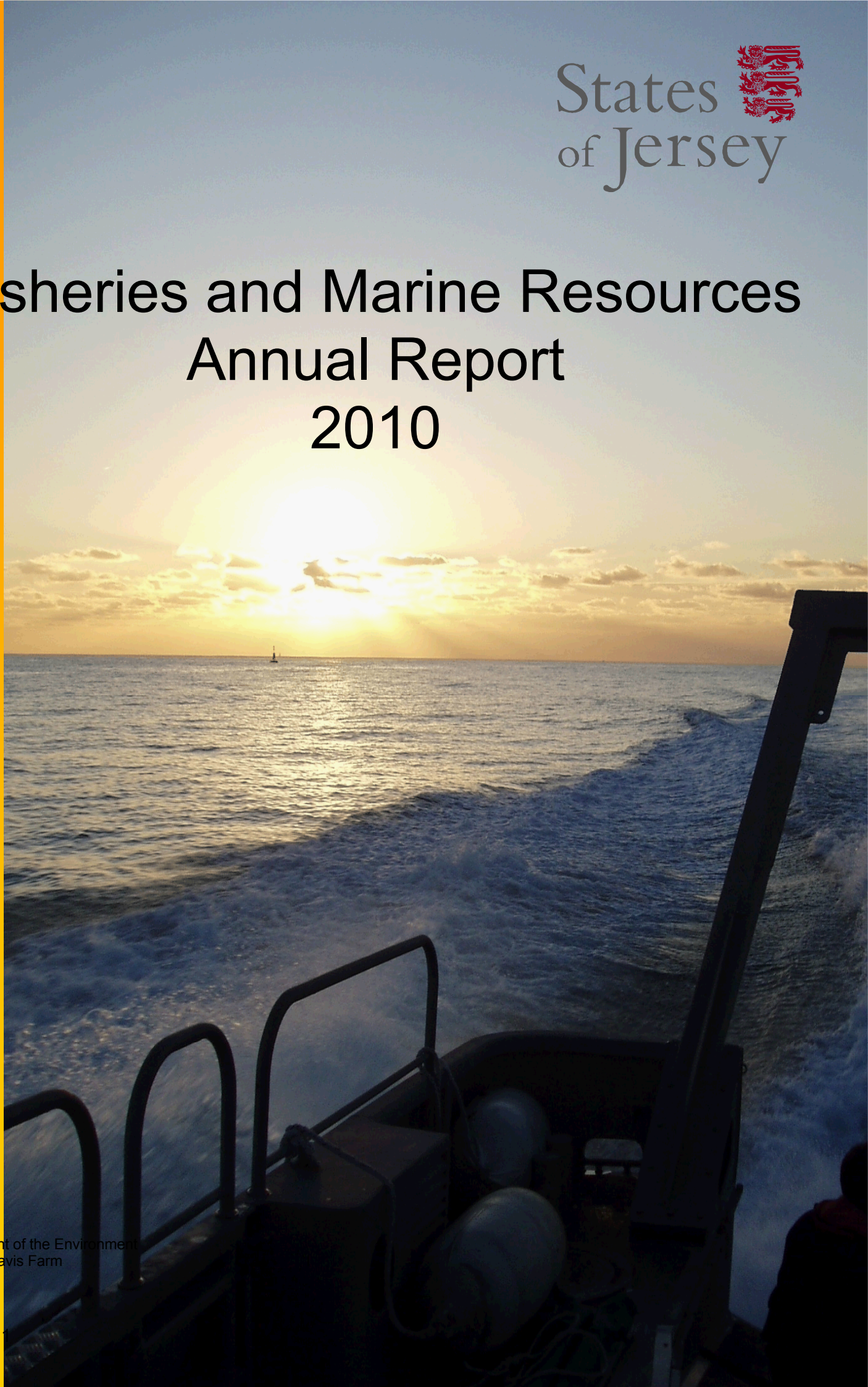
States of Jersey

Fisheries and Marine Resources Annual Report 2010



Department of the Environment
Howard Davis Farm
Trinity
Jersey

May 2011

Executive Summary

While the commercial fleet reduced in size by a marginal amount (4 vessels) to 160 vessels, the landings of fish and shellfish increased substantially and for shellfish is the highest recorded aggregated value since logbook data have been collected in 1996. A total of 1711 tons of shellfish was landed, an increase of 45% on the previous year. Of particular note is the increase in lobster landings to a record 225 tons up 27% from 2009. Landings of brown crab, whelk and scallop also increased and only spider crab decreased by small amount (2.2%). An increase of 17% in the landing per unit effort in the lobster fishery would indicate that the increase in landings is due in part to a stronger population of lobster and not just extra fishing effort. Wet fish landings also increased (+55%) and of note were the increased landings of sea bream, ray and bass although these landings have still not yet recovered to the much higher levels seen in the 2004-2006 period.
The increased landings gave rise to an increase in value of landings for wet fish and shellfish of 41% and 30% respectively.

The Aquaculture industry continued to suffer problems with the Oyster Herpes virus and associated high Oyster mortality. This resulted in a drop in overall aquaculture production from just over a 1000 ton in 2009 to approximately 832 ton in 2010. Despite this, the industry maintained a small overall growth in value of 2.19%; mainly due to an increase in mussel production and export.

Monitoring and research work, independent from the capture fishery continued in order to provide data to management authorities to enable educated decision making. Whelk, ormer and lobster populations attracted the bulk of the work. A study to investigate fish movement patterns using acoustic tags to compliment management work on RAMSAR sites and possible Marine Protected areas was begun and produced some very useful results.

Work related to the Integrated Coastal Zone Management Strategy continued well despite resource issues. Significant progress was made with respect to the management of the four Ramsar sites with the formation of the Ramsar Management Authority (RMA) and the Technical sub-group. Other areas of work included Marine Stewardship Council accreditation for lobster and development of the aquaculture strategy.

Under FEPA five licences were issued including licences for sand relocation around St. Aubin's harbour, work on the La Collette access, placement of French acoustic monitors and burials at sea.

Electronic surveillance systems have meant that regulation of fishing has become a lot more targeted and efficient and led to important prosecutions. Work with the Jersey Coast Guard has evolved well and produced some useful results. Logbook data is coming in more regularly and is extremely useful in gauging the progress of various fisheries. Some landings by non licensed vessels have been reported and this presents an ongoing problem for the section to deal with. Net measuring has become significantly more accurate and robust with electronic net measuring apparatus.

2010 was the last year that the section functioned under the current structure as it will be reduced by two staff (Felicity Smith –administrative assistant and Dr. Simon Bossy – head of the Fisheries and Marine Resources section) early in 2011. These two post holders have between them worked a combined time of some 40 years with the section and made a significant contribution to the management of marine resources in a local, national and international context. As these posts will no longer exist, significant changes will need to occur in the way the section functions during 2011

Contents

1. International Work

1.1 France

Granville Bay meetings continued as normal throughout 2010; three Fishermen's meetings and two management meetings being held. Meetings were also held to discuss proposals for offshore wind power and a marine park in the Bay of Granville. The section also retains a seat on the pan-European ICES crab management working group.

1.2 United Kingdom

A productive Jersey/UK Fisheries Management Agreement meeting was held in November. Officers also attended at the UK Crustacea Management Committee, the Shellfish Managers' Conference and at Chief Sea Fisheries Officers of the UK meetings. Officer's supported the Minister for Planning and Environment at meetings of the British Irish Council focusing on marine issues.

2. Legislation

The following legislation was agreed by the States in 2010:

Sea Fisheries (Fisheries) (Jersey) Regulations 2010

9 Pages

This regulation rewrites the older fish farming regulation (Sea Fisheries) Establishment and Regulation of Fisheries) (Jersey) regulation 1998. It removed all licensing and other regulatory powers as this is already contained in the enabling Law. It was also modified to allow the Minister to ensure that the establishment has close links to Jersey and the exemption for navigation in the areas of a fish farm was removed

Sea Fisheries (Trawling, Netting and Dredging) (Amendment No.3) (Jersey) Regulations 2010

26 Pages

This introduced the electronic gauge and limitation of the number of scallop dredges that may used at any one time.

Ministerial Orders

Orders were signed to put in place the following;

a) Increase existing licence fees inline with inflation and to charge an application fee for fish farm concessions.
b) Close the spider crab fishery between September 1st and October 15th 2010
c) Delegation of certain powers in relation to renewal of fish farm concessions

Licence Conditions

An important licence condition was agreed that stipulated that all licensed fishing vessels may not dredge in new inshore areas off the north east and south east coasts.

Latitude (N) Degrees Minutes	Longitude (W) Degrees Minutes
Southern most point of La Collette reclamation wall	
Dogs Nest beacon	
Demie de Pas beacon	
49 08.610	02 05.140
49 08.100	02 01.700
49 07.820	01 59.040
49 08.370	01 57.500
49 08.620	01 57.500
Charted position of Le Giffard buoy	
Horn Rock beacon	
Les Arch beacon	
Le Fara beacon	
Outward end of St Catherine's breakwater	

Latitude (N) Degrees Minutes	Longitude (W) Degrees Minutes
Grosnez Point Light	
49 15.493	02 14.883
49 15.815	02 14.170
49 15.815	02 12.250
49 15.370	02 11.170
49 15.840	02 09.400
49 16.000	02 07.830
49 15.820	02 06.150
49 15.200	02 03.100
49 14.595	02 01.730
49 14.150	02 01.180
La Coupe Point	

Existing No Mobile Gear Areas:
(Sea Fisheries (Inshore Trawling, Netting and Dredging) (Jersey) Regulations 2001)

New No Dredging Areas

The above chartlet is for illustration only. Do not use for navigation and please plot your own co-ordinates from the above tables. In the event of any difference between the area identified on the map and the limits defined by the co-ordinates given above, the later shall prevail.

3. Industry – Capture Fisheries

3.1. Fishing Vessel Licensing

As of the 31st December 2010 the fleet comprised of 160 licensed fishing vessels, 91 of which were shellfish qualified. This included 17 Class A (over 10 metre) licences and 143 Class B (10 metre and under) licences. This created 717 gross tonnes, 13085 kW and 9217 Vessel Capacity Units (VCU's). There has been little change in the structure of the fleet in terms of numbers of vessels although there has been a slight reduction in the number of smaller boats under 6 metres.

Table 1. Number and Vessel Capacity Units (VCUs) of licensed vessels.

	1999		2000		2001		2002	
Size	**Nos.**	**VCU**	**Nos.**	**VCU**	**Nos.**	**VCU**	**Nos.**	**VCU**
>10m	30	6,121	29	6,105	25	5,574	24	5,328
6-10m	80	5,703	66	4,453	68	4,608	65	4,371
<6m	137	2,955	128	2,874	120	2,809	123	2,826
Total	**247**	**14,779**	**223**	**13,432**	**213**	**12,991**	**212**	**12,525**

	2003		2004		2005		2006	
Size	**Nos.**	**VCU**	**Nos.**	**VCU**	**Nos.**	**VCU**	**Nos.**	**VCU**
>10m	26	5,535	21	4,066	19	3,218	20	3,390
6-10m	65	4,472	65	4,251	60	4,173	58	3,958
<6m	119	2,747	112	2,579	105	2,408	100	2,335
Total	**210**	**12,754**	**198**	**10,896**	**184**	**9,799**	**178**	**9,683**

	2007		2008		2009		2010	
Size	**Nos.**	**VCU**	**Nos.**	**VCU**	**Nos.**	**VCU**	**Nos.**	**VCU**
>10m	21	3,641	17	3,069	17	2,984	17	2,974
6-10m	61	4,176	58	4,059	60	4,231	61	4,330
<6m	89	2,037	88	2,081	87	2,084	82	1,913
Total	**171**	**9,854**	**163**	**9,209**	**164**	**9,299**	**160**	**9,217**

3.1.1. Licence Transactions

2010 saw a number of Jersey Fishermen take advantage of recent changes to rules governing licence transfers which enabled licence entitlements to be disaggregated (split) and used, subject to the relevant capacity penalties, to licence vessels either singly or in aggregation with other entitlements.

