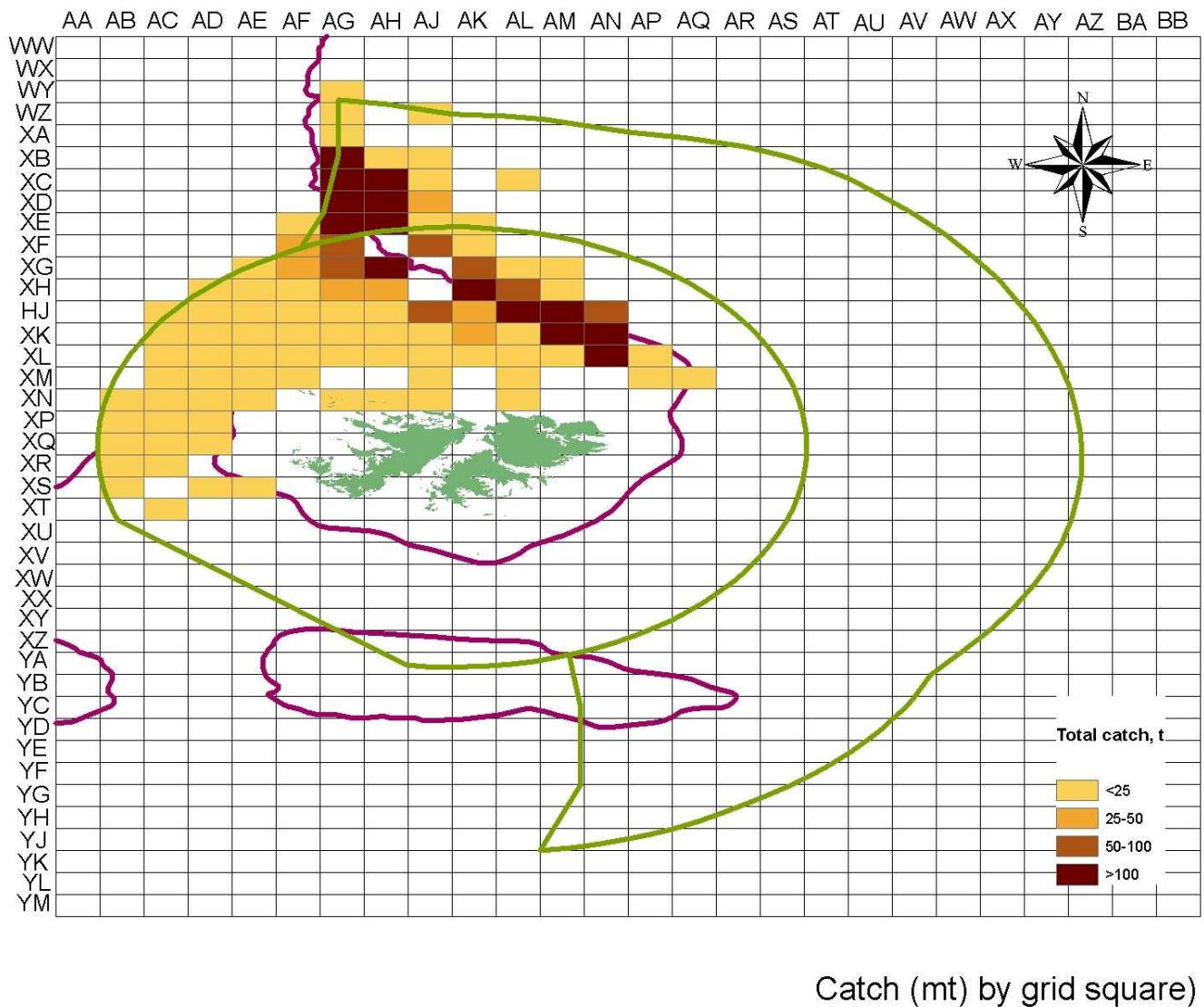
LOA	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<45										
45-49	820	46	378	3	3	193	631	298	3	21
50-54	533	53	237	7	22	6171	263	3026	2	218
55-59	932	79	273	4	30	4858	388	113	1	58
60-64	534	43	204	7	56	918	1578	1886	17	55
65-69	399	87	244	10	33	3922	825	539	3	91
70-79	1022	101	192	9	0	489	184	283	13	23
80-89	458	1	90	3	19	111	.	145	0	.
>89	14	.	4	17	.	3	.	1	0	.
	4711	411	1622	59	162	16665	3869	6290	41	466

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

BHP	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
1000-1199	.	.	.	.	.	.	.	.	.	.
1200-1399	208	33	115	.	.	3975	206	61	.	1
1400-1599	1114	71	482	8	20	3853	513	581	5	18
1600-1799	197	10	103	2	25	3792	538	1073	15	66
1800-1999	1712	171	485	16	87	4212	1918	1121	6	103
2000-2499	626	98	287	14	11	707	659	732	14	67
2500-2999	326	25	31	0	0	3	.	2648	0	212
3000-3999	484	1	109	19	19	120	35	62	0	.
>3999	45	.	12	.	.	3	.	12	.	.
	4711	411	1622	59	162	16665	3869	6290	41	466

Illex argentinus

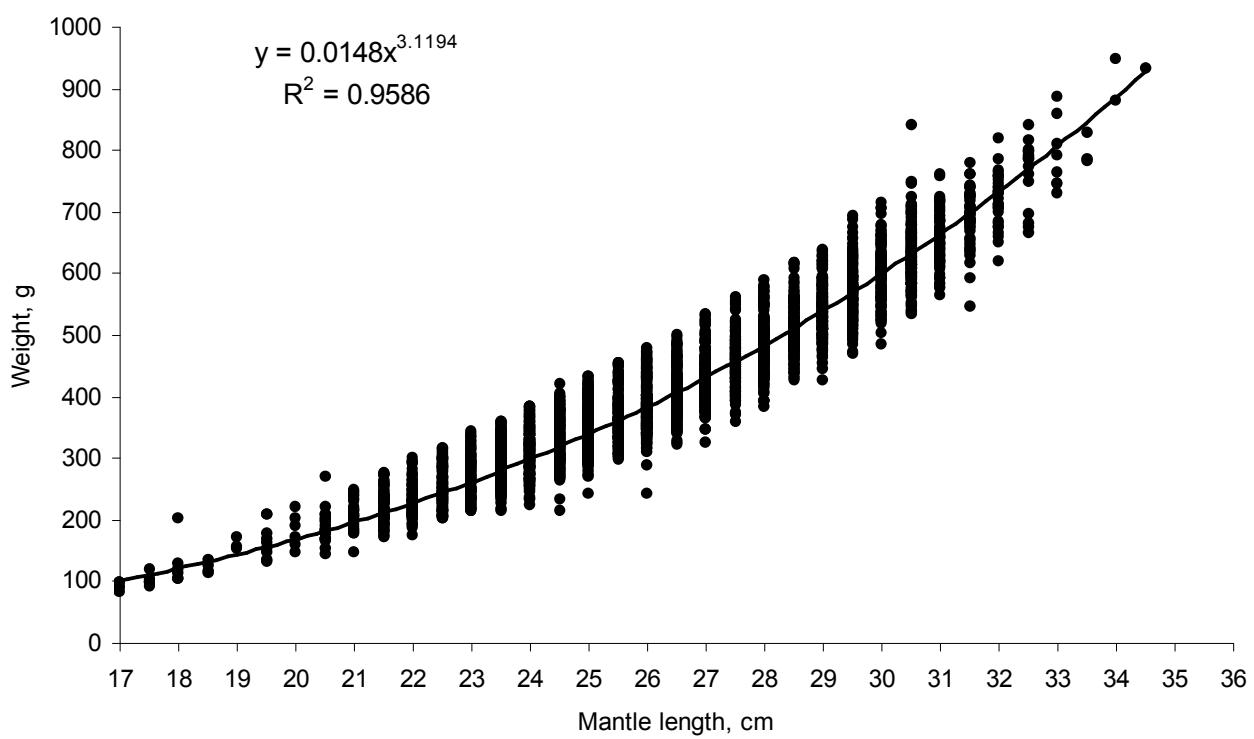
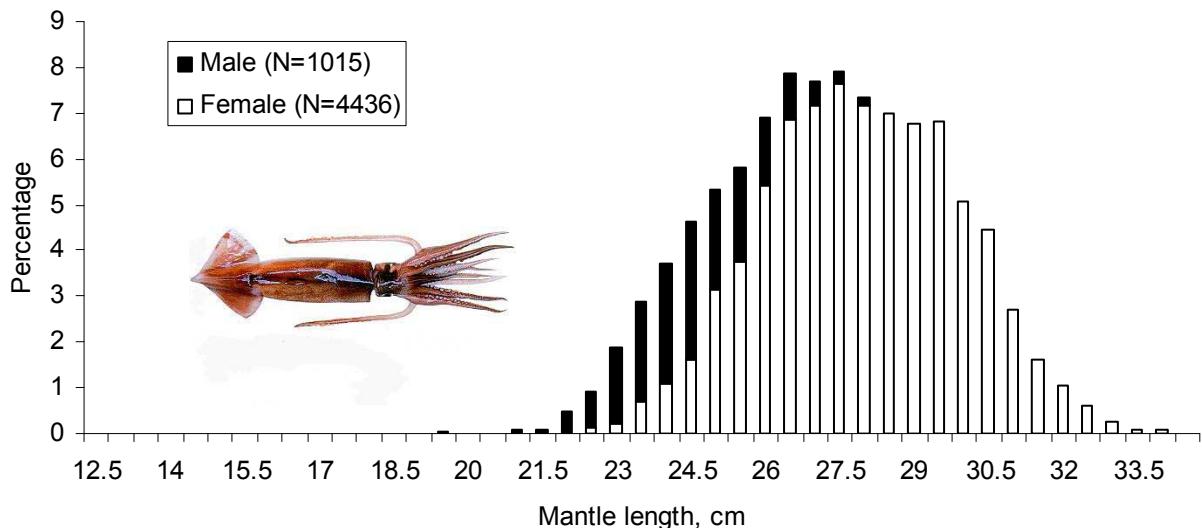
1st Season 2010 (01 Jan to 30 Jun)



Catch (mt) by grid square

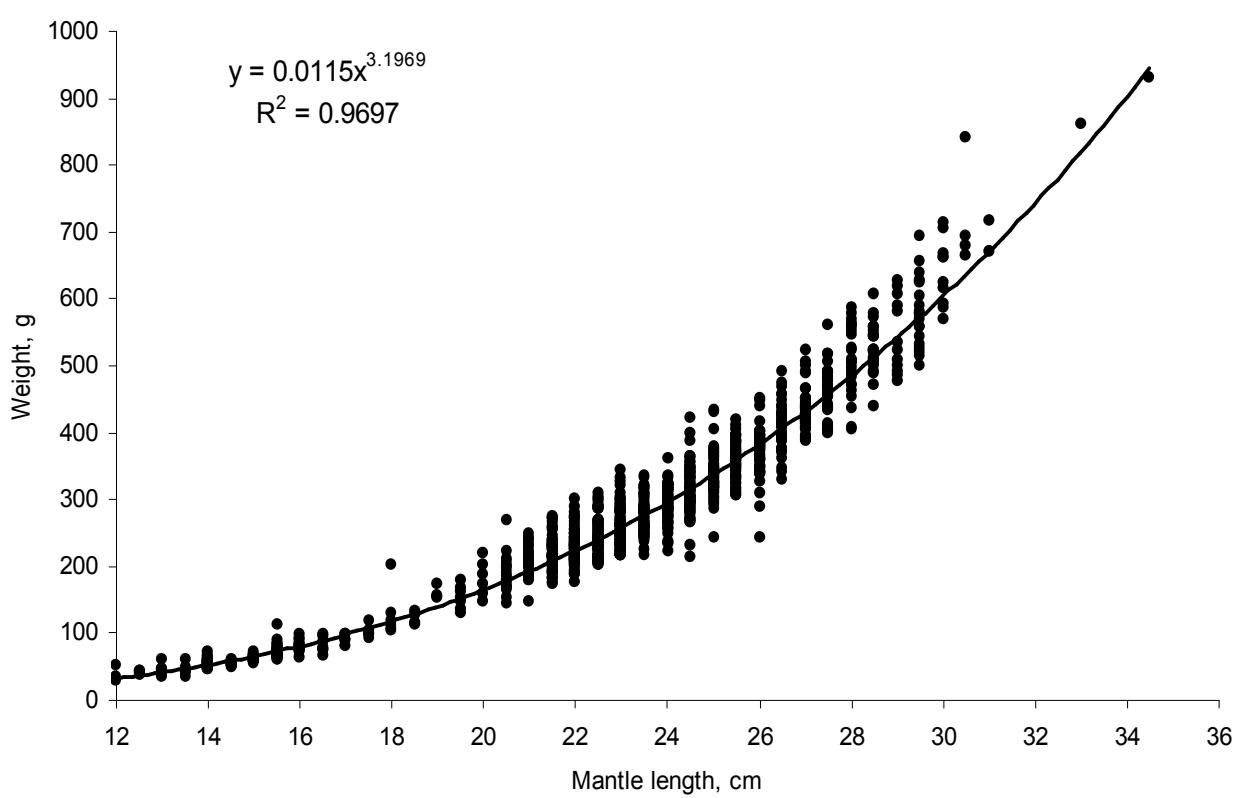
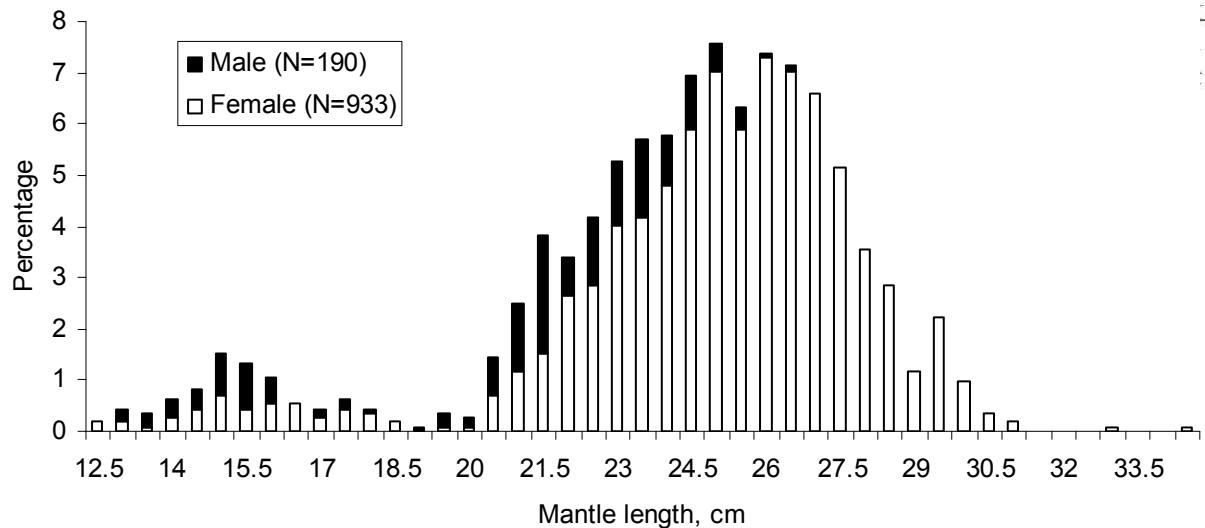
Illex argentinus—Illex squid

Length– frequency distribution and length-weight relationship in jigger fleet in 2010 in the Falkland waters



Illex argentinus—Illex squid

Length– frequency distribution and length-weight relationship in trawler fleets in 2010 on high seas



***Loligo gahi* - Patagonian squid**

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

VESSEL TYPE	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
TR	53560	23712	47422	26835	58811	43067	42003	52260	31475	66541
	53560	23712	47422	26835	58811	43067	42003	52260	31475	66541

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

MONTH	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
January	.	.	0	.	.	.	0	.	0	0
February	4478	3980	1180	586	2050	2943	729	3972	2013	4455
March	3754	2761	12340	4431	17905	13716	10271	15406	8573	16963
April	7854	2750	3851	2519	7427	2770	6388	5633	2403	7733
May	11538	4707	1224	869	1365	2	35	4	17	5
June	0	0	378	201	209	6	10	18	8	3
July	.	0	8	5852	10265	8132	6325	5611	8228	11013
August	14432	8007	16921	8045	14442	13988	14435	10780	8102	16654
September	8241	1213	9134	4301	5090	1425	3743	10780	2030	9621
October	3258	290	2372	30	42	81	56	52	82	78
November	3	3	11	1	15	4	9	4	19	16
December	1	0	1	0	0	0	1	.	.	0
	53560	23712	47422	26835	58811	43067	42003	52260	31475	66541

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

Fishing fleet	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
ES	5412	3036	458	98	104	74	134	3055	1756	3721
FK	42911	18613	43830	23573	54178	40165	38090	45684	27181	58016
JP	1	.	.	1	.	.	2	1	0	0
KR	10	13	38	53	13	41	22	6	2	34
NA	.	.	.	1141	.	.	.	.	.	.
PA	.	.	.	.	.	.	1075	.	.	.
PL	.	.	.	.	.	.	.	.	.	.
PT	.	.	.	.	.	.	.	.	.	.
SC	.	.	.	.	.	.	.	.	.	.
UK	3431	2049	3095	1967	4516	2786	2681	3515	2535	4770
VC	1795	.	.	.	.	.	.	.	.	.
	53560	23712	47422	26835	58811	43067	42003	52260	31475	66541

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

GRT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<400	.	.	4	2	.	.	.	.	.	.
400-599	.	.	4	2	.	.	.	.	.	.
600-799	2160	1102	847	19	202	8	29	14	179	76
800-999	2640	1361	2095	1149	2671	2165	2199	2872	1747	3030
1000-1499	9449	3889	8088	5317	9844	6578	7552	8439	5299	10768
1500-1999	9248	5312	9611	7474	17527	13227	12577	15577	9975	20173
2000-2999	30063	12048	26776	12873	28564	21089	19645	25358	14275	32494
>2999	.	.	1	3	.	2	1	0	0	0
	53560	23712	47422	26835	58811	43067	42003	52260	31475	66541

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

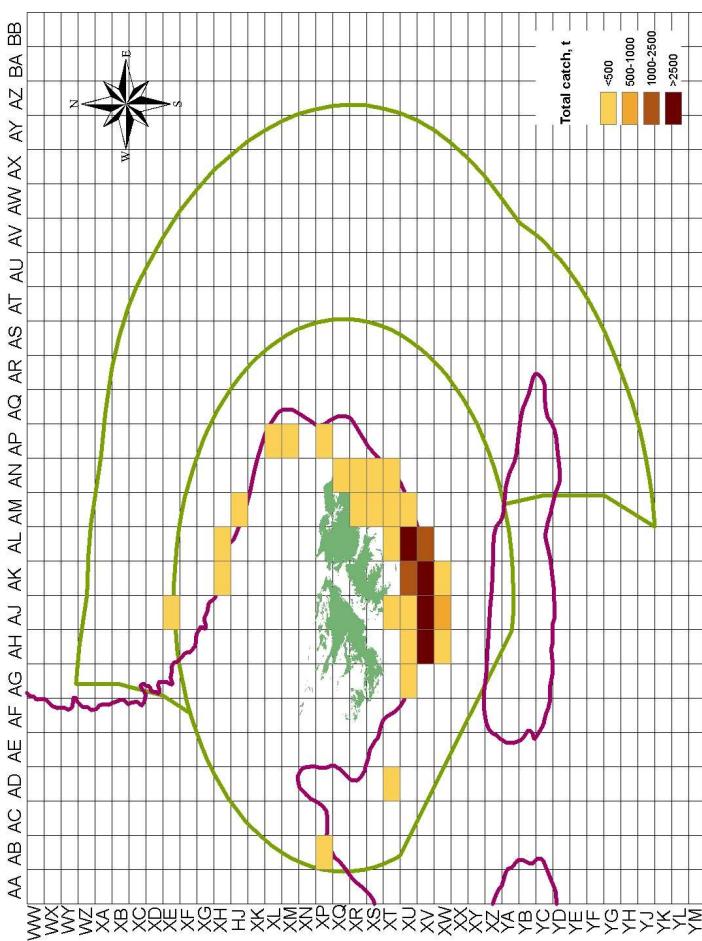
LOA	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<45	.	.	.	.	.	.	.	.	.	0
45-49	2638	1361	2089	1116	2666	2157	2186	2872	1742	2793
50-54	5404	2578	3621	1981	3601	2319	2335	24	265	47
55-59	5	8	16	12	6	8	18	33	20	3859
60-64	6264	2630	5868	3211	7083	5190	4980	6315	3678	15211
65-69	6911	3114	6095	3844	8052	4978	4829	9221	6174	13790
70-79	15971	6898	15325	6965	17771	14510	13592	17337	10116	21171
80-89	11766	5114	10648	7890	14945	11208	11087	13103	7632	4504
>89	4601	2009	3761	1816	4687	2696	2977	3355	1848	5165
	53560	23712	47422	26835	58811	43067	42003	52260	31475	66541

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

BHP	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<1000	.	.	.	.	.	.	.	.	.	.
1000-1199	.	.	.	.	.	.	.	.	.	0
1200-1399	2	4	3	.	.	.	.	.	.	.
1400-1599	2650	1099	856	61	229	13	63	155	381	349
1600-1799	2623	1138	2290	1471	2901	2091	1965	103	29	35
1800-1999	2658	1548	2127	1172	2716	2189	2226	5389	3222	6139
2000-2499	12044	5802	12238	8011	15686	11493	11276	13702	8621	17504
2500-2999	89	19	34	3004	4691	2722	4071	3360	1850	5196
3000-3999	24657	10541	22774	10851	24078	18196	15913	21741	17373	27595
>3999	8837	3561	7099	2266	8510	6363	6491	7810	0	9722
	53560	23712	47422	26835	58811	43067	42003	52260	31475	66541

Loligo gahi

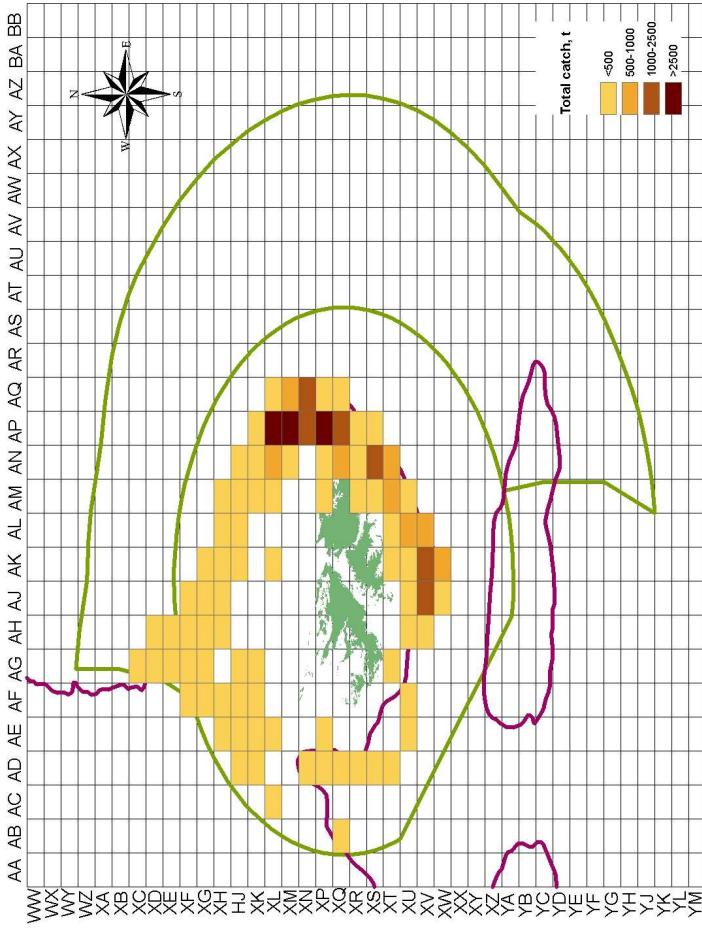
1st Season 2010 (01 Jan to 30 Jun)



Catch (mt) by grid square)

Loligo gahi

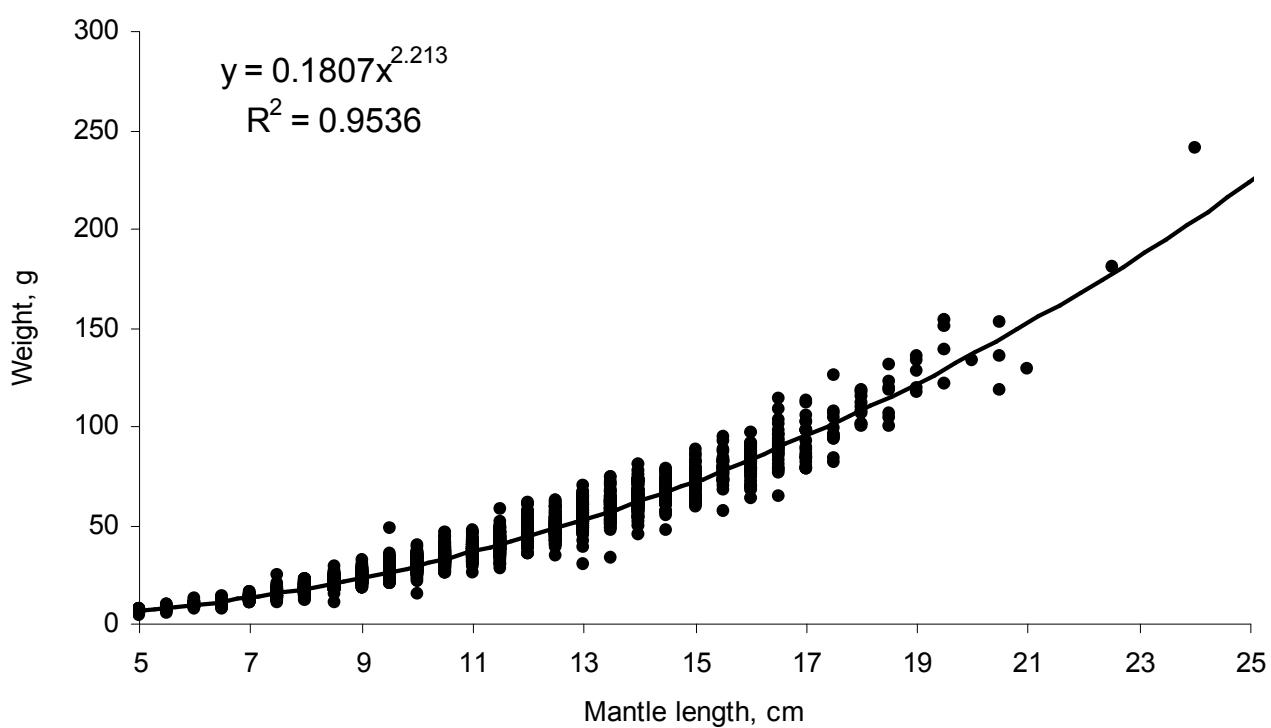
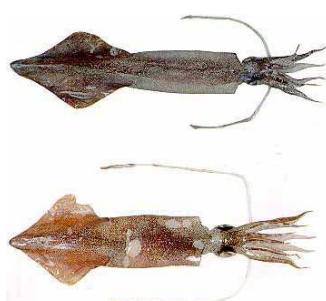
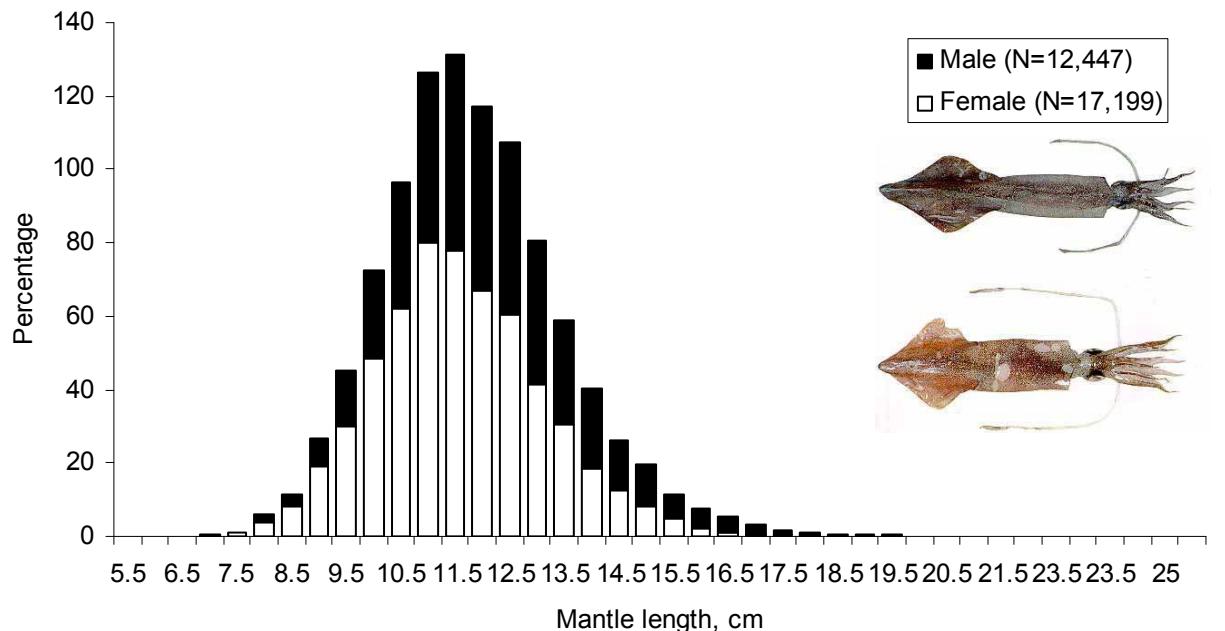
2nd Season 2010 (01 Jul to 31 Dec)



Catch (mt) by grid square)

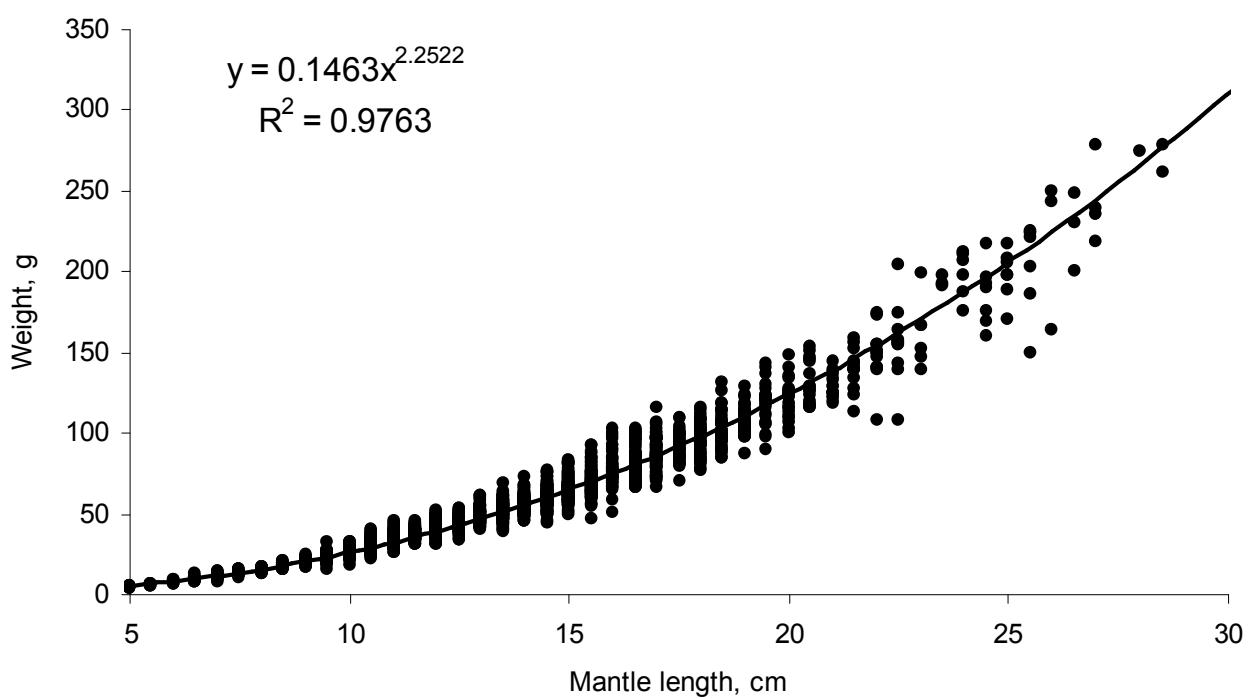
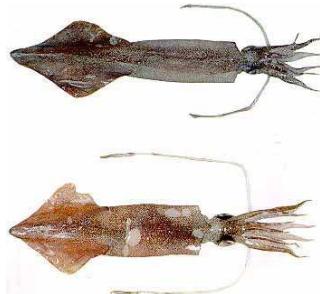
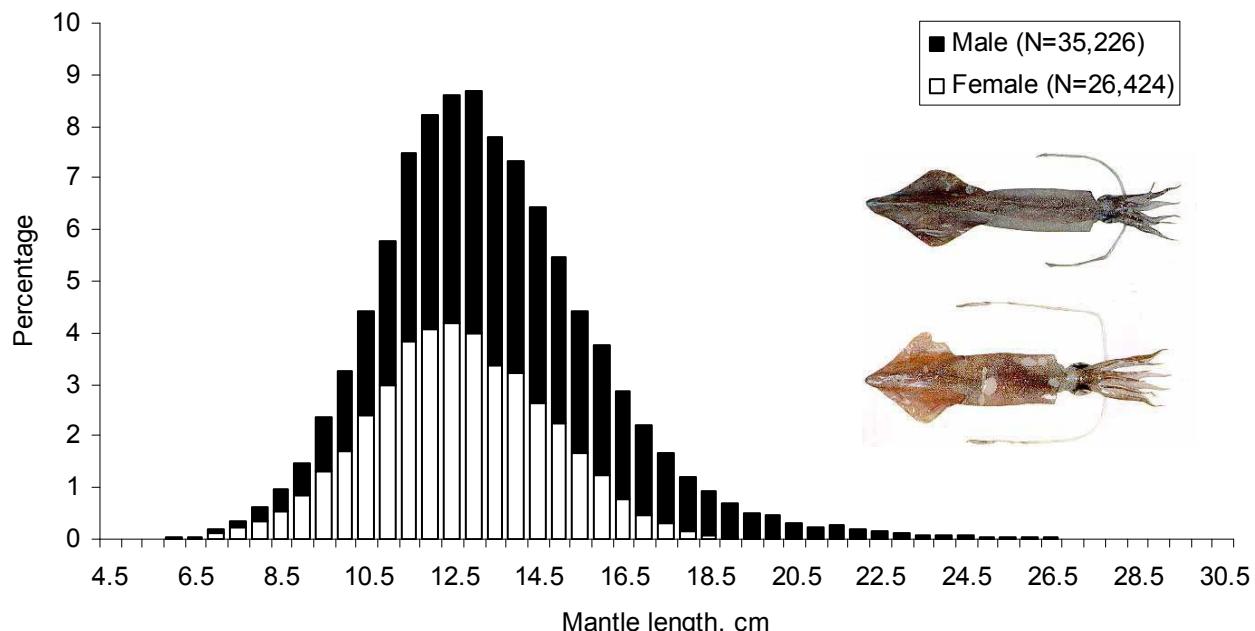
Loligo gahi—Patagonian squid

Length– frequency distribution and length-weight relationship during first season 2010



Loligo gahi—Patagonian squid

Length– frequency distribution and length-weight relationship during second season 2010



***Martialia hyadesi* - Martialia squid**

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

VESSEL TYPE	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
JI	147	1	.	.	.	.	.	.	.	.
TR	.	.	30	24	0	.	.	.	0	.
	147	1	30	24	0	.	.	.	0	.

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

MONTH	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
January	.	.	.	.	.	.	.	.	.	.
February	.	1	6	20	0	.	.	.	.	.
March	.	.	2	4	.	.	.	.	.	.
April	.	.	2	.	.	.	.	.	.	.
May	110	.	13	.	.	.	.	.	.	.
June	37	.	6	.	.	.	.	.	.	.
July	.	.	.	.	.	.	.	.	.	.
August	.	.	1	.	.	.	.	.	.	.
September	.	.	0	.	.	.	.	.	.	.
October	.	.	.	.	.	.	.	.	0	.
November	.	.	.	.	.	.	.	.	.	.
December	.	.	.	.	.	.	.	.	.	.
	147	1	30	24	0	.	.	.	0	.

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

Fishing fleet	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
CB	8	.	.	.	.	.	.	.	.	.
ES	.	.	2	17	0	.	.	.	.	.
FK	.	.	28	7	.	.	.	.	0	.
JP	.	.	.	.	.	.	.	.	.	.
KR	.	.	.	.	.	.	.	.	.	.
TW	139	1	.	.	.	.	.	.	0	.
	147	1	30	24	0	.	.	.	0	.

***Martialia hyadesi* - Martialia squid**

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

GRT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<400	.	.	.	.	.	.	.	.	.	.
400-599	.	.	.	.	.	.	.	.	.	.
600-799	3	.	.	.	.	.	.	.	.	.
800-999	144	1	.	.	.	.	.	.	.	.
1000-1499	.	.	27	11	0	.	.	.	0	.
1500-1999	.	.	3	13	.	.	.	.	.	.
2000-2999	.	.	.	.	.	.	.	.	.	.
>2999	.	.	.	.	.	.	.	.	.	.
	147	1	30	24	0	.	.	.	0	.

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

LOA	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<45	.	.	.	.	.	.	.	.	.	.
45-49	.	.	.	.	.	.	.	.	.	.
50-54	7	.	25	7	.	.	.	.	.	.
55-59	44	1	0	.	.	.	.	.	.	.
60-64	27	.	1	.	.	.	.	.	.	.
65-69	68	.	3	17	0	.	.	.	0	.
70-79	.	.	1	.	.	.	.	.	.	.
80-89	.	.	.	.	.	.	.	.	.	.
>89	.	.	.	.	.	.	.	.	.	.
	147	1	30	24	0	.	.	.	0	.

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

BHP	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<1000	.	.	.	.	.	.	.	.	.	.
1000-1199	.	.	.	.	.	.	.	.	.	.
1200-1399	.	.	.	.	.	.	.	.	.	.
1400-1599	20	.	25	7	.	.	.	.	.	.
1600-1799	10	.	1	.	.	.	.	.	.	.
1800-1999	61	1	2	17	0	.	.	.	.	.
2000-2499	55	.	2	.	.	.	.	.	0	.
2500-2999	.	.	.	.	.	.	.	.	.	.
3000-3999	.	.	.	.	.	.	.	.	.	.
>3999	.	.	.	.	.	.	.	.	.	.
	147	1	30	24	0	.	.	.	0	.

Micromesistius australis - Southern Blue Whiting

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

VESSEL TYPE	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
TR	25735	24908	20798	28553	17047	20533	22204	13208	10395	6412
	25735	24908	20798	28554	17047	20533	22204	13208	10395	6412

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

MONTH	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
January	4253	2476	4545	234	759	164	84	12	129	1439
February	3612	4563	6448	3155	811	383	515	243	139	32
March	5564	5875	5328	3652	227	2029	172	252	339	107
April	2271	2443	1299	1785	158	303	84	150	126	414
May	294	580	40	103	142	86	11	42	51	76
June	.	17	.	.	7	6	0	0	6	9
July	.	.	.	7	1	0	56	70	3	2
August	79	302	32	598	527	145	865	662	608	296
September	4385	668	1053	2192	4242	4772	8126	2817	2520	261
October	3023	770	1337	6390	4705	6609	6549	3914	1947	537
November	564	4147	597	6624	3899	3199	5400	3165	1877	2171
December	1689	3068	119	3814	1569	2837	342	1881	2651	1068
	25735	24908	20798	28554	17047	20533	22204	13208	10395	6412

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

Fishing fleet	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
BZ	206	.	.	.	.	.	.	.	.	.
CL	6707	7155	5876	8218	.	1884	3260	1527	.	.
EE	.	.	.	13	.	13	.	.	.	.
ES	5246	3152	2865	4358	5275	5514	6810	2809	2450	1024
FK	4621	2814	2511	2690	1676	1773	3074	1753	1670	375
JP	8918	11670	9515	12939	10023	11302	8896	6859	6173	4989
KR	12	3	11	163	44	0	96	237	1	24
UK	24	116	20	173	29	47	69	24	100	1
	25735	24908	20798	28554	17047	20533	22204	13208	10395	6412

Micromesistius australis - Southern Blue Whiting

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

GRT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<400	.	.	.	.	.	.	.	.	.	.
400-599	.	.	0	.	0	.	.	.	.	.
600-799	737	500	519	270	279	448	940	606	250	347
800-999	37	155	586	599	126	0	719	350	252	241
1000-1499	8281	9545	7005	4145	4480	2472	3452	1465	1273	269
1500-1999	1892	1439	474	1491	1653	4355	4763	3155	2334	534
2000-2999	702	428	928	892	487	72	174	773	113	31
>2999	14085	12840	11285	21157	10023	13186	12156	6859	6173	4989
	25735	24908	20798	28554	17047	20533	22204	13208	10395	6412

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

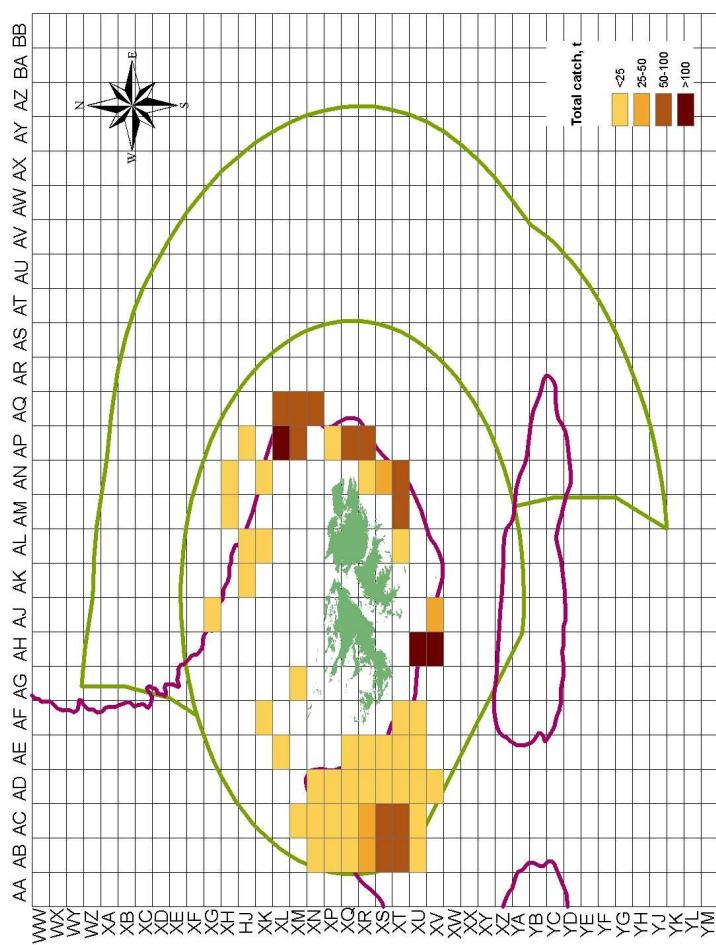
LOA	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<45	.	.	.	.	.	.	.	.	.	15
45-49	87	226	115	610	155	98	272	85	143	312
50-54	1675	510	860	746	637	533	1357	845	717	83
55-59	1036	891	532	264	451	59	1014	97	142	234
60-64	2066	1150	997	1497	1749	1114	1180	1012	524	113
65-69	3220	7029	4711	2848	2886	3621	3885	3036	1657	569
70-79	2869	2027	1727	602	609	1310	1662	449	441	74
80-89	628	235	561	806	497	609	641	341	597	1
>89	14153	12840	11295	21180	10064	13188	12192	7345	6173	5011
	25735	24908	20798	28554	17047	20533	22204	13208	10395	6412