During the year 16 Jersey Fishing Boat Licences including 7 Additional (Piggy Back) Jersey Fishing Boat Licences were issued. 19 licence entitlements, including 6 disaggregated licence entitlements were also issued.

A total of 19 licence entitlements were used, 5 of which transferred to the UK licensing system while 14 licence entitlements, including 4 disaggregated entitlements, were used to licence vessels in Jersey.

One aggregated licence entitlements was transferred from Guernsey to Jersey and 1 licence entitlement was transferred from the UK to Jersey, and disaggregated into 2 components, 1 of which has been used.

As of the 31st December 2010 there were 20 valid Jersey licence entitlements on the Jersey licensing system, 7 of which were shellfish qualified.

Table 2. Fate of fishing vessel licences

	2004	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Jersey Fishing Boat Licences Issued	20	17	17	13	21	15	9
Jersey Additional (Piggy Back) Licences Issued	1	2	7	4	0	4	7
Total Licences Issued	**21**	**19**	**24**	**17**	**21**	**19**	**16**
Entitlements Imported - Guernsey	1	1	1	0	0	0	1
Entitlements Imported - UK	3	1	1	0	0	1	1
Jersey Disaggregated Entitlements Issued	-	-	-	-	-	-	6
Jersey Licence Entitlements Issued	**35**	**30**	**30**	**24**	**26**	**16**	**19**
Entitlements Used - Jersey	22	15	20	16	22	14	10
Disaggregated Entitlements Used - Jersey	-	-	-	-	-	-	4
Entitlements Exported - Guernsey	7	4	3	1	2	1	0
Entitlements Exported - UK	8	2	6	7	8	9	5
Entitlements Lost	3	1	0	0	1	0	0
Entitlements Used – Total	**38**	**22**	**29**	**24**	**33**	**24**	**19**
Valid Jersey Entitlements 31 December	**14**	**25**	**28**	**26**	**19**	**12**	**20**

3.2. Catches

With the exception of Spider Crab, all shellfish landings increased upon 2009's landings (Table 3). Lobster landings saw a record high of just over 225 tons, with landings per unit effort increasing by 17.48% (Table 5). In contrast Spider Crab Landings per unit effort have decreased by 9.27%. This decrease is most likely due to the reduction in netting and shift in metiers, rather than any change in stock numbers. Whelk landings have increased almost five fold upon 2009's figures, providing a considerably increased proportion of the shellfish sector's landings by weight and value (Figures 1 and 2). Again this is due to changes in metier and increase in whelk fishing effort, with the Department's independent whelk population research, still showing a concerning decline in stock numbers (Figure 6).

Table 3. Quantity of shellfish landed by the Jersey fleet

Species	2004	2005	2006	2007	2008	2009	2010
Brown crab	540,652	437,650	348,990	412,239	480,844	360,872	408,873
Crawfish	550	267	500	170	142	138	0
Lobster	167,004	138,843	131,296	154,704	162,560	177,087	225,494
Scallop[1, 2]	187,675	227,565	303,723	371,837	330,997	362,528	401,475
Spider crab	223,497	163,413	129,291	105,734	178,692	177,158	173,298
Whelk	146,678	442,355	621,011	545,395	297,742	104,995	497,410
Others[3]	6,623	4,710	5,132	2,047	2,400	2,249	4,657
Total	**1,232,153**	**1,368,626**	**1,502,528**	**1,592,126**	**1,453,377**	**1,180,976**	**1,711,207**

Notes

1. 2007 onwards includes dredged and commercial dived.
2. 2010 contained 1,020 Kg of Queen Scallops for the first time.
3. Others include prawn, velvet crab, cuttlefish, squid, praire, amande.

Table 4. Quantity of wetfish landed by the Jersey fleet

Species	2004	2005	2006	2007	2008	2009	2010
Angler	663	492	757	262	240	233	62
Brill	2,697	4,009	1,877	2,435	2,997	2,135	2,985
Bass	19,120	22,193	30,952	18,085	18,564	11,649	13,831
Cod	852	56	235	46	198	135	214
Conger	11,519	14,384	21,024	17,314	7,179	3,170	3,023
Dogfish	23,592	16,181	20,544	8,211	10,133	4,596	13,278
Gurnard/Latchet	2,776	1,570	1,911	1,570	2,085	104	413
Horse mackerel	1,530	1,136	1,100	63	3	226	3
John Dory	195	153	182	14	9	11	9
Ling	328	134	214	176	159	0	112
Mackerel	6,354	9,189	8,270	5,516	7,004	6,511	5,744
Mullet -grey	4,856	7,030	6,205	561	1,470	1,194	2,529
Mullet -red	2,149	1,691	1,268	900	372	248	195
Plaice	2,159	1,763	2,284	930	2,722	2,651	2,411
Pollack	9,969	8,454	6,374	2,690	7,334	7,915	6,657
Sea Bream[1]	47,945	36,043	7,378	3,066	4,215	3,158	10,428
Skate/Ray	52,413	53,461	59,643	49,801	79,961	22,699	37,390
Sole	6,689	17,048	3,814	1,807	2,194	1,344	1,463
Tope	2,735	2,280	2,295	1,593	747	187	30
Turbot	1,208	3,245	896	436	400	646	788
Other Species[2]	-	1,038	1,865	2,124	2,586	3,352	5,096
Total	**201,529**	**203,093**	**180,493**	**117,600**	**150,572**	**68,771**	**106,661**

Notes

1. Figures for some years include catches from outside Jersey Waters
2. Other species included flounder, pouts, rockfish, sandeel, sand sole, shark, smooth hound, trigger fish, whiting and wrasse.

In the wetfish sector, although Bass landings have slightly increased upon 2009's landings (from 11.6 to 13.8 ton), they are still substantially lower than landings from 2004 to 2008 (approximately 30 to 18 ton) (Table 4). Sea Bream landings have also increased substantially on 2009's landings, however this is most likely due to a change in fishing location by a single large vessel during 2010. There has also been an increase in landings of skate and ray from approximately 22.7 ton to 37.4 ton (Figure 3). Combined with an increase in Dogfish landings, overall the wetfish sector landings have increased by almost 40 ton from 2009's landings of 68.7 ton to 106.6 ton. Bass and Skate / Ray are still the two most important species to the sector by value (Figure 4).