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

BHP	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<1000	.	.	.	.	.	.	.	.	.	.
1000-1199	.	.	.	.	.	.	.	.	.	15
1200-1399	564	273	77	.	66	.	3	.	5	51
1400-1599	1206	423	435	742	561	544	1624	682	897	451
1600-1799	353	328	1076	799	843	575	536	193	92	79
1800-1999	3802	2368	1269	3351	3233	3676	4363	1512	1618	659
2000-2499	2764	1962	1218	1286	1764	2423	3178	2915	1386	114
2500-2999	2233	6172	4488	176	79	2	132	722	1	44
3000-3999	627	542	888	1036	439	75	182	288	223	9
>3999	14184	12842	11345	21163	10062	13238	12187	6895	6173	4991
	25735	24908	20798	28554	17047	20533	22204	13208	10395	6412

Micromesistius australis

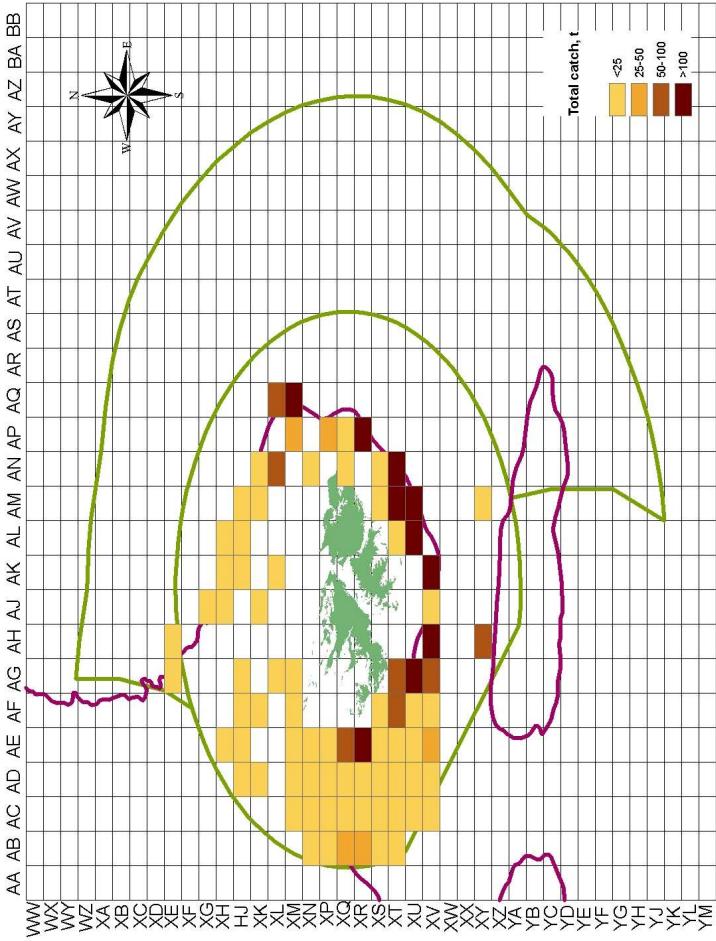
1st Season 2010 (01 Jan to 30 Jun)



Catch (mt) by grid square)

Micromesistius australis

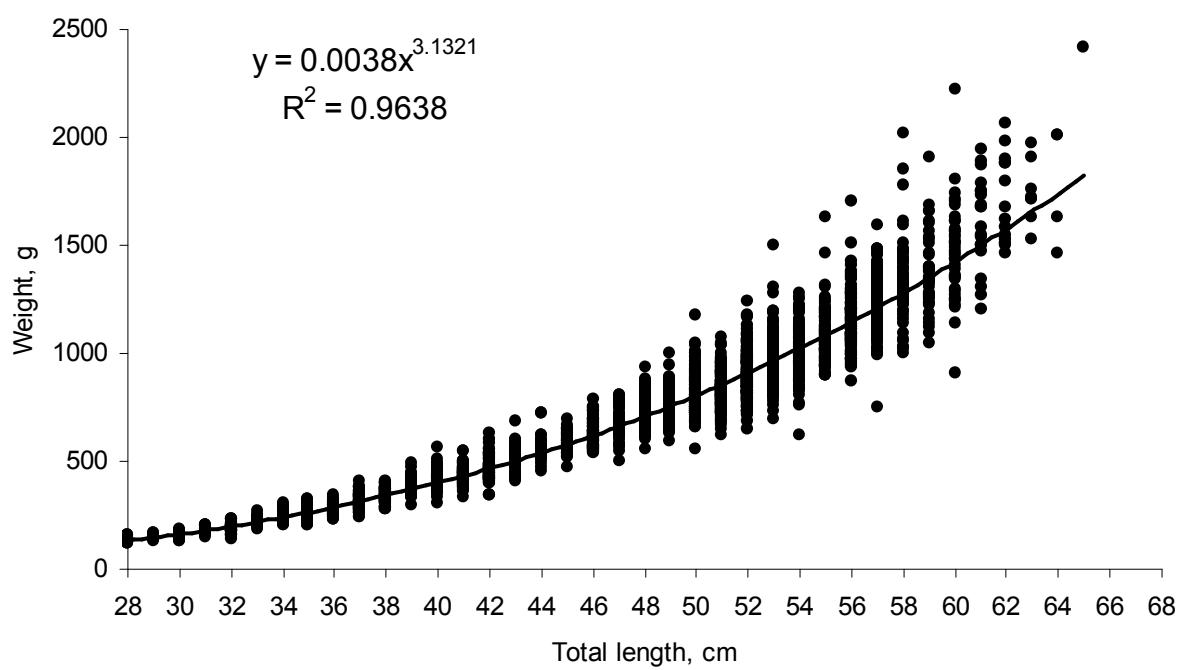
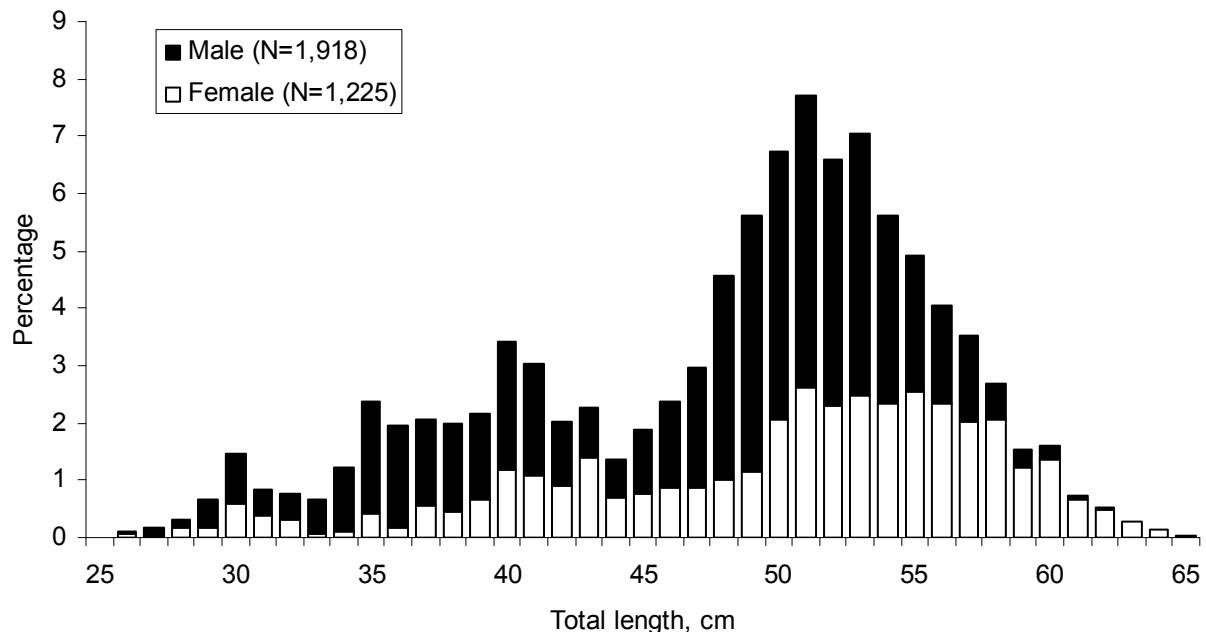
2nd Season 2010 (01 Jul to 31 Dec)



Catch (mt) by grid square)

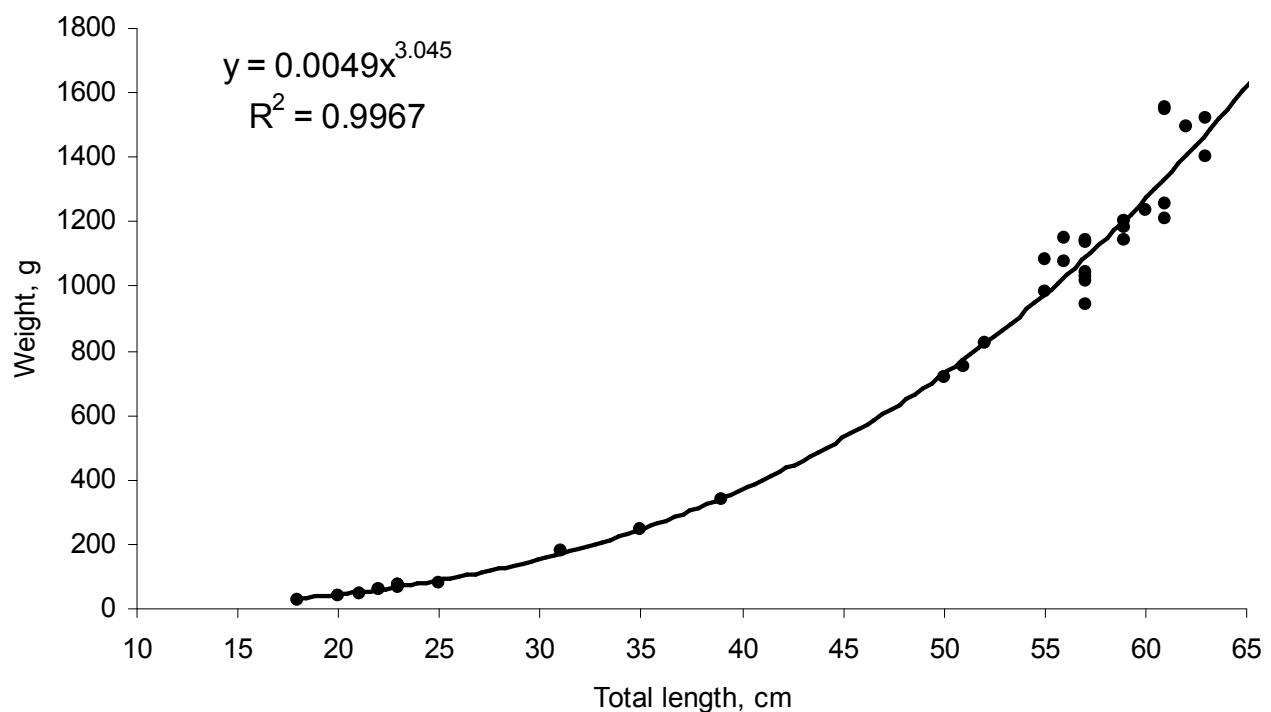
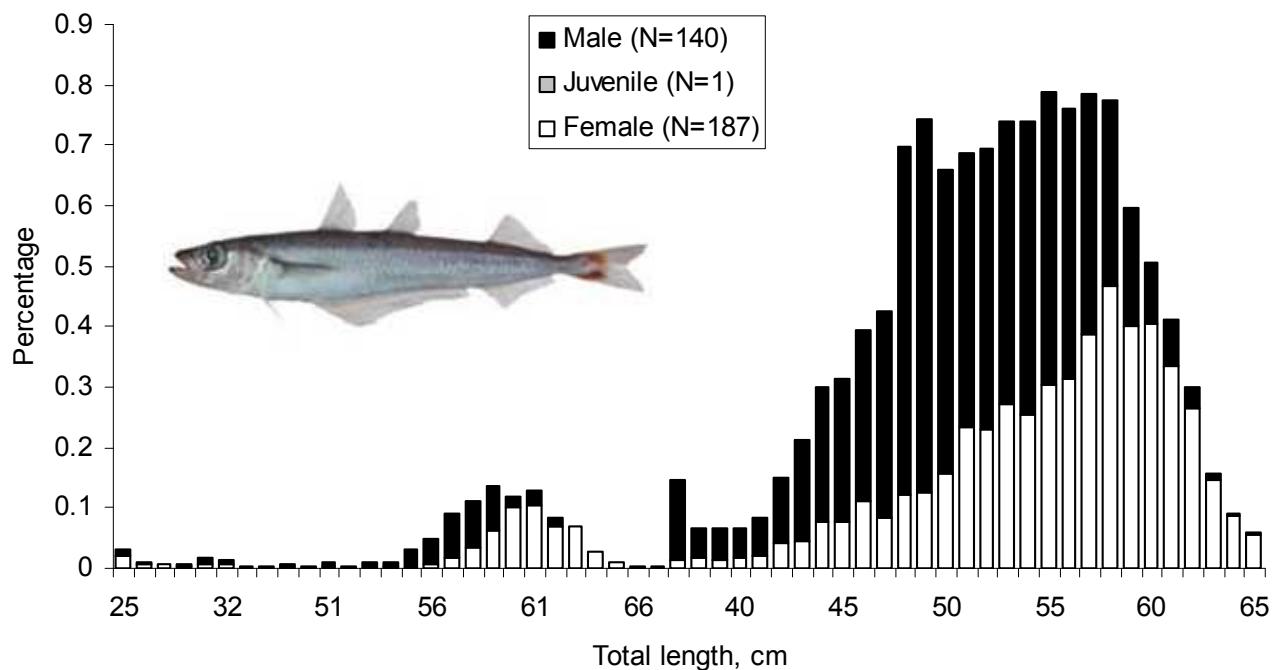
Micromesistius australis—Southern Blue Whiting

Length– frequency distribution and length-weight relationship in surimi fleet in 2010



Micromesistius australis—Southern Blue Whiting

Length– frequency distribution and length-weight relationship in trawler fleets in 2010



***Macruronus magellanicus*—Hoki**

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

VESSEL TYPE	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
LO	.	.	.	.	.	0	.	.	.	.
TR	19471	26970	23815	25904	16721	19761	16669	15902	23403	19219
	19471	26970	23815	25904	16721	19761	16669	15902	23403	19219

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

MONTH	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
January	1541	589	969	506	269	660	1265	505	395	179
February	1739	1970	5780	3517	2566	2520	2365	1128	2551	1834
March	1784	5268	1625	3821	954	1476	1376	865	4653	1893
April	2669	4404	3185	4868	1128	2070	2080	1342	3377	2772
May	2002	2031	1974	2496	894	2182	1591	1012	2278	1270
June	582	1068	485	111	121	617	245	395	646	205
July	799	3	154	55	304	256	513	593	1069	351
August	833	2048	2026	2223	2378	2182	1720	1903	933	2374
September	803	1481	2089	1452	1997	3201	1065	1716	2258	2130
October	3350	3177	3203	4907	3403	1964	2447	4152	1446	854
November	3163	3590	1985	925	1756	2077	1580	1560	2911	4117
December	204	1341	341	1022	951	557	422	730	885	1239
	19471	26970	23815	25904	16721	19761	16669	15902	23403	19219

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

Fishing fleet	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
BZ	374	1	.	.	.	.	.	.	.	.
CL	1300	2097	613	1533	.	247	343	114	.	.
EE	.	.	143	.	253	.	.	.	.	.
ES	9653	12984	11357	11713	9014	12122	10350	9386	15176	13503
FK	5471	9804	9519	9689	5788	6091	5065	4129	5994	4034
JP	866	1612	1596	1998	1203	743	141	1956	1267	917
KR	1633	420	642	512	693	171	600	249	792	667
NA	.	.	7	.	.	.	.	.	.	.
PA	.	.	.	.	.	4	.	.	.	.
RU	144	.	.	.	.	.	.	.	.	.
UK	30	52	88	308	23	135	166	69	174	97
VC	0	.	.	.	.	.	.	.	.	.
	19471	26970	23815	25904	16721	19761	16669	15902	23403	19219

***Macruronus magellanicus*—Hoki**

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

GRT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<400	293									
400-599	130	17	53	24	27	32				
600-799	1842	3493	2018	1473	1136	1415	2426	1934	3528	2790
800-999	1269	902	2049	1684	1510	1261	1992	1672	4306	2933
1000-1499	10659	14144	12351	14515	10033	12316	8697	6046	9741	8052
1500-1999	2420	5169	4258	3547	2006	3264	2783	3911	4223	4289
2000-2999	766	293	1757	1130	807	484	287	383	339	237
>2999	2091	2952	1330	3532	1203	990	484	1956	1267	917
	19471	26970	23815	25904	16721	19761	16669	15902	23403	19219

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

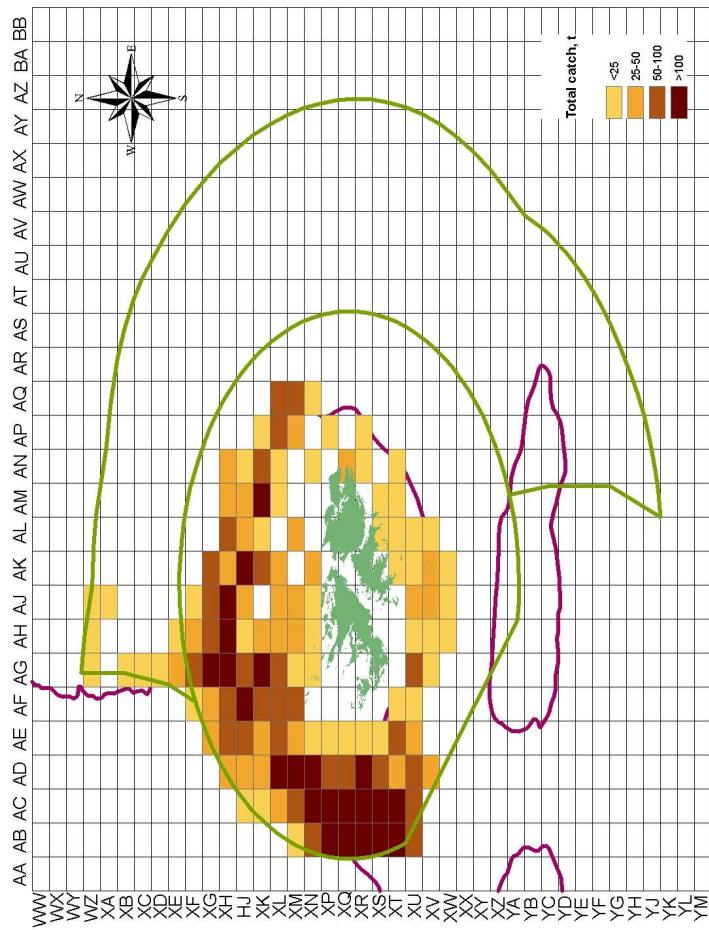
LOA	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<45										155
45-49	951	961	1247	1813	1340	919	1585	1478	1968	2305
50-54	3188	4571	3553	3949	3527	3103	3734	2134	4546	1923
55-59	2737	4177	2892	1068	1284	1856	1227	994	3148	3484
60-64	3491	2812	4176	3997	2775	4563	2545	3128	4948	3565
65-69	3063	5230	4301	8095	5329	5664	4297	2989	3523	3260
70-79	3202	6066	5240	1718	577	1707	2515	2222	3136	3494
80-89	739	176	933	1723	679	896	242	950	833	27
>89	2099	2976	1474	3542	1210	1053	526	2008	1301	1004
	19471	26970	23815	25904	16721	19761	16669	15902	23403	19219

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

BHP	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<1000										
1000-1199										155
1200-1399	826	1934	528		388	163	271	191	453	442
1400-1599	1888	3150	2736	3545	2766	3340	3654	2823	6722	3441
1600-1799	922	630	2116	1459	1029	2400	1349	1310	1882	2993
1800-1999	6935	8737	7734	9935	7102	7569	4602	3791	4854	5369
2000-2499	3887	7354	5495	5583	2888	4504	5262	5132	6955	4995
2500-2999	2126	1844	2010	416	512	217	593	291	790	637
3000-3999	781	327	1598	1383	746	518	364	332	393	221
>3999	2106	2993	1600	3584	1290	1050	574	2033	1353	965
	19471	26970	23815	25904	16721	19761	16669	15902	23403	19219