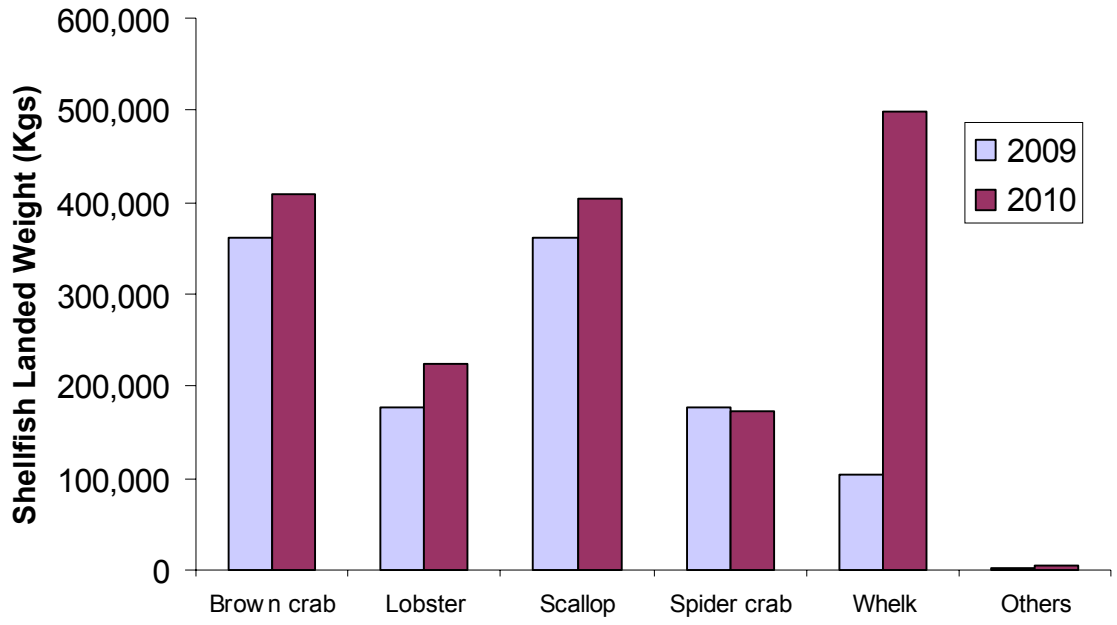


Figure 1. Shellfish landed by weight

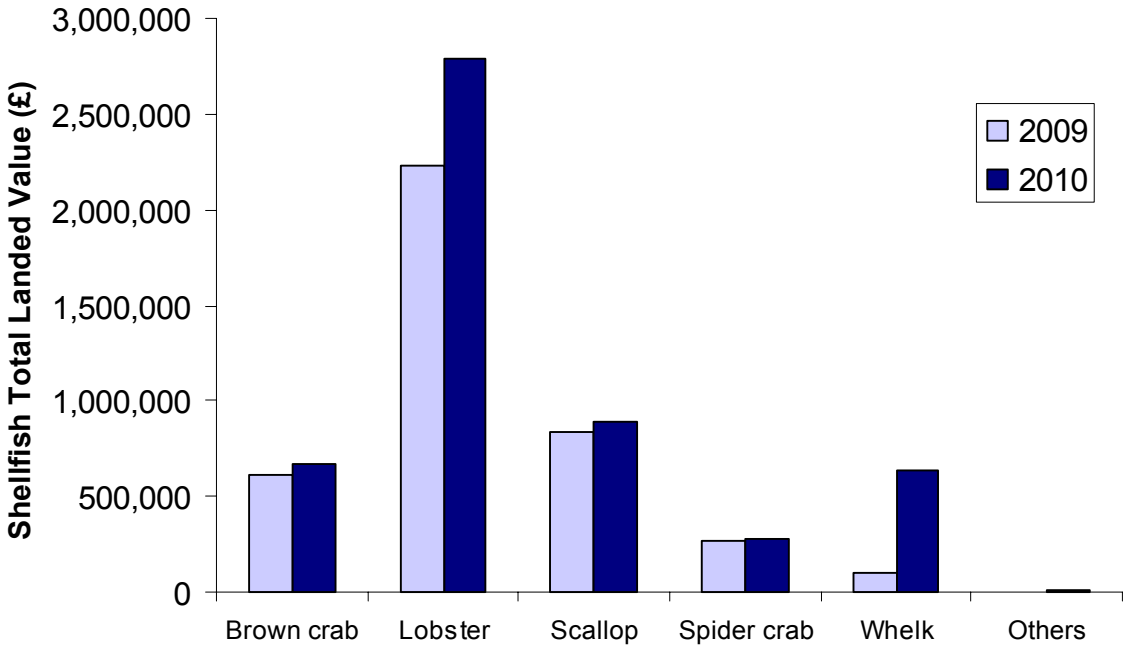


Figure 2. Shellfish landed by value

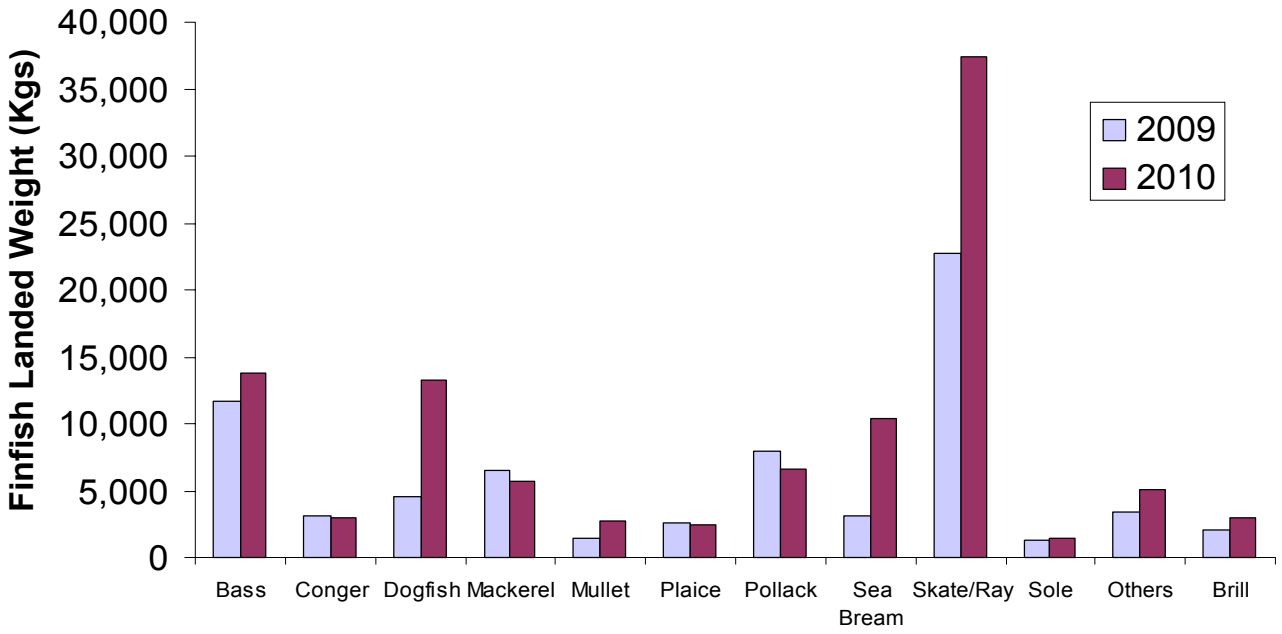


Figure 3. Wetfish landed by weight

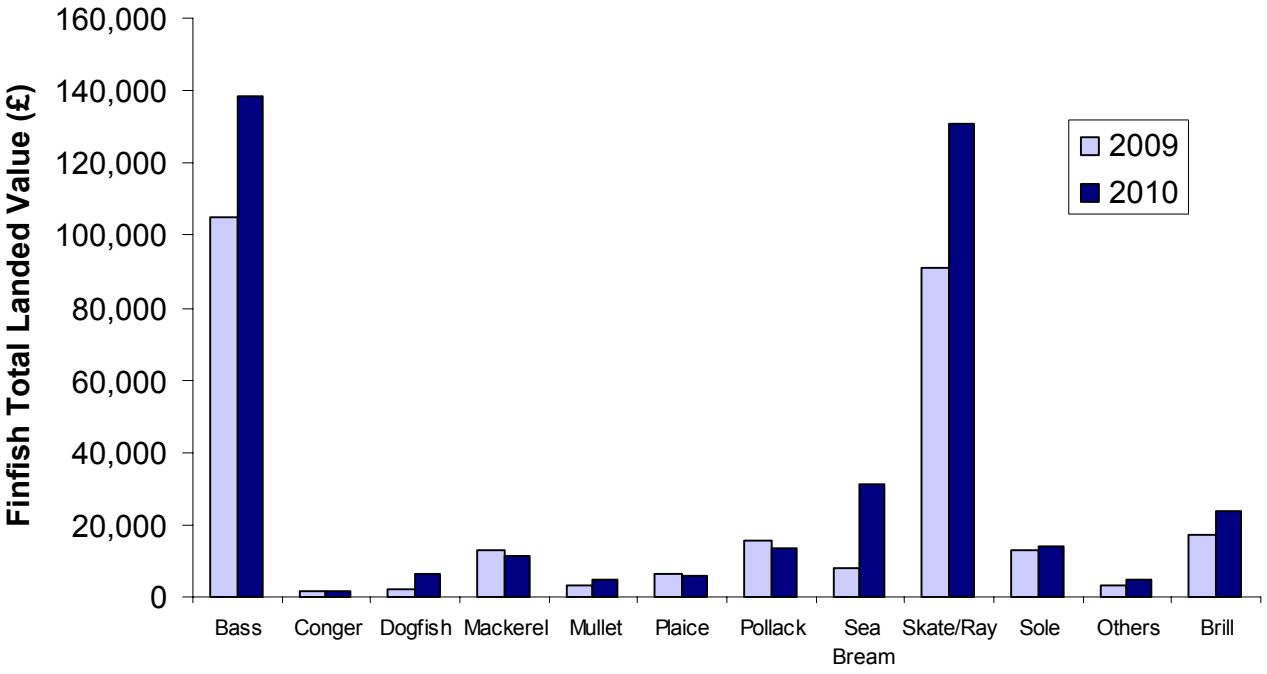


Figure 4. Wetfish landed by value

3.3. Landings per unit effort

Table 5. Landings per unit effort (LPUE) for selected shellfish species

Species	Quantity landed (kgs)	Nos. of pot lifts[1]	LPUE (kgs per 100 pots)	% change from 2009
Brown crab	408,873	1,743,388	23.45	+4.51 %
Lobster	225,494	1,743,388	12.93	+17.48 %
Spider crab	173,298	1,743,388	9.94	-9.72 %

Notes

1. Pot lifts include parlour pots, inkwell, creels, D pots

4. Industry – Aquaculture

The Industry continued to suffer from the Oyster Herpes virus and associated mortality of 50-80%. This resulted in a reduced production of Pacific Oyster for 2010, dropping from 903 ton in 2009 to 628 ton in 2010 (Table 6). However there was an almost doubling in the production of Mussels from 101 ton in 2009 to 201 ton in 2010. This allowed the value of the industry to increase slightly by 2.19%, despite an overall drop in tonnage produced by the industry as a whole.

There were no new Aquaculture concessions awarded in 2010.

Table 6. Farmed shellfish production (area in hectares; production in kgs)

	2003	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Intertidal area[1]	54.5	54.5	62.65	62.88	62.88	68	68.76	68.76
Subtidal area	100	100	166	166	166	166	166	166
Pacific Oyster	560,200	720,768	579,915	651,148	737,395	829,952	903,000	628,760
King Scallop	1,351	3,571	8,484	2,540	4,100	8,841	2,571	2,462
Mussels	108,300	25,000	50,000	117,500	50,000	117,000	101,000	201,278
Total	**669,851**	**749,339**	**638,399**	**771,188**	**791,495**	**955,793**	**1,006,571**	**832,500**

Note

1. Area pre 2004 relates to actual area farmed. 2005 onwards relates to total concession area granted.

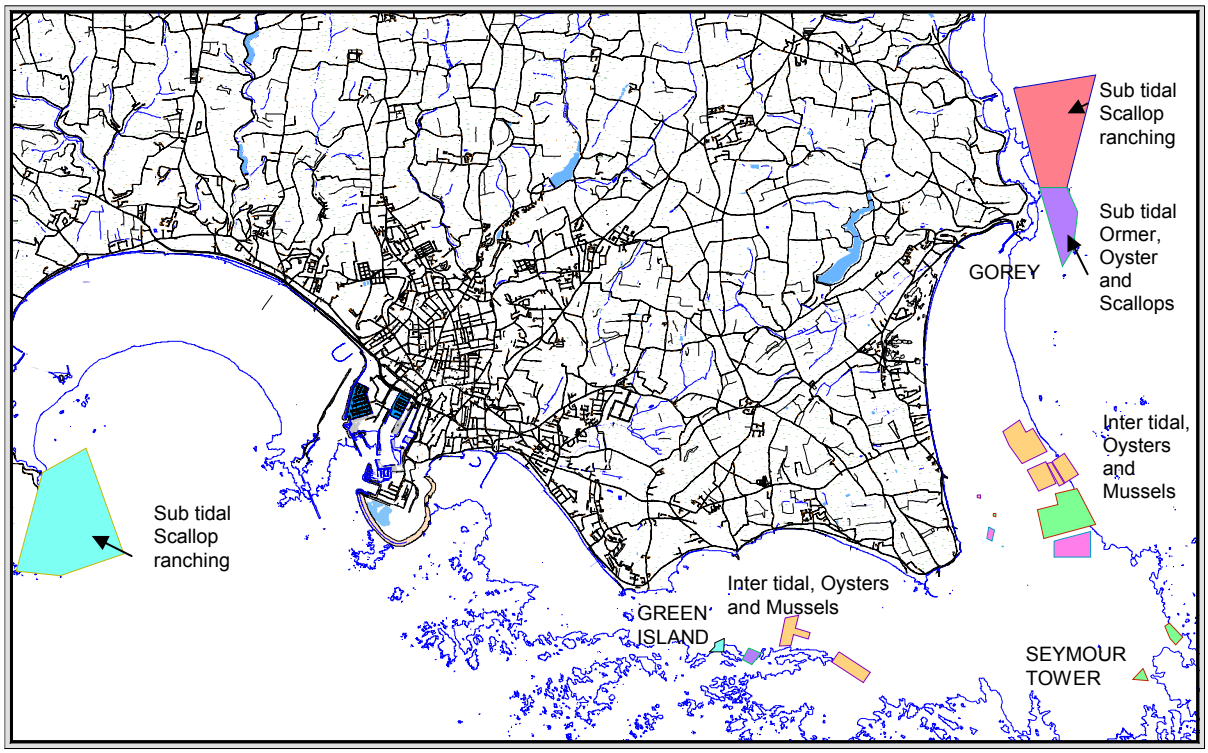


Figure 5. Aquaculture concessions as of December 2010

5. Industry – Economics

Overall the value of the industry has increased upon 2009 at point of first sale. However this does not reflect the overall economic situation of the industry, as it does not take into account the rising cost of fuel, cost of living or other overheads that are currently affecting the industry.

Table 7. Value of shellfish landed by the Jersey fleet

Species	Quantity landed (kgs)	Average Price (£) per kg	Value (£)
Brown crab	408,873	1.63	666,463
Crawfish	0	25.00	0
Lobster	225,494	12.37	2,789,361
Scallop (Dived)	43,603	4.50	196,214
Scallop (Dredge)	360,852	1.93	696,444
Spider crab	173,298	1.64	284,209
Whelk	497,410	1.28	636,685
Other	4,657	2.00	9,314
Total	**1,714,187**		**5,278,689**

Table 8. Value of wetfish landed by the Jersey fleet

Species	Quantity landed (kgs)	Average Price (£) per kg	Value (£)
Angler fish	62	8.00	496
Brill	2,985	8.00	23,880
Bass	13,831	10.00	138,310
Cod	214	2.50	535
Conger	3,023	0.50	1,512
Dogfish	13,278	0.50	6,639
Gurnard/Latchet	413	0.50	207
Horse mackerel	3	0.50	2
John Dory	9	7.00	63
Ling	112	2.00	224
Mackerel	5,744	2.00	11,488
Mullet – grey	2,529	1.50	3,794
Mullet – red	195	6.00	1,170
Plaice	2,411	2.50	6,028
Pollack	6,657	2.00	13,314
Sea Bream	10,428	3.00	31,284
Skate/Ray	37,390	3.50	130,865
Sole	1,463	9.60	14,045
Tope	30	1.00	30
Turbot	788	9.00	7,092
Other species	5,096	1.00	5,096
Total	**106,661**		**396,071**

Table 9. Total value of the fishing industry at first sale

Sector	2010 Value (£)	% Change (compared to 2009)
Shellfish	5,278,689	+30.05 %
Wetfish	396,071	+41.79 %
Aquaculture	1,773,648	+2.19%
UK Landings	533,097	-10.86 %
Total	**7,981,505**	**+19.63%**

N.B. This data is value only at first sale and does not reflect increased operating costs or other overheads of industry.

6. Research and Development

Whelk

The annual study of whelk (*Buccinum undatum*) catch per unit effort (CPUE) was conducted in February 2010. The same study sites and methodology were used as in preceding years.

Overall, the CPUE in 2010 was 1.89 kgs per pot (Fig. 6). This was a decrease on the CPUE recorded in 2009 (1.98kgs) but still the second highest CPUE since 2005. The same trend was observed with respect to the large fraction of the catch with a CPUE of 1.61 kgs in 2010 compared with a CPUE of 1.69 kgs in 2009.
The CPUE for the smaller fraction of the catch was the lowest on record at 0.28 kgs. Overall there is still a trend of decline in the stock, with no significant improvement on catches from the last fourteen years (Fig. 7).

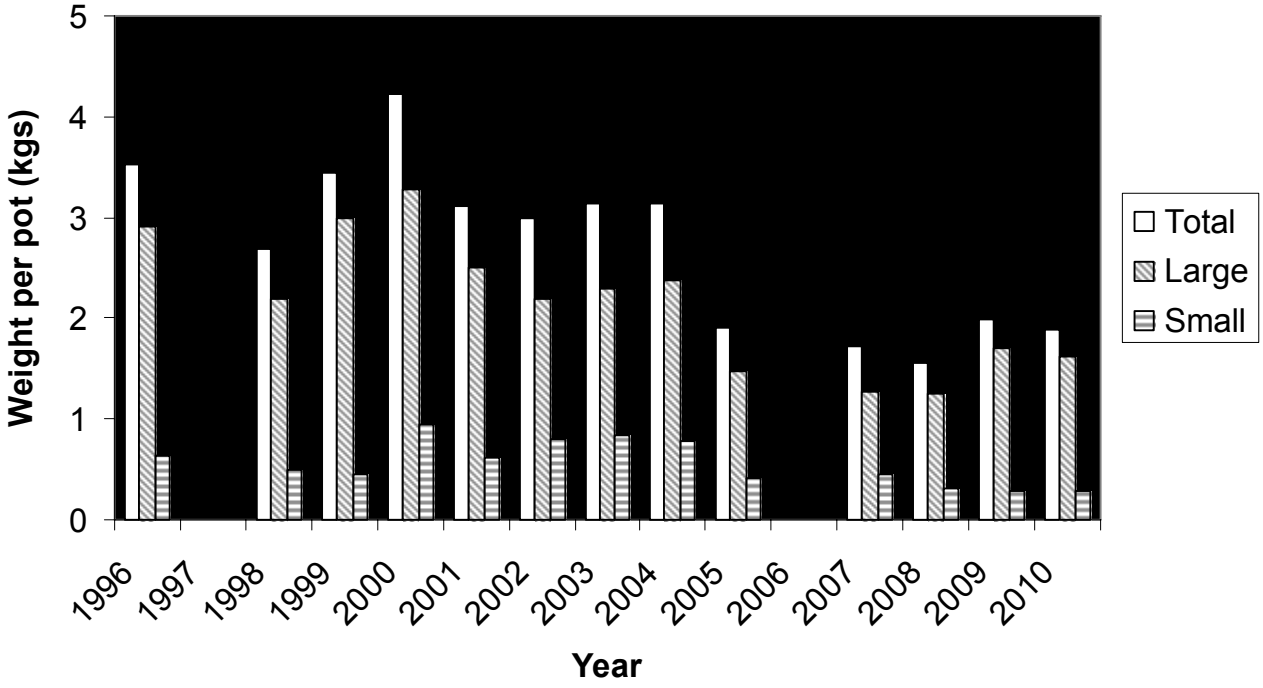


Figure 6. Average CPUE of Whelks (Total, large fraction, small fraction)

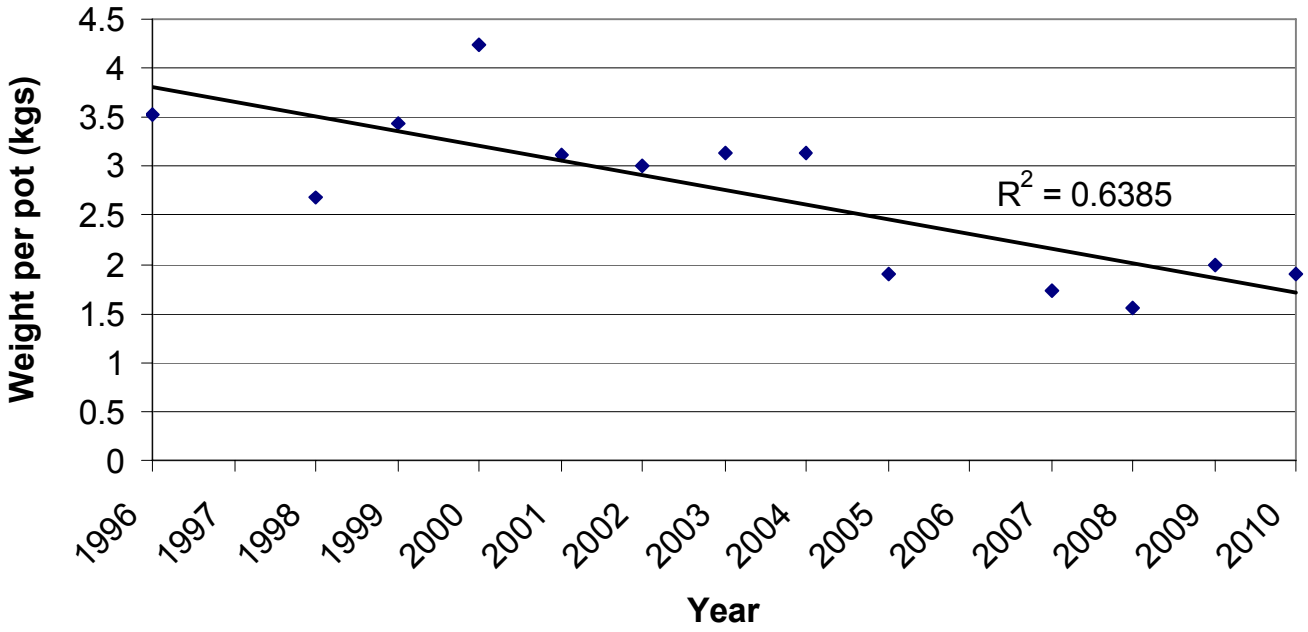


Figure 7. Comparison of total catch for all surveys (1996-2010) with linear trend line fitted.

Lobster

In 2010, there was a total of 192 lobsters caught, an increase of 33.9% on the average for the previous 5 years. 180 pot hauls were achieved in the 2010 research trials, which is the highest since 2005. There was a marginal 4% increase in total lobsters per pot (1.07 kg) compared to the 5 year average (1.02 kg). However within the catch there was an increase of 102.7 % in lobsters per pot that were above the minimum landing size. This is the highest % of catch as sized lobster (28.13%) since the study began in 2004.

In 2010, lobsters continued to have all injuries and deformities recorded and pooled into three categories; 'Select Lobsters' (perfect condition), 'Damaged / deformed' and 'Missing Claw'. The majority of lobsters were found to be select (73-84%). A higher percentage of the catch was 'select' at SW and W sites than 2009, but lower at NW. There was also a slightly higher loss of claws compared to 2009 – but less general damage to Lobsters. The north-western sample station had the highest proportion of crippled lobsters with 23% Damaged / deformed and 4% missing a claw, but also the lowest select percentage of 73%.This may well be a useful tool in the future for monitoring changes in the economic value of the stock.

There was also no significant change in sex ratio at any of the sites, with females ranging from 45-51% across the sites.

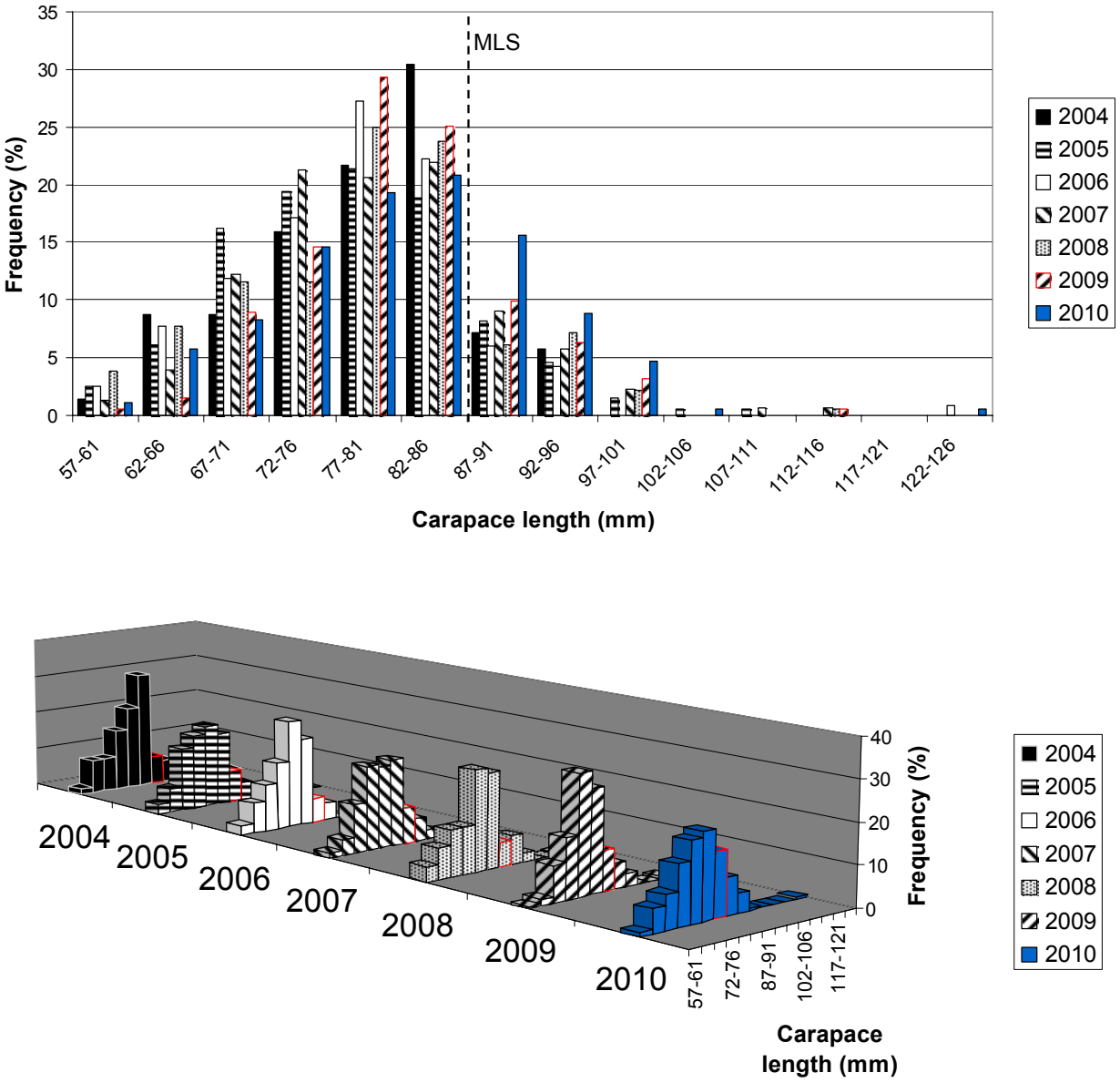


Figure 8. Length frequency distribution of Lobster

The frequency distribution has improved on 2009's data, with a larger proportion of lobsters caught, found to be over the 87mm minimum landing size (MLS) (Figure 8, top). However the frequency distribution of the catch continues to show a distinct change at 87mm, the minimum size. This suggests that the fishery is still fully exploited and relies heavily on recruiting lobsters close to the minimum size. However, at this moment there is no indication of recruitment failure.