Macruronus magellanicus

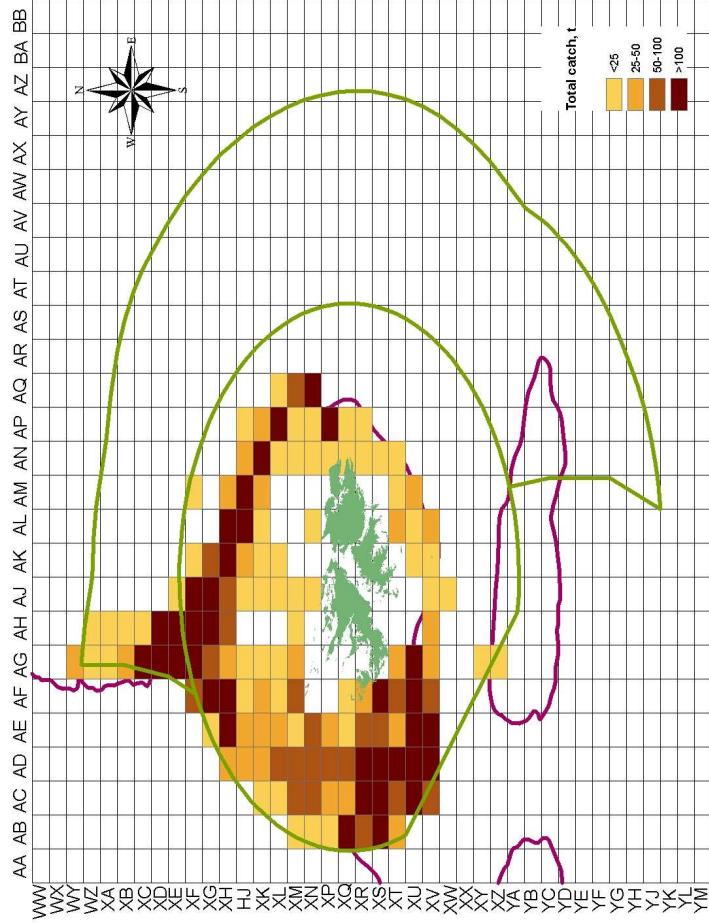
1st Season 2010 (01 Jan to 30 Jun)



Catch (mt) by grid square)

Macruronus magellanicus

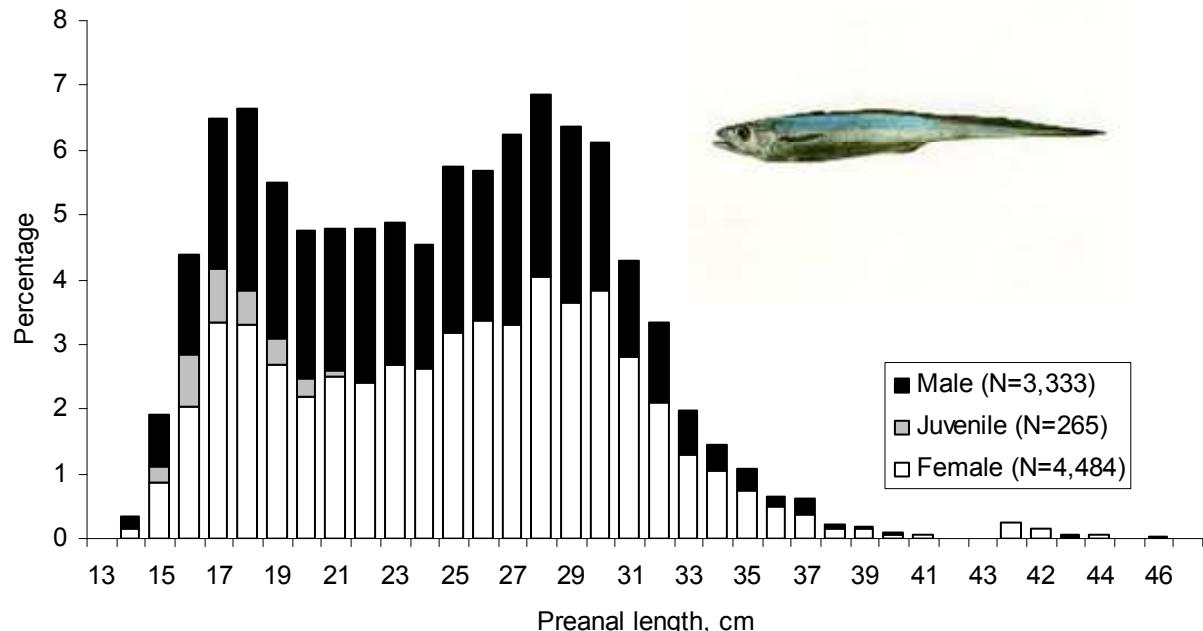
2nd Season 2010 (01 Jul to 31 Dec)



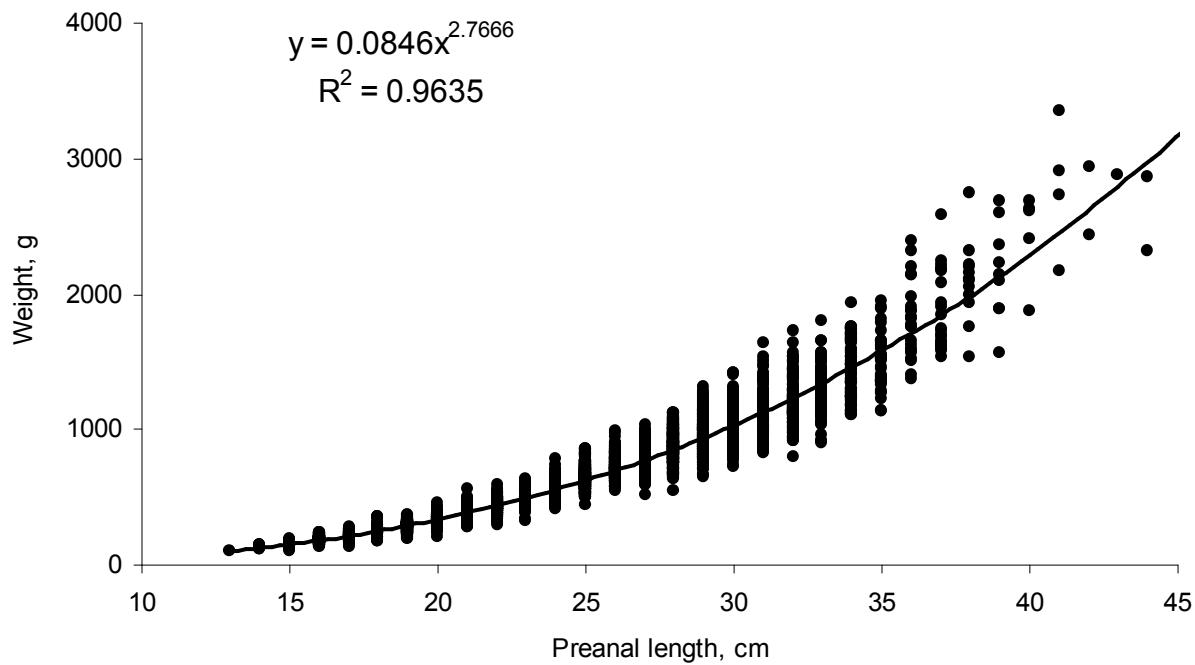
Catch (mt) by grid square)

Macruronus magellanicus—Hoki

Length– frequency distribution and length-weight relationship in trawler fleets in 2010



- Male (N=3,333)
- Juvenile (N=265)
- Female (N=4,484)



Salilota australis - Red cod

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

VESSEL TYPE	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
LO	.	.	.	.	.	6	.	.	.	.
TR	3896	2617	2285	2781	2467	3463	5195	4076	5119	3131
	3896	2617	2285	2781	2467	3469	5195	4076	5119	3131

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

MONTH	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
January	210	33	57	80	4	73	82	110	148	29
February	291	165	248	362	202	222	290	189	328	193
March	369	539	95	188	62	215	423	506	530	387
April	547	446	264	350	114	558	502	350	480	649
May	617	250	254	271	149	290	504	426	603	215
June	65	40	58	13	36	59	77	59	159	69
July	67	0	3	94	97	196	338	101	214	75
August	297	171	235	258	492	571	905	421	669	361
September	342	263	343	436	676	623	1043	987	662	340
October	679	325	490	583	337	459	770	668	819	285
November	387	296	192	134	248	164	234	189	378	322
December	26	90	46	11	50	40	27	71	131	208
	3896	2617	2285	2781	2467	3469	5195	4076	5119	3131

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

Fishing fleet	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
BZ	42	.	.	.	.	.	.	.	.	.
EE	.	.	.	.	.	84	.	.	.	.
ES	2222	1624	1279	1582	1579	2246	3997	3140	3778	2268
FK	1374	950	958	1024	746	1047	1127	900	1308	802
JP	.	0	.	3	.	0	1	.	0	0
KR	219	28	40	85	125	60	49	17	11	19
NA	.	.	.	7	.	.	.	.	.	.
RU	8	.	.	.	.	.	.	.	.	.
UK	17	15	9	63	17	31	22	20	23	41
VC	14	.	.	.	.	.	.	.	.	.
	3896	2617	2285	2781	2467	3469	5195	4076	5119	3131

***Salilota australis* - Red cod**

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

GRT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<400	17	.	.	.	.	.	.	.	.	.
400-599	11	1	0	2	14	4	.	.	.	.
600-799	551	404	203	179	67	209	648	467	598	327
800-999	261	122	228	210	135	216	721	610	610	403
1000-1499	2284	1498	1262	1248	1468	1855	2191	1303	2034	1324
1500-1999	511	474	278	828	600	1066	1571	1535	1747	1013
2000-2999	260	117	315	311	184	118	52	161	131	64
>2999	.	.	3	0	0	1	.	0	0	.
	3896	2617	2285	2781	2467	3469	5183	4076	5119	3131

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

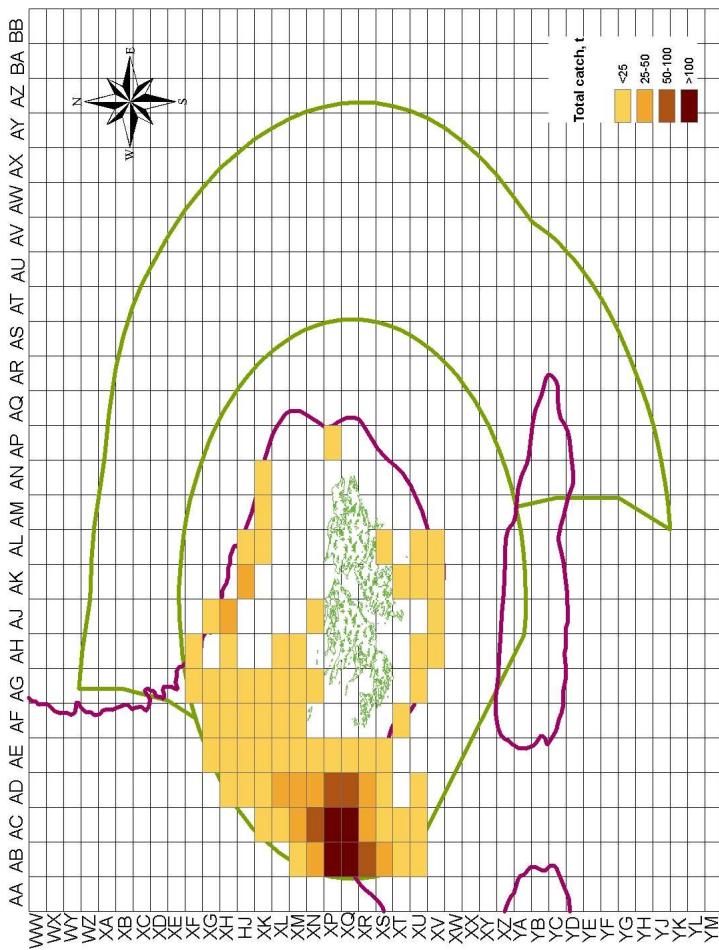
LOA	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<45	.	.	.	.	.	.	.	.	.	17
45-49	312	162	168	213	71	259	566	535	293	291
50-54	630	439	358	362	379	519	892	539	653	220
55-59	578	454	317	199	126	212	485	265	486	712
60-64	669	309	339	347	442	410	829	623	1057	506
65-69	458	292	280	1180	1158	1678	1787	1373	1776	1059
70-79	1050	893	596	167	123	278	553	492	648	304
80-89	186	50	218	303	159	102	63	215	153	4
>89	12	19	9	9	9	10	9	34	53	19
	3896	2617	2285	2781	2467	3469	5183	4076	5119	3131

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

BHP	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<1000	.	.	.	.	.	.	.	.	.	.
1000-1199	.	.	.	.	.	.	.	.	.	17
1200-1399	224	156	71	.	4	51	112	40	83	58
1400-1599	500	333	337	401	257	551	1134	926	851	448
1600-1799	200	105	171	129	115	219	539	367	529	452
1800-1999	1567	1149	871	1399	1307	1661	2127	1603	1827	1348
2000-2499	742	587	417	405	475	774	1148	939	1657	676
2500-2999	386	156	93	75	114	66	57	51	63	33
3000-3999	206	85	305	347	152	116	46	105	88	82
>3999	71	47	21	24	43	31	20	46	20	17
	3896	2617	2285	2781	2467	3469	5183	4076	5119	3131

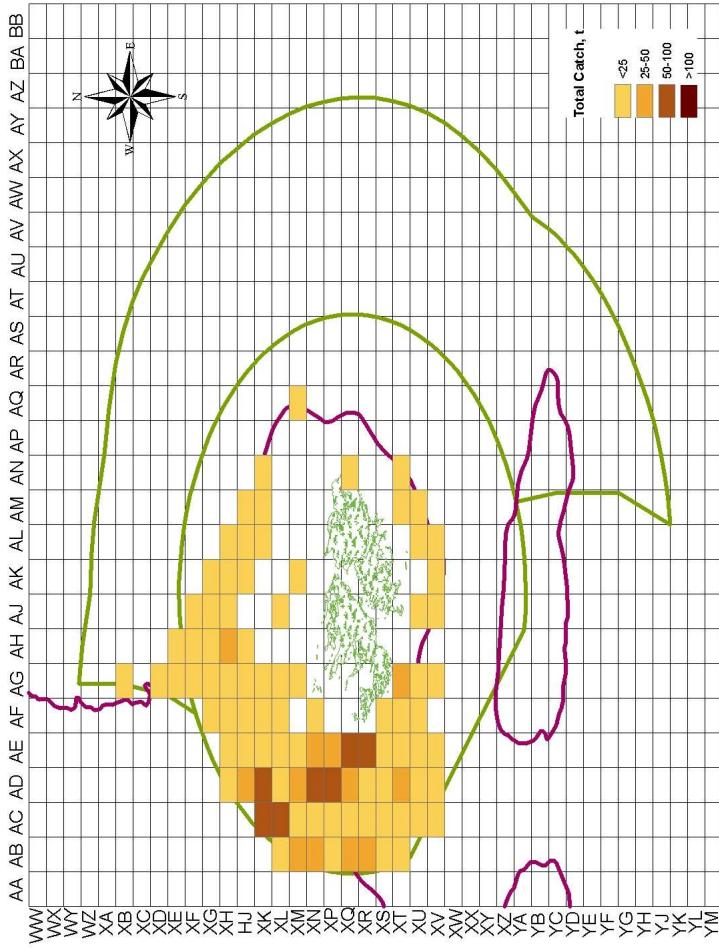
Salilota australis

1st Season 2010 (01 Jan to 30 Jun)



Catch (mt) by grid square)

2nd Season 2010 (01 Jul to 31 Dec)

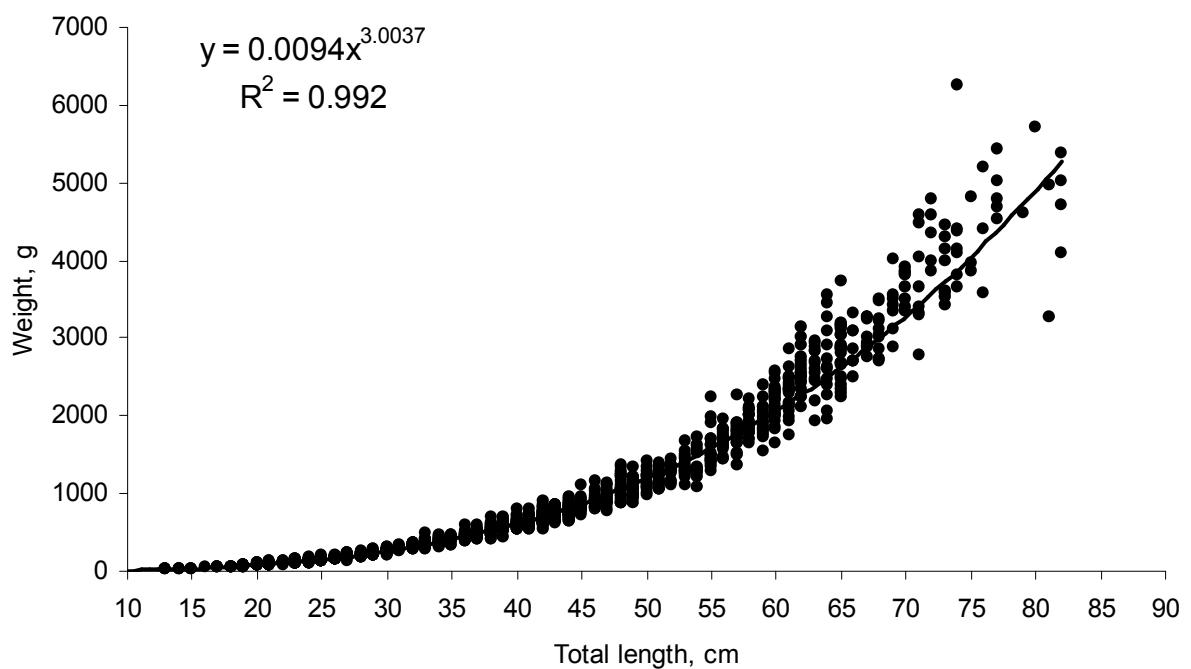
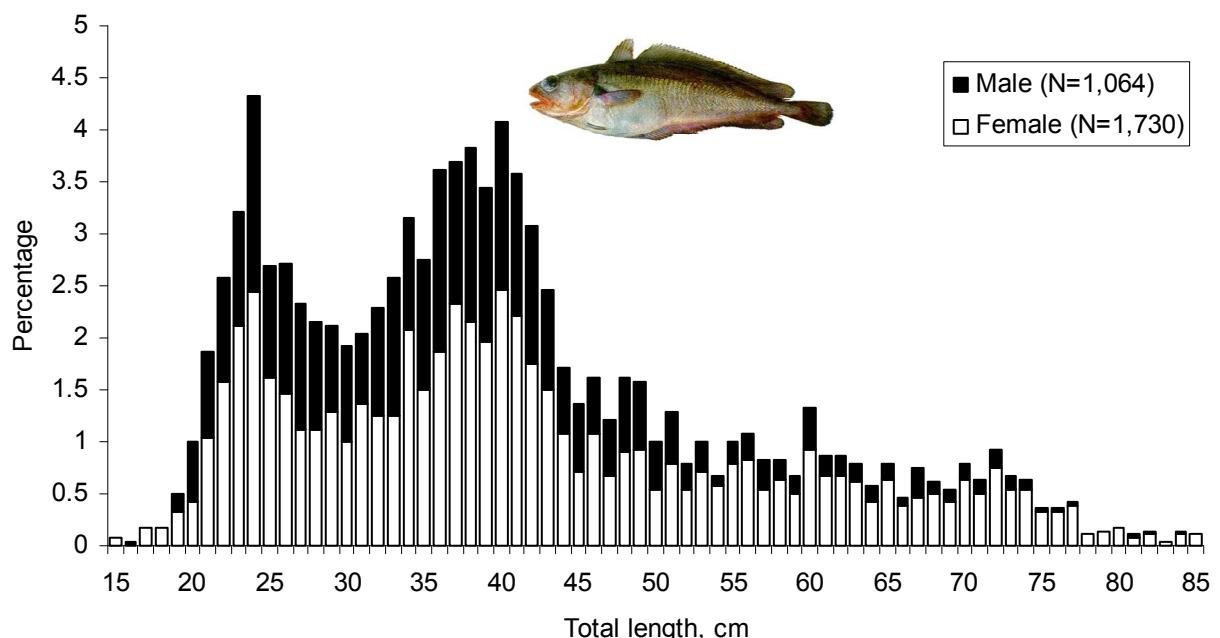


Catch (mt) by grid square)

Salilota australis

Salilota australis - Red cod

Length- frequency distribution and length-weight relationship in trawler fleets in 2010



Merluccius spp - Hakes

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

VESSEL TYPE	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
LO						5				
TR	1978	1678	1967	1927	2735	8433	11908	8805	13051	13612
	1978	1678	1967	1927	2735	8438	11908	8805	13044	13612