Ormer

Numbers of ormers found in this survey were very similar to those found in the 2009 survey at both island sites. At St. Catherine's Breakwater there was no evidence of any mortality. Ormers of all sizes were observed by the dive team and all appeared healthy. The overall impression of the area status was good. There is still an amount of discarded or lost fishing tackle and general rubbish on the boulder rock foundation of the breakwater and, although unlikely to impact on the ormer stock, could have a detrimental effect on other species.

The numbers of ormers found at the St. Brelade's Bay site were similar to 2009. There was again no evidence of mass mortality. Ormers and shells were found in a variety of sizes. Previously, there has been concern that the area had been used for illegal ormer diving, however the dive team did not find any evidence of up-turned rocks or disturbance. The conditions were clear, with no sedimentation issues

The Les Minquiers site yielded a similar number of ormers as in 2009. Again there was good evidence of a variety of size classes, and little evidence of overturned rocks. New sites were assessed in 2009 and 2010 in an attempt to find more representative sites, however none of these new sites yielded as many ormers as the traditional monitoring location.

Similar numbers of ormers were found this survey as last year. No mortality was seen at either site and the stock found would appear to be healthy. To the best of our knowledge no mortalities of ormers were reported in France for 2010. Whilst stocks are slightly down on some previous surveys, numbers found were still significant. This would seem to be endorsed by the information received from fishermen. There was no other evidence to suggest that there was a decline in stock.

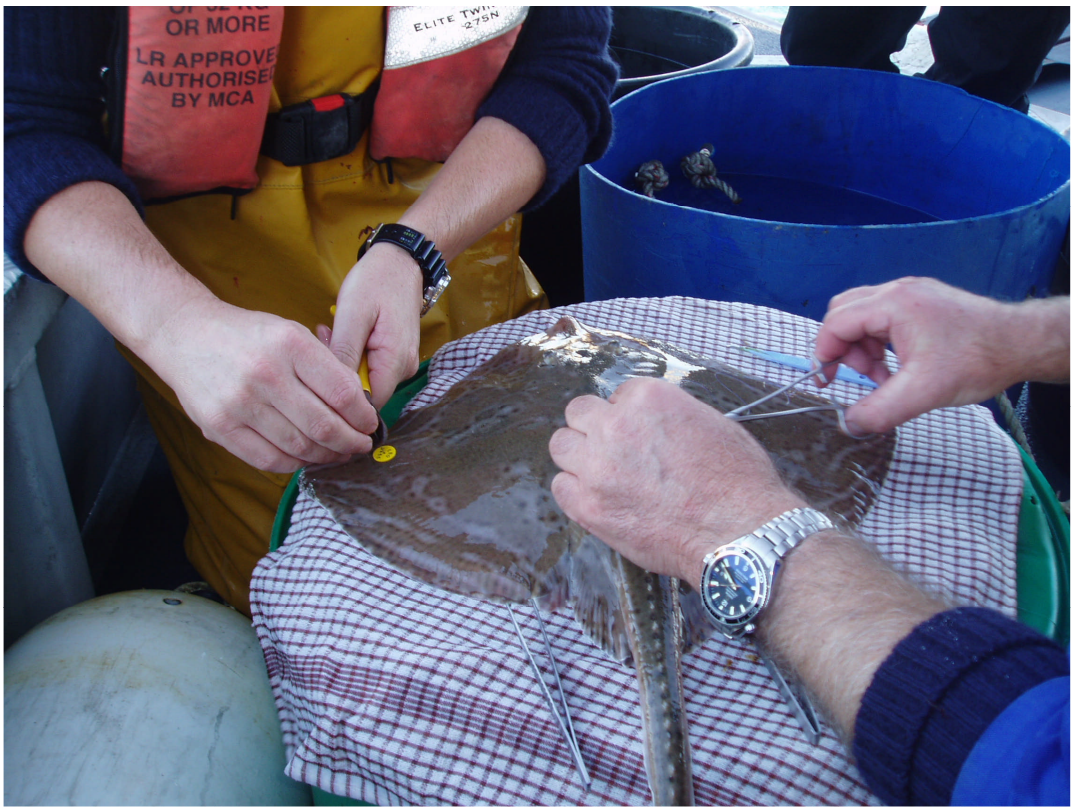
It must be remembered that this survey represents a snapshot indication of the state of the stock and not an absolute assessment.

Research into ormer population numbers could benefit from a supplementary study using volunteer low water fisherman. Volunteers could be supplied with plastic calipers and waterproof notebooks, and when finding ormers during their usual low water fishing activities, they could record their size and location. This data would not only provided supplementary population samples, for year on year comparison, but could also provide size data for frequency analysis of the population structure.

Reported catches have been better this year and the introduction of a bag limit could be a significant and logical conservation measure.

Ray

The tagging of ray continued throughout 2010 by project partners. Some incidental tagging was done by the Fisheries and Marine Resources section. By the end of 2010, 1026 rays had been tagged and released. In total 182 recaptures have been reported. A paper detailing this study, entitled “Preliminary observations on the movements of skates (Rajidae) around the Island of Jersey, western English Channel.” was published in 2010.
Species specific recording by fishermen during the year was 75%, a significant increase on previous years. Species specific data is vital for providing management information.



Inserting a Petersen Identification Tag (Yellow Disc) upon a captured ray

Acoustic Tagging Project

2010 saw the start of a joint partnership project, primarily funded by the University of Hawaii. Using acoustic technology, a pilot study was conducted, whereby several wrasse and rays were tagged with transmitters communicating with a network of fixed receiver buoys. Figure 9 shows the activity of a Ballan Wrasse with acoustic tag number 62803 during the 12 month pilot study. The pattern and duration of activity of a wrasse fits with seasonal changes in day length or water temperature. Each dot represents a transmission received by the buoy network. Blank areas are where the transmissions from the fish are most likely obscured by bottom terrain such as dense weed or rocks. In evenings Ballan wrasse are less active and are most likely sheltering within or next to the bottom terrain, thus obscuring their tag's signal. Acoustic tagging is an emerging and powerful technology for establishing both the location and activities of tagged fish. It is hoped that the section will be able to expand this work further, to aid the development of coastal zonal management and marine protected areas.

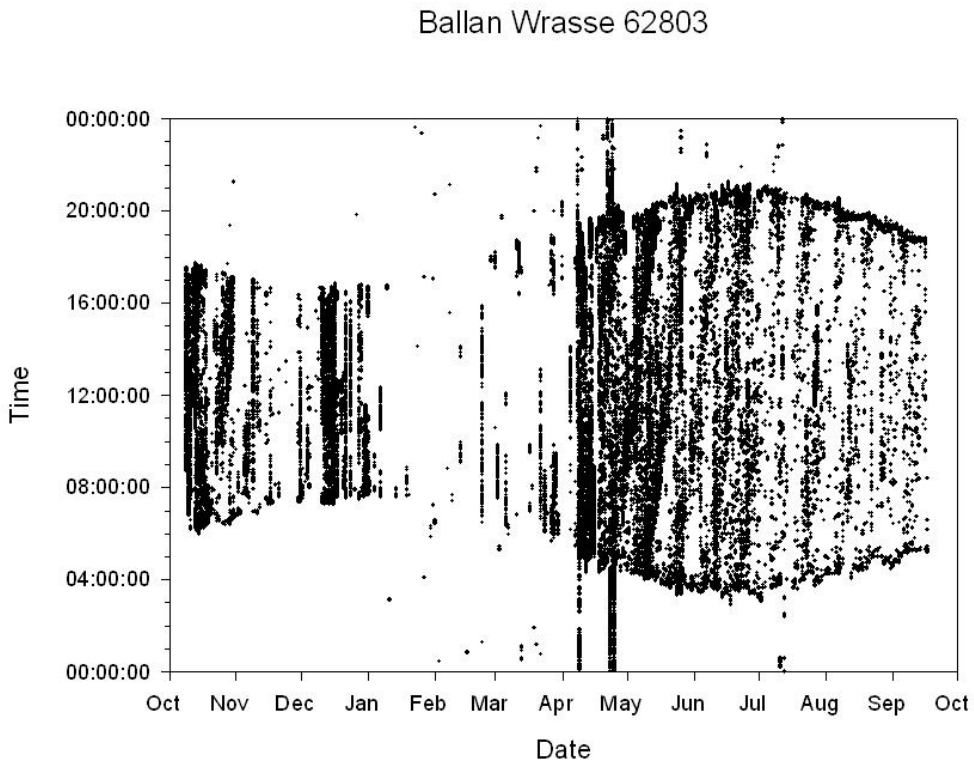


Figure 9. Activity of a tagged Ballan Wrasse during the 12 month pilot study. Note how the pattern and duration of activity of a wrasse fits with seasonality such as change in day length or water temperature. Each dot represents a transmission

Routine

Routine sampling and monitoring continues to be a significant time and manpower commitment. The following table shows the programmes undertaken by the section.

Table 10. Routine sampling programmes.

Species sampled	Frequency	Analysis undertaken
1. Oyster (*Crassostrea gigas*)	Monthly	*E.coli*
2. Mussel (*Mytilus edulis*)	Monthly	*E.coli*
3. Mussel (*Mytilus edulis*)	Monthly (every 2 weeks during summer)	Shellfish poisoning (ASP, DSP, PSP)
4. Seawater	Monthly (every 2 weeks during summer)	Shellfish poisoning (ASP, DSP, PSP)
5. Slipper limpet (*Crepidula fornicata*)	Bi-annually	Heavy Metals (As, Cd, Cr, Cu, Pb, Zn)
6. Common limpet (*Patella vulgata*)	Bi-annually	Heavy Metals
7. Seaweed (*Fucus serratus*)	Bi-annually	Heavy Metals
8. Slipper limpet (*Crepidula fornicata*)	Bi-annually	AFFF (Airport fire fighting foam)
9. Harbour Monitoring Programme	Annually	Physical, biological and chemical parameters
10. Submarine Cable Patrol	Monthly	Assessment of activity

Eco-logs

2010 saw the continuation of a recording system that was termed the “Eco-logs”. These were two pro-forma logs that aided officers in recording observations at sea of various events. The first was the marine species log. This enabled the recording of pertinent information of all sightings of any species including marine mammals, rare fish species and birds. The second was the offshore reef log. Inspection of the offshore reefs has been undertaken for many years but has tended to focus on commercial and recreational fishing activity. The log allowed for the recording of other information including number of vessels at anchor and people ashore as well as species and number of birds sighted. It is hoped that these logs will become a valuable resource over time in helping to assess activity, both human and wildlife.

Cetaceans

Dolphins were sighted on 22 separate occasions in 2010. This was a decrease on 2009's figures, but still higher than most previous years and above the 10 year average (Fig. 10). All sightings were identified as bottlenose dolphins. Most sightings occurred to the east of the Island ranging from Les Ecréhou in the north to Les Minquiers in the south. In total 183 adult dolphins and 17 Juveniles were observed. This is a slight increase in the total number of dolphins seen in 2009 (173) and 2008 (125). Juveniles represented 9% of sightings in 2010, compared to 10% in 2009 and just 3% in 2008. Overall, the drop in occasions dolphins were sighted, but increase in total number of individual dolphins seen, suggests an increase in the observation of groups or pods over individuals.

Pattern and frequency of patrols remained relatively unchanged in 2010, with days at sea slightly more than in 2009, due to time spent under refit in 2009. Grey seals were only sighted on 4 separate occasions, twice at Les Ecréhou and twice at Les Minquiers.