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

MONTH	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
January	7	48	51	14	0	7	31	4	38	3
February	24	96	142	196	81	254	215	68	152	106
March	110	223	34	141	65	267	556	356	474	873
April	462	288	253	269	168	1098	1089	1115	2059	2492
May	400	146	198	223	318	1002	3134	2078	2667	2584
June	79	46	74	86	41	130	2321	1372	1044	773
July	140	6	31	144	163	415	1975	970	1238	1340
August	338	244	263	441	698	2051	1879	1160	1413	2245
September	202	388	633	261	854	1906	462	766	2340	2146
October	166	113	215	128	277	964	201	794	1484	858
November	49	43	64	23	67	329	42	113	131	168
December	1	39	7	1	2	16	2	10	5	23
	1978	1678	1967	1927	2735	8438	11908	8805	13044	13612

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

Fishing fleet	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
BZ	4	0	.	.	.	.	.	.	.	.
CL	7	0	.	1	.	.	.	.	.	.
EE	.	.	6	.	66	.	.	.	.	.
ES	1073	805	1021	810	1388	4837	7604	5327	8031	8465
FK	564	655	731	798	1003	3038	4022	3021	4696	4565
JP	2	75	28	8	.	.	0	.	0	.
KR	264	123	187	277	309	394	163	117	90	181
NA	.	.	0	.	.	.	.	.	.	.
RU	47	.	.	.	.	.	.	.	.	.
UK	12	20	1	26	35	103	120	341	228	401
UY	.	.	0	.	.	.	.	.	.	.
VC	5	.	.	.	.	.	.	.	.	.
	1978	1678	1967	1927	2735	8438	11908	8805	13044	13612

***Merluccius* spp - Hakes**

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

GRT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<400	39	.	0	0	.	.	.	.	.	.
400-599	40	24	8	20	21	33	.	.	.	.
600-799	198	140	186	140	362	852	1198	872	1211	1448
800-999	188	174	204	326	487	1511	988	929	1763	1167
1000-1499	1200	968	1199	1053	1564	4971	6831	4935	6730	7905
1500-1999	174	316	199	217	205	963	2346	1742	2842	2839
2000-2999	131	57	167	162	96	108	545	328	505	253
>2999	9	0	5	9	0	.	.	0	.	0
	1978	1678	1967	1927	2735	8438	11908	8805	13051	13612

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

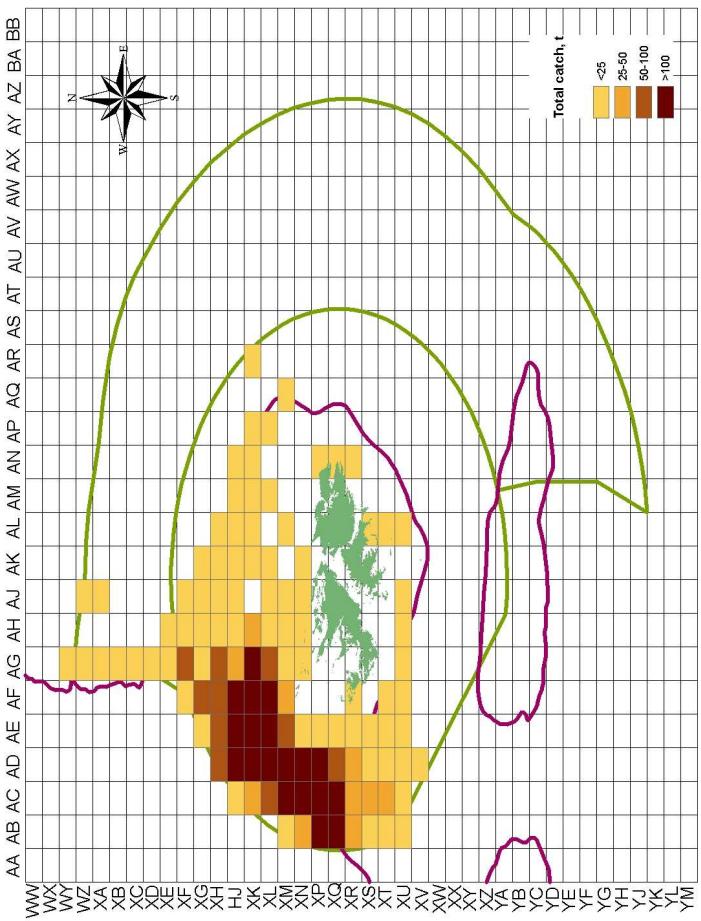
LOA	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<45	.	.	0	.	.	.	.	.	.	5
45-49	181	147	133	244	503	1526	1339	1118	1840	1548
50-54	269	243	300	331	574	1379	2248	800	996	678
55-59	443	227	385	126	227	1095	1354	1210	1463	3822
60-64	296	262	430	306	340	1122	1700	2301	3291	2570
65-69	261	386	323	670	960	2652	4128	2351	2818	2600
70-79	418	371	287	137	40	506	609	633	2373	2386
80-89	95	36	100	103	92	157	531	377	243	2
>89	15	6	8	9	0	1	0	15	20	0
	1978	1678	1967	1927	2735	8438	11908	8805	13044	13612

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

BHP	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<1000	.	.	0	.	.	.	.	.	.	.
1000-1199	.	.	.	.	.	.	.	.	.	5
1200-1399	66	57	30	.	102	236	56	202	173	326
1400-1599	218	230	244	335	716	1704	2214	1109	1684	1307
1600-1799	59	34	91	102	95	813	1166	1696	2104	2778
1800-1999	824	561	826	634	817	3166	5246	3615	4528	5206
2000-2499	367	496	375	477	620	1946	2433	1403	3741	3163
2500-2999	293	216	205	183	255	361	130	126	101	170
3000-3999	128	60	183	186	131	205	659	640	693	651
>3999	23	23	14	10	0	6	5	16	21	5
	1978	1678	1967	1927	2735	8438	11908	8805	13044	13612

Merluccius hubbsi

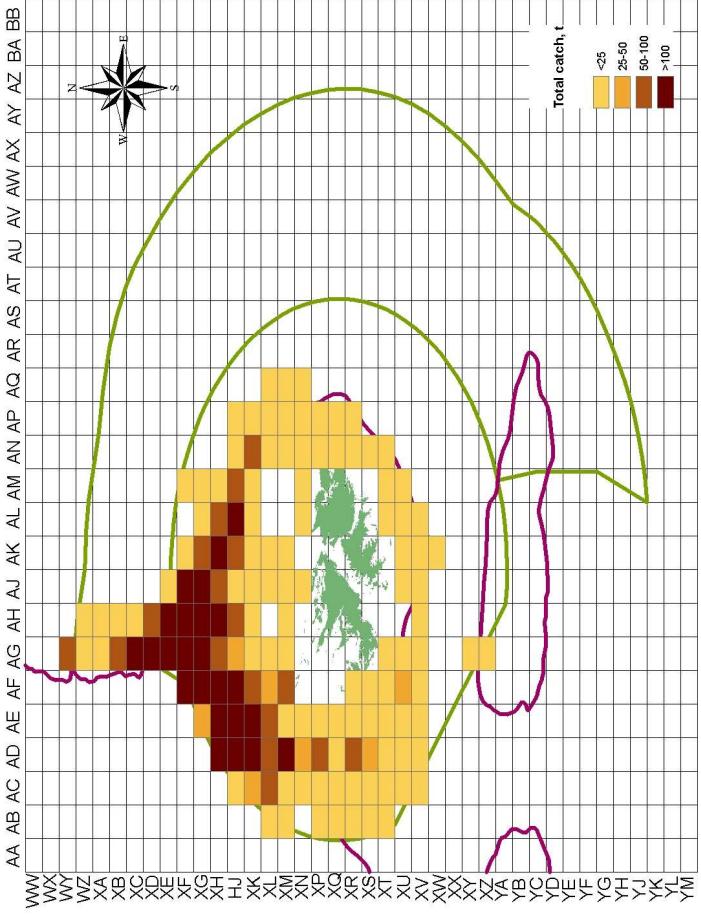
1st Season 2010 (01 Jan to 30 Jun)



Catch (mt) by grid square)

Merluccius hubbsi

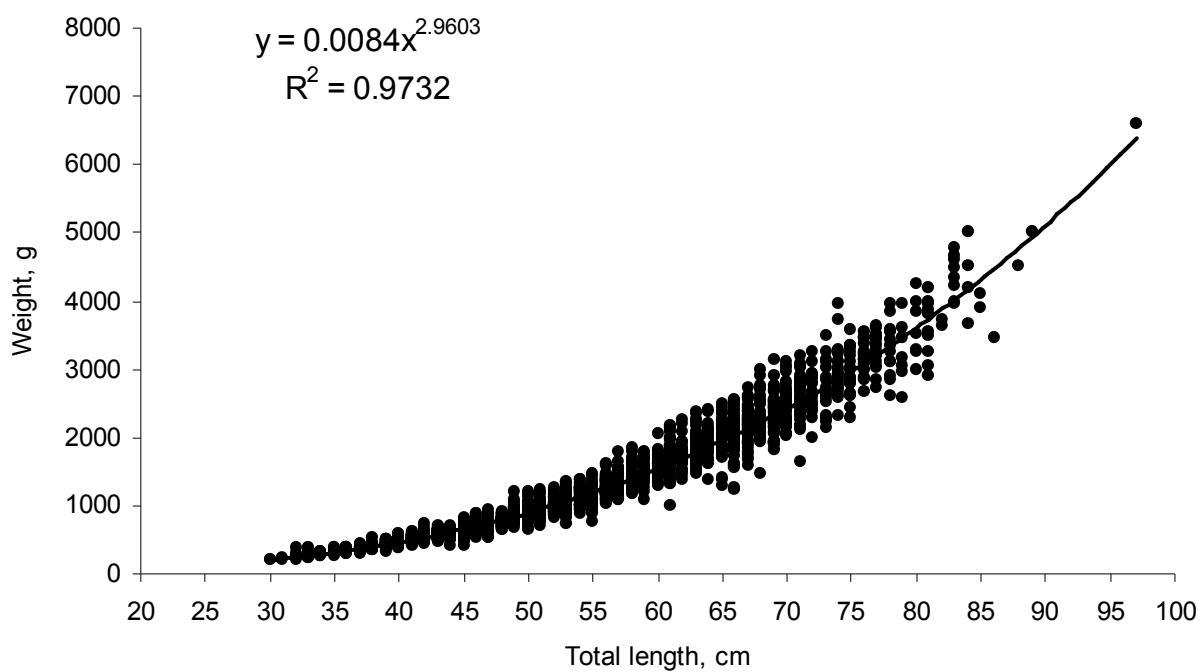
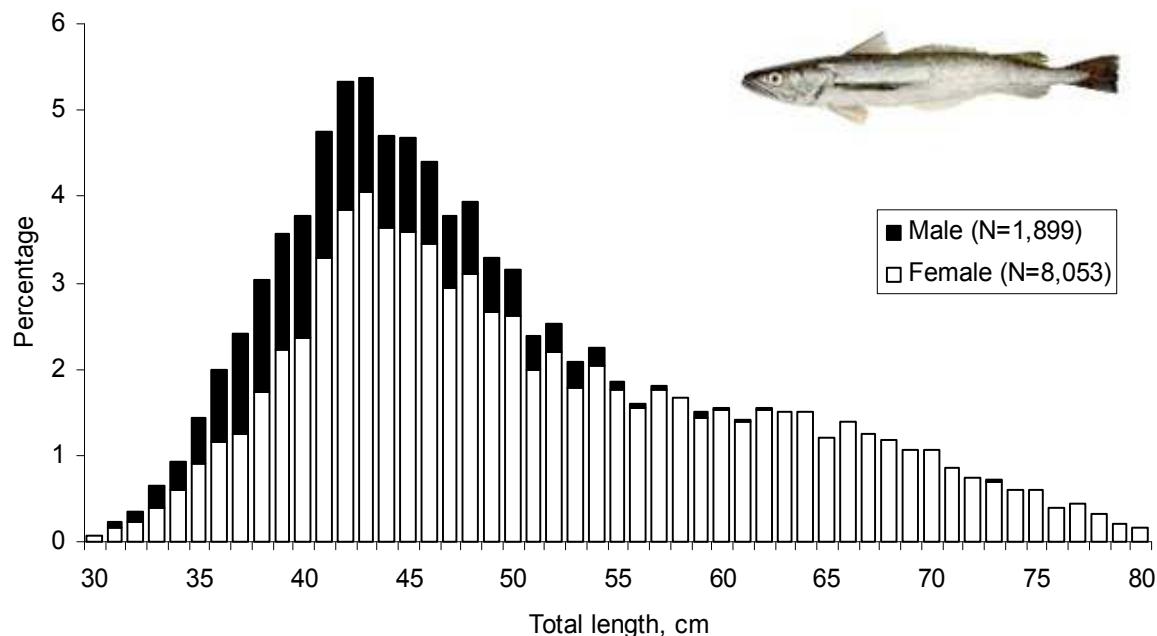
2nd Season 2010 (01 Jul to 31 Dec)



Catch (mt) by grid square)

Merluccius spp - Hakes

Length- frequency distribution and length-weight relationship in *M.hubbsi* in trawler fleets in 2010



***Genypterus blacodes* - Kingclip**

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

VESSEL TYPE	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
LO						64				
TR	1625	1224	1274	1841	1936	2757	3592	2226	3389	3643
	1625	1224	1275	1841	1936	2821	3592	2226	3389	3643

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

MONTH	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
January	64	8	21	54	3	57	84	80	70	15
February	79	57	110	192	149	213	327	107	138	110
March	95	282	29	114	56	173	370	231	209	300
April	319	234	143	289	84	322	460	222	320	580
May	259	85	102	172	73	221	330	234	437	416
June	36	20	28	19	29	35	60	54	179	202
July	36	1	16	95	58	77	204	107	258	89
August	177	58	141	263	291	405	711	326	481	366
September	154	45	271	144	350	530	498	437	428	454
October	202	225	224	354	523	494	356	240	547	378
November	193	169	154	132	255	253	166	142	195	442
December	12	40	36	12	65	41	25	48	126	292
	1625	1224	1275	1841	1936	2821	3592	2226	3389	3643

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

Fishing fleet	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
BZ	8	0	.	.	.	.	.	.	.	.
EE	.	.	.	11	.	43	.	.	.	.
ES	1086	857	818	1135	1184	1701	2735	1691	2618	2839
FK	348	334	387	530	517	911	740	479	726	676
JP	.	4	0	4	0	0	2	0	1	0
KR	166	27	67	140	219	135	84	31	33	101
NA	.	.	.	0	.	.	.	.	.	.
RU	16	.	.	.	.	.	.	.	.	.
UK	2	1	3	20	15	31	31	26	11	26
	1625	1224	1275	1841	1936	2821	3592	2226	3389	3643

***Genypterus blacodes* - Kingclip**

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

GRT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<400	24	.	.	.	.	.	.	.	.	.
400-599	19	3	1	5	34	13	.	.	.	.
600-799	408	305	224	127	102	215	458	393	675	460
800-999	146	70	186	325	225	333	565	297	431	467
1000-1499	838	661	680	921	1099	1650	1834	986	1451	1662
1500-1999	144	175	121	376	383	569	692	533	813	1039
2000-2999	46	8	63	82	92	42	41	18	18	15
>2999	.	1	0	4	0	0	2	0	1	0
	1625	1224	1275	1841	1936	2821	3592	2226	3389	3643

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

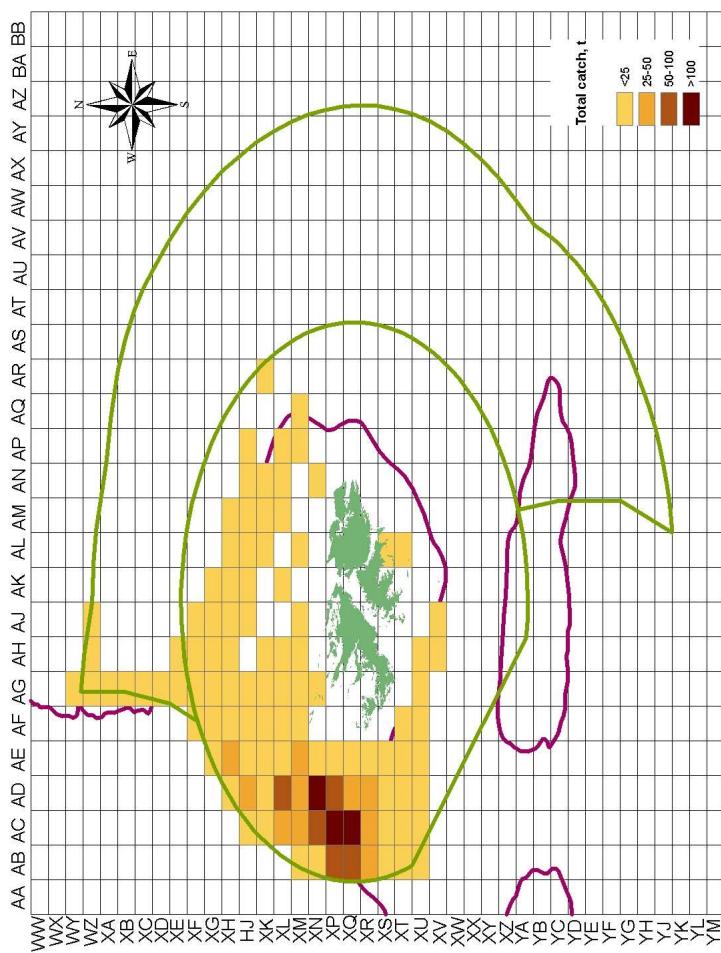
LOA	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<45	.	.	.	.	.	.	.	.	.	12
45-49	155	75	138	291	110	299	435	285	300	364
50-54	378	302	321	271	387	459	604	499	742	364
55-59	224	217	155	183	197	354	402	187	389	688
60-64	304	150	236	292	445	484	805	490	834	755
65-69	218	172	184	602	630	899	943	468	674	1075
70-79	302	304	207	109	80	255	354	223	404	384
80-89	45	4	29	88	85	70	41	73	44	.
>89	.	1	5	4	1	0	7	2	1	1
	1625	1224	1275	1841	1936	2821	3592	2226	3389	3643

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

BHP	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<1000	.	.	.	.	.	.	.	.	.	.
1000-1199	.	.	.	.	.	.	.	.	.	12
1200-1399	218	146	88	.	13	65	133	57	127	113
1400-1599	178	161	229	377	232	609	856	661	914	513
1600-1799	71	49	153	81	126	232	427	265	338	607
1800-1999	589	518	469	876	884	1041	1194	638	1036	1557
2000-2499	272	236	185	296	394	677	825	532	911	726
2500-2999	250	103	82	104	179	125	88	32	32	73
3000-3999	47	7	62	101	105	72	51	41	28	41
>3999	1	4	8	5	3	1	18	1	1	0
	1625	1224	1275	1841	1936	2821	3592	2226	3389	3643

Genypterus blacodes

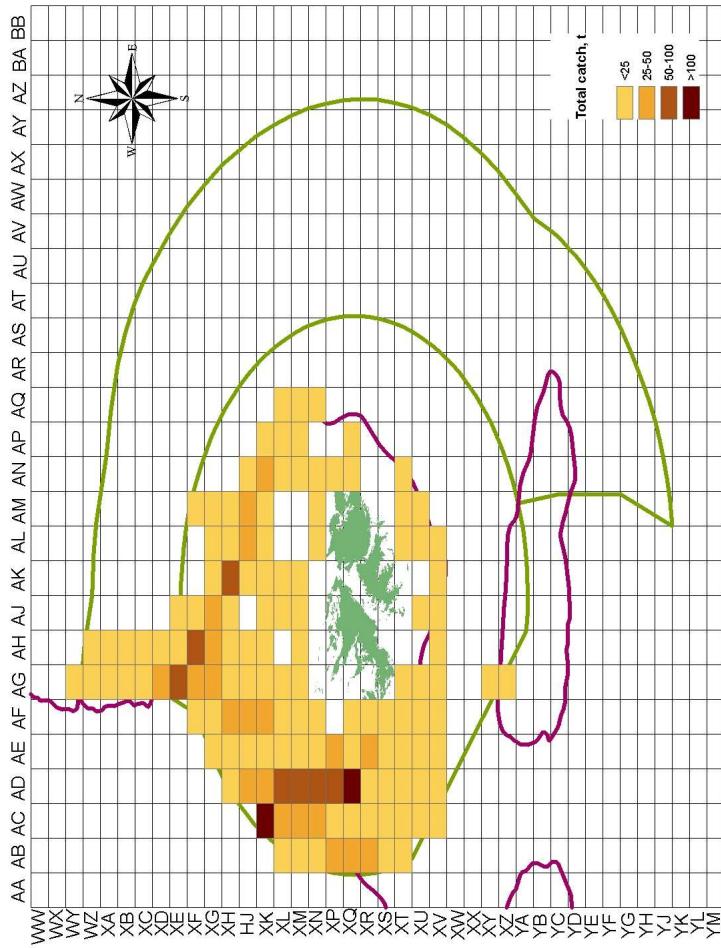
1st Season 2010 (01 Jan to 30 Jun)



Catch (mt) by grid square)