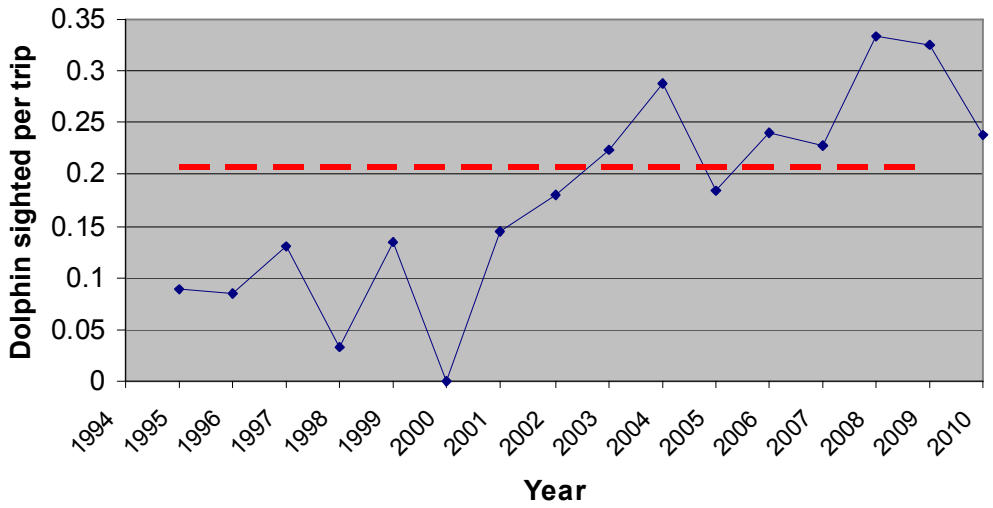
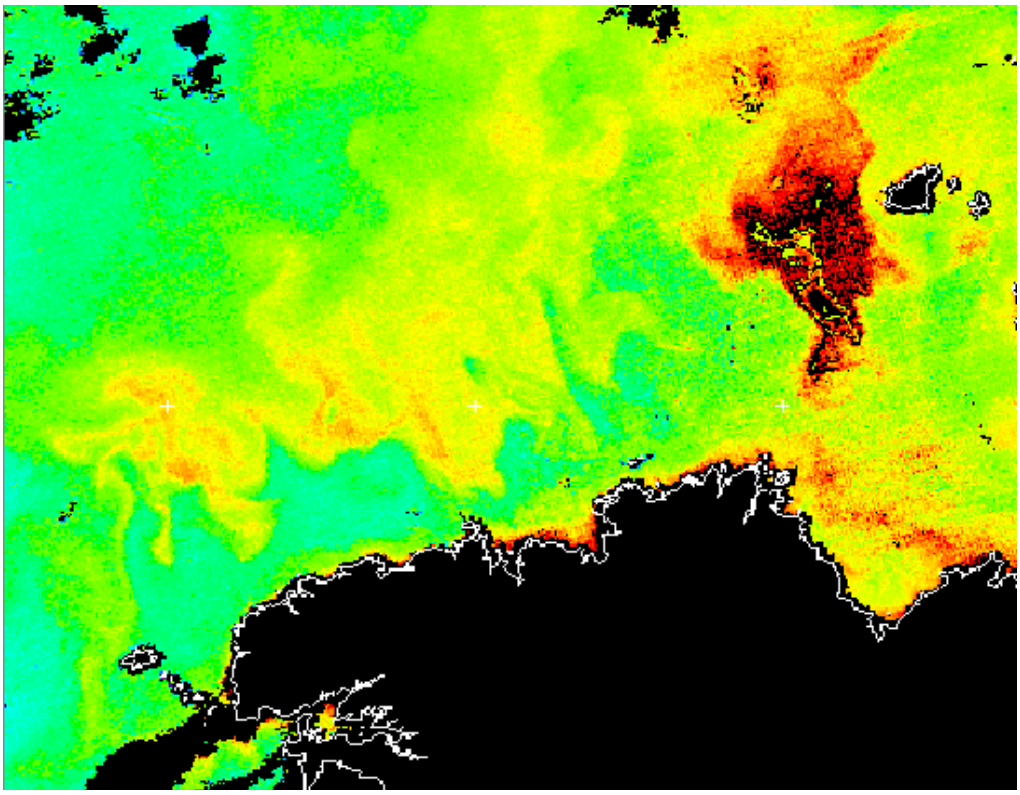


Figure 10. Dolphin sightings from Fisheries Protection Vessels. Red dotted line is 1999-2009 10 year average.

Note Vessel and patrol pattern changed 1997/1998.



abnormal change in the environment. This population explosion can be triggered by unusual weather or pollution events. The plankton in these blooms can produce toxins, which can be harmful to both humans and the marine organisms. The monthly monitoring program is part of an early warning system that partners with the Plymouth Marine Laboratories (PML) and the UK Government's Centre for Environment, Fisheries and Aquaculture Science (CEFAS). A wide spectrum of technology is used by the Department when responding to suspected Algal Bloom events; for example the use of satellite imaging and remote sensing of plankton, through to offshore water sampling by the Fisheries Protection Vessel Norman Le Brocq. In 2010 a large algal bloom was reported just west of Guernsey. Using satellite imaging, in conjunction with Guernsey Sea Fisheries, PML and NASA, the section was able to track the progression of the bloom and send out the Norman Le Brocq to take more detailed water samples. These were subsequently analysed in CEFAS' laboratory in the UK, with the results being negative for toxin content. The bloom was eventually broken up by wind and tide as it entered Jersey territorial waters, and had no significant impact upon the local marine environment

Statistics

As stated in previous reports the collection and analysis remain vital for the management of exploited stocks and the overall wellbeing of the marine ecosystem. Since 2007 it has been a requirement for all commercial vessels to supply daily logsheets. These data are collated on a quarterly basis and provide up to date information for the Department, Fisheries and Marine Resources Panel and Minister to ensure appropriate management is in place. Fishermen were encouraged to record as much information as possible in the logbook particularly species of fish and not just generic groups.

7. Food and Environmental Protection Act.

Licences were issued under the Food and Environmental Protection Act (FEPA) during the following projects.

1. St Aubin's Harbour (Jersey Harbours)

The removal of material at the south side of the entrance to St Aubin's harbour and subsequent deposit to the south of the southern wall of the harbour.

Natural deposition of suspended material results in a sand bar at the south side of the entrance of St Aubin's harbour. This is a navigational hazard. The material was removed to return the area to the indicated depth of 5.9 m datum. The material was loaded by JCB into a truck and deposited in the designated location.

Project completed in 2010

2. La Collette Emergency Service Alternative Access (TTS)

Widen existing coastal promenade and revetment at four locations as specified in the FEPA application to facilitate the passage of emergency services vehicles. Make good using existing masonry, coping and matching railings.

Project due to start in 2011

3. Acoustic monitoring equipment (Sinay)

Placement of Acoustic Listening Equipment for the purpose of monitoring marine cetaceans.

Two acoustic listening devices, known as pods, were placed at species sites at Les Minquiers to passively listen for sounds generated by marine mammals, in particular dolphins, to assess the importance of the site for these species. The equipment was removed at the end of the experiment.

Project completed in 2010

4. Burials at sea.

Permission for two burials at sea were granted during the year.

8. Enforcement

Summary

2010 was significant in that the use of electronic surveillance was considerably increased, allowing onshore monitoring of the whole territorial sea with patrols being better targeted to specific zones/issues.

The use of such technology was instrumental in obtaining two sets of convictions for fishing in prohibited zones, the evidence being largely based on radar and satellite data, but backed up by observations gathered first hand from the shore and the "Norman Le Brocq".

Better targeted inspections at sea and continued relatively low levels of fishing activity meant that the number of inspections conducted during the year was reduced compared with normal. It is however considered that the quality and quantity of inspections was appropriate and proportionate throughout the year.

Enforcement of Minimum Size Regulations

In general, both professional and recreational fishermen complied with the conservation and access regulations and few serious offences came to light. Whilst the number of instances of fish and shellfish being retained below the minimum size limit was low, it was disappointing that in a year of abundant lobster stocks, some fishermen were still tempted to retain undersize lobsters.

Inspections of catches of low water fishermen, particularly at the offshore reefs, often also revealed undersize crabs and lobsters. One low water fisherman attended a Parish Hall Enquiry as the result of such an inspection and a French low water fisherman found with undersize shellfish during 2009 was successfully prosecuted at the Magistrate's Court.

Enforcement of Limits and Granville Bay Agreement Access Arrangements

Radar provided by Jersey Coastguard provided a useful tool for monitoring activity over much of the territorial sea, but this was enhanced by many of the French fishing vessels operating in the area fitting transponders. Such transponders allow identification of the vessels and give a good idea of their activity. Satellite monitoring data of the over 15 metre fleet was also examined on a daily basis and where appropriate, verified against the radar and transponder data.

In late 2009 a local vessel was monitored using such data and was found to be fishing inside the three mile zone with an engine that exceeded 221 horsepower. After several periods of such monitoring, the vessel was intercepted by Fishery Officers on the "Norman Le Brocq" and the skipper was subsequently interviewed. The skipper was convicted of two such offences at the Royal Court and a further offence in relation to the completion of logbooks. At sentencing on 3 December 2010, he was fined a total of £16750 for the three offences.

In May a similar procedure using electronic aids followed by an interception at night by officers from onboard the "Norman Le Brocq" resulted in the detention of two French pair trawlers. These vessels were fishing in an area off the south east coast

where pair trawling was prohibited until later that month. Early the next month the same two vessels were again monitored and found to be fishing in an area where all trawling is prohibited for French vessels. The two skippers were subsequently convicted of both offences at the Magistrate's Court and fined a total of £8000.

Letters were also sent to the owners of two French vessels that had entered by a marginal distance zones in which they were not authorised to fish.

Logbooks

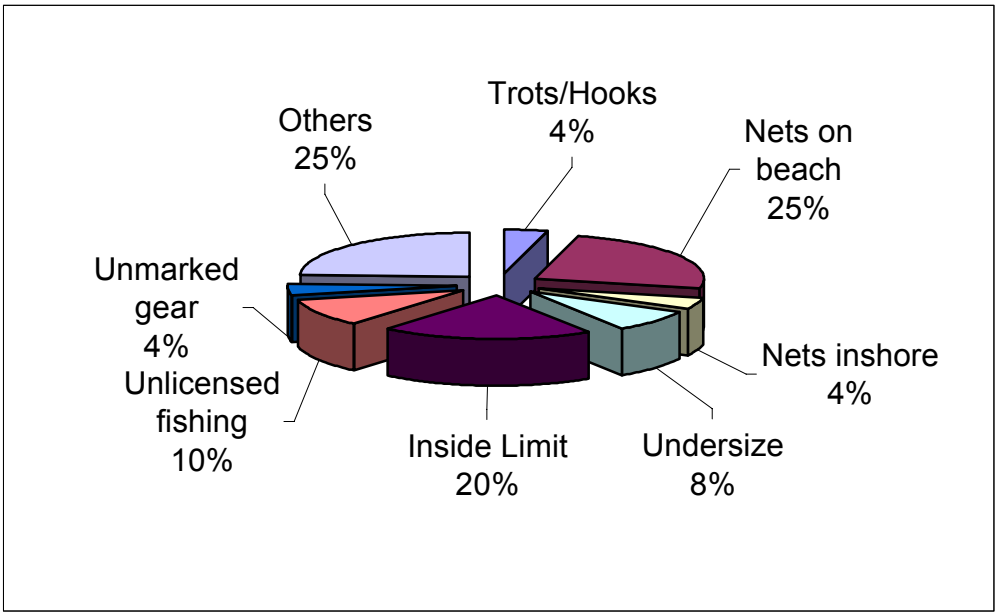
Whilst individual fishermen still on occasions need reminding to deliver logsheets by the due date, in general there has been an improvement, particularly in respect of under 10 metre vessels. Four fishermen were sent advisory letters relating to the late submission of logsheets.

Other Offences

During the spring and summer months considerable effort was put into investigating a number of complaints received relating to the alleged sale of fish caught from vessels which were not licensed. No individuals were prosecuted as a result of these investigations, but it is to be hoped that the nature and scope of the investigations raised the general awareness of the seriousness with which such complaints are treated.

Routine inspections revealed a number of commercial fishermen to be using pots that were not fitted with current tags, 2 fishermen were sent advisory letters and one investigation is ongoing.

Complaints



Complaints received by the section in 2010

A total of 49 complaints were received during the year and whilst 21 of these related to activities that were fully compliant with the regulations, 12 resulted in enforcement action being taken. Such action ranged from the seizure of three abandoned nets to the prosecution referred to above in respect of pair trawling activity.

Whilst a significant number of complaints related to the setting of nets or hooks on beaches, the trend changed from previous years where the majority of complaints have related to hooks. In 2010 the majority of such complaints related to nets, most of which when investigated were found to be correctly set, but as already mentioned, a number of abandoned nets were seized.

Departmental and Other Resources

The "Norman Le Brocq" has provided good serviceability throughout the year and in addition to routine enforcement and research activities, has been used for a variety of other duties. The vessel provided a platform for several days early in the year for the contractors conducting measurement of tidal flow to the north east of the Island, part of the Island's ongoing commitment to investigating renewable energy sources. Other functions included providing a platform for two burials at sea during the absence of the Duke of Normandy, assisting a yacht in distress and acting as an official escort to the "Eleonora" when she arrived in the Island.

Officers have worked very closely with Jersey Coastguard officers whose assistance has played a major part in the surveillance of the vessels successfully prosecuted for fishing in the wrong areas.

Development

During the year new legislation was introduced which as well as placing further limits on scallop dredging activities, introduced a new electronic net gauge known as the "Omega" gauge. The introduction of the gauge was a major project which included training, verification procedures and the adoption of a voluntary measurement scheme for trawler skippers.

Work has continued throughout the year on modifications to the Fisheries Law to enable the Minister to introduce fisheries management measures on a more appropriate timescale.

New European Commission control regulations (which relate to satellite monitoring, requirements for logbook completion, etc.) were introduced on 1st January and again considerable work has been undertaken to both keep local fishermen informed of the new regulations and to prepare for the introduction of such of the measures as are appropriate.

Following significant discussions with the Industry, a set of licence conditions were introduced which further protect the inshore areas from the effects of scallop dredging and licence conditions were also introduced to close the undulate ray fishery.

Work has begun on a consultation exercise with the industry to establish whether the introduction of a buyers and sellers registration and reporting scheme similar to that operated in the UK for first sale of fish would have any benefits locally, particularly in respect of the sale of fish caught from unlicensed vessels.

Scallop diver licence conditions have been modified to allow commercial scallop divers a method of disposing of shells at sea, following incidents where shells have been dumped on Island beaches and slipways.

9. Integrated Coastal Zone Management

Specific projects formed the majority of the work undertaken by the section as part of the Integrated Coastal Zone Management (ICZM) Strategy although progress was made in many areas (see table below).
Policies within the strategy are divided below under four sub-headings. Policies cover economic, social and environmental aspects of the coastal zone. The Strategy introduces measures that will:

A. **Protect and conserve** the wildlife, habitats, geodiversity and cultural heritage of Jersey's coast and sea, their supporting ecological processes and overall resilience.

B. **Increase understanding** of marine and coastal environments, their natural processes, the impact that human activities have upon them, how to minimise those that have an adverse effect and improve the quality of decision-making.

C. **Promote and encourage sensitive use** of natural resources to ensure long-term environmental, social and economic benefits.

D. **Work with stakeholders** to promote awareness, understanding and appreciation of the value of marine and coastal environments and seek wider involvement in adapting to change and in developing new policies.

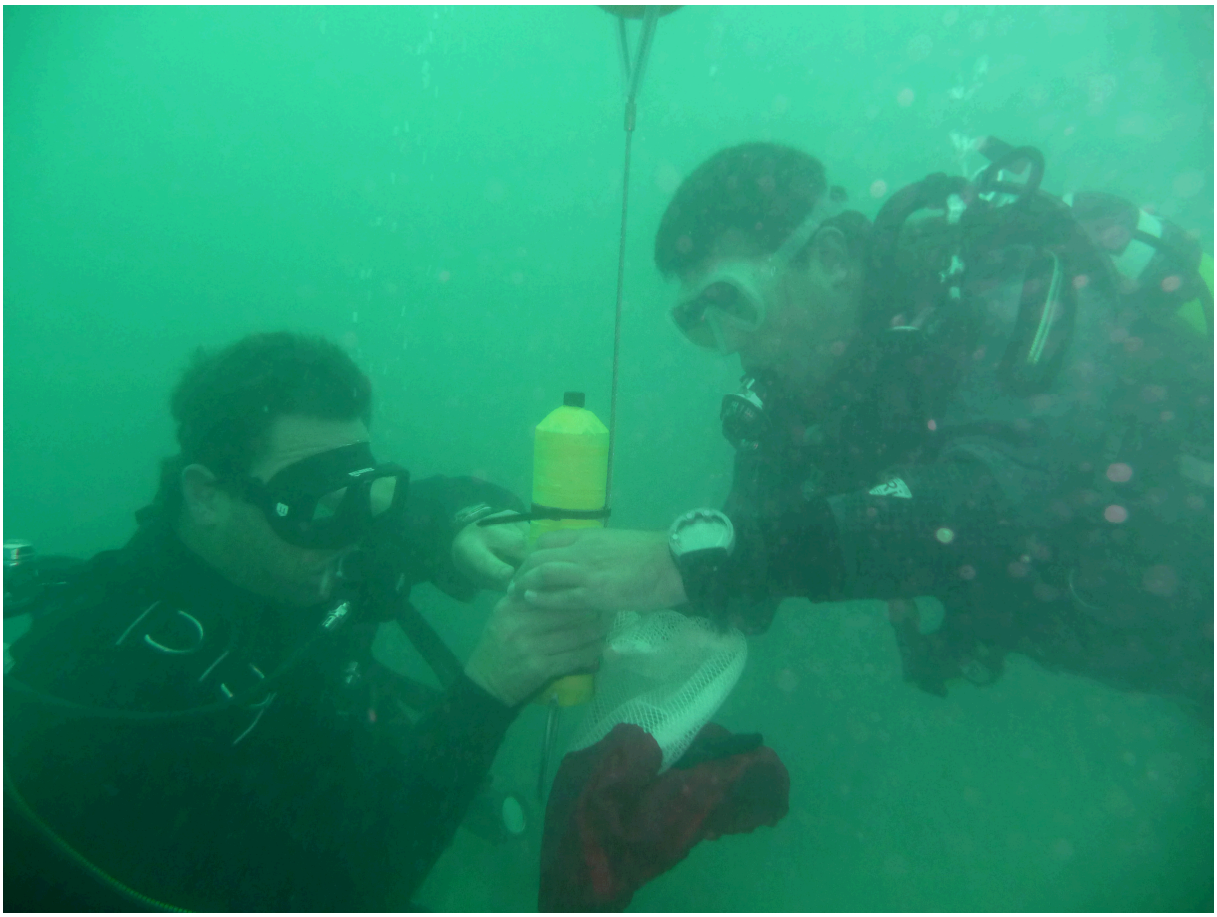
Significant progress was made with respect to the management of the four Ramsar sites with the formation of the Ramsar Management Authority (RMA) and the Technical sub-group, both chaired by the Assistant Minister. The complexity of the management planning process required re-assessment of the original plan to complete the plan by the end of the year. The RMA decided to complete the SE coast management plan first with a draft copy completed by the end of the year. It is been proposed that the plan will be published on 2 February 2011 to co-inside with World Wetlands Day. The technical subgroup has also considered and submitted responses to various applications and consenting process that potentially could impact of the site.
Work with the Marine Stewardship Council accreditation programme for the lobster was advanced to the point where only the peer review process needed completing and all the signs were positive that certification of the fishery would be achieve during 2011.
The aquaculture strategy report was completed, setting out a wide range of options for the sustainable development of the industry. The work to implement the strategy will occur in 2011 if sufficient resources can be secured.
The other project of major interest was the acoustic tagging pilot study which was only possible through collaboration with colleagues at the University of Hawaii. As part of the marine protected areas work, it is the first time this type of study has been undertaken in Europe so represents a significant achievement for the section. The pilot study yielded very promising data and it is hoped that it will be possible to roll out the project to encompass more of Jersey Waters. It is hoped that preliminary results from this project will be published in the coming year.

A. Protect and Conserve	
ICZM Aim	Progress in 2010
Develop a Marine Biodiversity Action Plan with targets for marine and coastal habitats and species.	The seabird protection zones, established in 2009 were re-introduced for 2010. The zones, at Plemont and Les Ecrehous, were generally well observed during the year with sea birds having a relatively successful breeding year.
Reduce inputs of nutrients and hazardous chemicals and materials from land-based sources	A significant development during the year was the signing of a Memorandum of Understanding (MoU) between the Minster for Planning and Environment and the Minister for Economic Development with regard to the prevention and control of pollution of the Island's territorial seas. This MoU provides efficient and effective pollution prevention and control, and clarifies the roles of Jersey Harbours and the Planning and Environment Department in the event of a pollution incident in Jersey's territorial seas or coastal waters.
Reduce inputs of nutrients and hazardous chemicals and materials from boat-based sources	The dedicated plastic only Eurobins at La Collette and the fish quay continue to be used by the fishing industry. However there continues to be continuing issues with unsuitable items being deposited and irregular emptying.
Identify the potential threats to Jersey's coastal zone by climate change	Jersey is a partner in the Marine climate change impacts partnership (MCCIP). The MCCIP provides coordination to ensure transfer of high quality evidence on marine climate change impacts, and guidance on adaptation and related advice. Membership of this group ensures the Department remains at the forefront of this area of work. More information about the MCCIP can be found at www.mccip.org.uk
Develop a fully representative network of marine and coastal protected areas	As previously identified work related to the production of Ramsar management plan would be completed before launch of the marine protected area project would occur. However, development of the Ramsar plans, will undoubtedly provide detailed information that will assist in the establishment of marine protected areas (MPAs). Some preliminary scientific work has been undertaken during year in connection with the MPA project. A pilot study using acoustic technology was set on the south coast. Together with partners from the University of Hawaii, a small listening array was deployed along the south coast of the Island. Fish were tagged using a transmitter. Initial results after one year were very promising and shed new light of fish movements around Jersey's coast. The pilot

	scheme will continue in 2011, although it is hoped that sufficient resources will be secured to roll out a full Island-wide study.
B. Increase understanding	
Draw together a Marine and Coastal Database	Some work has been done on this but there remains a considerable amount to do.
Develop marine habitat classification	Adoption of the JNCC classification system for marine habitats would be the most appropriate classification and therefore will be used for marine habitat work.
Develop a Marine and Coastal Atlas	The development of the Department's marine GIS capability had been severely hampered by the difficulties in obtaining an appropriate basemap for the Normano-Breton Gulf. However, at the end of 2010 a new supplier, Euronav, was identified who was able to provide the required data and licensing. The charts were received and initial inspection is positive. Data verification will continue in early 2011 and it is hoped this work stream will develop significantly throughout the year.
C: Promote and Encourage Sensitive Use	
Ensure policies within the Island Plan Review reflect the principles of the ICZM strategy	Significant time was spent working on the draft Island Plan to ensure that policies that related to or could impact on the coastal zone were appropriate. On the whole it was felt that the Plan did reflect the principles of the ICZM, although a number of comments were submitted to the Minister for consideration. Officers attended several sessions of the Island Plan Examination in Public and answered questions on marine related issues Work on the Aquaculture Strategy also continued throughout 2010 with the consultants engaging in stakeholder interviews and meetings. A finalised version of the strategy was produced and work will continue in 2011 with stakeholder to begin to address the issues proposed in the strategy.
Develop Management Plans for all Ramsar sites	The Ramsar Management Authority (RMA) was set up in March 2010 with the aim of completing the plans by the end of that year. Given the complexity of the sites however, it was agreed that the SE coast site would be considered first. Following public consultation and meeting of the Authority a draft management plan was completed by the end of the year with a view publishing the agreed plan in early 2011. Work will continue of the three remaining plan in 2011 and is likely to form a significant proportion of the workload.