Genypterus blacodes

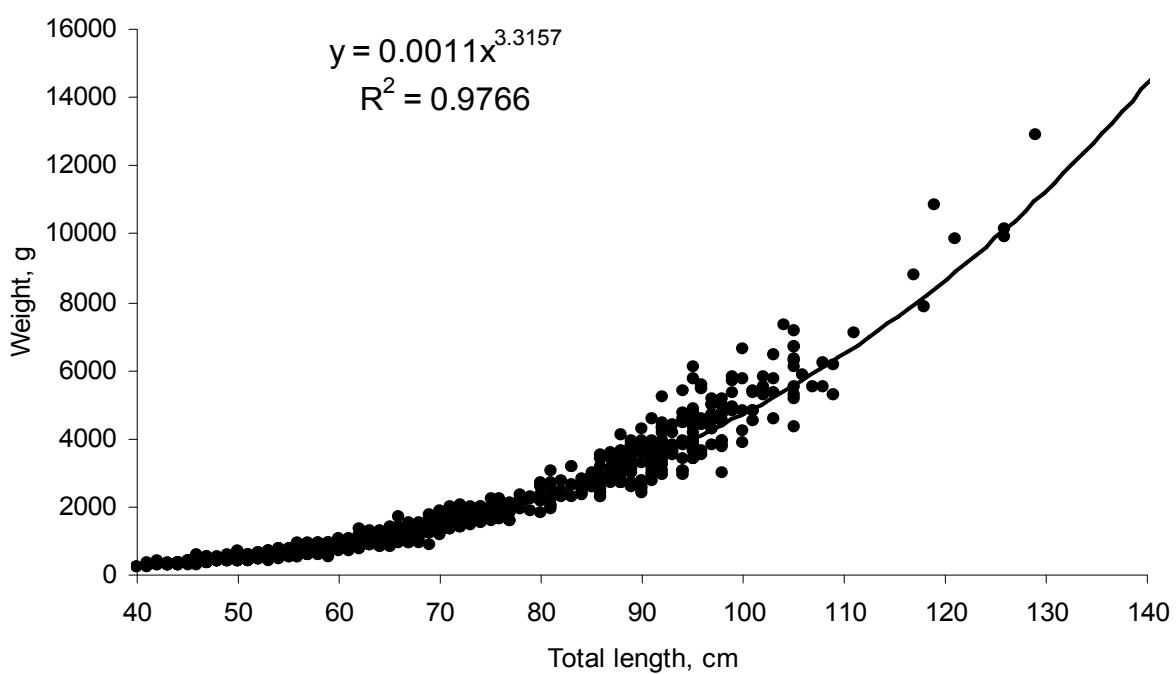
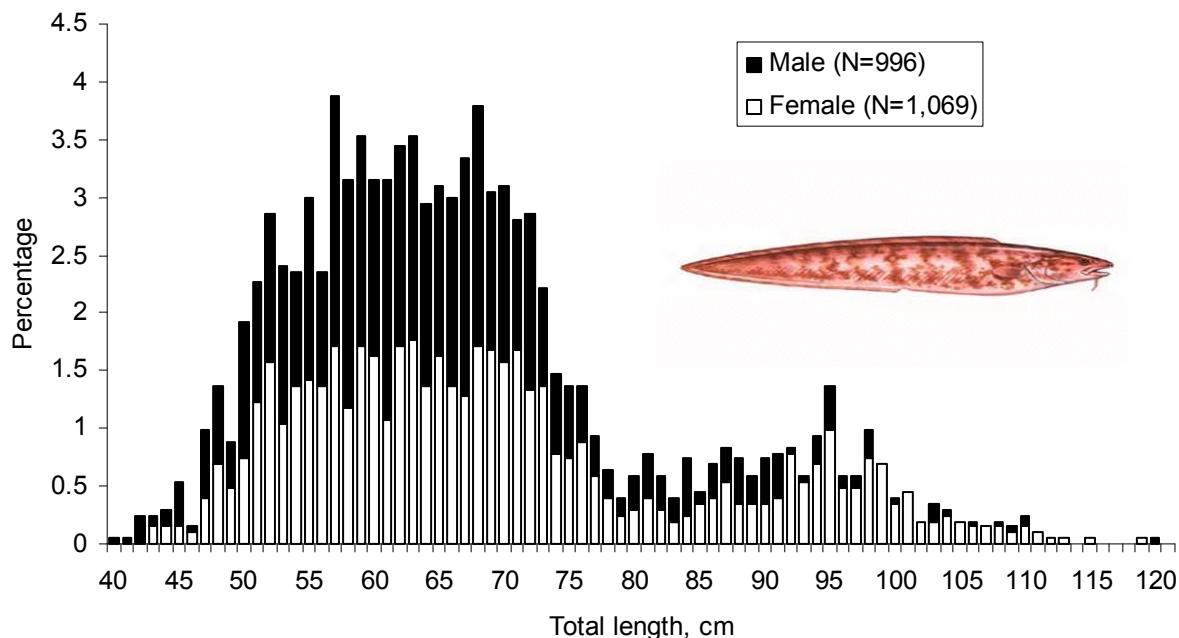
2nd Season 2010 (01 Jul to 31 Sep)



Catch (mt) by grid square)

Genypterus blacodes - Kingclip

Length- frequency distribution and length-weight relationship in trawler fleets in 2010



Dissostichus eleginoides - Toothfish

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

VESSEL TYPE	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
LO	1310	1440	1455	1725	1554	1244	1407	1368	1134	943
PO	.	.	.	.	.	263	59	.	.	0
TR	443	352	253	276	123	65	53	61	285	460
	1754	1793	1707	2002	1677	1572	1519	1429	1419	1403

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

MONTH	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
January	105	100	143	167	147	331	123	248	123	129
February	172	58	196	188	144	174	116	181	163	141
March	172	116	103	167	116	247	103	159	210	207
April	206	108	49	113	64	146	50	193	84	169
May	178	103	61	150	119	65	106	93	116	167
June	107	87	90	97	99	98	61	51	98	62
July	128	192	162	157	116	150	56	113	91	136
August	181	303	194	269	214	95	137	116	129	100
September	157	262	157	142	186	124	167	52	184	105
October	145	183	277	218	219	54	124	10	80	23
November	138	144	160	223	116	79	209	102	26	52
December	65	136	115	110	138	8	266	111	115	112
	1754	1793	1707	2002	1677	1572	1519	1429	1419	1403

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

Fishing fleet	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
BZ	11	0	.	.	.	.	.	.	.	.
CL	.	.	.	.	.	.	301	.	.	.
EE	.	.	0	.	0	.	.	.	.	.
ES	230	191	147	158	73	43	34	36	203	366
FK	1460	1323	967	1641	1597	1264	1123	1391	1210	1028
JP	.	2	0	0	.	.	.	.	.	.
KR	49	268	549	196	7	264	60	1	.	6
NZ	.	.	43	.	.	.	.	.	.	.
RU	0	.	.	.	.	.	.	.	.	0
UK	3	8	1	6	0	1	1	0	5	2
VC	0	.	.	.	.	.	.	.	.	.
	1754	1793	1707	2002	1677	1572	1519	1429	1419	1403

***Dissostichus eleginoides* - Toothfish**

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

GRT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<400	2	243	184	182	.	.	.	.	.	.
400-599	1	2	346	0	0	0	.	.	.	.
600-799	48	35	36	22	4	268	67	10	33	45
800-999	1072	1112	746	1564	1556	1248	1108	1369	1166	982
1000-1499	557	328	347	161	73	31	322	20	106	234
1500-1999	47	59	33	58	28	25	21	29	88	135
2000-2999	27	13	15	15	16	1	0	1	25	6
>2999	.	.	0	.	.	.	.	.	.	.
	1754	1793	1707	2002	1677	1572	1519	1429	1419	1403

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

LOA	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<45	358	136	.	.	.	.	.	.	.	2
45-49	34	33	407	16	1	148	61	1	10	34
50-54	106	306	246	904	858	718	529	990	1169	975
55-59	1020	1118	921	890	723	662	592	392	26	58
60-64	68	54	63	64	21	12	312	4	27	50
65-69	41	59	38	102	52	25	14	23	75	179
70-79	100	82	25	11	8	5	9	15	89	105
80-89	24	2	7	14	13	3	1	3	16	.
>89	0	1	1	0	1	.	0	.	5	0
	1754	1793	1707	2002	1677	1572	1519	1429	1419	1403

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

BHP	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<1000	.	.	.	.	.	.	.	.	.	0
1000-1199	.	.	43	.	.	.	.	.	.	2
1200-1399	21	11	3	.	0	146	59	.	.	9
1400-1599	1029	1115	1269	1598	1572	1258	1119	1382	1191	1011
1600-1799	16	264	243	213	8	120	304	5	20	30
1800-1999	165	129	84	123	56	31	14	23	68	205
2000-2499	426	217	31	36	21	15	20	17	110	131
2500-2999	67	34	16	10	4	1	1	1	5	6
3000-3999	29	19	15	20	15	1	1	1	25	8
>3999	1	3	2	1	1	.	.	.	.	.
	1754	1793	1707	2002	1677	1572	1519	1429	1419	1403

***Dissostichus eleginoides* - Toothfish**

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

GRT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<400
600-799	263*	59*	.	.	0*
	263	59	.	.	0

*- potters

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

LOA	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
45-49	146*	59*	.	.	.
50-54	117*	.	.	.	0*
	263	59	.	.	0

*- potters

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

BHP	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
800-1000	0*
1200-1499	146*	59*	.	.	.
1600-1799	117*	.	.	.	.
	263	59	.	.	0

*- potters

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

GRT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<400	.	243	184	182	.	.	.	.	.	.
400-599	.	.	346	.	.	.	.	.	.	.
600-799	.	.	.	.	.	.	.	.	.	.
800-999	1011	1070	723	1543	1554	1244	1106	1368	1134	943
1000-1499	299	127	202	.	.	301	.	.	.	.
	1310	1440	1455	1725	1554	1244	1407	1368	1134	943

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

LOA	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<45	358	136	.	.	.	.	.	.	.	.
45-49	.	.	389	.	.	.	.	.	.	.
50-54	.	243	184	849	838	587	516	976	1134	943
55-59	952	1061	881	876	716	657	590	392	.	.
60-64	.	.	.	.	.	301	.	.	.	.
	1310	1440	1455	1725	1554	1244	1407	1368	1134	943

***Dissostichus eleginoides* - Toothfish**

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

BHP	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<1000	.	.	.	.	.	.	.	.	.	.
1000-1199	.	.	43	.	.	.	.	.	.	.
1200-1399	.	.	.	.	.	.	.	.	.	.
1400-1599	952	1061	1227	1543	1554	1244	1106	1368	1134	943
1600-1799	.	243	184	182	.	.	301	.	.	.
1800-1999	.	.	.	.	.	.	.	.	.	.
2000-2499	358	136	.	.	.	.	.	.	.	.
	1310	1440	1455	1725	1554	1244	1407	1368	1134	943

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

GRT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<400	2	.	.	0	.	.	.	.	.	.
400-599	1	2	0	0	0	0	.	.	.	.
600-799	48	35	36	22	4	5	8	10	33	45
800-999	61	42	23	20	2	4	2	1	33	39
1000-1499	258	200	146	161	73	31	21	20	106	234
1500-1999	47	59	33	58	28	25	21	29	88	135
2000-2999	27	15	15	15	16	1	0	1	25	6
>2999	.	.	0	.	.	.	.	.	.	.
	443	352	253	276	123	65	53	61	285	460

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

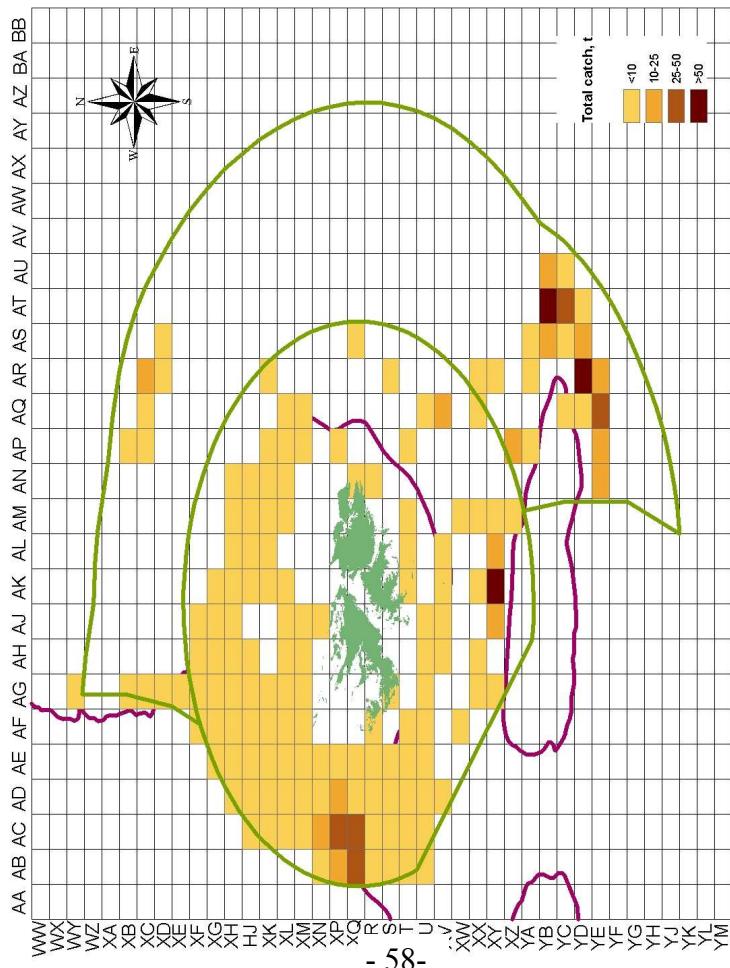
LOA	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<45	.	.	.	.	.	.	.	.	.	2
45-49	34	33	18	16	1	2	2	1	10	34
50-54	106	63	62	55	20	14	13	14	35	32
55-59	69	57	39	13	7	5	2	0	26	58
60-64	68	54	62	64	21	12	12	4	27	50
65-69	41	59	38	102	52	25	14	23	75	179
70-79	100	82	25	11	8	5	9	15	89	105
80-89	24	2	7	14	13	3	1	3	16	.
>89	0	1	1	.	1	.	0	.	5	0
	443	352	253	276	123	65	53	61	285	460

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

BHP	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<1000	.	.	.	.	.	.	.	.	.	.
1000-1199	.	.	.	.	.	.	.	.	.	2
1200-1399	21	11	3	.	0	.	.	.	.	9
1400-1599	77	54	42	55	19	14	13	14	58	68
1600-1799	16	21	58	31	8	3	3	5	20	30
1800-1999	165	129	84	123	56	31	14	23	68	205
2000-2499	68	81	31	36	21	15	20	17	110	131
2500-2999	67	34	16	10	4	1	1	1	5	6
3000-3999	29	19	15	20	15	1	1	1	25	8
>3999	1	3	2	1	1	.	.	.	.	.
	443	352	253	276	123	65	53	61	285	460

Dissostichus eleginoides

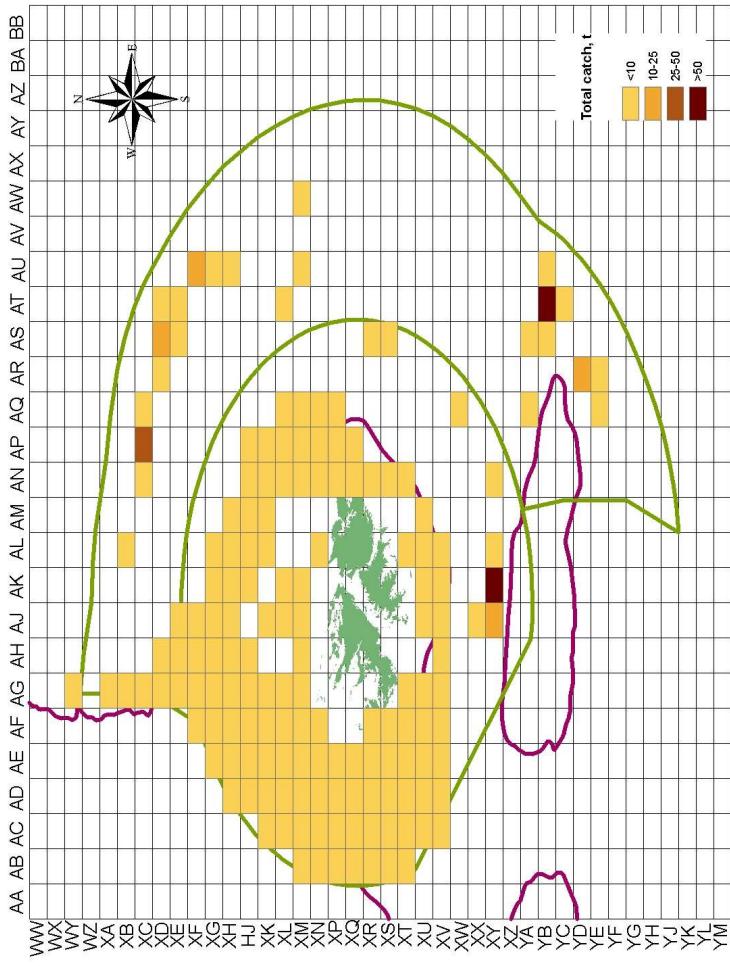
1st Season 2010 (01 Jan to 30 Jun)



Catch (mt) by grid square)

Dissostichus eleginoides

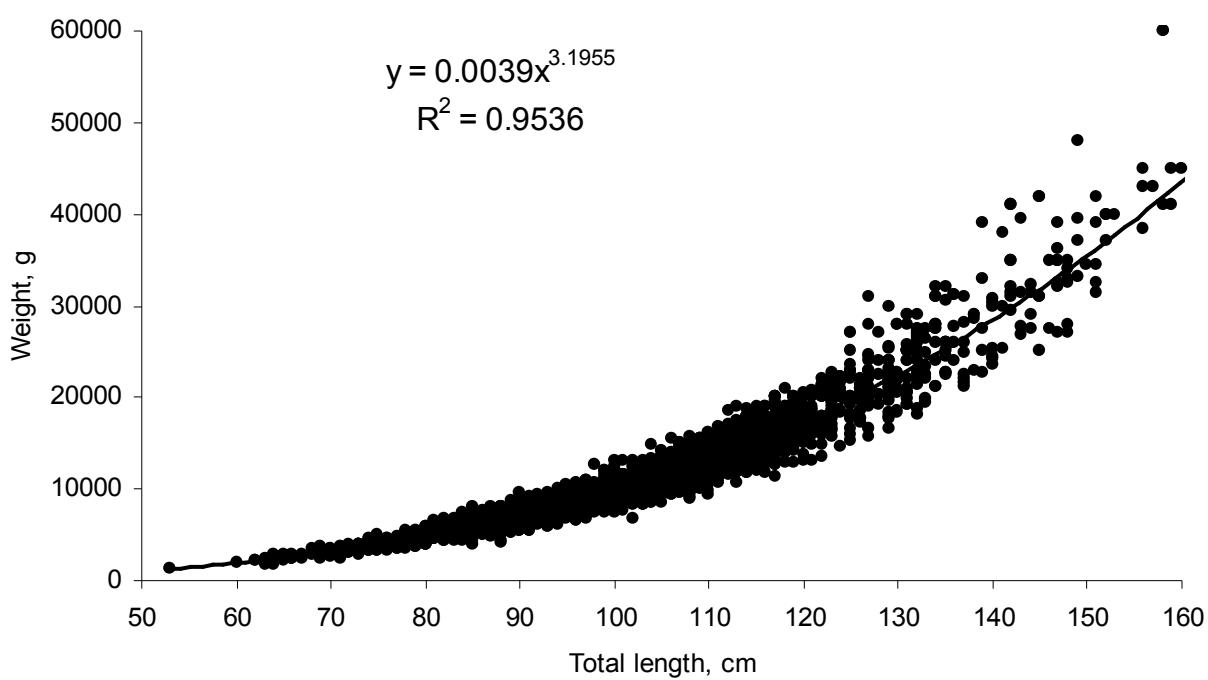
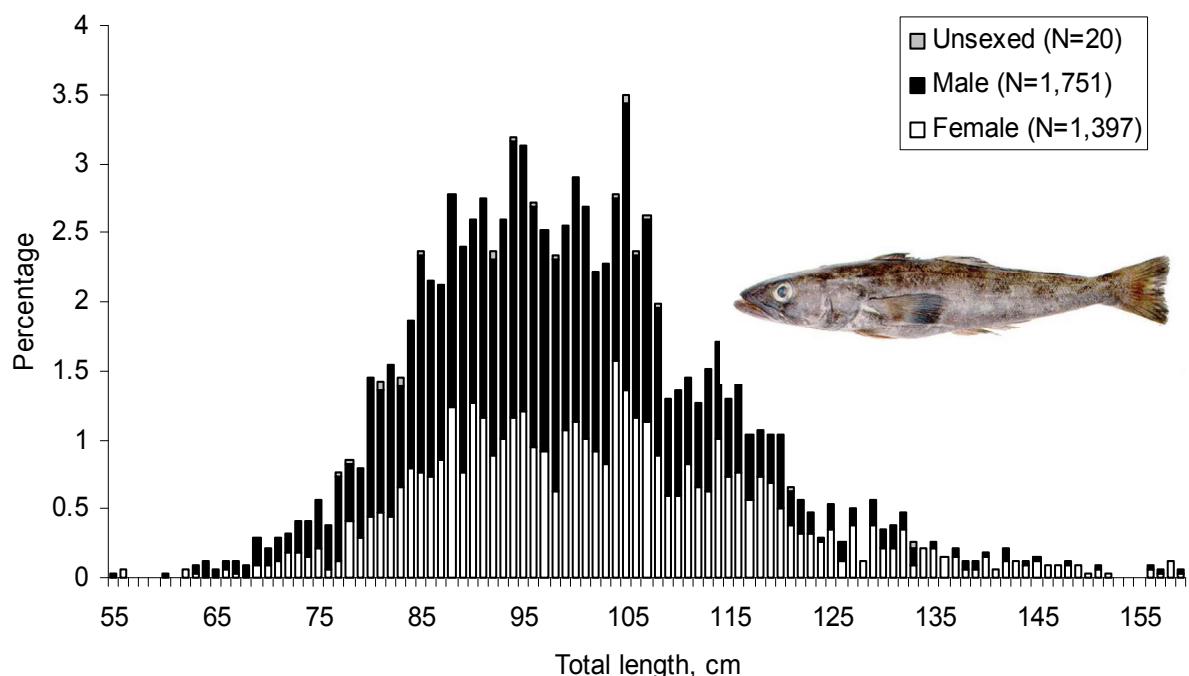
2nd Season 2010 (01 Jul to 31 Dec)