	In addition to the RMA, a technical subgroup was establish to consider applications under a number of consenting process that had the potential to impact on the site, including contributions to EIAs, discharge permits, waste licences and FEPA applications. Officers also attended UK Ramsar steering group meetings in London and in Peterborough where the meeting focused on the Communication, Education, Participation and Awareness (CEPA) programme.
Adoption of an internationally recognised certification programme	The Marine Stewardship Council assessment of the lobster fishery continued and the assessment team came to Jersey in March 2010 to discuss the fishery with managers, fishers and other NGOs. The Department and the JFA worked on the production of an Action Plan, together with representatives from France, which was also required as part of the accreditation. The report will be peer reviewed early in 2011, with, it is accreditation in mid 2011.
D: Work with Stakeholders	
Revise the Marine Mammal Sightings Database	The Societe Jersiaise marine biology section continues to run this database with periodic reports posted online on the Societe site. This information, together with other data from the Department form the basis if the annual report submitted to the UK through our obligations under ASCOBANS.
Encourage all charter vessel operators to become accredited under the WiSe scheme	A WiSe Course was held in March at the Department and led by Colin Speedie of the WiSe organisation. The course was well attended by commercial operators from Jersey and Guernsey and a number of Blue Badge guides. The course was well received and it will be repeated when demand is sufficient.
Develop closer links with other Channel Islands	Collaboration on several subjects including Ramsar sites, MCCIP, renewable energy and wildlife watching continued in 2010. Unfortunately it was not possible to attend the annual Channel Island conference in Guernsey but as a marine theme has been proposed for 2011 it is hoped it will be possible to be present at that meeting.
Participate in the British Irish Council(BIC) Environment Sub Group	The focus for the Ministerial Meetings of the BIC Environment was marine in 2010 and officers attended meetings in the UK including the ministerial meeting in Newcastle with the Minister. This included a visit to the University of Newcastle marine laboratory to look at the latest research being undertaken.

Whilst it is acknowledged that a great deal remains to be done in the realm of Integrated Coastal Zone Management, much has been achieved in a short period of time and provides a springboard for continuation of the work in 2011 and beyond. Significant challenges still remain to achieving many of the workstreams in light of the CSR and major changes in staffing within the section.



Deployment of acoustic receivers by the section dive team

10. Annexes

Annex I. Officers at the Department 2010

Andy Scate	Chief Executive Officer Environment and Planning
William Peggie	Director of Environment
Dr Simon Bossy	Head of Fisheries and Marine Resources
Mike Smith	Senior Fisheries Inspector
Greg Morel	Marine and Coastal Officer
Dave Yettram	Fisheries Officer (Administration and Enforcement)
Dr Jonathan Shrives	Fisheries Officer (Research and Development)
Matt Lewis	Fisheries Officer (Operations)
Felicity Smith	Administrative Assistant - Fisheries
Mike Harrison	Relief Helmsman
Bryan Nicolle	Voluntary Fisheries Officer

Annex II. Fisheries and Marine Resources Advisory Panel 2010

Mike Taylor	Chairman
Constable Mike Jackson	States of Jersey
Constable Len Norman	Economic Development Department
Don Thompson	Jersey Fishermen's Association
Chris Le Masurier	Jersey Aquaculture Association
Natalie Porritt	Merchants' Representative
Ian Syvret	Jersey Inshore Fishermen's Association
Peter Gosselin	Angling Representative
Chris Le Boutillier	Boat Owners' Association (north coast)
Paul Le Neveu	Jersey Harbours
William Peggie	Director of Environment
Dr Simon Bossy	Head of Fisheries and Marine Resources
Mike Smith	Senior Fisheries Inspector
Greg Morel	Marine and Coastal Officer
Dr Jonathan Shrives	Fisheries Officer (Research and Development)
Felicity Smith	Administrative Assistant - Fisheries

Annex III. Shellfish landed by over 10 metre fleet.

Species	2004	2005	2006	2007	2008	2009	2010
Brown crab	179,459	142,237	78,890	110,050	148,230	106,299	82,898
Crawfish	120	55	87	0	51	89	0
Lobster	38,551	23,777	14,716	20,798	27,243	26,577	27,072
Scallop	98,539	129,546	168,282	231,586	212,182	244,270	327,602
Queen Scallop	0	0	0	0	0	0	1020
Spider crab	80,016	34,333	11,935	24,871	87,369	67,506	14,879
Whelk	45	215,349	341,293	417,163	246,007	757	297,646
Others	3,233	1,796	1,726	1,487	483	244	155
Total	**399,963**	**547,093**	**616,929**	**805,955**	**721,565**	**445,742**	**751,272**

Annex IV. Shellfish landed by 6 – 10 metre fleet.

Species	2004	2005	2006	2007	2008	2009	2010
Brown crab	349,330	282,189	259,472	297,345	327,878	249,376	311,503
Crawfish	421	198	409	167	88	49	0
Lobster	110,716	97,511	103,254	122,274	123,004	135,988	178,189
Scallop	48,370	51,842	97,956	134,732	111,171	113,351	68,394
Spider crab	136,513	123,519	112,916	78,140	87,281	105,201	149,376
Whelk	145,415	226,153	279,243	127,187	51,268	102,210	199,594
Others	2,710	2,232	2,748	159	1,917	1,496	3,972
Total	**793,475**	**783,644**	**855,998**	**760,004**	**702,607**	**707,671**	**911,028**

Annex V. Shellfish landed by under 6 metre fleet.

Species	2004	2005	2006	2007	2008	2009	2010
Brown crab	11,863	13,224	10,628	4,844	4,736	4,910	6,322
Crawfish	9	14	4	3	3	0	0
Lobster	17,737	17,555	13,326	11,632	12,313	14,328	16,918
Scallop	240	0	70	5,519	7,644	4,907	8,459
Spider crab	6,968	5,561	4,440	2,723	4,042	4,236	8,851
Whelk	1,218	853	475	1,045	467	623	169
Others	680	682	658	401	0	367	530
Total	**47,531**	**38,715**	**37,889**	**29,601**	**26,167**	**29,371**	**41,249**

Annex VI. LPUE for the over 10 metre fleet

Species	Quantity landed (kgs)	Nos of Pot Lifts	LPUE (kg per 100 pots)
Brown crab	82,898	267,562	30.98
Lobster	27,072	267,562	10.12
Spider Crab	14,879	267,562	5.56

Annex VII. LPUE for the 6 – 10 metre fleet

Species	Quantity landed (kgs)	Nos of Pot Lifts	LPUE (kg per 100 pots)
Brown crab	311,503	1,334,440	23.34
Lobster	178,189	1,334,440	13.35
Spider Crab	149,376	1,334,440	11.19

Annex VIII. LPUE for the under 6 metre fleet

Species	Quantity landed (kgs)	Nos of Pot Lifts	LPUE (kg per 100 pots)
Brown crab	6,322	129,637	4.88
Lobster	16,918	129,637	13.05
Spider Crab	8,851	129,637	6.83

Annex IX. Wetfish landed by the over 10 metre fleet.

Species	2004	2005	2006	2007	2008	2009	2010
Angler	79	128	499	216	140	55	2
Brill	838	2,754	786	908	955	77	312
Bass	5,774	3,281	8,159	7,536	4,228	1,370	1,315
Cod	40	0	39	2	8	110	18
Conger	1,188	5,527	2,360	1,645	1,087	857	952
Dogfish	11,789	8,106	11,692	5,446	7,410	2,050	2,230
Gurnard/ Latchet	1,948	1,040	1,351	1,561	2,085	90	400
Horse mackerel	0	0	0	60	0	0	0
John Dory	13	15	22	5	3	8	0
Ling	45	3	22	0	0	0	0
Mackerel	923	1,595	676	226	220	900	237
Mullet -grey	0	3	7	0	0	0	0
Mullet -red	1,241	313	251	455	112	7	0
Plaice	424	567	1,301	656	254	55	60
Pollack	2,610	3,069	1,122	245	873	683	703
Sea Bream	44,867	31,285	2,998	387	1,210	849	7,870
Skate/Ray	30,709	33,384	39,229	37,123	48,639	3,505	19,535
Sole	508	12,831	1,203	972	324	184	64
Tope	308	40	75	50	20	44	0
Turbot	647	2,321	157	104	42	226	7
Other Species	-	1,038	1,815	1,308	977	220	2,689
Total	**104,055**	**107,304**	**73,809**	**58,905**	**68,587**	**11,290**	**36,394**

Annex X. Wetfish landed by the 6 - 10 metre.

Species	2004	2005	2006	2007	2008	2009	2010
Angler	584	364	258	46	100	171	60
Brill	1,743	988	841	1,332	1,846	1,987	2,545
Bass	3,825	6,887	8,686	4,960	7,108	5,567	7,697
Cod	736	38	69	17	136	25	193
Conger	8,745	7,555	9,519	15,574	5,904	2,147	1,807
Dogfish	8,208	6,542	6,138	2,420	2,648	2,140	8,588
Gurnard/Latchet	810	530	480	9	0	0	0
Horse mackerel	608	524	448	0	0	165	3
John Dory	128	89	122	0	6	1	0
Ling	283	121	172	176	96	0	0
Mackerel	1,718	2,612	2,813	1,119	1,976	1,345	1,440
Mullet -grey	1,905	2,533	2,213	268	895	775	2,245
Mullet –red	574	788	725	251	180	180	150
Plaice	1,095	518	730	100	2,338	2,493	2,319
Pollack	4,523	3,075	3,386	1,826	5,112	5,637	4,182
Sea Bream	1,935	2,687	2,500	1,561	2,209	1,608	1,841
Skate/Ray	19,248	17,040	16,792	11,708	29,247	17,595	16,865
Sole	3,414	2,383	1,729	515	1,082	725	934
Tope	2,226	2,058	1,980	1,341	497	143	30
Turbot	415	582	474	133	202	215	466
Other Species		0	50	589	1,602	1,605	2,140
Total	**63,537**	**58,577**	**60,557**	**43,945**	**63,184**	**44,524**	**53,505**

Annex XI. Wetfish landed by the under 6 metre.

Species	2004	2005	2006	2007	2008	2009	2010
Angler	0	0	0	0	0	7	0
Brill	116	267	250	195	196	71	128
Bass	9,521	12,025	14,107	5,589	7,228	4,712	4,819
Cod	76	18	127	27	54	0	3
Conger	1,586	1,302	9,145	95	188	166	264
Dogfish	3,595	1,533	2,714	345	75	406	127
Gurnard/Latchet	18	0	80	0	0	0	13
Horse mackerel	922	612	652	3	3	61	0
John Dory	54	49	38	9	0	2	9
Ling	0	10	20	0	63	0	0
Mackerel	3,713	4,982	4,781	4,171	4,808	4,266	4,067
Mullet -grey	2,951	4,494	3,985	293	575	419	284
Mullet -red	334	590	292	194	80	61	45
Plaice	640	678	253	174	130	103	32
Pollack	2,836	2,310	1,866	609	1,349	1,595	1,772
Sea Bream	1,143	2,071	1,880	1,118	796	701	717
Skate/Ray	2,456	3,037	3,622	970	2,075	1,599	990
Sole	2,767	1,834	882	320	788	435	465
Tope	201	182	240	202	230	0	0
Turbot	146	342	265	199	156	205	315
Other species		0	0	237	7	1,527	267
Total	**33,937**	**37,212**	**46,127**	**14,750**	**18,801**	**16,336**	**14,317**

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