Catch (mt) by grid square)

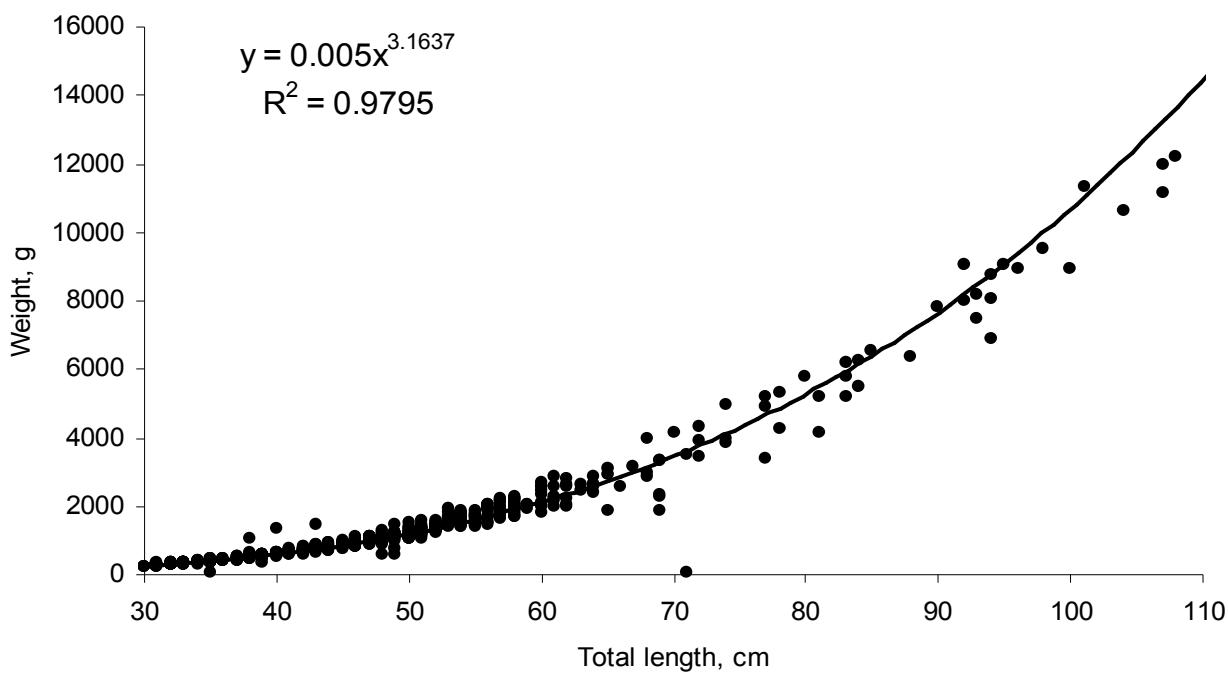
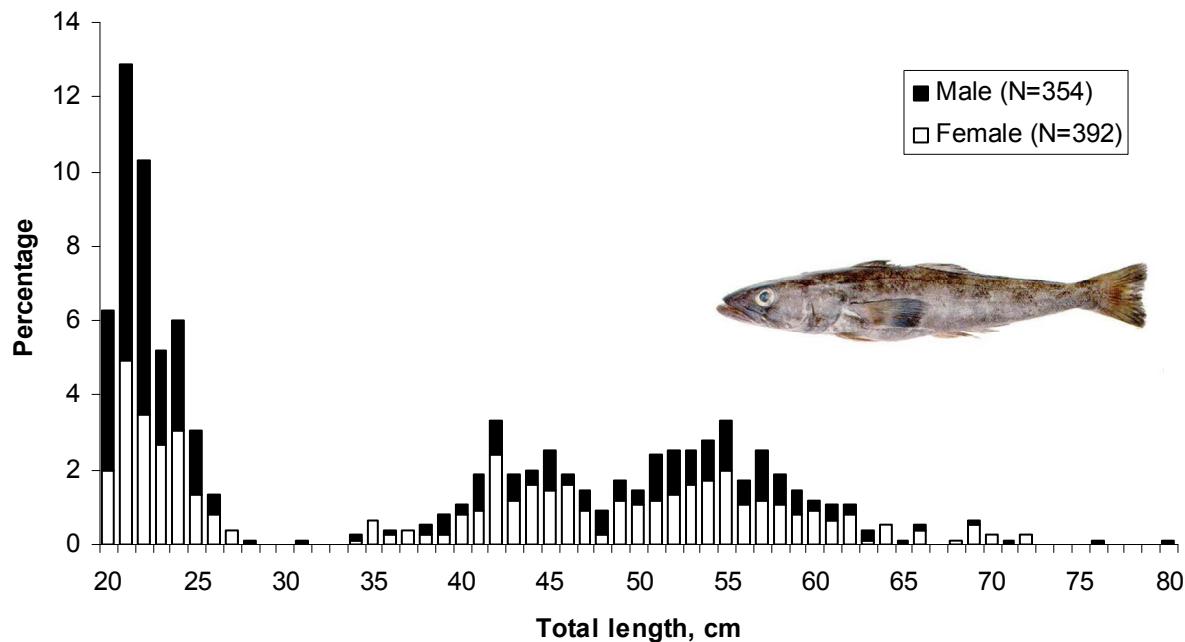
Dissostichus eleginoides - Toothfish

Length- frequency distribution and length-weight relationship in longliner fleet in 2010



***Dissostichus eleginoides* - Toothfish**

Length- frequency distribution and length-weight relationship in trawler fleets in 2010



Rajidae - Skates and Rays

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

VESSEL TYPE	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
LO	101	96	152	168	75	150	42	28	22	23
PO	.	.	.	.	0	.	.	.	0	.
TR	4207	3268	3836	4983	5623	4529	5621	3825	5850	5899
	4309	3364	3988	5151	5698	4679	5663	3853	5872	5922

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

MONTH	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
January	199	196	32	1257	92	86	108	120	96	43
February	208	49	404	159	423	160	173	200	179	166
March	72	202	139	95	83	80	179	142	178	168
April	127	170	77	113	56	134	176	187	304	333
May	110	115	195	148	165	122	190	189	555	474
June	42	175	223	142	21	32	124	95	662	338
July	104	22	459	93	566	133	394	516	570	323
August	950	552	1596	1589	2267	1665	1999	1229	1330	1650
September	881	1248	592	1022	821	1019	1109	668	851	1146
October	1294	431	161	352	490	881	722	220	407	326
November	306	168	81	59	590	305	141	119	511	419
December	16	35	29	120	125	62	350	167	229	536
	4309	3364	3988	5151	5698	4679	5663	3853	5872	5922

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

Fishing fleet	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
BZ	201	10	.	.	.	.	.	.	.	.
CL	.	.	.	.	.	.	12	.	.	.
EE	.	.	.	4	.	11	.	.	.	.
ES	430	555	412	515	634	1160	1745	1518	2665	2513
FK	417	474	320	653	612	770	675	419	902	943
JP	0	.	.	1	.	.	.	.	.	.
KR	3218	2304	3241	3937	4413	2720	3197	1891	2262	2394
NA	.	.	.	.	.	.	.	.	.	.
NZ	.	.	4	.	.	.	.	.	.	.
RU	12	.	.	.	.	.	.	.	.	0
UK	26	19	5	16	16	11	34	25	44	71
UY	5	2	5	24	23	6	.	.	.	.
VC	0	.	.	.	.	.	.	.	.	.
	4309	3364	3988	5151	5698	4679	5663	3853	5872	5922

Rajidae - Skates and Rays

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

GRT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<400	485	31	34	43	.	.	.	.	.	.
400-599	281	248	272	241	404	209	.	.	.	.
600-799	1425	707	1194	889	918	531	1230	957	1214	1133
800-999	1017	1250	1571	2636	2568	1861	2014	1298	1747	1723
1000-1499	949	805	636	904	1103	1713	1905	1299	2211	2251
1500-1999	94	255	222	147	163	208	464	248	610	775
2000-2999	57	68	58	288	542	156	51	51	91	40
>2999	.	0	.	1	.	.	.	.	.	.
	4309	3364	3988	5151	5698	4679	5663	3853	5872	5922

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

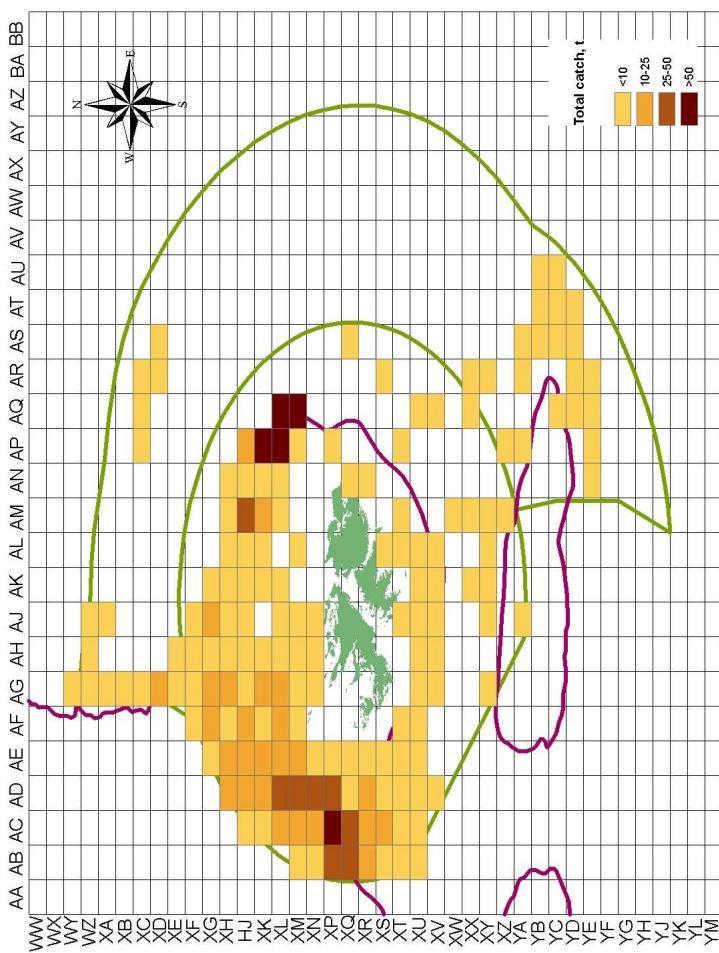
LOA	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<45	47	15	1	.	.	.	.	.	.	18
45-49	701	427	905	636	661	529	1028	848	858	782
50-54	1993	1792	2002	2938	3228	1951	2003	1208	1782	2020
55-59	691	259	328	479	371	689	770	453	729	825
60-64	537	343	350	316	410	670	760	647	988	689
65-69	145	176	127	420	448	558	800	346	580	824
70-79	165	323	255	288	472	241	258	293	845	762
80-89	31	26	20	71	108	40	43	57	88	.
>89	.	1	.	1	.	0	1	2	1	0
	4309	3364	3988	5151	5698	4679	5663	3853	5872	5922

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

BHP	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<1000	5	2	1	.	.	.	.	.	.	0
1000-1199	.	.	4	.	.	.	.	.	.	18
1200-1399	31	78	12	.	15	41	57	50	52	40
1400-1599	166	230	269	361	340	590	512	312	556	315
1600-1799	43	94	88	101	34	146	149	264	437	710
1800-1999	343	362	281	400	486	728	979	533	894	1214
2000-2499	876	435	487	840	826	882	1037	914	1837	1451
2500-2999	2762	1934	2638	3143	3439	2126	2845	1706	1962	2062
3000-3999	75	221	208	299	555	160	82	67	134	111
>3999	8	6	0	7	3	6	1	6	1	.
	4309	3364	3988	5151	5698	4679	5663	3853	5872	5922

Rajidae

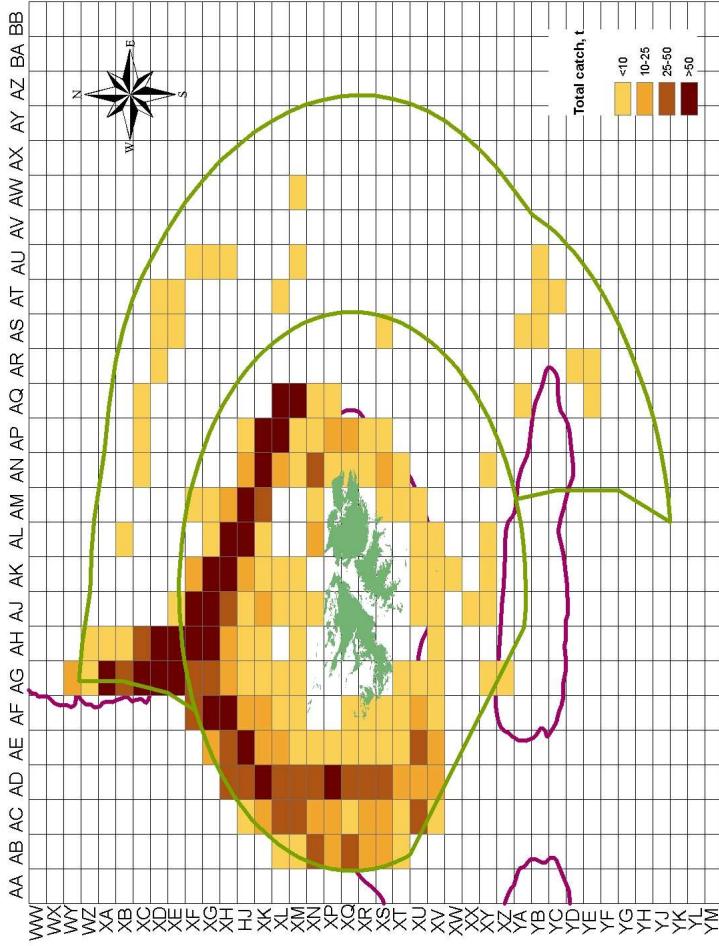
1st Season 2010 (01 Jan to 30 Jun)



Catch (mt) by grid square)

Rajidae

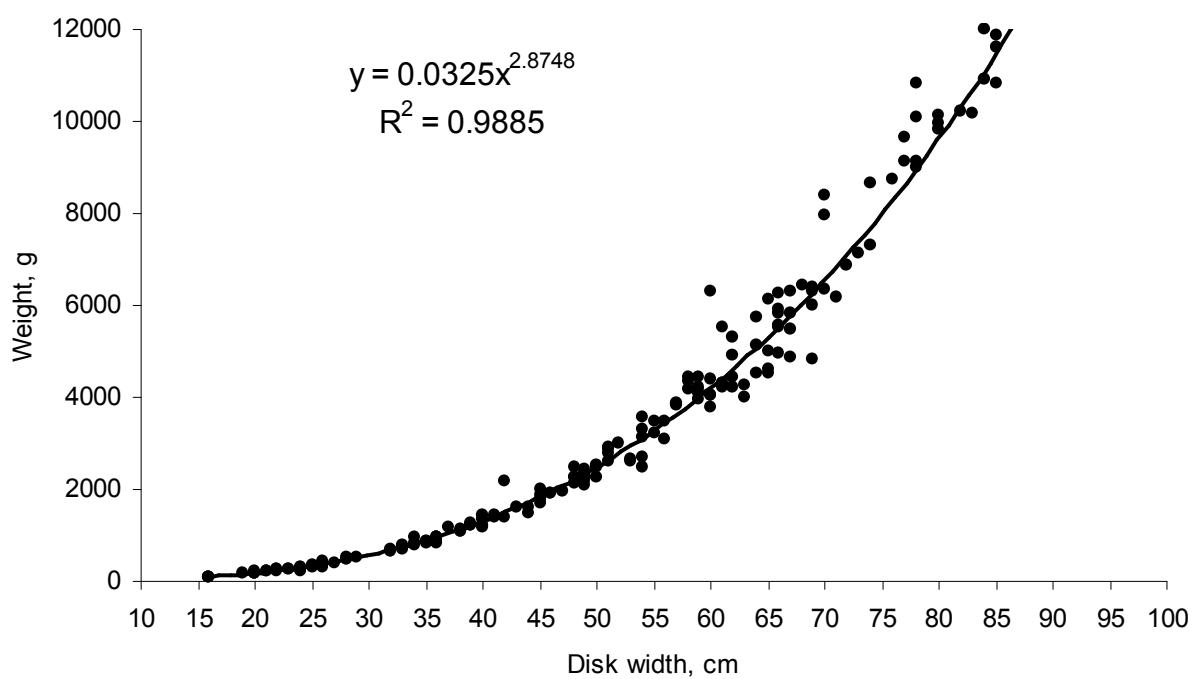
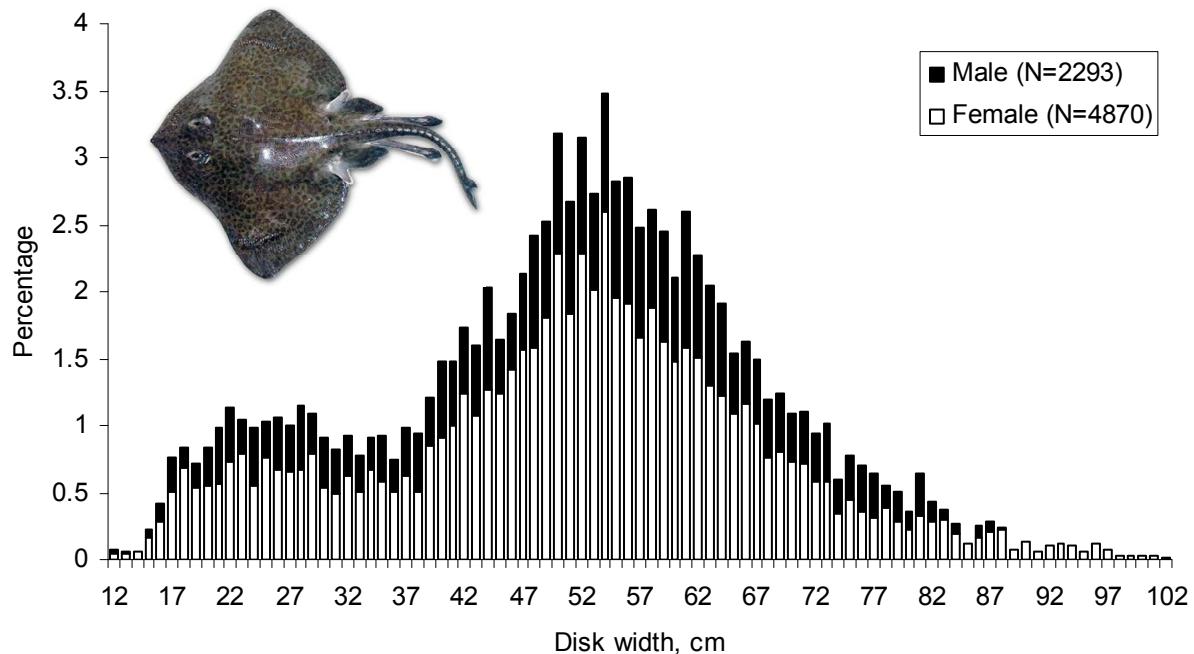
1st Season 2010 (01 Jan to 30 Jun)



Catch (mt) by grid square)

Rajidae - Skates and Rays

Length– frequency distribution and length-weight relationship in 2010 for *Bathyraja griseoocauda*



***Zygochlamys patagonica* - Scallop**

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

VESSEL TYPE	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
TR	76	59	685	1279	1358	1161	14*	6*	13*	3*
	76	59	685	1279	1358	1161	14*	6*	13*	3*

* - 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	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
January	.	59	.	441	420	342	.	.	.	.
February	.	.	.	250	207	273	0	0	1	.
March	.	.	.	519	574	450	8	3	9	1
April	75	18	4	1	2	.
May	.	.	29	.	.	74	.	.	.	.
June	.	.	12	.	.	.	.	.	.	.
July	0	.	0	1	.	2
August	0	.	1	0	.	0
September	0	.	0
October	.	.	.	41	.	.	.	.	0	.
November	.	.	440	28	81	5	.	.	.	.
December	76	.	204	.	.	.	.	.	.	.
	76	59	685	1279	1358	1161	14	6	13	3

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

Fishing fleet	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
FK	.	.	.	.	12	7	13	6	12	3
PA	.	.	.	.	.	.	1	.	.	.
UK	.	.	.	.	1	3	0	.	0	0
UY	76	59	685	1279	1346	1152	.	.	.	.
	76	59	685	1279	1358	1161	14	6	13	3

***Zygochlamys patagonica* - Scallop**

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

GRT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<400	76	59	41	.	.	.	.	.	.	.
400-599	.	.	644	1279	1346	1152	.	.	.	.
600-799	.	.	.	.	.	.	.	.	.	.
800-999	.	.	.	.	.	.	.	.	2	.
1000-1499	.	.	.	.	.	.	1	.	3	.
1500-1999	.	.	.	.	1	3	0	.	0	0
2000-2999	.	.	.	.	11	7	13	6	8	3
>2999	.	.	.	.	.	.	.	.	.	.
	76	59	685	1279	1358	1161	14	6	13	3

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

LOA	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<45	76	59	41	.	.	.	.	.	.	.
45-49
50-54	.	.	644	1279	1346	1152	.	.	2	.
55-59	4	.	.	.	.	.
60-64	1	2	.	.	.	.
65-69	7	3	0	.	4	0
70-79	1	4	1	2	1	3
80-89	1	12	3	6	.
>89	0	0	.	.	.
	76	59	685	1279	1358	1661	14	6	13	3

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

BHP	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<1000	76	59	41	.	.	.	.	.	.	.
1000-1199
1200-1399
1400-1599
1600-1799
1800-1999	2	.
2000-2499	.	.	644	1279	1347	1152	.	.	3	0
2500-2999	1	0	.	.
3000-3999	12	9	13	6	8	3
>3999
	76	59	685	1279	1358	1161	14	6	13	3

Others

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

VESSEL TYPE	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
CO	.	.	.	.	.	33*	.	.	.	87
LO	272	217	225	183	163	152	116	110	90	1
TR	1746	1025	1523	4897	10554	21830	31771	61928	59363	76998
	2018	1242	1748	5081	10717	22015	31887	62039	59453	77087

*-potters

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

MONTH	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
January	117	28	63	147	19	455	588	2991	2803	904
February	269	73	155	770	838	3265	3340	7271	6750	5709
March	255	158	61	508	476	2687	4024	10063	5140	10234
April	450	203	82	716	373	3193	3862	8427	9589	13479
May	189	47	73	495	645	2080	4507	8558	11083	11593
June	30	19	21	59	146	631	558	2320	3154	5287
July	24	28	44	273	217	814	2495	2173	2810	4467
August	94	178	81	657	1252	2306	3517	4357	2840	4205
September	142	183	239	622	2920	1905	3834	4861	3866	6107
October	296	154	552	547	1001	2013	2775	5394	6667	8969
November	131	78	296	264	2617	2433	1967	4573	3279	2144
December	22	93	82	23	213	232	421	1051	1462	3987
	2018	1242	1748	5081	10717	22015	31887	62039	59453	77087

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

Fishing fleet	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
BZ	43	0	.	.	.	.	.	.	.	.
CL	.	.	2	.	.	.	32	.	.	.
EE	.	.	.	29	.	306	.	.	.	.
ES	1011	496	850	2079	5201	11885	19456	42411	43535	53162
FK	774	624	686	2696	4984	9109	11360	18732	14846	22683
JP	.	10	38	14	4	4	1	4	2	38
KR	189	112	135	113	78	127	93	65	123	344
NA	.	.	.	25	.	.	.	.	.	.
NZ	.	.	22	.	.	.	.	.	.	.
PA	.	.	.	.	.	.	175	.	.	.
RU	0	.	.	.	.	.	.	.	.	1
UY	.	.	.	.	0	11	.	.	.	.
UK	.	.	15	125	450	573	769	826	946	859
	2018	1242	1748	5081	10717	22015	31887	62039	59453	77087

Others

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

GRT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<400	25	48	38	26	0	.	0	.	.	.
400-599	28	2	54	5	18	18	.	.	.	.
600-799	129	81	125	98	127	776	2501	3947	3918	5514
800-999	443	296	199	498	648	1949	2687	6494	7403	6119
1000-1499	1156	464	909	2960	5520	11762	16819	37377	36265	45440
1500-1999	70	170	232	789	2212	4464	6203	9293	8441	15181
2000-2999	166	172	174	684	2188	3043	3659	4923	3424	4795
>2999	.	10	17	14	4	4	18	4	2	38
	2018	1242	1748	5081	10717	22015	31887	62039	59453	77087

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

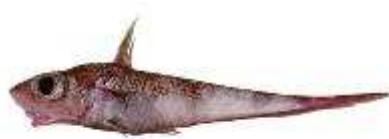
LOA	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<45	112	61	.	0	0	.	.	.	.	406
45-49	127	92	147	337	404	1938	3175	6191	6189	6449
50-54	376	231	271	708	1457	3176	2977	4204	4928	4712
55-59	440	200	393	249	673	2215	2676	8541	7586	16714
60-64	291	126	237	1368	2677	4921	8208	16145	15978	16861
65-69	304	161	345	1595	3179	5220	8635	15055	13550	18274
70-79	281	319	263	442	941	2561	4516	9280	9633	13181
80-89	54	16	43	356	1328	1613	1403	2334	1441	129
>89	33	37	49	27	58	371	296	290	148	361
	2018	1242	1748	5081	10717	22015	31887	62039	59453	77087

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

BHP	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<1000	.	.	.	0	0	.	.	.	.	1
1000-1199	.	.	22	.	0	.	.	.	.	406
1200-1399	53	48	93	.	50	438	1619	1960	1278	1747
1400-1599	422	240	250	627	890	3282	2396	6470	8152	7626
1600-1799	39	98	158	638	1152	2974	5275	11356	9726	11532
1800-1999	733	262	621	1778	3881	7174	10735	20906	19873	30510
2000-2499	290	334	304	1096	1816	3970	6862	15191	15635	18975
2500-2999	314	75	92	110	108	440	520	349	262	585
3000-3999	113	143	151	776	2367	2917	3904	5103	4094	5202
>3999	54	42	57	56	453	820	577	704	434	502
	2018	1242	1748	5081	10717	22015	31887	62039	59453	77087

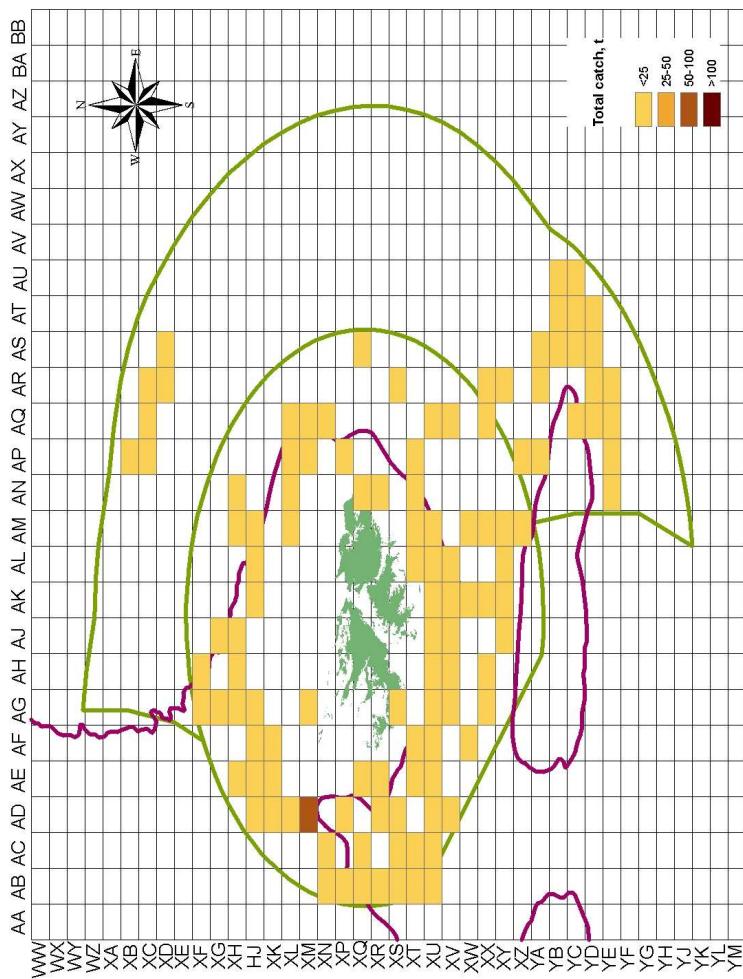
Table O.7 Total catch (tonnes) of others by species in 2010

Common name	Latin name	Catch
Blue Antimora	<i>Antimora rostrata</i>	12
Butterfish	<i>Stromateus brasiliensis</i>	2
Crabs	Lithodidae	1
Dogfish	<i>Squalus acanthias</i>	1
Eelpout	<i>Iluocetes fimbriatus</i>	0
Falkland Herring	<i>Sprattus fuegensis</i>	1
Flat fish	<i>Mancopsetta spp.</i>	1
Frogmouth	<i>Cottoperca gobio</i>	11
Greater Hooked Squid	<i>Moroteuthis ingens</i>	36
Grenadier	Macrouridae	450
Icefish	<i>Chamsocephalus esox</i>	6
Lobster Krill	<i>Munida spp.</i>	6
Moonfish	<i>Lampris immaculatus</i>	1
Porbeagle	<i>Lamna nasus</i>	2
Red Fish	<i>Sebastes oculatus</i>	46
Rock Cod	<i>Patagonotothen spp.</i>	76411
Scallop	<i>Zygochlamys patagonica</i>	3
Others		96
Total		77087



Others

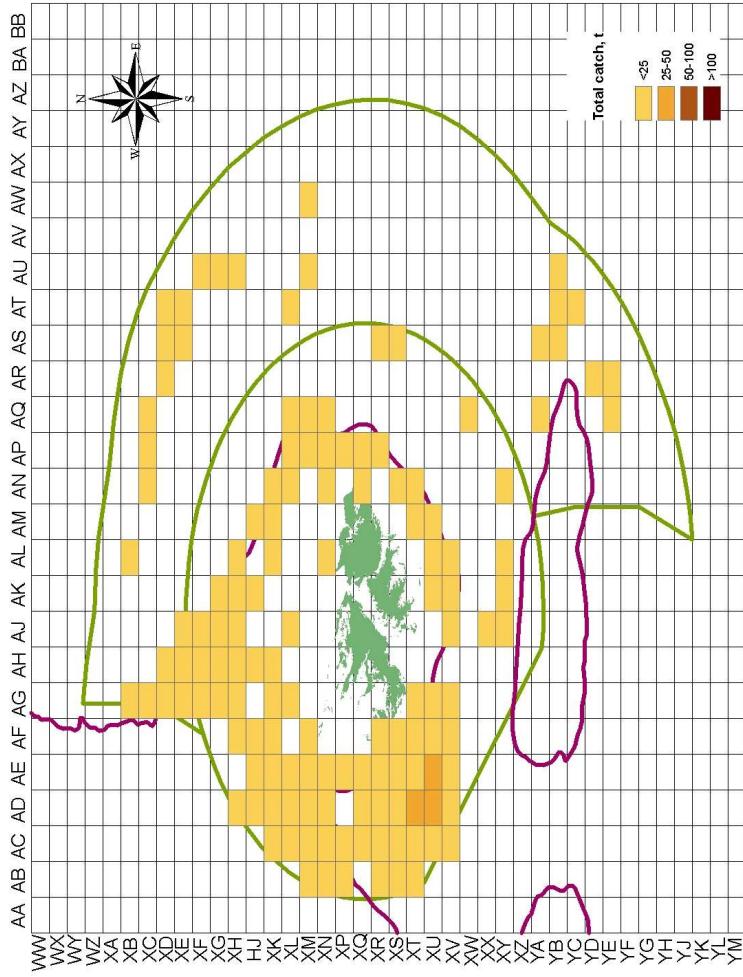
1st Season 2010 (01 Jan to 30 Jun)



Catch (mt) by grid square)

Others

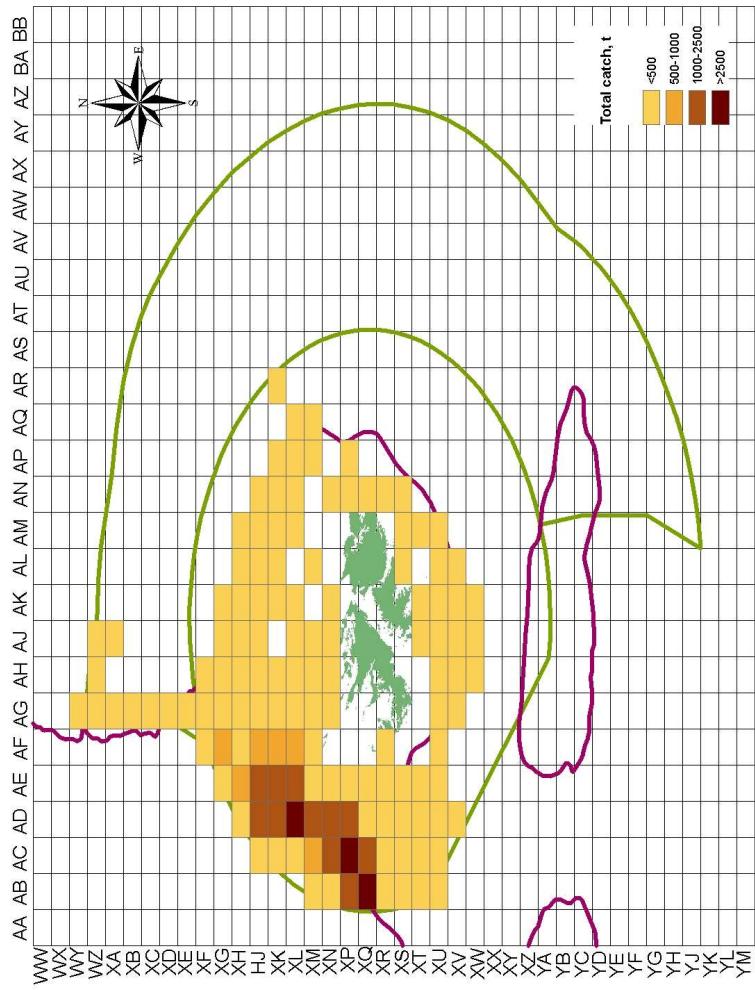
2nd Season 2010 (01 Jul to 31 Dec)



Catch (mt) by grid square)

Patagonotothen ramsayi

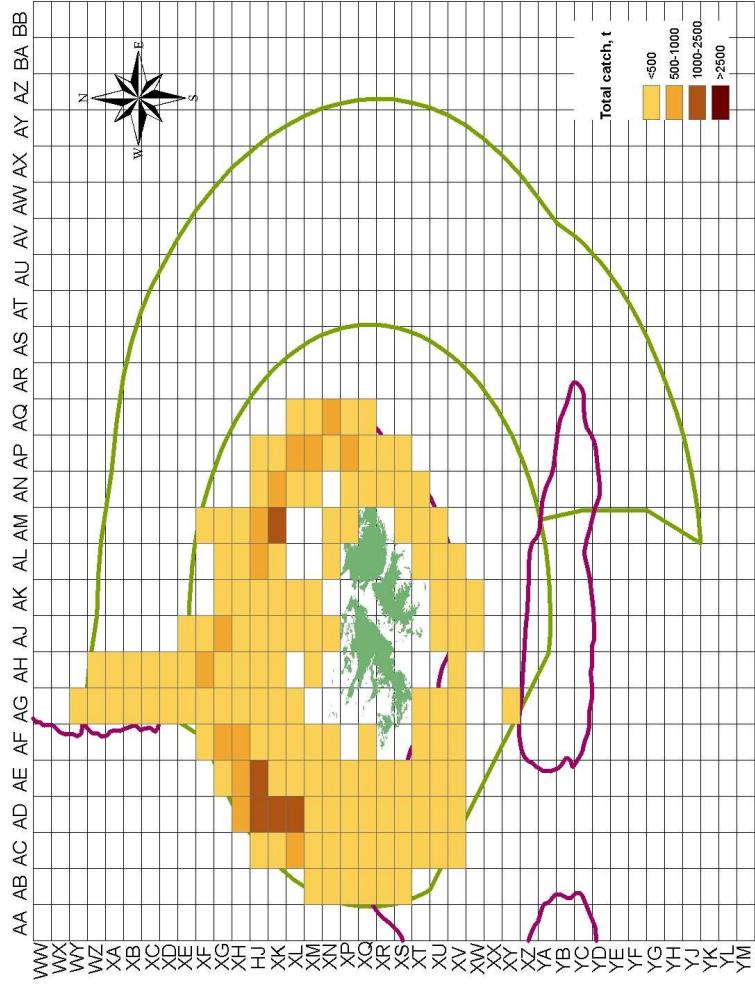
1st Season 2010 (01 Jan to 30 Jun)



Catch (mt) by grid square)

Patagonotothen ramsayi

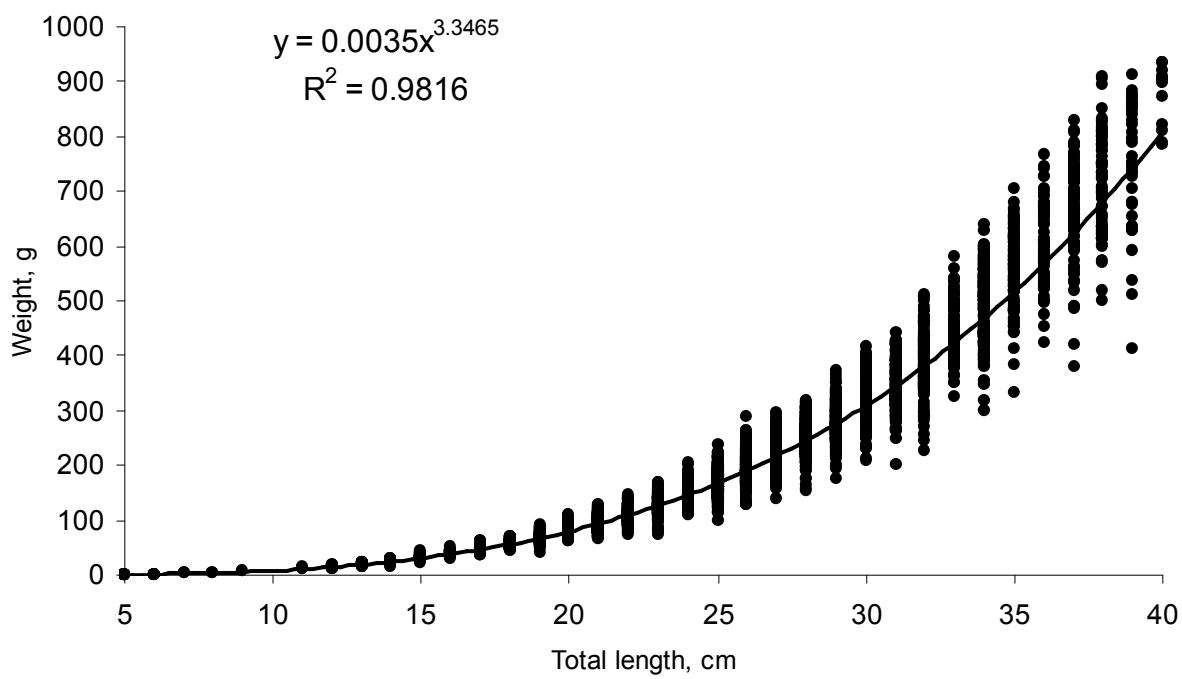
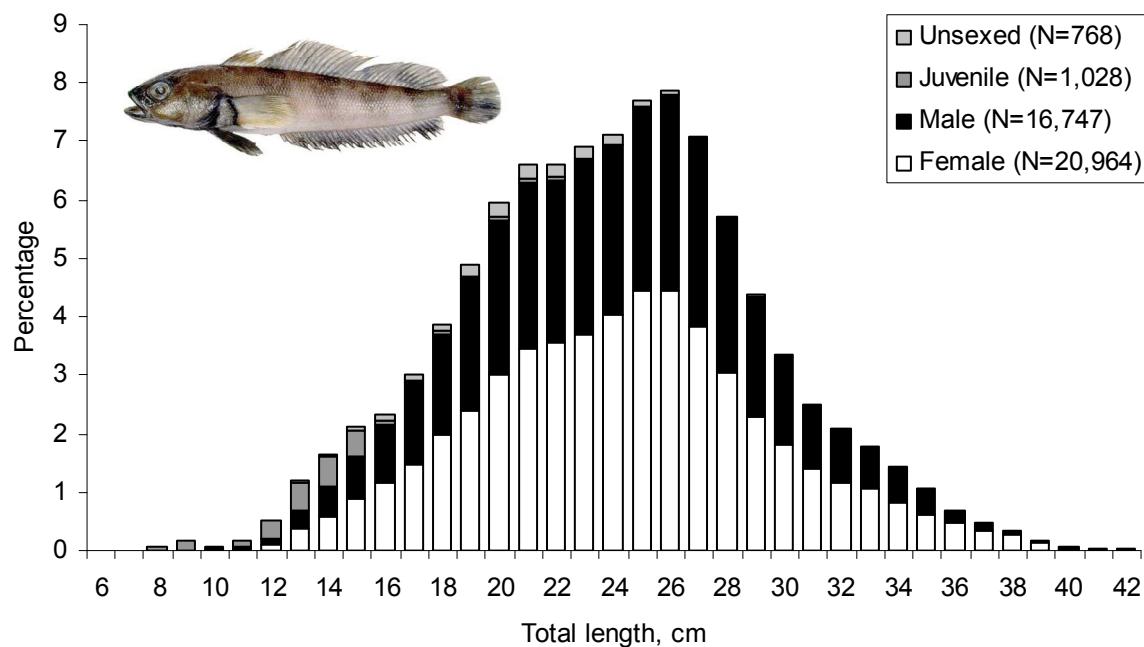
2nd Season 2010 (01 Jul to 31 Dec)



Catch (mt) by grid square)

***Patagonotothen ramsayi*—Rock Cod**

Length– frequency distribution and length-weight relationship in 2010



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